NAFTOGAZ

Annual Report 2021
Extended Presentation

Resilience
Victory
Recovery

CONTENTS

This document is an Expanded Presentation of the Annual Report as approved by the CMU on June 14, 2022. Please find additional information and comments to the Annual Report, the text of which is available on p. 250-325

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LETTER FROM THE CEO

This letter is written as Russia's barbaric war of aggression against Ukraine continues. We have come together as a nation to defend our country, its dignity, independence, freedom, democracy, equality and human rights – all that is called modern civilized values.

The whole civilised world is impressed by the courage and determination of Ukrainians, as we hold back the aggressor. It applies to employees of Naftogaz – 22 of whom lost their lives defending our freedom and independence in military service, and 14 of whom were killed or injured from attacks on civilians. We see the unity of our international partners, and a growing recognition that Ukraine is on the frontline of the war between fascist Russia and the Free World. We hope this unity will only grow.

A fifth of our territory is either an active combat zone or under Russian military occupation. More than 13 million citizens have sought refuge abroad or are internally displaced within Ukraine. More than 5,600 civilians have been killed in the war, including 379 children. There are more than 27,600 war crimes investigations being conducted by the Prosecutor General's Office of Ukraine against Russian military personnel, including in cities like Bucha, Mariupol, Olenivka and others.

Despite the war, Naftogaz has not suspended any of our major operations nor business processes. Luckily, only a smaller part of our industrial assets were destroyed during the war. We have even launched new projects that are both feasible and timely.

This annual report has an overriding theme – how the business turnaround and resilience of Naftogaz can help Ukraine win this war faster.

> We are the largest company in Ukraine, which contributes more than a fifth of tax revenues to the state budget, allowing the government to fund military and humanitarian efforts. We provide critical energy and fuel supplies to the state and to citizens. As the war progressed, Naftogaz has become an even more important pillar of the country's resilience.

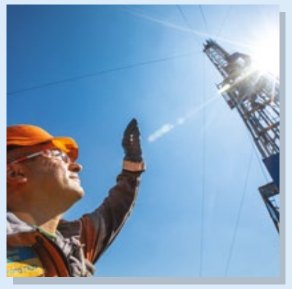
This letter is about Naftogaz results in 2021, as well as major developments in 2022 up until the publication date of this annual report. It intends to provide a relevant context, both backward and forward looking.

I joined Naftogaz as one of the key executives in 2014. It was when the Russian Federation first waged an illegal war of aggression against Ukraine. Since energy, especially natural gas, played a big role in that war, our team felt compelled to help our country defend its independence. We have achieved this! In this report you can read about the successful turnaround of the company in 2014-2017, with the major results of this turnaround culminating in 2019. Intertwined with this turnaround, Naftogaz was a key driver for Ukraine's modernisation, which helped make Ukraine more resilient. We felt Naftogaz could do more, which required a faster transformation from a post-Soviet state committee on oil and gas into a modern corporation. Our approach to transformation was approved at the board level, but implementation stalled, not always due to reasons beyond the control of the company. It was not surprising however for our team that already by 2019, there were many signs of unsatisfactory progress. At the time, the gas transit business made the company look more successful than it really was, concealing the true lack of progress.

In 2020, when I left Naftogaz many unbiased observers could see problems within the company. The governance bodies became too complacent over what was essentially parasitic behaviour targeting valuable assets obtained from the state for free. Instead of transparency, the company's corporate culture could be described as "smoke and mirrors".

In 2014-2019, **changes** made by our team at Naftogaz helped strengthen Ukraine to resist Russian aggression and at the same time were a key driver of the country's **modernization**. However, the **sustainable development** of Naftogaz and the entire oil and gas sector required a deep transformation, including in corporate governance. In 2020, the losses of the company amounted to UAH 19 billion and the operating results were negative in almost all areas. Starting from Q2 2021, the company began undergoing both a **change of management** and a change of course. As a result, **Naftogaz became profitable again in 2021**, and other results also improved.

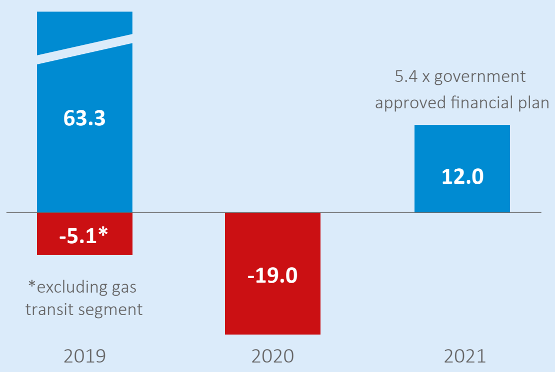
Naftogaz is a **pillar of Ukraine's energy security**, which in turn is a guarantee of national security and resilience. Positive changes in 2021 enabled Naftogaz to make an **important contribution to the resilience of Ukraine** in wartime conditions. In 2022, the company contributed **one fifth of total tax revenues to the national budget**, which is the source of funding for the military, humanitarian and social needs of Ukrainians. We are the **largest company in Ukraine**.



Even in times of war, we are a reliable employer for **53,700 people** and gas supplier for more than **12 million households**. We are ensuring continuity of our business operations, implementing **new bioenergy projects**, supporting social stability in Ukraine, defending the interests of the state at the geopolitical level, and **fighting against the Russian Federation in international courts**.

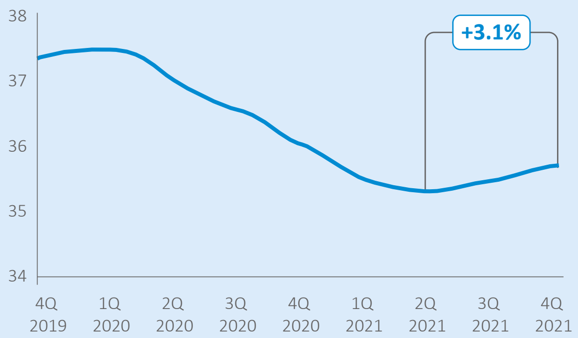
In 2022, Naftogaz will continue to be a **reliable partner for international businesses,** financial institutions and the governments of other countries that support Ukraine. Through such collaboration we will continue **to provide essential services to Ukraine** and Ukrainians, **accelerate the country's green transition**, ensure the victory of Ukraine against Russian aggression and **drive post-war recovery and the modernization** of Ukraine on its pathway to EU membership.

Profits:
(UAH bn)



Source: Consolidated Financial Statements as at and for the Year Ended 31 Dec 2021

Production:



Average daily natural gas production of Naftogaz Group by quarter, commercial gas volume, mmcm/day

Source: Naftogaz Group

A major disruption took place in 2021. The company published results for 2020, showing financial losses and declining production. In contrast, the Supervisory Board gave an outstanding performance assessment to the CEO and the Executive Board. The government as a sole shareholder disagreed and assessed the results as unsatisfactory, dismissed the Supervisory Board, fired the old CEO, and in April 2021 appointed me as CEO of the company.

Since then, our goal has been to turn around Naftogaz again and put it back on track to transform into a modern corporation with a culture of value creation.

In this Annual Report the reader will find detailed data to form an opinion on how we succeeded in overcoming obstacles on the way to this goal. After this letter you can find highlights of the company results in 2021. Looking at these results, I, as the company CEO, want to use the Annual Report to thank our team for their hard work and conscientiousness.

I will add that the first winter of my tenure as CEO was also the first for many aspects of Ukraine's gas industry reforms. It was the first winter in Ukrainian history when the government did not directly regulate gas prices for households. It was the first winter since Ukraine incorporated the European Union's directives into the Gas Market law in 2015, that so-called "public service obligations" were not abused by the government. In addition, for the first time in many years we used legal strategies to squeeze oligarchs from their dominant middleman positions in the retail gas sector. And for the first time since 2016, the government, our sole shareholder, launched an open, competitive, and merit-based selection process to find Supervisory Board members for Naftogaz in line with best international practices. As you can probably guess, Naftogaz was enabling, if not driving these processes.

In 2021, Naftogaz had the honour to participate in insightful meetings with leaders of Germany, Turkey, Qatar, Azerbaijan and Lithuania, and with top government officials in Washington, D.C. and EU Commissioners in Brussels, with representatives of the IFIs and the ambassadors of many countries. This outreach was structured, deliberate, and helped us to advance the company's interests in the geopolitical arena. After the war broke out, we were able to use these networks to help Ukraine defend against Russian aggression and to secure Naftogaz's interests. We also deliberately increased our interactions with leading international stakeholders in a successful global advocacy campaign. This had a highly tangible impact and prevented Nord Stream 2 from becoming operational even after it was built.

> One of the key factors of our performance was the team's shared purpose. We believe that Naftogaz, due to its size, political and geopolitical importance, is key to unlocking Ukraine's resource potential, to the country's modernization, to its resilience in the face of Russian aggression, and to making Ukraine prosperous. We believe a strong modern Ukraine will fortify the Free World. That is why I work at Naftogaz.

Although this report is for the past year, 2021, we must also discuss the present year, 2022. The full-scale Russian war creates a rather different reality for the whole of Ukraine and its people. As the President of Ukraine has said, the upcoming heating season could be the most difficult in Ukraine's history. It means that the year 2022 and at least the first half of 2023 are expected to be highly challenging periods for Naftogaz.

How are we going to address these challenges? We will continue protecting our most valuable assets – first and foremost our people. We will reorganise and reallocate when necessary, develop new competencies to work efficiently during the war. We will continue helping Ukraine to exploit external opportunities, such as support from international partners; especially support on governance frameworks, and measures that will progress our EU candidate status. We will also capitalise on internal opportunities, such as digitalisation, which can help with the transition from hidden to targeted subsidies. We will continue defending our rights before the EU anti-trust regulator and courts against Gazprom and the Russian Federation.

In our industry, stopping investments means almost immediate decline in production, and that is contrary to what Ukraine needs now.

> That is why we are developing our gas production, applying new, more efficient technologies. We are also developing projects in renewable energy sources that can bring fast results, making Ukraine's energy, especially the heating sector, more resilient. As an additional benefit, these projects tick all the right boxes for a sustainable future.

Thinking optimistically, there are reasons to expect a turning point in the war by the end of the year. Realistically, this will depend on a combination of success on the battlefield, international sanctions against Russia, commitment from our partners to help Ukraine win the war, and recognising we have now entered a "war of attrition" with the prospect of turning towards a "war of exhaustion."

The turnaround of Naftogaz's operations in 2021 contributed to Ukraine's resilience in 2022. When we win the war, Naftogaz will continue to play a very important role in rebuilding and modernizing Ukraine. For that our corporate transformation is critical. We need to make the company efficient and we need a new corporate governance framework (including the appointment of a proper Supervisory Board and the adoption of appropriate bylaws) which will be critical to insulate the company from political meddling and graft. Only then we will be able to fully access international debt and equity markets, develop game-changing partnerships, and build new-quality ecosystems. This in turn will allow Ukraine to increase domestic production of natural gas, biogas, hydrogen; build sustainable heat and gas distribution utilities; drive electrification, increase energy efficiency levels across the value chain, fight energy poverty, and develop EU-quality energy markets.

It is an honor for me to lead the 53,700 employees of Naftogaz Group and continue this transformation; a company I first joined twenty years ago. Our 2021 turnaround made Ukraine more resilient in 2022. Today Naftogaz employees advance Ukraine's victory in the war while providing for the basic necessities for Ukrainians' lives. As I am writing this letter, I see many faces of colleagues who work under shelling in shelters for the future of Ukraine. What unites them is a determination to continue doing their job even better than ever. That makes me optimistic about the future of Naftogaz and the future of Ukraine.

Yuriy Vitrenko,
CEO of Naftogaz of Ukraine

See rationale and explanations of the letter on page 332.

TIMELINE 2021

JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER

Construction of the Nord Stream 2 pipeline resumes. The new US Presidential Administration inaugurated in January, later noted in its report to the US Congress that it waived sanctions on the Nord Stream 2 operator and its CEO, mandated by Congress in the 2021 Defense Budget. The new administration argued the waiver was based on its desire to maintain "Transatlantic Unity" with Germany, whose government opposed such sanctions.

Naftogaz enters into annual contracts to supply natural gas "for the needs of the population" based on non-market conditions with intermediaries, the main one being owned by oligarch Dmytro Firtash.

Naftogaz losses for Q1 of 2021 amount to UAH 10.2 bn (as can be seen from the 1H 2021 consolidated financial statements, reviewed by independent auditors).

In addition, Q1 results for 2021, indicate a continued decline in domestic gas production.

On the last day stipulated by law, company management submits its 2021 report to the government showing losses of UAH 19 bn, a drop in production and non-fulfillment of the approved financial plan.

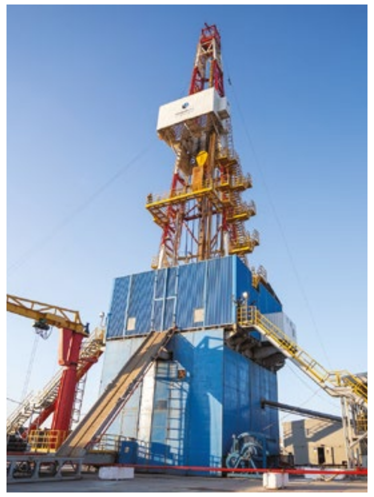
The Government recognizes the performance of the company as unsatisfactory and appoints a new CEO.

"The main task for Naftogaz is to protect national interests and return to positive financial and operational results. We need to increase domestic gas production. We will work to ensure that the value chain through which Ukrainian gas is delivered to consumers is as transparent as possible, without unnecessary intermediaries and add-ons. It is also important to use the legal means of Naftogaz so that Gazprom does not abuse its dominant position and Nord Stream 2 does not work".

Y. Vitrenko

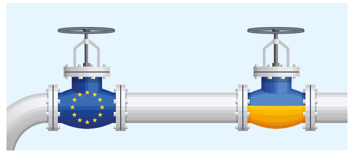
Decision to sell domestically produced gas on commodities exchange is cancelled.

Naftogaz reverses the negative trend of falling gas production and reached an average daily growth rate.

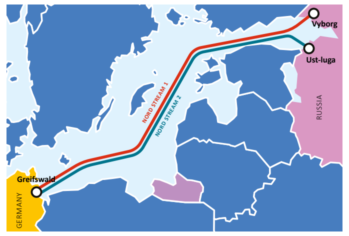


Consolidated financial statements for H1 2021 show a profit of UAH 8.5 bn in Q2.

Changes are made to the financial plan and a decision is made to start importing gas, which allowed the 2021/2022 heating season to run smoothly.

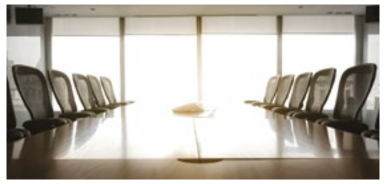


UGS gas reserves reach the target level of 17 bn cbm.



Construction of Nord Stream 2 is completed, but operation is prevented through legal actions, public advocacy and international lobbying campaigns initiated by Naftogaz.

A new law is signed creating a compensation mechanism for the difference in tariffs for heat generating companies, which allowed them to reduce their debt for gas supplied by Naftogaz.



The Cabinet of Ministers announces an open competition for independent Supervisory Board members in accordance with international standards.

Independent members of the company's Supervisory Board (appointed without any competition; two out of three appointed 4 years ago as a "temporary" solution) are dismissed.

The Government appoints a new Executive Board.

Termination of annual contracts with intermediaries in order to prevent oligarchs from pocketing UAH 70 bn profits from essentially risk-free arbitrage.

Creation of a "balancing" group which ensures security of supply to domestic households without risk-free arbitrage opportunities for retail suppliers.

Almost all state-financed organizations are left without private suppliers who were willing or able to fulfill the terms of concluded contracts due to the rapid increase in market prices; Naftogaz stepped in to ensure security of supply.

Naftogaz ensures supply security and social stability during the 2021/2022 heating season.

Naftogaz and the Gas TSO of Ukraine admitted to the Nord Stream 2 pipeline operator certification process.

Naftogaz files a complaint against Gazprom with the competition authority of the European Commission.

UAH 116 bn in taxes and fees transferred to the state budget, which is 12.6% more than in 2020.

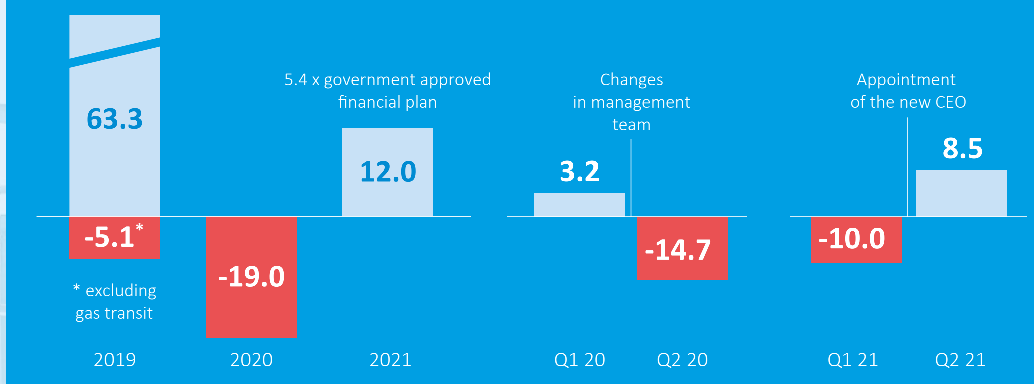
The company's net profit in 2021 amounts to UAH 12 bn.

KEY ACHIEVEMENTS IN 2021

RETURNING TO PROFITABILITY

- After many years of systemic loss-making, Naftogaz became profitable in 2016-2019. This was largely due to reforms driven by the Naftogaz team. Unfortunately, in 2020, the company once again became loss-making. In 2021, thanks to the actions of the new management, which are detailed in this report, the company returned to profitability. It is important to note that 2021 was the first year in which Naftogaz achieved positive financial results excluding the gas transit business, which had traditionally made the company profitable up until 2020.

Naftogaz Group profit, UAH bn



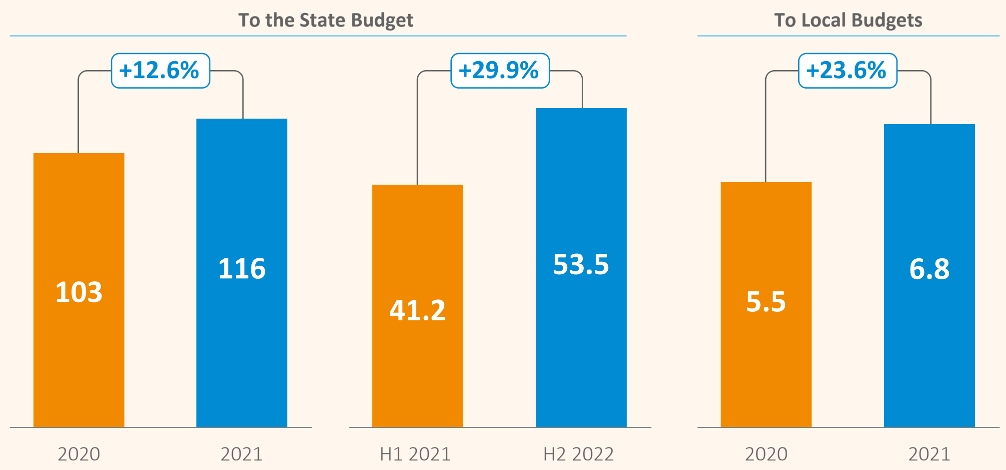
Source: Consolidated Financial Statements as at and for the Year Ended 31 Dec 2021

See the Financial Statements section

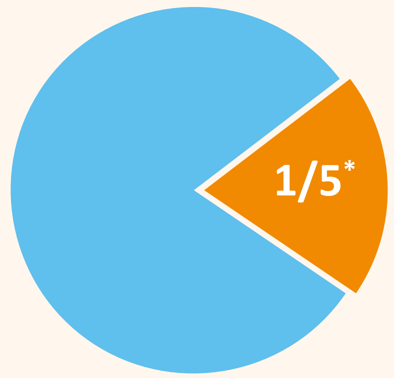
INCREASING REVENUES TO THE STATE BUDGET FROM TAXES AND FEES FROM NAFTOGAZ

- In 2021, Naftogaz contributed significantly more in taxes and fees to the state budget of Ukraine when compared to 2020. Note that Naftogaz did not pay dividends to the state in 2021, because the company was loss-making in 2020. The dividends paid in 2020 were a distribution of profit earned in 2019. In 2022, Naftogaz paid dividends to the state again, as the company returned to profitability.

Naftogaz Group payments, UAH bn



Source: tax reporting of Naftogaz Group



Share of Naftogaz Group in tax revenues to the state budget in H1 2022

*Royalty for subsoil use, Excise Tax, VAT (from sales), Income Tax

Source: tax reporting of Naftogaz Group

N.B.: In the first months of the full-scale war (as of May 2022, when the moratorium on tax audits and moratorium on application fines for non-payment of taxes was in force) the contribution of Naftogaz accounted for more than **1/3** of all tax revenues to the state budget's general fund of Ukraine, which confirms the importance of the company to the country's resilience during the most difficult times.

KEY ACHIEVEMENTS IN 2021

INCREASING DOMESTIC PRODUCTION

- In 2021, thanks to the changes described in this annual report, the company managed to stop the downward trend in the extraction of natural gas and for the **first time in many years we began to grow our domestic gas production.** Beginning in July 2021, the daily average extraction of natural gas grew more than 3%. Currently, Naftogaz is focused on minimizing the disruption caused by the war and preparing to significantly increase the production of natural gas when Ukraine wins the war.

See the Business Activities section, Exploration and Production subsection

DEVELOPING POTENTIAL FOR INCREASING PRODUCTION IN THE MEDIUM-TERM

- In 2021, **work began on developing a program to significantly increase reserves and production** in the medium-term using drilling of horizontal wells in unconventional reservoirs – technology which is new to Ukraine, but well-known in the world; this program may be launched as early as late 2022 or early 2023.
- **Five thousand square kilometers** of the Black Sea shelf area was covered by 3D seismic surveys in 2021. The results are currently being interpreted.
- **2P reserves increased by up to 10 bcm** and the stock replacement ratio reached 73%. For comparison, in 2020 the increase in reserves was **5.9 bcm** and the stock replacement rate was **41%.**

See the Business Activities section, Exploration and Production subsection

REDUCING INDUSTRIAL INJURIES

- **Industrial injuries (LTI_{FR}) reduced** by more than half – from 0.38 in 2020 to 0.16 in 2021.

See ESG section, Employee health and security subsection

SECURING GAS SUPPLY

- Naftogaz ensured **sufficient volumes of gas imports and gas injection into underground storage** facilities for a smooth 2021/22 heating season – despite widespread speculation and fears.
- The volume of gas supply was sufficient enough that during the start of Russia's full-scale invasion of Ukraine, **electricity generating companies were supported** to cover a shortage of coal (which could not be delivered because of the war) with gas; without this substitution, the country would not have been able to avoid blackouts.
- During the 2021/22 heating season, Naftogaz was the only company that provided gas to households, heat generating plants, and budget organizations, thereby **ensuring social stability in the country** on the eve of a full-scale war with the Russian Federation.

See Gas Market and Business Activities sections

REFORMING THE GAS MARKET

- More than UAH 75.6 billion in losses for the company and the state were avoided thanks to the establishment of a balancing group (a new contractual basis on which Naftogaz began supplying gas to retailers from October 1, 2021 for its further supply to household consumers).
- The balancing group was a kind of transitional mechanism that enabled the company in H1 2022 to almost completely get rid of intermediaries who, although they were called "suppliers" in fact, never assumed the risks of real suppliers.
- The 2021/2022 heating season was the first after the adoption of the law on the natural gas market, which the state did not apply the PSO mechanism (public service obligation); the mechanism was justifiably criticized by Ukraine's international partners because it corresponded to European norms in name only. The new model of gas supply for the needs of households was a step forward towards genuinely European standards.
- Another step forward was the adoption of new laws that made the "difference in tariffs" (the difference between the actual and economically justified levels) transparent, and the state undertakes to compensate using state budget funds; this is much better than hidden subsidies at the cost of state companies that are not even calculated at the national level. Reforms often begin with transparency and recognition of the problem.

See Gas Market section

KEY ACHIEVEMENTS IN 2021

REFORMING CORPORATE GOVERNANCE

- The selection of members of the company's independent Supervisory Board has been launched; the process is open, competitive, and in compliance with international standards.
- The last such competition was held in 2016. However, the independent members of the Supervisory Board elected in 2016 resigned a year later, accusing the government of curtailing reforms. Following these resignations, "temporary" members of the Supervisory Board were appointed without any competition. This "temporary" appointment remained valid for almost four years. Appointments to other top management positions also did not meet international standards. In fact, after the initial success of reforms, corporate governance at the company began to move further away from the international standards beginning from 2018 onwards, which eventually resulted in 2020, in the transformation of the company's business model into parasitism on state assets and past achievements. Therefore, a return to international corporate governance standards is an important precondition for the sustainable development of the company.

See ESG section, Corporate Governance and Remuneration subsections

SUCCESSFULLY COUNTERING RUSSIA

- Despite the fact that it was constructed, **Nord Stream 2 was never launched operationally** due to the company's legal actions, lobbying, and public advocacy.
- The **company filed a complaint against Gazprom** with the EU competition authority and provided evidence of Gazprom's abuse of its dominant position on the European market.
- Claims against the Russian Federation in The Hague arbitration for more than **USD 10 bn** were further advanced (the latest hearings took place in February 2022).

See Gas Market section, Gas Transit, Nord Stream 2 and Gazprom's Anti-Competitive Conduct

SPOTLIGHT: FOCUS AREAS FOR 2022

*Source: OHCHR report, August 28, 2022 **Source: Prosecutor General's Office of Ukraine, August 9, 2022 ***Source: Juvenile Police of Ukraine, August 31, 2022
****Source: UN OCHA report, August 22, 2022

GLOBAL ENERGY MARKETS

The global energy crisis and an energy war unleashed by Russia. An important factor in Ukraine's resilience is the resilience of our international partners. As winter approaches, the situation is particularly threatening for the European Union, which remains dependent on the Russian aggressor for its energy needs. This dependence is being exploited by Russia to put pressure on the EU. There is a high probability fuel supplies will be interrupted in order to put pressure on countries supporting Ukraine.

See Gas Market section

UKRAINIAN GAS MARKET

Retaining indirect subsidies for household consumers instead of using market mechanisms. The Ukrainian public traditionally prefers to retain indirect subsidies, although market mechanisms and targeted subsidies would be much more economically efficient. Since 2015, the Government has delivered indirect subsidies via Naftogaz, using a PSO (public service obligations) mechanism. Notably this has been implemented without compensation for the difference between the market price, which is contrary to standard EU rules. Based on company's calculations for 2021, the total value of indirect subsidies, which the state has given to consumers through Naftogaz amounts to no less than UAH 249 bn. This is seven times higher than direct housing subsidies, which are close to 5% of Ukraine's nominal GDP. In 2022, indirect subsidies to consumers are expected to increase to UAH 842 bn, or about 19% of Ukraine's nominal GDP.

See Gas Market section

Failure to provide compensation from the state budget for tariff differences. Currently, Naftogaz is de facto compensating for the difference between the real costs and the tariff revenue of heat supply, gas supply, and gas distribution companies. This approach is not sustainable and will be a particular problem in the short term, notably the 2022/23 heating season. A recently adopted law, which provides for compensation of the difference from the state budget, is designed to solve this problem. The mechanism is in line with European practice and is much more transparent. However, implemention of the law will be challenging. A key obstacle is the significant delay in its adoption. Amongst other factors, there are concerns about whether the government will be able to attract sufficient funds from international partners in time to compensate for the difference in tariffs.

See Gas Market section

ECONOMIC CHALLENGES

31%* inflation

25% currency devaluation

-33.4%* GDP

17.9%* budget deficit

*NBU July 2022 inflation update

Naftogaz defaults on Eurobonds. The government, as a shareholder of Naftogaz, has so far not authorised the company to make payments to creditors. Given this situation, risks to Naftogaz assets abroad are growing as well as the company's limited opportunities to attract external financing.

See Financial Statements section

Attempts to make Naftogaz responsible for gas withdrawals when users of the gas transportation system are unwilling or unable to pay.

The Gas Transmission System Operator of Ukraine (GTSOU), referring to the decision of Regulator (NCREU) taken in Autumn 2021, is currently under appeal by the company in court and contrary to other legal measures, continues to allocate gas withdrawn by some gas distribution and heat generating companies that do not have a gas supplier to Naftogaz, even though Naftogaz is not and has no obligation to be their supplier. The Regulator determined in its decision that such withdrawals should be allocated to Naftogaz (and, accordingly, Naftogaz should provide the corresponding volume of gas to GTSOU) because Naftogaz was a "Supplier of Last Resort". This is an obviously an abuse of authority on the part of the Regulator and the misuse of the "Supplier of Last Resort" mechanism in order to obtain gas without payment. This situation has had a critical negative impact on the gas market, on the financial stability of Naftogaz and, accordingly, on the security of gas supply in Ukraine.

Oligarch opposition to reforms. On May 28, 2022, the Cabinet of Ministers of Ukraine transferred 28 operators of gas distribution companies (oblgas) which had been associated with Ukrainian oligarch Dmytro Firtash to Chornomornaftogaz, which is part of the Naftogaz Group. Moreover, from June 1, 2022, gas supply companies associated with Dmytro Firtash lost approximately 8.8 millions Ukrainian households as customers, all of whom switched to Naftogaz. Thus, the oligarch who had dominated the Ukrainian retail gas market for the past 10-15 years lost control of his main assets. As the saying goes, when you fight corruption, it fights back. This has created additional pressure on the company in the political and media spheres.

CORPORATE GOVERNANCE: GOALS & EXPECTATIONS

Alignment of expectations between the shareholder (state) and key international partners. It is desired to have a common framework that would balance and align expectations of shareholders and key international partners regarding the governance of SOEs (state-owned enterprises).

Not treating SOEs as government agencies. SOEs are often viewed by politicians as tools for making easy and unsustainable decisions, while economic profitability, which provides an adequate return on invested capital, is viewed as a lesser priority.

Development of institutions which can prevent political meddling. Efficient markets and democratic institutions minimize political meddling aimed at obtaining personal financial and political gain from the operation of SOEs. Transparency and genuine accountability are key instruments these institutions use to fight the manipulation of SOEs. Therefore, Ukraine needs to develop and strengthen such institutions, as well as integrate into the existing European institutions.

Appointing the Supervisory Board of Naftogaz Ukraine. The process for transparently selecting members of the Naftogaz Supervisory Board, which was launched at the end of October 2021 was delayed due to Russia's military invasion of Ukraine. Independent and competent Supervisory Board members will help ensure true accountability of management in the interests of the company and all stakeholders. The Supervisory Board is therefore an important insulation mechanism against political meddling and graft.

See ESG section

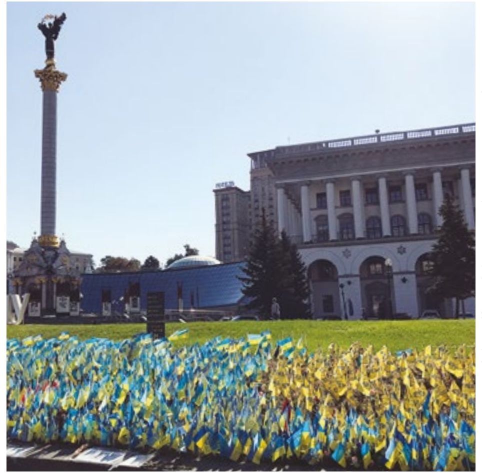
1 COUNTRY AT WAR

HUMANITARIAN IMPACT

Since the beginning of the war, Russia has deliberately provoked a humanitarian crisis, a tactic it has used in several other theatres of conflict. Russia has been deliberately targeting civilians in schools, hospitals, theatres and shopping malls. The humanitarian impact will have long-term demographic and economic repercussions for Ukraine. Since the beginning of the war (to 28 August), 5,663 people have been killed and 8,055 people have been wounded in Ukraine.

13 718

civilians killed and wounded in Ukraine



Source: Report of the Office of the UN High Commissioner for Human Rights dated 28 August 2022

7 297

confirmed child deportations

Source: National Information Bureau

17.7 million

Ukrainians require humanitarian support

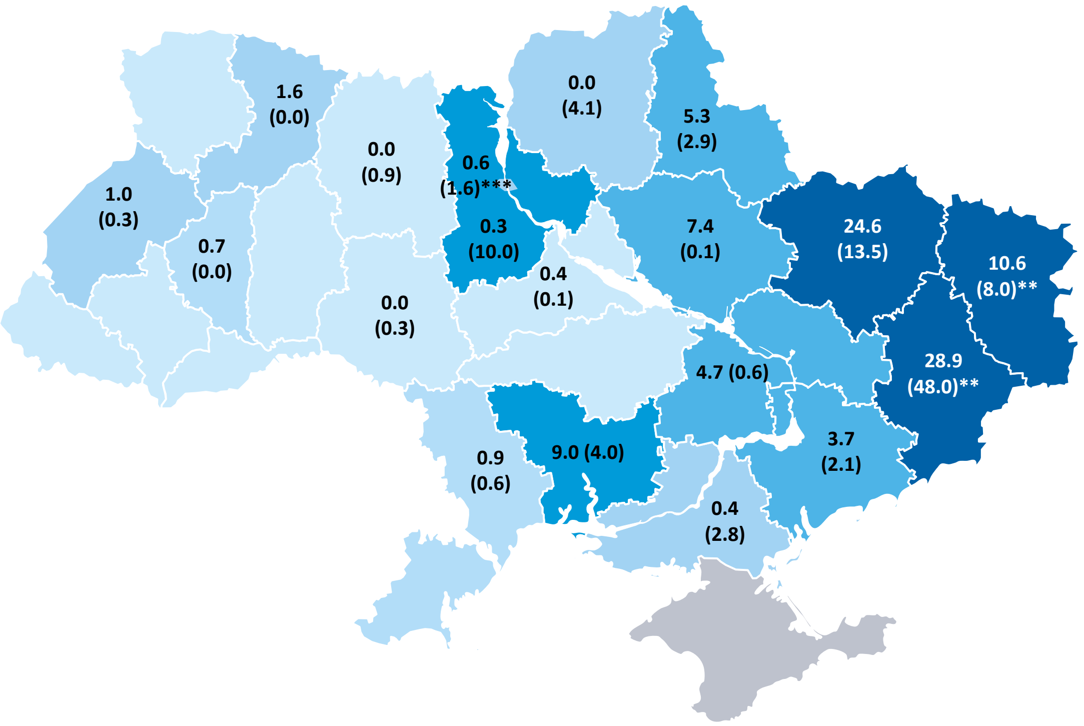
Source: UN OCHA report as at 22 Aug 2022

USD 113.5 billion

amount of direct losses to the economy of Ukraine due to residential and non-residential buildings and infrastructure damaged and ruined

Source: KSE Institute, 01 Aug 2022

1 Share of civilian casualties by region (oblast) in June and February-May 2022*



Source: Office of the United Nations High Commissioner for Human Rights (OHCHR), Naftogaz Group

* In percent. The share for the regions and the city of Kyiv in all-Ukrainian casualties are provided for two periods: June and February 24 – May 15 (in parentheses). Coloring is based on the average share for two periods. Data for June are presented as of the beginning of July; for February- May – as of the end of June. Casualties include OHCHR recorded cases of death or injury of civilians (individual cases are verified) in Ukraine; OHCHR believes that the actual figures are considerably higher.

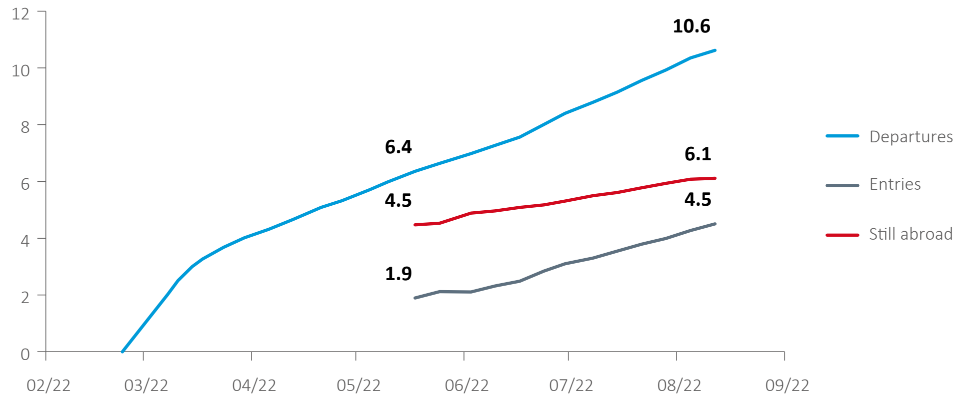
** Figures for June for Donetsk and Luhansk regions do not include 51 killed and 206 wounded persons in the parts of the regions under the control of Russia's armed forces and proxy armed groups.

*** The city of Kyiv.

Civilian casualties in Ukraine extend beyond the areas directly affected by the hostilities. For example, the share of Poltava region in Ukrainian casualties increased to 7.4% (84 people out of 1,133 in Ukraine) in June compared to 0.1% (12 people out of 8,368 in Ukraine) in February – May. In June, the shares of casualties in Dnipropetrovsk, Sumy, Zaporizhzhia, Rivne, Ternopil and Lviv regions also increased. 1

Since casualties occur throughout Ukraine, it is not surprising that the number of people who left the country since the beginning of the full-scale Russian invasion continued to grow as of mid-August and reached 6.1 million people (mid-May: 4.5 million people). The outflow of the people, in search of safety, may have serious consequences for Ukraine's economy and demography if it becomes long-term. 2

2 Number of Ukrainian border crossings and number of persons staying abroad*

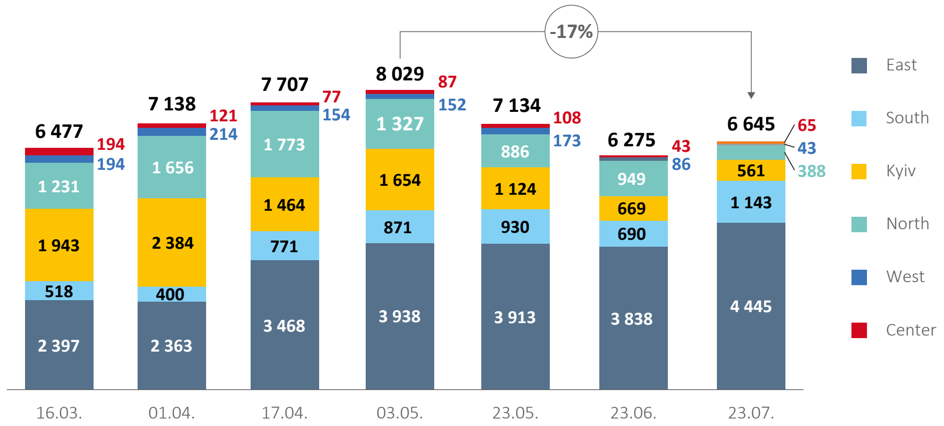


Source: Office of the United Nations High Commissioner for Refugees, Naftogaz Group

* In millions. Departures from Ukraine from February 24, entries into Ukraine from February 28. Departures and entries reflect cross-border movements, not the number of physical persons, but the difference between them corresponds to the additional number of persons who have been outside Ukraine since the end of February.

April – June saw the return of internally displaced persons (IDPs) to the northern macro-region and Kyiv. Amid the withdrawal of Russian troops from the northern region and Kyiv, in June, the number of Ukrainian casualties generally decreased when compared with the period February to May. But the number of IDPs originating from the eastern and southern macro-regions, as well as the shares of regions (oblasts) in these macro-regions in the total national casualties remains high. Internal migration in itself can lead to severe humanitarian consequences and is also a risk to Ukraine's economic future if it becomes longterm. 3

3 Number of internally displaced persons by macro-region of their origin*



Source: UN International Organization for Migration, Naftogaz Group

* In thousands

The humanitarian impact of the war is not limited to killed and wounded persons. The hostilities have had a heavy impact on civilian infrastructure: 385 attacks impacted medical facilities, 2,300 educational facilities and 131 thousand residential buildings have been damaged, destroyed or seized.* The war resulted in numerous violations of the rights of both civilians and combatants, including the right to life, liberty and security of persons. OHCHR verified numerous allegations of killings and summary executions, arbitrary detentions and enforced disappearances, torture and ill-treatment, and conflict-related sexual violence.**

* Source: World Health Organization (medical facilities, as of August 17), Ministry of Education and Science of Ukraine and saveschools.in.ua (educational facilities, as of August 17), Kyiv School of Economics (residential buildings, as of 8 August).

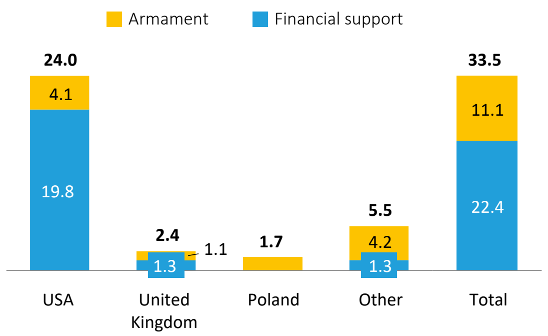
** Source: OHCHR June 29, 2022 report "The situation of human rights in Ukraine in the context of the armed attack by the Russian Federation, 24 February to 15 May 2022".

MILITARY & FINANCIAL SUPPORT

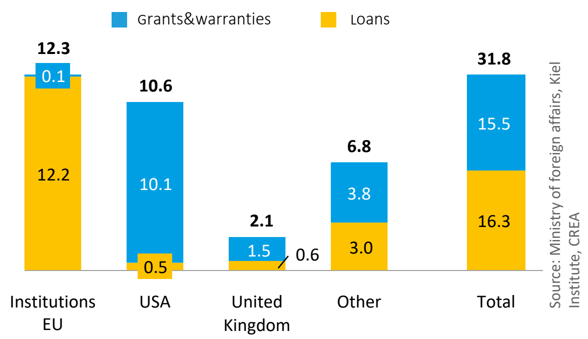
Since the beginning of Russia's full-scale war against Ukraine, a global democratic coalition was formed in support of Ukraine. This assistance covers various spheres, namely: military, economic and humanitarian. Military support from the international community is the key one in terms of ensuring Ukraine's stability and its ability to counter Russia's aggression. While economic support ensures macroeconomic stability in Ukraine.

Ukraine believes that the quicker and more intensive the level of international assistance, the sooner the war will end. This will reduce the number of casualties and the destruction of towns and communities.

1 Military support, EUR billion[1]



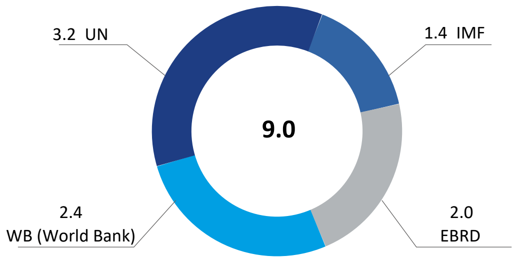
2 Financial support, EUR billion[1]



Source: Ministry of foreign affairs, Kiel Institute, CREA

[1] data is relevant as of 100 days of the war, 13 June 2022

3 Support provided by international organisations, EUR billion[1]



Source: Ministry of foreign affairs, Kiel Institute, CREA

Loans and material assistance given over the first four months of the war, and received as of June 5, 2022 from international institutions and countries of the world, collectively, were equivalent to about 45% of Ukraine's GDP.

The USA is the undisputed leader in providing military and financial aid. However, if we compare the size of support provided by countries and their GDP, we see that Estonia, Latvia, and Poland set an example.

4 Total aid to Ukraine as % of the countries' GDP[2]

(https://www.ifw-kiel.de/topics/war-against-ukraine/ukraine-support-tracker/)

[2] data is relevant as of 100 days of the war, 1 July 2022

Source: Kiel Institute

Sanctions against the Russian Federation

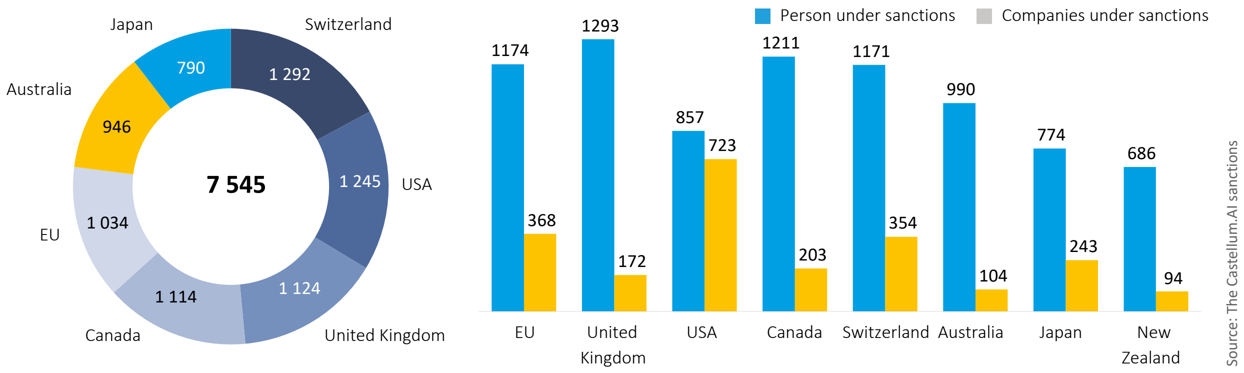
The military attack against Ukraine resulted in an unprecedented sanctions policy aimed at weakening the military machine of the aggressor state. Energy sanctions have a significant place in countering Russia, given its gains from the sale of energy to Europe and other countries. The most significant sanctions were introduced during the first four months of the war.

Subject	Sanctions introduced and their impact
Macroeconomic indicators	• **GDP** of the Russian Federation will decrease by 10.4% in 2022 according to the EU Commission forecast; • **Unemployment** will increase by 9.3% (+3.8 million unemployed), and **real income** will decrease by 6.8%; • **Inflation** will exceed 20%, and the volume of **foreign economic operations** will decrease by 20-30%.
Energy	• The EU's refusal of 90% of Russian oil and oil products by the end of 2022; • Restrictions on the import of equipment for the oil and gas sector will also reduce production; • Withdrawal of companies from joint hydrocarbon production projects with Russian partners; • The Baltic countries have refused Russian gas, and, on the other hand, the Russian Federation halted gas exports to Poland (April 26, 2022), Bulgaria (April 27, 2022), Finland (May 21, 2022), and the Netherlands (May 31, 2022) due to their refusal to pay in rubles; • **In view of the 40% dependence of the federal budget and special funds of the Russian Federation on oil and gas revenues, the sanctions against the energy sector are the most effective economic tool of influence on the aggressor.**
Finance	• **USD 300 billion of financial assets** of the Central Bank of Russia are blocked; • Western capital market is closed, major banks are disconnected from SWIFT. The companies with currency loans are on the verge of default.
Logistics and Trade	• 36 countries banned flights to the Russian Federation, as well as maintenance and supply of aircraft spare parts to Russia; • The European Union introduced bans on the access of sea vessels sailing under the state flag of the Russian Federation to European ports, and also introduced restrictions on the transportation of Russian goods by road; • **Overall, more than 1,500 companies that worked on the Russian market partially or completely left the Russian Federation or suspended investments in Russian assets.** Canada introduced a 35% tax on goods exported from the Russian Federation, and the US raised tariffs from 3% to 32%, Great Britain introduced additional tariffs of 35% on a number of items.

Support from Naftogaz Group

Ukrainian Armed Forces,
Territorial Defence Forces of Ukraine,
State Border Guard Service of Ukraine,
National Police of Ukraine, and
National Guard of Ukraine have
received a total of:
over **18,000 armoured vests**
around **12,000 tactical helmets,**
300 thermal imagers, 4,800 walkie-talkies,
over **5,000 full sets of uniform**
(incl. footwear, tactical gloves,
knee and elbow pad sets),
2,000 sleeping bags, 1,000 sleeping mats,
5,000 medkits, 22,000 tourniquets,
32 defibrillators, and other
equipment and gear

5 The number of international sanctions imposed on Russia[3]



[3] data is relevant as of first 4 months of the war, updated on 13 July 2022

Granting candidate status for EU membership to Ukraine

On June 23, Ukraine received the status of candidate for EU membership.

The European strategic course, enshrined in the Constitution of Ukraine, determines the long-term direction of Ukraine's transformation and its cooperation in the global system of international relations. Since the start of military aggression against Ukraine, popular support for EU membership has reached an all-time high (91% favourability as of the end of March).

European integration is one of the important forms of support for Ukraine.

Support at the social level

In addition to support from governments, Ukraine has received significant support from the private sector and individual donors, mobilised through fundraising, rallies and direct humanitarian support. It is hard to estimate the amount of the humanitarian assistance in monetary terms.

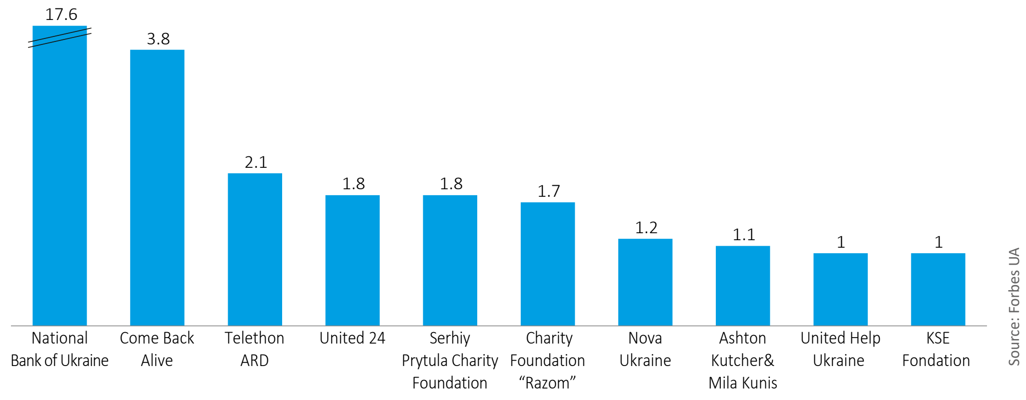
According to Forbes UA analysis, the 20 largest Ukrainian funds in the first 4 months of the war (from 24 February till 30 June) have collectively raised UAH 36.1 billion. The largest amount collected by the foreign funds was thanks to the charity campaign Stand up for Ukraine, which was initiated by the Government of Canada, the European Commission and the non-governmental organisation Global Citizen. This initiative raised EUR 9.1 billion. There are also a large number of platforms and funds with a monthly subscription for a certain amount of regular contributions from the subscriber. For example, during the first month after its launch, the United24 crowdfunding platform collected more than USD 50 million for Ukraine's defence and reconstruction.

Foreign corporations also made significant contributions. Elon Musk donated dozens of Starlink installations for uninterrupted Internet access in areas with damaged communication. Meta Platforms (Facebook, Instagram, WhatsApp, etc.) provided USD 15 million to support humanitarian efforts in Ukraine. Airbnb helped accommodate 100,000 refugees who were forced to leave Ukraine. AstraZeneca donated USD 1 million for HOPE Project and the International Medical Corps, and the same amount has been transferred to UNICEF and the British Red Cross. Bank of America also transferred USD 1 million to five humanitarian headquarters dealing with issues in Ukraine. ESET provided EUR 700,000 as a direct grant support and donations to non-governmental organisations (in particular, to the INTEGRA Foundation and UNICEF). FedEx provided more than USD 1.5 million in humanitarian aid, which included USD 1 million in in-kind donations to organisations transporting goods to Ukraine and USD 550,000 in cash donations to non-governmental organisations in Europe. Many other international companies that were present on the Ukrainian market provided comprehensive support and continue to provide financial assistance to Ukraine and Ukrainians abroad.

There is also comprehensive support from famous people. Concerts and cultural marathons are held to help Ukraine, which, according to preliminary estimates, have raised more than USD 1 billion. The biggest contribution among world stars was made by Ashton Kutcher and Mila Kunis, who collected UAH 1.1 billion or USD 35 million and transferred this money to Flexport and Airbnb to help refugees with housing.

The owners of the largest Ukrainian businesses provided more than USD 175 million in military and humanitarian aid. The most difficult part of this equation is the calculation of charitable contributions from Ukrainians, which are made directly to volunteers or persons in need of help. The largest amount of money has been donated to the official fund of the National Bank of Ukraine, totalling more than USD 600 million or almost UAH 18 billion. It should be noted that the unprecedented collection was organised in June. In just three days, Ukrainians collected UAH 600 million for the purchase of four Bayraktar drones for the Ukrainian military through the Serhiy Prytula Foundation.

6 Foundations and public organisations are the leaders in fundraising, UAH billion[4]



[4] data is relevant as of first 4 months of the war, updated on 11 July 2022

Partnership support for Naftogaz Group

The start of Russia's full-scale war against Ukraine on February 24, 2022 changed the lives of millions of Ukrainians. The working conditions for the Naftogaz Group team have changed as well. We are faced with the challenges of saving the lives of our employees and ensuring the continuity of Naftogaz Group's operations to support Ukraine's energy independence.

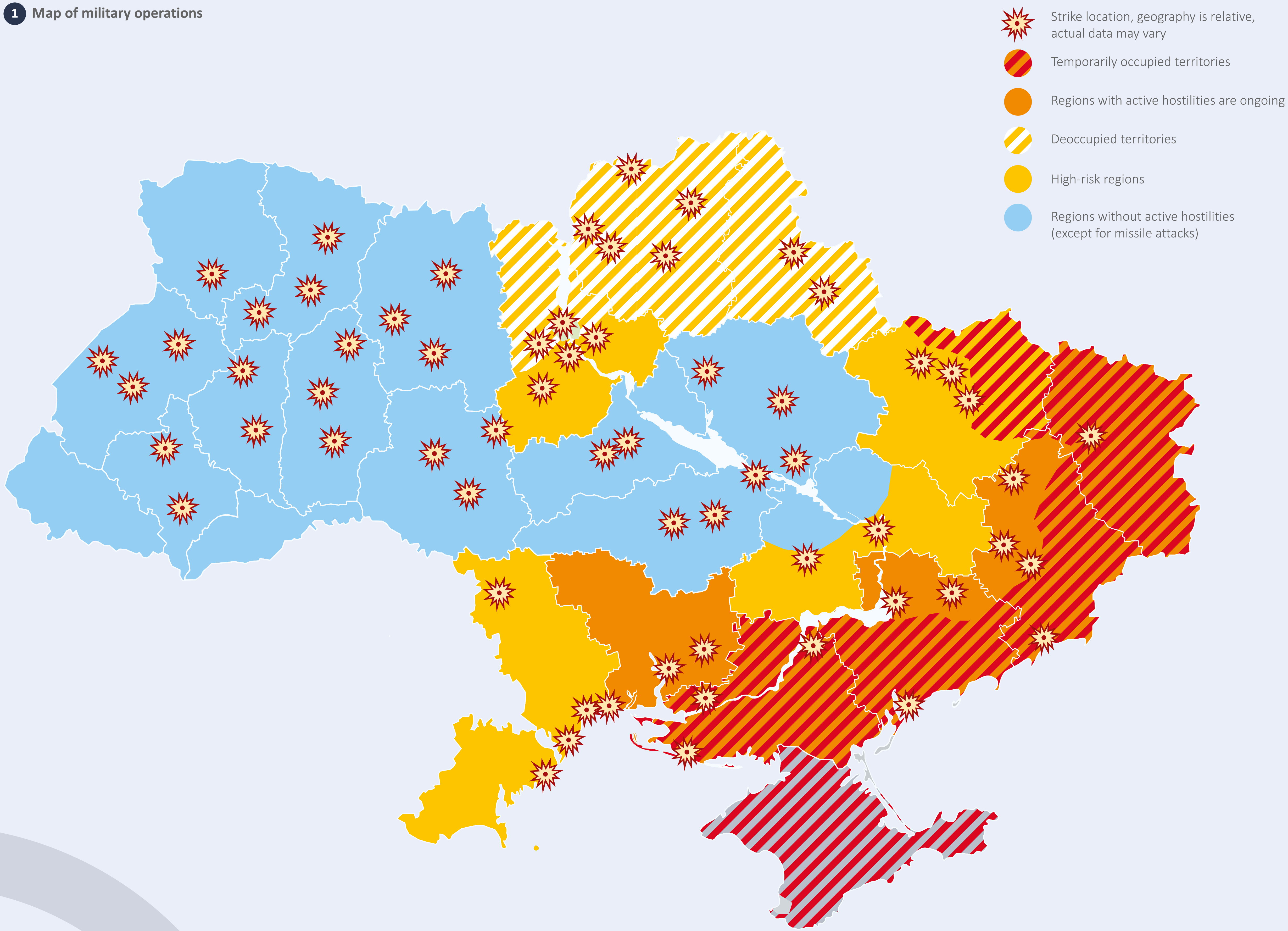
Fortunately, we were not alone in this struggle. From the first week of the war, we asked for help from our foreign partners, the largest oil and gas companies, and they showed humanity and concern for Ukraine and Ukrainians.

We are very grateful to our partners for their support in several areas:

- Financial and humanitarian aid for our employees mobilized to the Ukrainian Army, as well as other Ukrainians, in particular from the Armed Forces of Ukraine and Territorial Defence Units
- Evacuation of more than 500 employees of Naftogaz Group (women and children) and their family members to safe countries including Slovakia, Poland, Croatia and Germany, which made it possible to maintain the effective work of the employees of Naftogaz Group
- Internship of our employees in partner companies in production, operational planning and field development engineering, where they gained valuable experience and skills for the post-war reconstruction of the energy sector of Ukraine
- Conducting work sessions for our employees to exchange experience in various areas, which contributed to promoting best practices and improving the competencies of our employees
- Projects in the field of higher education, in particular updating professional standards and training programs, which will increase the quality of training of young specialists in view of the modern needs of the oil and gas sector

We are very grateful to our foreign colleagues and partners for their support for Naftogaz Group, the energy sector of Ukraine and all Ukrainians in this difficult time. When the war ends with Ukraine's victory, we will be happy to invite all our partners to visit our company in beautiful and safe Kyiv so that we have the opportunity to personally thank them for their partnership support for Naftogaz Group and the Ukrainian people.

1 Map of military operations



WORKING IN WARTIME

Ukraine and Naftogaz have demonstrated incredible resilience under the onslaught of an insidious war unleashed by Russia. This resilience is only possible because our people are professionals who are ready to fulfill their duty even in dangerous circumstances to ensure warm homes for Ukrainians and uninterrupted production of Ukrainian gas.
In bomb shelters close to the frontline, in the most critical conditions, they have ensured and continue to ensure the continuity of essential business processes, driving our entire industry.
It is due to their heroism that we can move forward. It is important for us to include examples of the outstanding contribution that has been made by Naftogaz employees in our annual report.

Shebelynkagazvydobuvannya, Ukrgasvydobuvannya

Serhiy and Vyacheslav,
oil, gas and condensate extraction operators of Shebelynkagazvydobuvannya GPU, Ukrgasvydobuvannya

From the very first days of the Russian invasion, Shebelynkagazvydobuvannya have been working under near-continuous enemy fire, sometimes lasting for 4-6 days in a row.

When Russian projectiles hit one of the integrated gas processing installations, our employees localized the fire and performed an emergency shutdown of the installation. By doing this, they prevented negative consequences and losses of Ukrainian gas.

That day, two employees were on duty at the unit, Serhiy and Vyacheslav. The gas pipeline and the technological equipment were damaged by the attack, which caused a big fire. They managed to extinguish it.

Gas wells, even in the epicenter of hostilities, require constant maintenance, so the contribution of each employee is important. Oleksiy, an experienced and skilled tractor driver of Shebelynkagazvydobuvannya GPU, volunteered to work on one of the most dangerous sites. Every day he went to the wells, although enemy planes and shells were buzzing overhead.

"This gas installation supplies gas to four settlements with many residents, including small children and the elderly. Leaving them without gas when it's freezing outside would be a real disaster. That's why other operators and me, we tried to ensure uninterrupted operation even under such difficult conditions, and by doing that we showed people that they were not left alone", recalls Oleksiy.

Donetskoblgaz

Almost all local gas networks in the Donetsk region, where the heavy fighting with the Russian army is taking place, are the responsibility of Donetskoblgaz.

During the first months of the war, the company's employees repaired the gas infrastructure damaged by the fighting every day. Donetskoblgaz specialists managed to repair more than 445 km of gas pipelines and restore gas supply to more than 20,900 households. This was especially critical in the first months of the war when the temperature outside remained low.

The employees of Donetskoblgaz have grown used to working in wartime conditions. Most were close to their customers long before 2014. During this time, they have never left their customers, continuing to work and support life in the region.

On May 23, the Russians cut off the main gas pipeline that supplied most of the region with gas, bud our colleagues did not leave the residents of the area. Under constant shelling, they worked to keep gas in the system and continued the operation of critical enterprises such as bread factories so that people could have more

Oleksiy,
higher level professional tractor driver of Shebelynkagazvydobuvannya, Ukrgasvydobuvannya

time to prepare for living in conditions of interrupted gas supply.

In addition, our specialists continued working to save the most valuable equipment that will be needed to restore gas supply to the region.

Ukrtransgaz

Underground gas storage facilities are a critical component of gas supply security for Ukraine. All employees of Ukrtransgaz, the UGS operator, recognize this.

They have responded to enemy markings on facilities and the threats of shelling with professionalism – they strengthened security controls, transferred the working places of employees to safe zones, etc.

"Currently, only shift personnel work in underground facilities. But we call people to come to work both day and night so that the entire underground gas storage system continues to work like clockwork. People fully understand the situation.

Vanda Begiyovska,
the only female metrologist in western Ukraine

Such dedication and willingness to help each other cannot be overestimated", says Volodymyr, head of one of the underground gas storage facilities in eastern Ukraine.

Volodymyr,
an employee of Ukrtransgaz, together with his son defends Ukraine

The operation of three underground storage facilities which provide gas to at least a third of Kyiv, the whole Chernihiv region and part of Sumy region, is illustrative. These regions were combat zones during the beginning of the full-scale Russian invasion of Ukraine.

On February 28, fighting took place only ten kilometers from the Mryn gas storage facility, near the town of Nizhyn. Nevertheless, operations continued.

Responsible specialists regularly visited the UGS to perform operational inspection of the sites and wells. Employees literally lived at their workplaces. They spent the night directly in the administrative building near the compressor station of the Mrynske UGS and only occasionally came home to eat and have some rest.

Unfortunately, some facilities and infrastructure objects were hit by Russian forces. On March 14, the Olyshivske UGS was damaged as a result of enemy shelling. The operation of the UGS was urgently stopped and staff were evacuated.

Naftogaz of Ukraine

Most of Naftogaz's employees live in Kyiv and Kyiv region, that were most dangerous at the beginning of the invasion. Even under constant shelling, employees continued to be in touch and work. They held work meetings in bomb shelters, hiding in their apartment's corridors or subway stations.

Many employees joined the territorial defense units and the company supported their decision. Since the beginning of the war, most employees have been and continue to be involved in volunteering. They provide humanitarian aid, buy equipment for the military, and make camouflage nets.

Oleksiy Tkachuk
manager of corporate social responsibility in Naftogaz of Ukraine , volunteer

Vyacheslav
head of analysis and field modeling department at Ukrgasvydobuvannya

At the end of this chapter, we would like to honor the memory of the company's employees who died in the line of duty and while ensuring the security of gas supply during time of war.
May the memory of their heroism live on.

2 MACROECONOMIC ENVIRONMENT

MACROECONOMIC ENVIRONMENT

The Ukrainian economy was actively recovering during the first six months of 2021 from the consequences of the Covid-19 pandemic but slowed down in the first half of 2021

In 2021, the Ukrainian economy began to recover after Covid-19 and a decline of 3.8% in 2020. An increase in growth was observed in the first six months of 2021, but in the 2nd half of 2021 this trend slowed down significantly.

According to the State Statistics Service of Ukraine, the real GDP growth in 2021 was 3.4%, thanks to the recovery of consumer demand due to the quarantine restrictions in 2020, the revival of investment activity, and a record harvest of agricultural crops. 1

Ukraine's nominal GDP in U.S. dollars in 2021 reached a historic high and amounted to almost USD 200 billion. The growth rate was slower than expected due to a number of factors, including:

- Significant increase in the price of energy resources and raw materials
- Critically low reserves of thermal coal
- Slower recovery in the services sector
- Investment deficit in 2020 due to the destabilization of the economy as a result of the pandemic.

Consumer inflation accelerated significantly in 2021 with growth of 6.7 p.p. – up to 9.4%. 2 The key factor driving inflation was the sharp rise in food prices. One of the factors restraining consumer inflation was the state regulation of tariffs for utilities. This included the introduction of annual natural gas contracts with a fixed price for households, locked-in heating tariffs and moderate pace of bringing electricity tariffs to market levels.

Another key reason for the increase in consumer inflation was a dramatic rise in producer prices that put pressure on consumer prices.

In 2021, the increase of producer prices was 40.8%. The highest increase happened in industrial production of mining, energy (coke production, oil refining, electricity and gas supply), and metallurgical sectors of the economy.

In response to accelerating consumer inflation and significant breach of inflation targets in 2021, the NBU tightened its monetary policy which resulted in an increase in discount rate in Q2 – Q4 and cuts to the monetary stimulus implemented during the pandemic. In January 2022, the NBU implemented a tighter monetary policy and raised the rate by another 1.0 pp. to 10% – a record since March 2020. In June 2022, the NBU increased the discount rate to a record of 25%, which has to ease pressure on the foreign exchange market, stabilize inflationary expectations, protect hryvnia incomes and savings of households. This was the NBU's resolute response to the armed aggression of the Russian Federation. 3

Raising discount rate firmly contained the growth of the M2 money supply and led to a gradual increase in the value of hryvnia. However, interest rates on loans and deposits in the national currency did not return to their initial levels as the discount rate was lowered back to the level of 2020. 4

The yield of government bonds issued in UAH gradually increased compared to decline in 2020 due to the government's significant financing needs. In 2021, the government raised UAH 44 billion more than in 2020. 93% of these funds were raised to finance the state budget while, in December 2021, the Ministry of Finance of Ukraine held a record auction for the sale of UAH-denominated domestic bonds, with all raised funds directed to cover the budget deficit and finance the budget needs in the first six months of 2022.

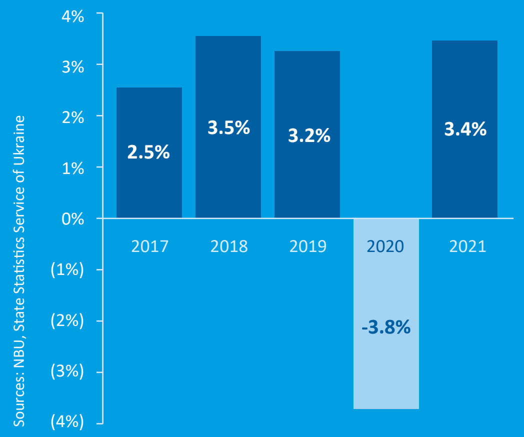
The increase in Covid vaccination and easing of quarantine measures resulted in recovery of demand of domestic and foreign investors for the Ukrainian government debt securities in 2021. However, in the beginning of 2022, rapid escalation of geopolitical tension prompted speculative investors to sell their debt securities: in January 2022 alone, non-residents sold more than 11% of their domestic government bond holdings.

Escalating situation along the Ukrainian-Russian border at the beginning of 2022 created an unfavorable informational environment in the international capital markets and, as a result, led to depreciation of Ukrainian debt securities denominated in foreign currencies. At the beginning of 2022, Ukrainian Eurobonds were trading at a significant discount to par value and their yield on the secondary market reached 26.6% (7-year Eurobonds denominated in USD-denominated Eurobonds), which significantly exceeds the maximum yield at the peak of the pandemic in 2020. Due to the full-scale armed aggression of the Russian Federation against Ukraine, in the first half of 2022, the Ukrainian sovereign Eurobonds reached new all time lows – the maximum yield of 7-year bonds due in 2022 was 561%, having had fluctuations within the range of 104%-561% since February 24, 2022. 5

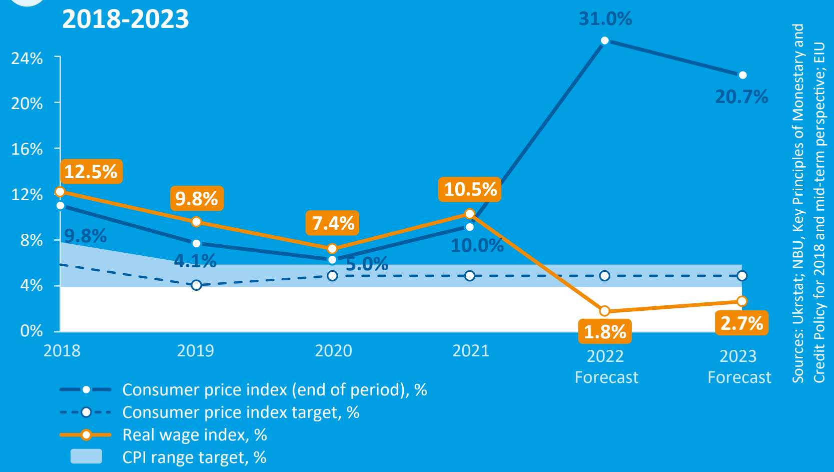
Deterioration in the geopolitical arena in Q4 2021 led to high volatility of the exchange rate of the Ukrainian hryvnia against the U.S. dollar. In 2021, the average exchange rate was UAH 27.3 per 1 U.S. dollar, having slightly devalued compared to 2020 – by UAH 0.3 per 1 U.S. dollar. Since February 24, the NBU fixed the dollar exchange rate at UAH 29.2549 per 1 U.S. dollar and introduced a number of administrative restrictions.

In 2021, the consolidated balance of payments surplus amounted to UAH 487 billion. The current account has returned to deficit, which was usual for Ukraine's economy. The main driver

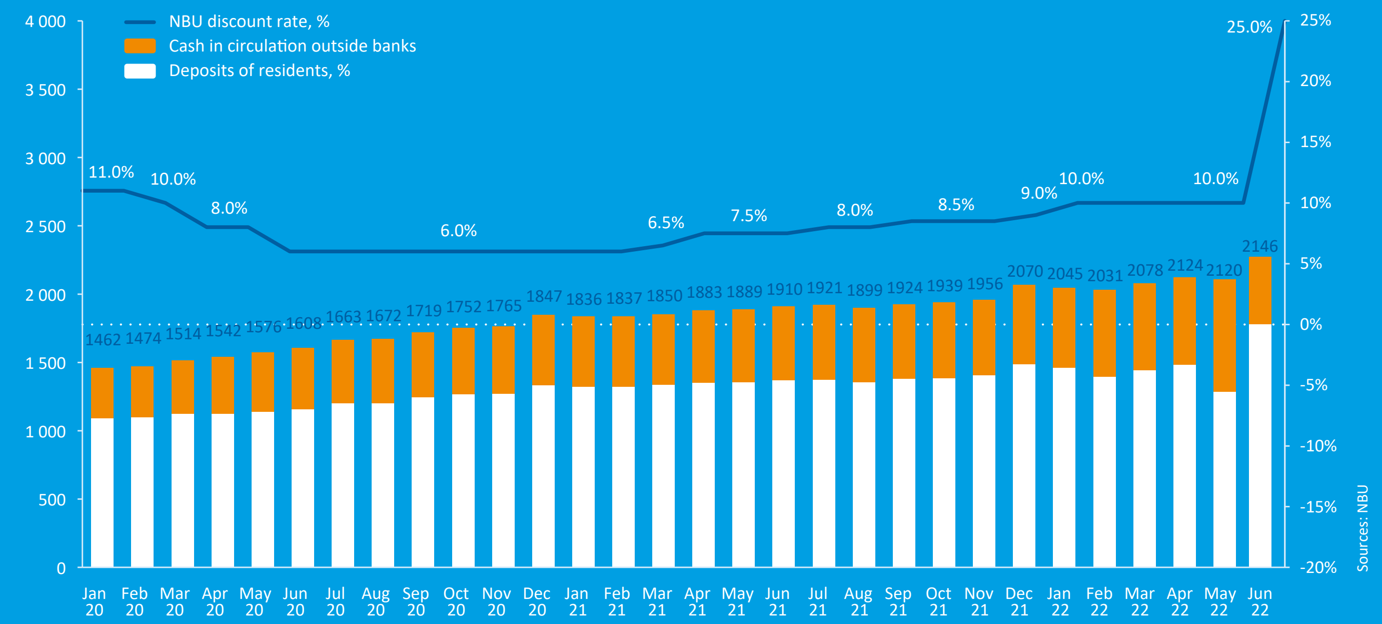
1 Change in real GDP of Ukraine, 2017-2021



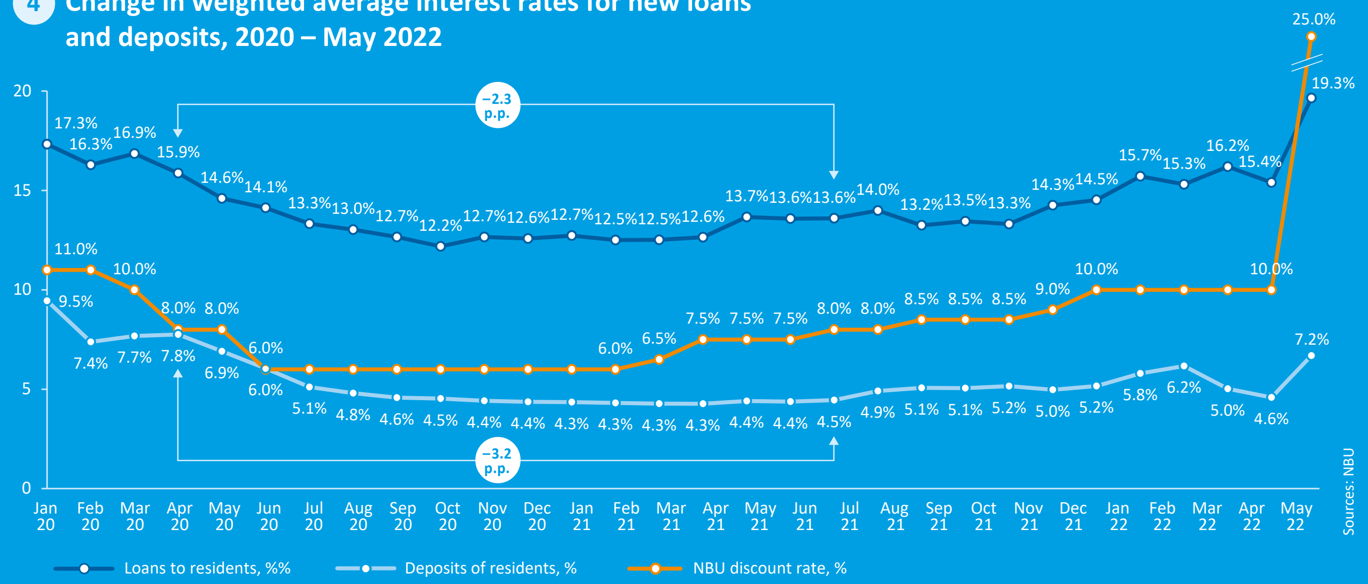
2 Consumer price index and real wage index, 2018-2023



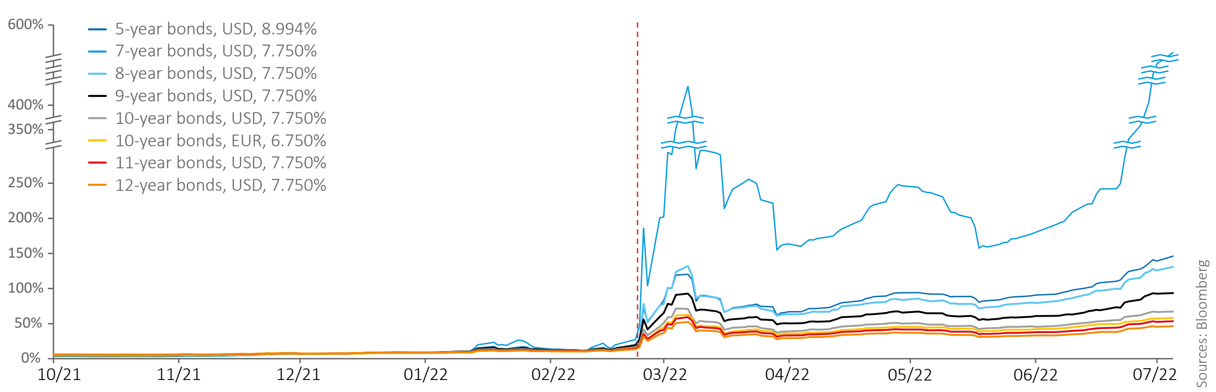
3 Change in discount rate and M2 monetary supply in 2020 – Apr. 2022



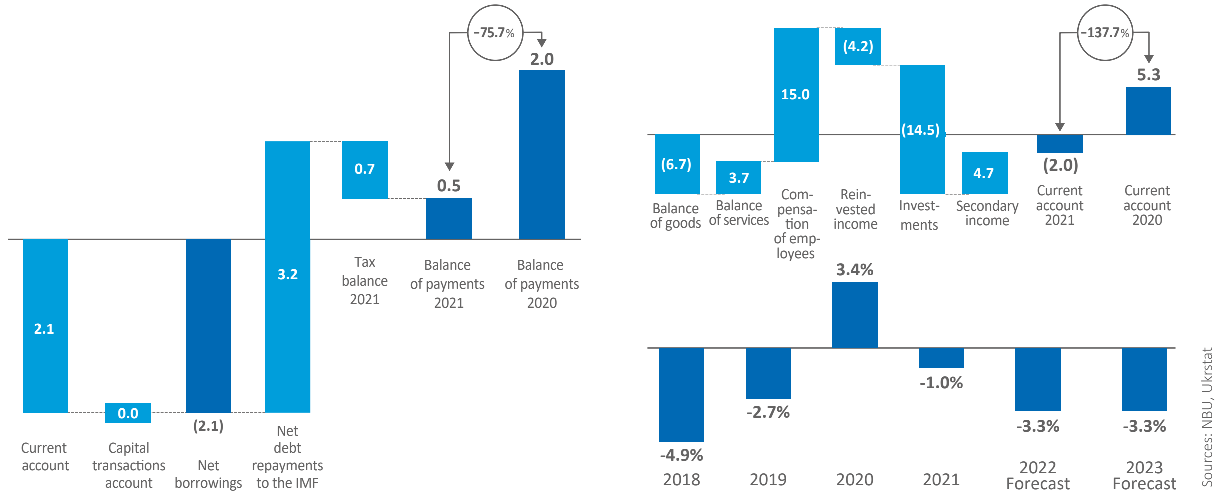
4 Change in weighted average interest rates for new loans and deposits, 2020 – May 2022



5 Yields of Ukrainian Sovereign Eurobonds on the secondary market, Oct. 2021 – Jul. 2022



6 Balance of payments of Ukraine, the state of the current account balance in 2021, and the ratio of the current account balance to GDP, USD billion



for the deficit was the record reinvestment of incomes worth USD 4.2 billion. However, the goods trade balance slightly worsened: the export of goods increased by USD 17.9 billion due to the increase in exports of ferrous and non-ferrous metals and food products, while imports increased by USD 17.0 billion due to almost twofold increase in energy imports; and, while having decreased, the service trade balance remains positive at USD 3.7 billion. 6

Partial easing of the acute phase of the pandemic, the revival of economic activities and the improvement of the investment climate by the government intensified investment activities in Ukraine. In 2021, the financial account was significantly boosted by foreign direct investments in the amount of USD 6.9 billion. 7 80% of foreign investments came from the EU countries, 85% of which- from the Netherlands, Cyprus and Germany.

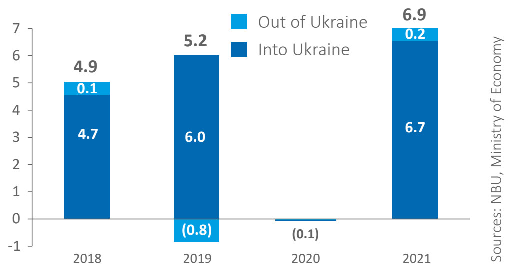
Investors were most interested in industrial sectors: processing (agricultural food production), mining, electricity and gas supply, etc.

In 2021, the balance of payments surplus allowed to replenish gold and foreign currency reserves. At 2021 year-end, gross international reserves increased to USD 30.9 billion, which makes up 95% of reserve adequacy level according to the IMF methodology, and covers 3.8 months of future imports. From January to May 2022, the international reserves decreased by USD 5.8 billion, primarily due to currency interventions of the National Bank in order to maintain the exchange rate and curb excessive fluctuations in the foreign exchange market.

The public debt at the end of 2021 amounted to USD 87 billion, having increased by 8% through the year due to an almost equal increase in both domestic and external debt.

In 2021, the government reduced the share of external debt in the economy – the ratio of public

7 Net foreign direct investment in Ukraine, USD billion



debt to GDP was 44% due to the high growth rate of nominal GDP. IFIs, such as IBRD and IMF, as well as Ukrainian Eurobonds, remained the main sources of foreign borrowing. 66% of public debt on the balance sheet has been raised at a fixed interest rate, which ensures the stability of the debt obligations of the Ukrainian government. However, the currency risk of the loan portfolio is quite significant, since only 35% of the debt is denominated in Ukrainian hryvnia. 8

Ukraine's economy failed to recover to its 2019 level in 2021: real GDP grew by 3.4%, compared to a 3.8% drop in 2020. In the first half of 2022, the Ukrainian economy suffered a ruining impact due to the full-scale armed military aggression of the Russian Federation. As of May 2022, Russia had destroyed tangible business assets worth around USD 100 billion. However, the business community is gradually adapting to new realities and increasing economic activity. Enormous support – both financial and humanitarian – is provided by international partners. The US and the EU are Ukraine's biggest donors, contributing to support the recovery of Ukraine.

In 2021, the global economy showed record growth in the past 8 decades, mitigating the effects of recession during the pandemic

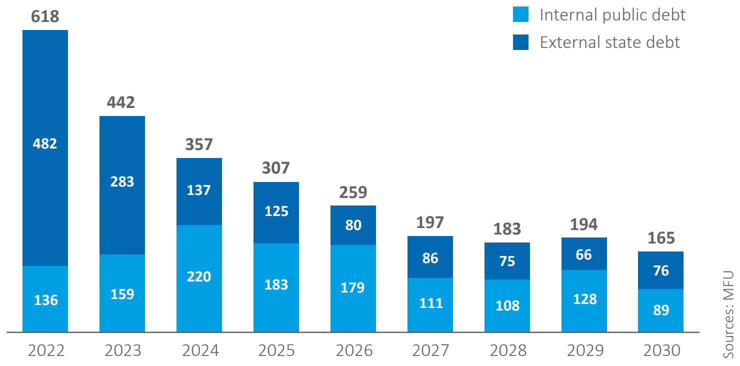
According to the World Bank estimates, the global economy grew by 6.1% in 2021, the fastest rate of post-recession recovery in eight decades. Loosening of quarantine restrictions, which contributed to an increase in consumer demand, was the main driver behind the rapid recovery of economies. However, the waves of the pandemic in the second half of 2021 impacted economic activities and caused a slowdown in growth.

Rapid recovery of consumer demand in 2021 outpacing slower recovery of industrial production capacity caused a supply shortage, although demand was below its 2019 level. In 2021, oil and natural gas prices reached all-time highs, prices for coal, some metals, agricultural products and industrial raw materials almost doubled. High energy prices and fuel shortages limited the production of basic materials. All this was reflected in a significant increase in inflation in 2021 peaking at the end of the year. 9

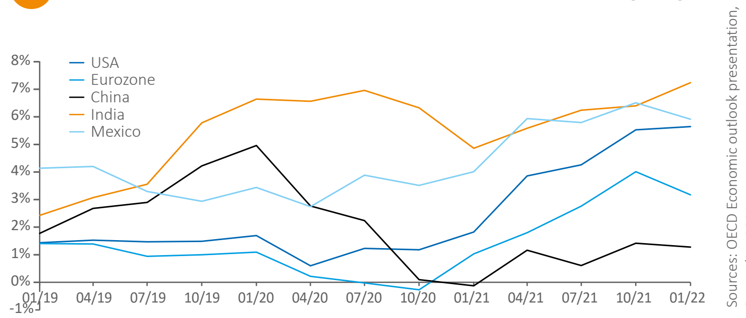
International trade in goods and services increased by 25% compared to 2020 and exceeded the level of 2019 by 13%, remaining more resilient to the adverse effects of the pandemic than during the financial crisis of 2008-2009.

The US economy showed its best performance in the last four decades, having grown by 5.7% according to the IMF. This result was enabled by the growth of domestic demand, especially of private consumption of goods and services, as well as growth of exports and private investments. However, the US Government is still pursuing a tight monetary policy and raised the Federal Reserve rate in June 2022 to the highest level in 28 years – by 0.75 pp. – to the range of 1.5%-1.75%. This happened as an answer to the record increase in inflation caused by the military agression of the Russian Federation in the environment of recession in its key EU trade partners.

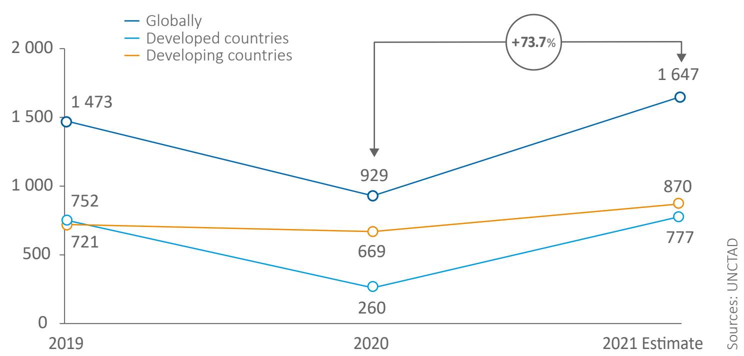
8 Public debt repayment forecast for 2022-2030



9 Inflation rate in some countries, 2019-2021, % y-o-y



10 Global foreign direct investment inflows, 2019-2021, USD billion



Along with the rapid recovery of commodity markets, revival of consumer demand and growth of industrial production, investor sentiment and capital market conditions have shown notable improvements. In 2021, according to UNCTAD, foreign direct investment inflows amounted to USD 1.65 trillion, which was more than 1.5 times higher than in 2020 and 12% higher than pre-pandemic levels. 10 Developed economies accounted for almost 75% of foreign direct investment growth. Investors are most interested in infrastructure projects due to favorable long-term financing terms.

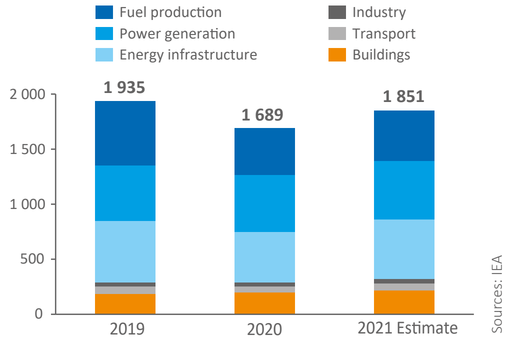
The IEA estimates that global energy investment grew by 10% in 2021, partially offsetting a 13% decline in 2020. However, investor focus has shifted from traditional fuel production to power generation and the end-use sector. The balance of investment in fossil fuels is shifting towards state-owned companies. 11 Investments in green energy increased by 7% compared to 2020 and by 10% compared to 2019, which remains insufficient to achieve net-zero emissions goal. 12 According to the IEA, in order to achieve climate goals, investments should be doubled by 2030. Oil and gas companies are beginning to increase their investments in the green energy sector: in 2020, the oil and gas industry allocated only 1% of capital investments in alternative energy, while in 2021 – 4%.

The full-scale armed military aggression of the Russian Federation is the most destructive factor for the economy of Ukraine and the world, which started recovering from the consequences of COVID-19. The decrease in global economic growth in the second half of 2021 caused by the following waves of COVID-19 already caused decrease in trade flows, increase in inflationary pressure, and rising interest rates globally. However, the military conflict in Ukraine, caused by the armed aggression of the Russian Federation, has the most devastating effect on the global economy, especially in the countries in Europe, Central Asia and in the USA.

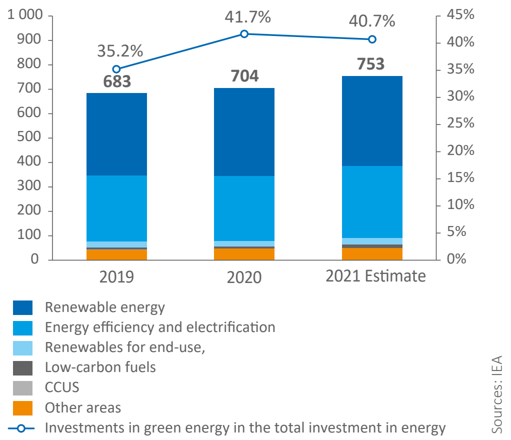
According to the World Bank estimates, after almost two years of the global pandemic, as well as Russia's military invasion into Ukraine, economic growth will have slowed down to 2.9% in 2022. 13 In developed countries, decline in growth rates will occur due to rising energy prices, unfavorable financial environment and supply chain disruptions exacerbated by the war in Ukraine.

The biggest slowdown will be experienced by developing countries. The growth of their economies will slow down by almost twofold compared to 2021. Such a slowdown will be a consequence of the war in Ukraine, leading to rising commodity prices, production costs, and a decrease in investor confidence. Food and energy prices will also have a significant impact on these economies, as households in developing countries spend a large share of their income on basic necessities.

11 Invesments in energy, 2019-2021, USD billion

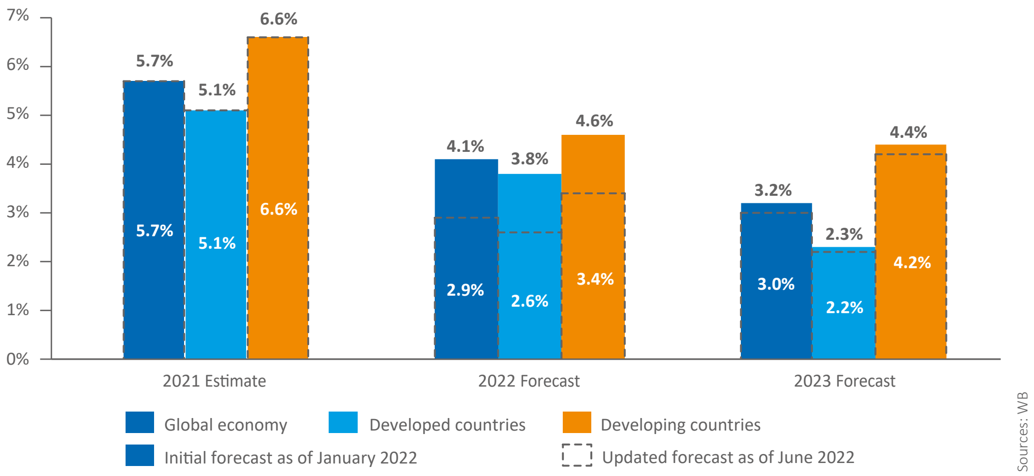


12 Invesments in green energy, 2019-2021, USD billion



According to various estimates, Ukraine's GDP will decrease by 30-45% in 2022. 14 This is caused by destruction of energy and social infrastructure, decrease in public and private investments, and a significant reduction in household spending, which reflects the geographic relocation of people, loss of income and livelihood. According to the World Bank estimates, Ukraine's GDP will be 2/3 of the pre-war level by 2025.

13 Forecast global economy growth, 2021-2023, %



Russia's full-scale war against Ukraine impeded deceleration of inflation caused by supply chain disruptions related to Covid-19. In 2022, based on the EIU estimates, global inflation will reach 8.5%, the maximum level in the past 26 years. In 2023, it amount to 5.2%, and already in 2024 it will return to the pre-covid 2019 level of 3.5%.

The OECD estimates the war is having a major and global impact on inflation, which has already reached a 40-year high in Germany, the UK and the United States. A gradual easing of pressure on supply chains and commodity prices, as well as the impact of rising interest rates should begin to be felt by 2023, but despite this, core inflation forecast to remain at or above central bank targets in many major economies at the end of this year. 15

By the end of June, consumer inflation in Ukraine accelerated to 21.5% per annum, increasing by 3.5 pp. compared to May level. The EIU predicts that consumer inflation in Ukraine will reach 31.0% in 2022 and 20.7% in 2023.

According to the EIU, the Ukrainian hryvnia will weaken against the USD, and the average exchange rate is expected at UAH 30.31 per 1 U.S. dollar in 2022 and 34.7 UAH 1 U.S. dollar in 2023.

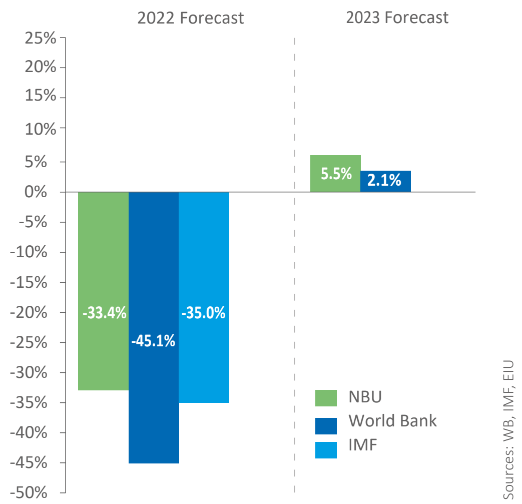
The further impact of the armed conflict initiated by the Russian Federation on the global economy and Ukrainian economy will depend entirely on the pace and timing of the escalation of the conflict. However, Ukraine has already developed the Ukraine Recovery Plan worth more than USD 750 billion, which will include 850 reconstruction projects. The Ukrainian Government presented the Plan to its Western partners. The Plan is designed to be implemented over 10 years – from 2023 to 2032. The first wave of reconstruction is scheduled for 2023-2025, when most of the mentioned projects (580) are to be implemented, according to the plan.

The second wave will include a smaller number of projects, but will require more funding – over USD 400 billion.

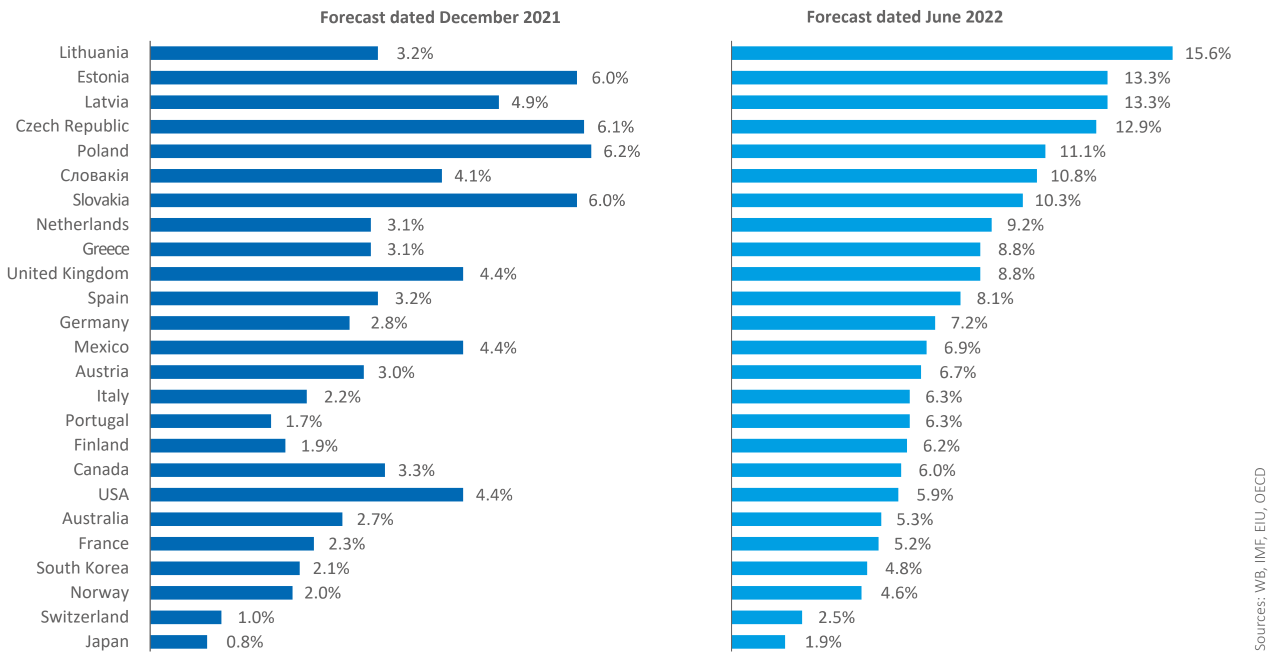
Housing and infrastructure rehabilitation and modernization program, requiring USD 150-250 billion, logistics capacity expansion and EU integration program (USD 120-160 billion) and energy independence and green transformation programs (USD 130 billion) are the most capital-intensive.

Experts predict that agriculture and metallurgy will still be the locomotives of the economy, while construction and transport sectors will also be growing fast. The economy will receive a significant push for post-war development from small and medium-sized businesses, which will be able to adapt to new realities and tough environment.

14 Ukraine real GDP growth forecast, 2022-2023, %



15 Inflation expectations in some countries in 2022, %



3 GAS MARKET

GLOBAL GAS MARKET

+397%
Change in TTF quotes compared to the previous year[1]

+4.7%
Global gas consumption growth[2]

+4.2%
Global gas production growth[3]

In the decade before the COVID-19 pandemic, global economic growth stimulated an increase in natural gas consumption, with growth rates in 2015-2019 increasing to 3.1% per year compared to 1.9% in 2010-2015. However, in 2020, consumption decreased by almost 100 bcm (-2.5%) due to the global COVID-19 pandemic. The rapid recovery of the global economy after the end of the emergency phase of the COVID-19 pandemic in 2021 served as a driver for restoring demand for energy resources, including natural gas. Global demand for natural gas increased by 180 bcm in 2021 compared to consumption in 2020, which was even higher than in 2019 (before the pandemic). 1

Following the trend of consumption, the volume of natural gas production in the world also changed. The 2-3% growth rate until 2019 was interrupted in 2020 as a result of the pandemic, having decreased by 144 bcm or 3.6%. But already in 2021, the production resumed and even exceeded the level of 2019. 2 However, such production growth a) lagged behind consumption growth, b) was uneven, in particular, in Europe, natural gas production further decreased in 2021.

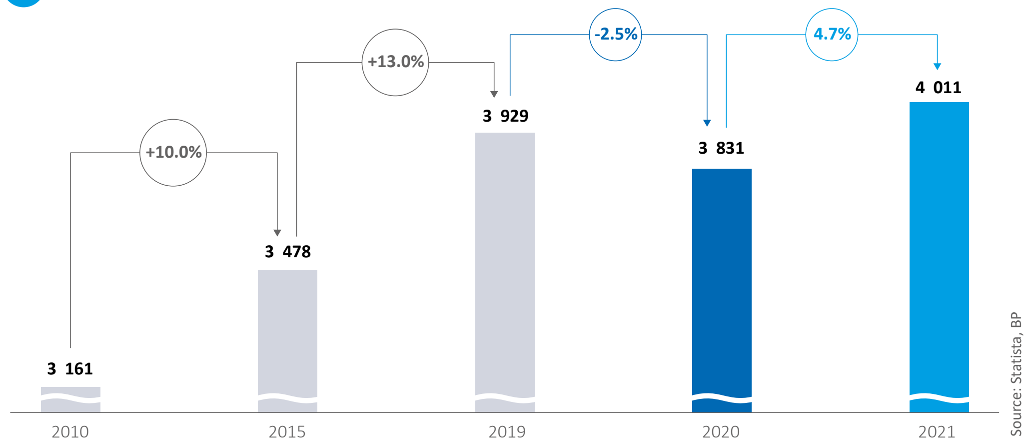
The year 2021 was a year of economic recovery and, at the same time, a recovery in natural gas consumption in Europe. Gas demand recovered to the level of pre-pandemic 2019, and in some countries, such as Germany, Italy, and the Republic of Poland, consumption even exceeded the level of 2019.

The key factors for the rapid growth of consumption were not only the rapid recovery of European economies but also the high level of gas used by electric power enterprises during abnormally high temperatures in summer (in particular, to compensate for the reduction in electricity production by the hydroelectricity sector), as well as the long heating season.

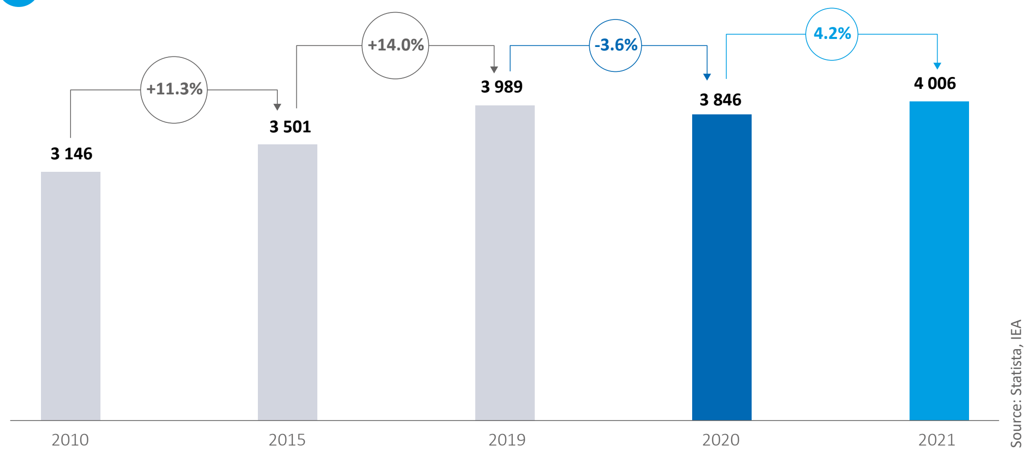
Contrary to the pace of demand recovery, natural gas production in Europe continued to decline, although at a less rapid pace. 3

[1] According Bloomberg
[2] According IEA
[3] According Statista, IEA

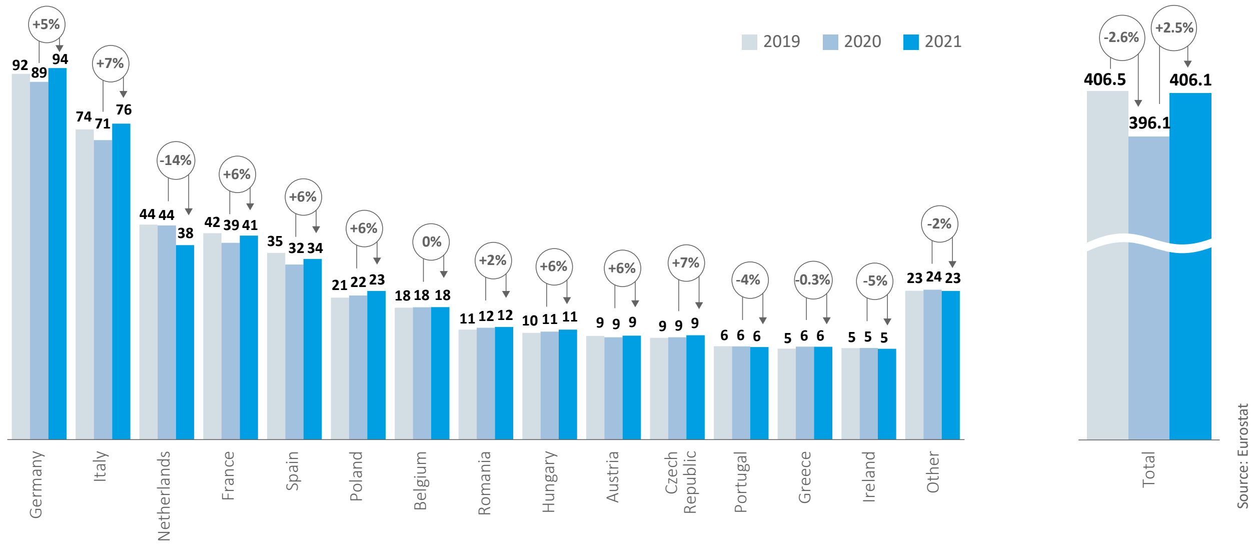
1 Global gas consumption, bcm



2 Global gas production, bcm

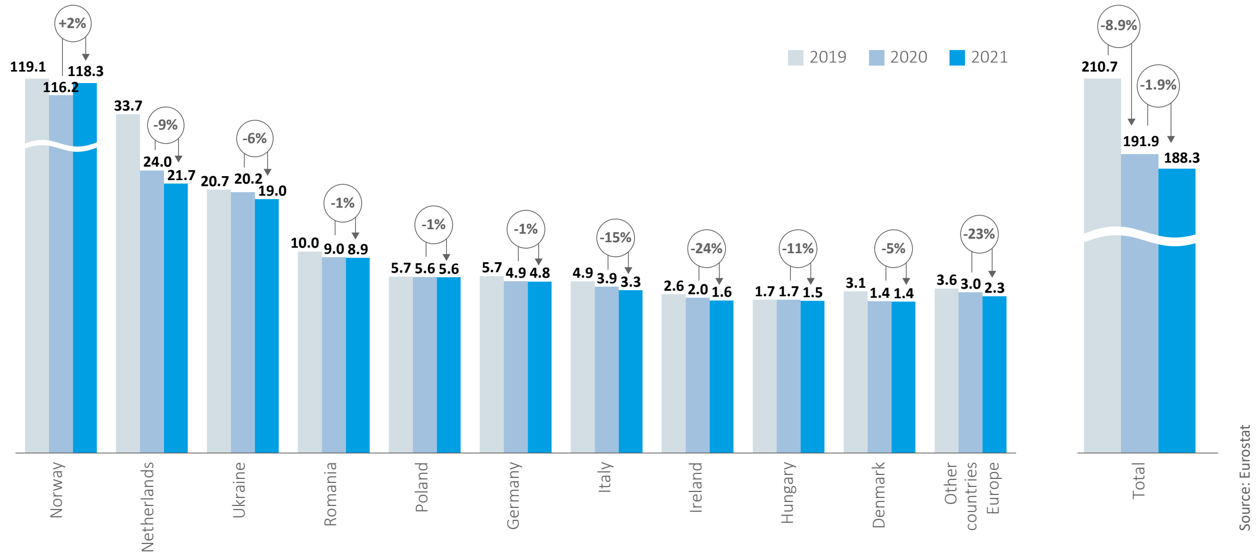


3 Gas consumption in Europe, bcm



Among European countries, Norway alone increased production from 116.2 bcm in 2020 to 118.3 bcm in 2021, or by 2%. At the same time, such growth was not enough to reach the production level of 2019 (119.1 bcm). In all other European countries, including Ukraine, production continued to decline in 2021. 4

4 Gas production in Europe, bcm

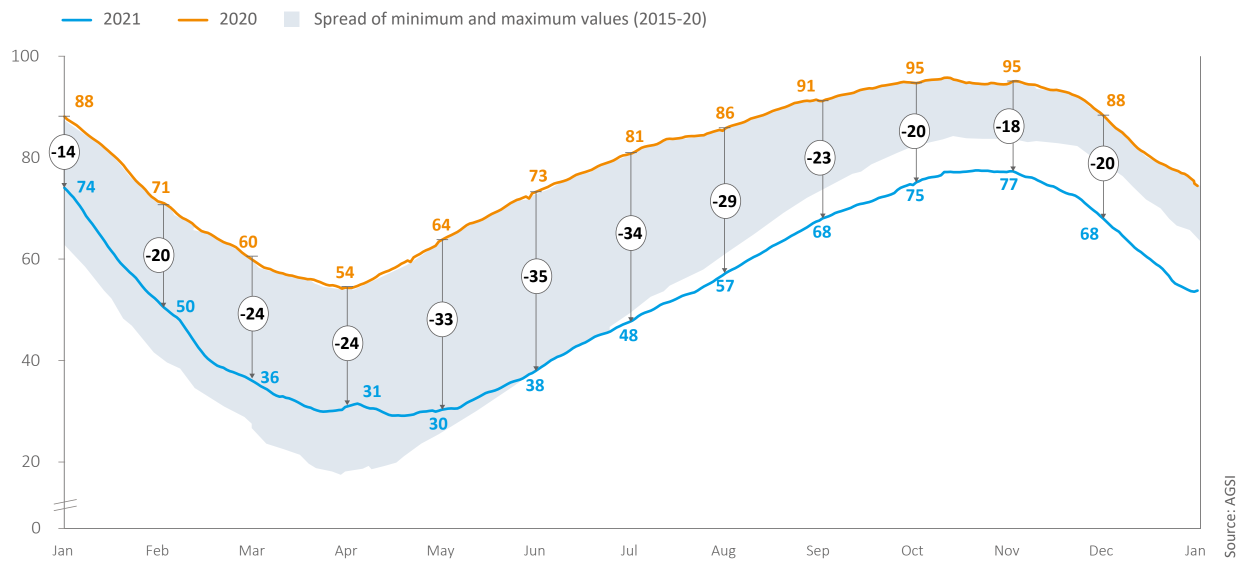


While quarantine restrictions related to the 2020 pandemic were the most significant factor in reducing consumption in Europe, natural gas production is also declining due to the depletion of gas fields and restrictions on the Groningen field in the Netherlands due to earthquakes in the region. In particular, the production quota for the field in the 2021 gas year was 3.9 bcm, compared to peak production of 54 bcm in 2013. Overall, in 2021 Europe produced 3.6 bcm less gas than in the previous year (-2%) and 22.4 bcm less gas (-11%) than in 2019.

When the impact of quarantine restrictions were almost eliminated due to vaccination and disease control, consumption recovered rapidly and production constrained by other factors continued to decline, significantly increasing dependence on the imported resource.

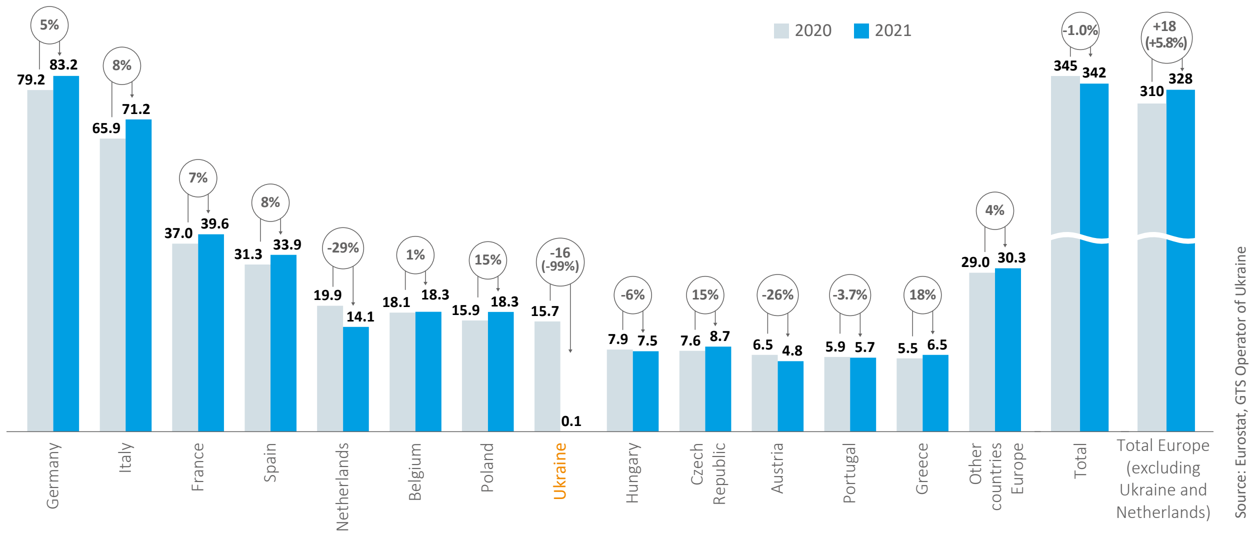
Europe began 2021 with 72 bcm of gas in underground storage facilities. This means that fillage of underground storage facilities in Europe as of January 1, 2021, was 74%, which is 14 percentage points lower than the corresponding level of 2020 (88%), when the volume of gas in underground storage facilities was 92 bcm. At the same time, if we compare it with the values of underground storage facilities fillage over the past six years, the level at the beginning of 2021 corresponded to the average values, and the level of fillage at the beginning of 2020 was unusual (partly due to the consideration of risks of possible termination of gas transit through the territory of Ukraine from January 1, 2020). 5

5 Fillage of European underground storage facilities as of the beginning of the month, %



However, already in July 2021, the fillage of European underground storage facilities was below the 2015-2020 fillage range. In December 2021, fillage was about 10 percentage points lower than the minimum occupancy rate for the last 6 years. This situation was the result of growing demand during the economic recovery in the face of a decline in domestic production, a reduction in gas supplies by Gazprom, and limited opportunities for gas imports from other destinations. 6

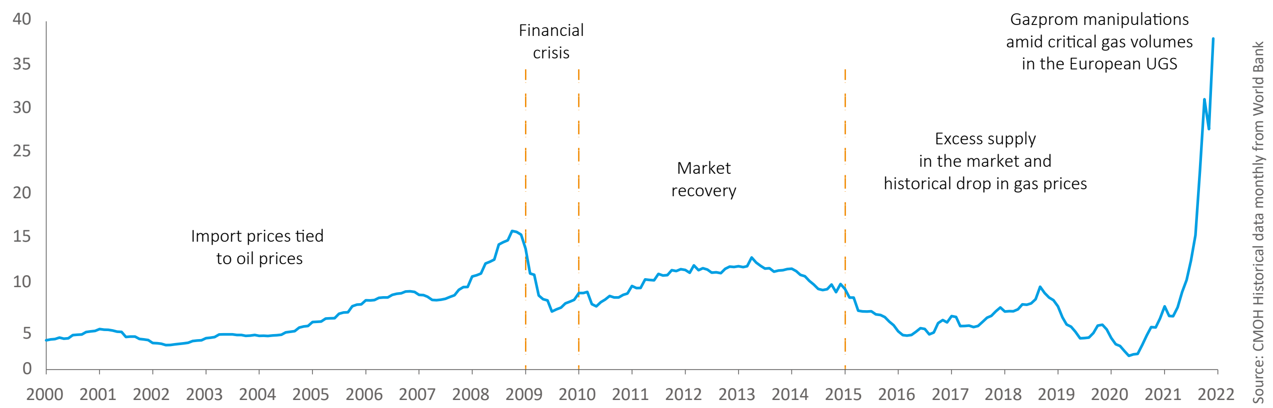
6 Net gas imports by European countries, bcm



Price dynamics

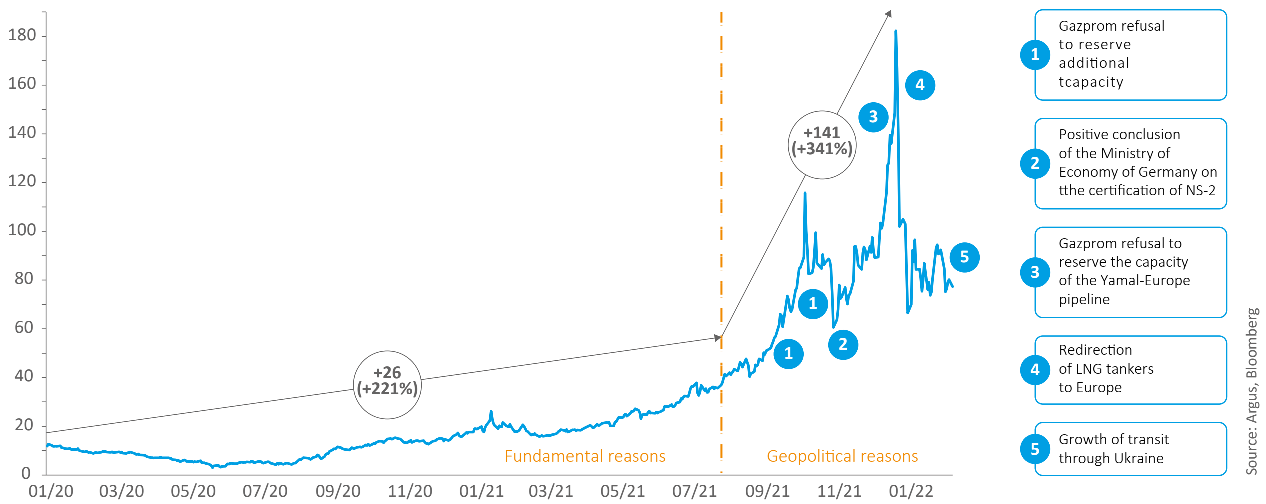
In Europe, the Dutch TTF natural gas index reached 560 USD/tcm – The highest figure in history, three times the average price during 2018-2020. In the first six months of 2021, TTF prices for next month's delivery ranged from 16-35EUR/Mbtu. However, since September 2021, the difference has increased significantly and peaked in December 2021, when price volatility was the highest (from 65 up to 186 EUR/Mbtu). 7

7 Natural gas prices in Europe, $/mmbtu



At the end of 2021, the natural gas prices in Europe exceeded the LNG prices in Asian markets, and the price difference between the US and European gas hubs reached a record 10 times. In December 2021, the price of gas in Europe almost reached its record level of 2,000 USD/tcm (subsequently, a new historical maximum will be recorded in 2022 with the beginning of full-scale aggression of the Russian Federation against Ukraine). This level of prices led to the reorientation of certain volumes of LNG destined for Asian countries towards European destinations, and against the background of such high LNG prices, tankers changed their course to Europe, in particular to terminals in France and Spain. 8

8 TTF spot index dynamics, EUR/MWh



When analyzing the price situation in the European natural gas market, it is important to understand that abuse of dominant position and Gazprom's gas blackmail had a decisive influence on price levels and volatility because the rapid price increase began precisely from the moment when the Russian monopoly began to refuse to reserve additional capacity from time to time and increase or decrease supplies depending on Nord Stream 2 certification decisions. In December 2021, Gazprom stopped gas transmission through the Yamal-Europe pipeline, resulting in a record price jump amid growing demand during the heating season. It should be noted that throughout this time Gazprom, in violation of the European competition law, continued to block the transit of gas from Central Asia through Russia to Europe, as well as the export of gas to the EU by gas-independent production companies in the Russian Federation.

Global LNG market*

+7%
Growth of LNG imports by EU countries in 2021[4]

-3%
Decrease in LNG imports to Europe in 2021[5]

16.9
bcm of new export capacities per year[6]

The global LNG market has grown rapidly following a slowdown in 2020 caused by the pandemic. Global LNG imports increased by 7% compared to the previous year due largely to Asia and Latin America.

LNG supplies in 2021 increased to 520 bcm. The United States almost caught up with Australia and Qatar in terms of global LNG exports in 2021, increasing the volume of supplies by 32.5 bcm, or 49%, to the level of 98 bcm. Among other countries, it is worth noting the Arab Republic of Egypt, where LNG exports increased fivefold to 9.0 bcm thanks to the launch of the LNG terminal after a long-term shutdown. 9

Since the beginning of 2021, about 100 bcm/year of LNG has been contracted, with 70% of contracts for Asian buyers and only 5% for Europe. About 82% of all LNG sales contracts are long-term and fixed-term supply contracts ensuring timely and secure gas supplies. 10

In 2021, more than 300 bcm of gas was delivered under long-term contracts. Europe only intensified its active purchases of LNG in the 3rd and 4th quarters due to a significant reduction in gas supplies from Russia and due to declining demand for LNG in Asia, as those countries filled their storage facilities early in the autumn season.

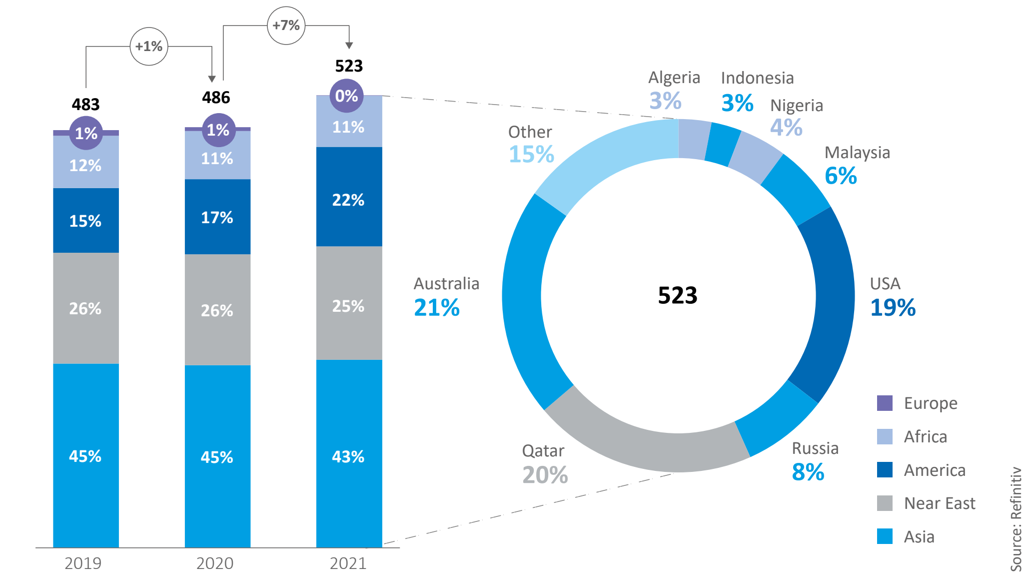
LNG imports around the world continued to grow during 2021. The share of Asian imports increased to 71% in 2021 due to the rapid economic recovery and rising demand. China was the leader in terms of LNG imports among Asian countries, increasing its imports by 18%, or 17 bcm and ahead of Japan as the world's largest LNG importer.

At the same time, Japan's LNG imports remained almost unchanged at 101 bcm. South Korea also increased LNG consumption by 14% due to higher CO_2 emission permits and lower coal generation in the country. Overall, a 5.6% increase in LNG imports by the countries of the Asia-Pacific region offset the decline in India (a 5.3% decrease to 32.5 bcm) due to the low share of volumes contracted on a long-term basis and rising prices for spot deliveries.

In South America, the highest growth rate of LNG imports was shown by Brazil, where prolonged drought led to a significant reduction in hydropower generation, which accounts for about 65% of the country's total generation.

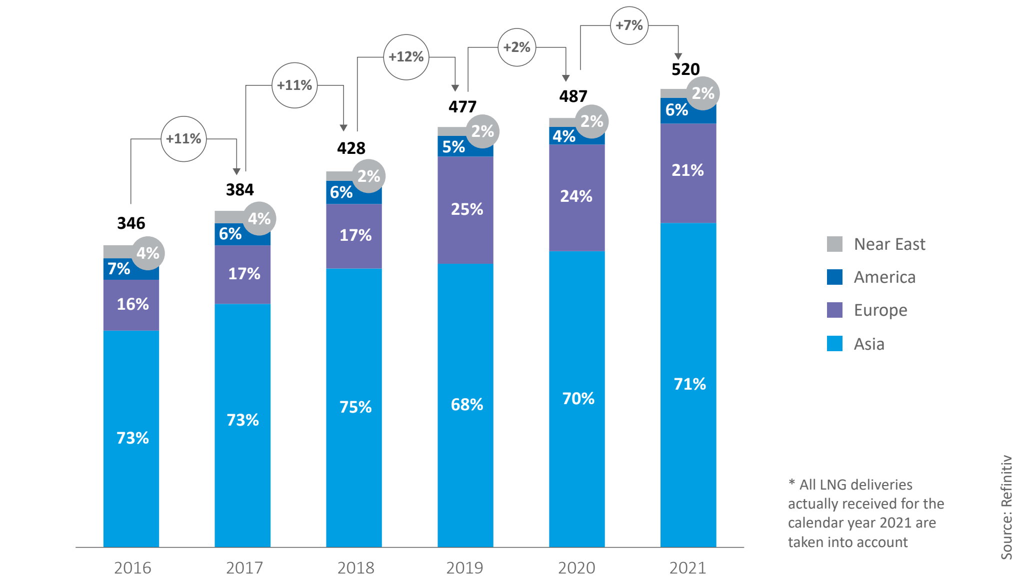
[4] According to Refinitiv
[5] According to Eurostat
[6] According to Argus

9 Structure of LNG exports by region, bcm



* Liquefied natural gas

10 LNG imports by region, bcm



Brasil was forced to increase LNG imports by almost 3 times, to 10.7 bcm, to meet demand.

In Europe, LNG imports fell by almost 7%, while imports through terminals in North-Western Europe decreased by 11%, and imports through other terminals – by 4%. 11 It is important to note that during the first nine months of 2021, the volume of LNG imports by European countries was 17% lower than in the same period of 2020. And in the 4th quarter of 2021, the situation changed radically and LNG imports exceeded the level of the 4th quarter of 2020 by 35%. This increase in LNG imports in the 4th quarter was achieved due to an increase in imports from the United States of America. The volume of imports in this period increased more than twice and accounted for almost 40% of the total volume of European imports from the United States in 2021. Additionally, LNG supplies from Egypt and Qatar were increased, including partial reorientation of the LNG resource from Asia to European destinations.

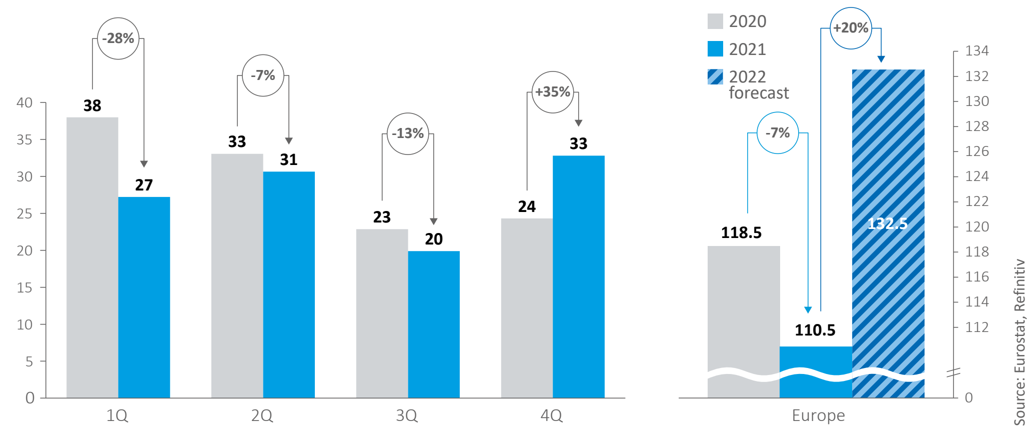
Global growth in demand for natural gas in the context of supply constraints led to an increase in the price of LNG, which correlated with price changes in the European market, although with a significantly lower level of volatility. 12

During 2021, the LNG spot price in Asia reached a peak at a record 1,086 EUR/tcm, which is 316% more than in the same period in 2020, in which prices averaged only 87 EUR/tcm.

It should be emphasized that spot LNG charter rates increased by more than 50% to a record 170,000 – 190,000 USD per day in the 4th quarter of 2021. This was due to the rapid expansion of trade between the United States and Northeast Asia, which led to traffic jams and delays in the Panama Canal in October and November which, of course, affected the growth of the final LNG price. Market instability underscores the need for a more strategic approach to ensuring a secure and flexible gas supply in the future to avoid the economic consequences of sharp price fluctuations.

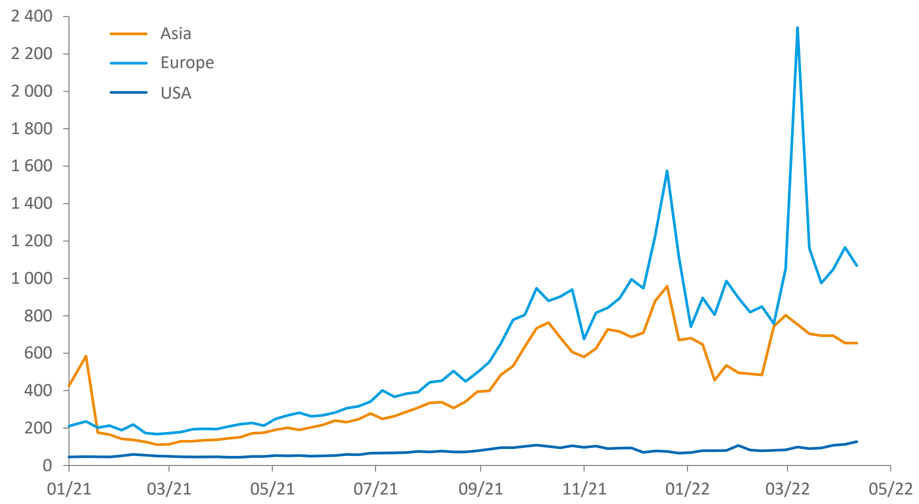
Spot LNG charter rates increased by more than **50%** to a record **USD 170 – 190 thousand** per day in the 4th quarter of 2021

11 LNG imports to European countries, bcm



* The forecast for 2022 is calculated on the basis of an increase in contracted capacities

12 LNG price dynamics in Asia (JKM), Europe (TTF) and USA (Henry Hub), EUR/tcm



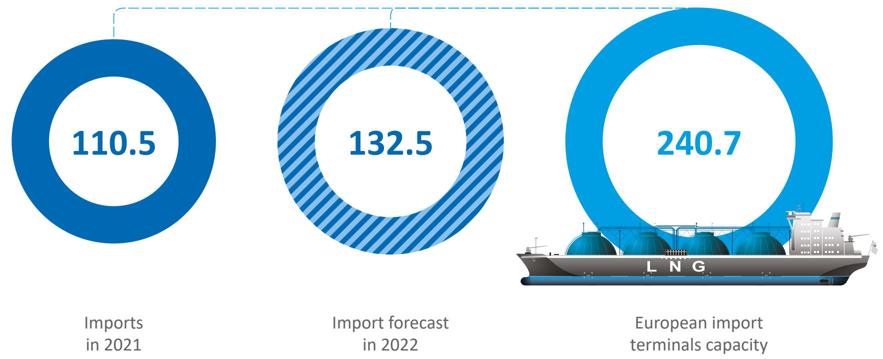
Source: internal calculations based on Refinitiv data

The global LNG market is under pressure due to the full-scale war in Ukraine, which began on February 24, 2022. European countries plan to increase LNG supplies to replace Russian gas during the gradual abandonment of energy supplies from the Russian Federation. To replace 145 bcm of pipeline gas and 15 bcm of LNG from Russia, the European Commission has implemented REPowerEU, a plan which provides for an increase in LNG imports by 50 bcm during 2022.

With the growth of LNG imports to European countries, LNG imports in Asia are expected to remain consistently high. In particular, China's imports are expected to grow by 11.5 bcm in 2022, which will be about 45% of the total increase in LNG imports in Asia in 2022. LNG imports to Japan and South Korea will remain stable, while India is expected to resume import volumes after last year's decline. 13

Since LNG importers compete in a rather narrow market, the full-scale war in Ukraine and the abandonment of Russian energy resources will ensure increased demand in the LNG market and very high resource prices. A new round of rising prices may come in the 3rd-4th quarters of 2022 when there will be the greatest demand for short-term contracts before the start of the heating season.

13 LNG capacities and imports to European countries, bcm



Source: internal calculations based on Argus and Refinitiv data

SPOTLIGHT: RUSSIAN GAS

Historically, natural gas comprised a relatively small portion of Russia's energy export revenues. Even in 2021, with high gas prices, natural gas (including LNG) accounted for only 26% of USD 244 billion of the total value of exports of Russian oil, oil products and gas and only 11% of the total value of exports of all goods and services of Russia. 1 However, in 2022, record high gas prices in Europe amid the risk of interruption of Russian gas supplies with the start of military aggression against Ukraine and the continuation of Russia's policy aimed at creating an artificial deficit in the European gas market change this ratio and increased the share of natural gas. According to the Bruegel analytical center, since the beginning of military aggression, the EU has paid Russia ~EUR 370-660 million per day for natural gas, which is 2-3.5 times more than at the beginning of January 2022 2, and at the beginning of April 2022, the share of natural gas in the export of oil, oil products and gas increased to 36%[1].

Provided that energy prices remain high until the end of 2022 and with unchanged export volumes, Russia can receive USD 300 billion from exports of energy according to the IIF estimate[2], which is 23% more than in 2021. This will enable Russia to quickly restore its foreign exchange reserves, of which USD 300 billion was frozen as part of financial sanctions at the beginning of military aggression.

The issue of energy exports is critical for the inflow of foreign currency to Russia. High prices for energy compensate Russia for a decrease in supply volumes, which, in addition to a significant reduction in imports of goods and services, leads to a record value of Russia's current account surplus, which increased 3.4 times to USD 110 billion in 5 months of 2022 YoY. This, in turn, negates the effectiveness of currently imposed sanctions against Russia.

Energy prices also significantly affect the ability of the Russian economy to generate sufficient revenue to finance budget expenditures, and therefore to wage war against Ukraine. The share of oil and gas revenues in the federal budget of the Russian Federation ranges from 30% to 40% (excluding 2020). 3

However, federal budget revenues depend mostly on oil and much less on natural gas. According to Russian experts, tax revenues from oil extraction exceed 15-20 times tax revenues from natural gas production.

Russia's budget for 2022 was balanced at Urals price of USD 44.2 per barrel[3]. The war and sanctions will definitely have a negative impact on the revenues to the Russian budget. However, high energy prices, first of all for oil (even with a significant discount of Urals to Brent in ~30%), will enable Russia to cover its budget expenditures. 4

Critical Russia and EU gas interdependence

Compared to oil, natural gas is not decisive for Russia's macro-financial and budgetary stability. However, given the critical interdependence of Russia and the EU in the area of gas, the limited alternatives, and the economic and social stability of EU countries, natural gas has a significant leverage on both sides.

The EU is the largest natural gas sales market for Russia. In 2021, due to high gas prices on the European market, the share of EU countries in Russian exports of natural gas returned to the level of 2018 (the record year of Russian gas sales to the EU) and amounted to 75%. And the share of Russian LNG exports to EU countries in 2021 was a record 81%. 5 In view of the above, as well as the size of the EU gas market[4], the limited available transport capacity for supplying gas to alternative markets and the long process of building new ones, redirecting of Russia's sup-

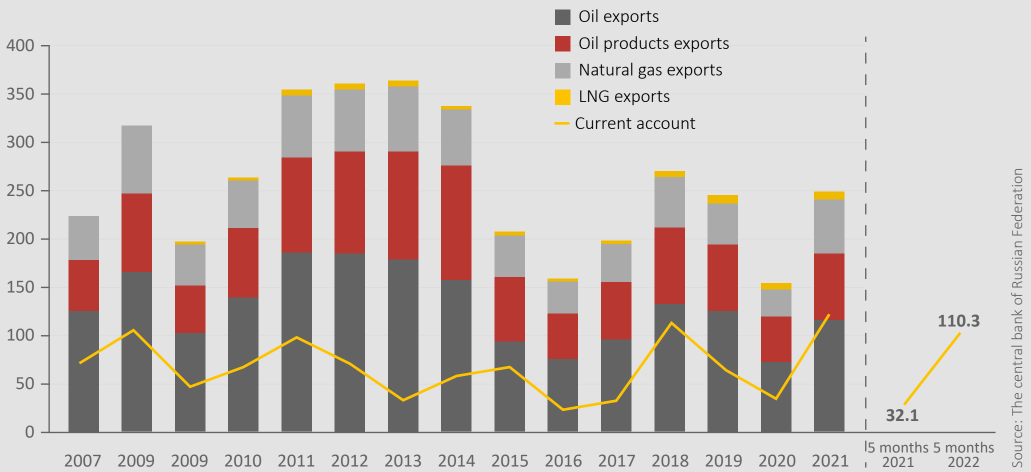
[1] https://www.bruegel.org/2022/04/the-eu-without-Russian-oil-and-gas/.

[2] Institute of International Finance, Russia Sanctions adapting to a moving target, June 2022.

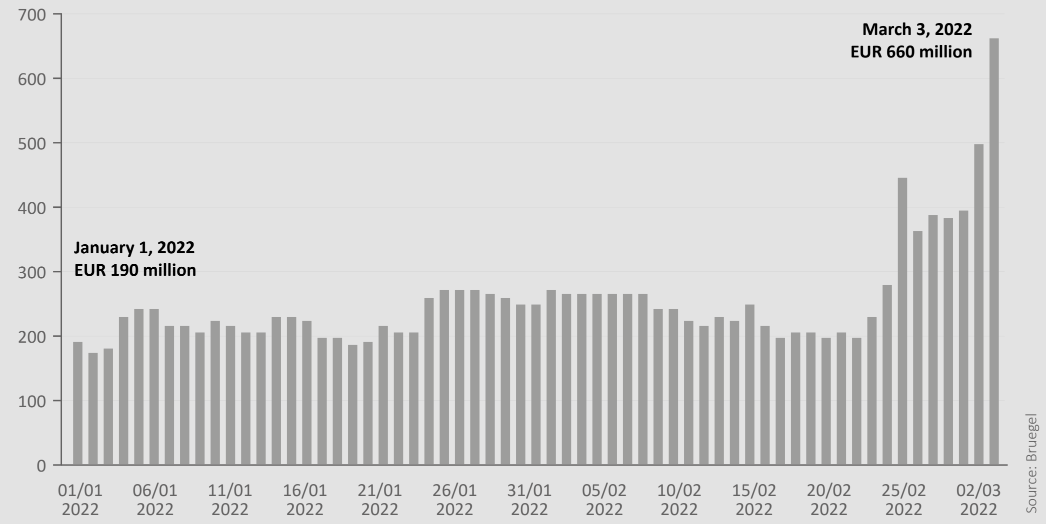
[3] The Russian budget is balanced in accordance with the so-called "budget rule" – a quantitative limitation of certain budget indicators, introduced in Russia in 2018, which contains a formula for the maximum amount of budget expenditures, taking into account oil and gas revenues at a certain energy price, the amount of other revenues and expenditures for servicing the state debt. According to the budget rule, the Ministry of Finance of Russia directs additional revenues from the high price of oil to the purchase of foreign currency or gold.

[4] Even in 2021, Gazprom, by artificially withholding gas supplies to Europe, delivered 145 bcm of gas through pipelines.

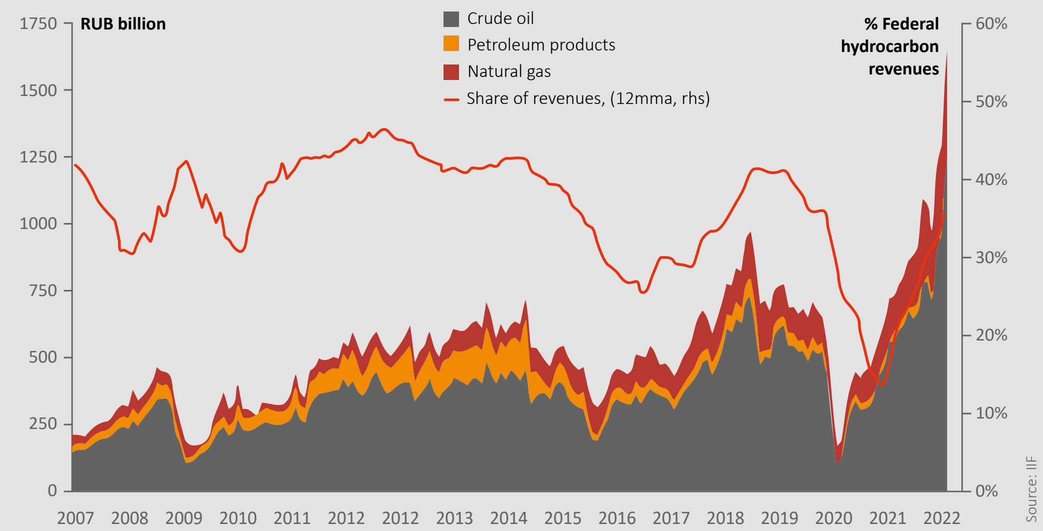
1 Export of oil, oil products, natural gas and current account of the Russian Federation, USD billion



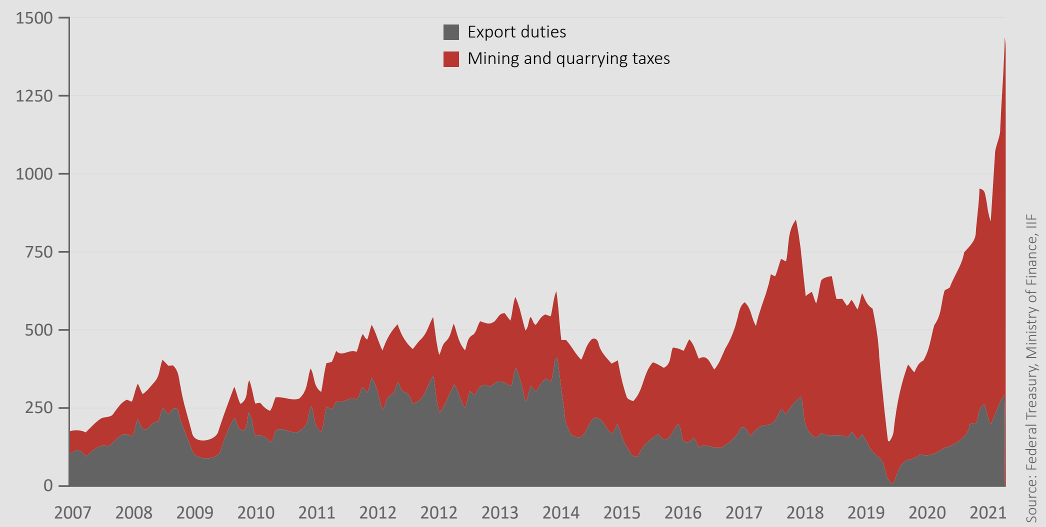
2 How much does the EU pay daily for natural gas in 2022, EUR million /day



3 Russian federal budget revenues from oil, oil products and natural gas, in RUB billion and in % of total revenues

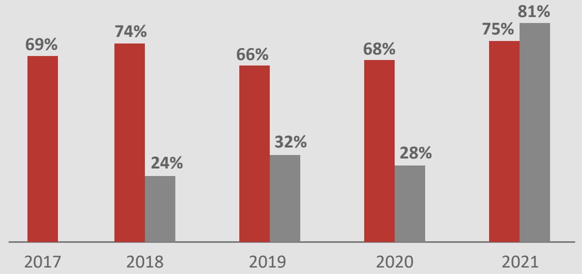


4 Russian federal budget oil and gas revenues by tax and duty, RUB billion



5 Russia's dependence on natural gas supplies to the EU, %

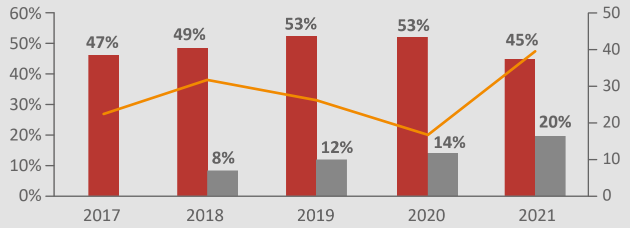
■ The EU share in total Russian natural gas exports (via pipelines) in trade value terms, %
■ The EU share in Russian LNG exports in trade value terms, %



Source: Eurostat, Central bank of the rf

6 EU dependence on natural gas supplies from Russia, %

■ The share of Russian natural gas (transported via pipelines) in total EU imports in value, %
■ The share of Russian LNG in total EU imports in value, %
— Value of imported gas (including LNG) by EU countries from Russia, EUR bn (right scale)



Source: Eurostat, central bank of Russia

plies to other markets, such as China, is not possible in the short term.

Negotiations on the construction of the Power of Siberia-2 gas pipeline from Russia to China[5] have been ongoing for more than ten years. Back in the spring of 2006, during the visit to the People's Republic of China, Russian President Vladimir Putin stated that export gas pipelines from Russia to China could be constructed by 2011, and they would eventually transport up to 80 bcm of gas per year. At that time, according to Putin, two gas supply routes were discussed – eastern Siberia (the Power of Siberia gas pipeline) and western Siberia (the Power of Siberia-2 gas pipeline). In May 2014, a decision was made to build a gas pipeline only along the eastern route (Power of Siberia[6]).

The construction of the Power of Siberia-2 gas pipeline with a design capacity of 50 bcm is expected to be launched in 2024 and commissioned in 2030. China's gas market is diversified. Despite the fact that Russia is the third largest supplier of gas to China (after Australia and Turkmenistan), the total volume of Russian gas supplied to China in 2021 was only 10% of the total volume of its gas imports (10.4 bcm via the Power of Siberia gas pipeline and 6.2 bcm of LNG). In addition, according to public sources, in order to enter the Chinese market, Gazprom had to offer China a significant discount on the gas price.

On the other side, the EU is also critically dependent on Russian natural gas supplies. According to Eurostat data, the share of Russian gas in the total import of natural gas to the EU via pipeline transport from non-EU countries amounted to 50% in trade value terms for 2017-2021. 6 Despite the decrease in Russia's share of natural gas imports by EU countries in 2021 to 45%, according to data and estimates of Eurostat, Russia received a record 40 billion euros for gas exports in the last five years due to high gas prices, even with artificial withholding gas supplies to the EU, initiated by Russia in order to force the EU to put Nord Stream 2 into operation on its own (illegal) terms (see the section "Transit of gas, Nord Stream 2 and Gazprom's anti-competitive conduct"). Also, Russia gradually increased its LNG supplies to Europe, and its share reached 20% of the total LNG imports to the EU in trade value terms in 2021.

According to Eurostat, in 2021, ten countries (Bulgaria, the Czech Republic, Estonia, Latvia, Hungary, Austria, Romania[7], Slovenia, Slovakia and Finland) received more than 75% of their total imports of natural gas from Russia. All are countries geographically closer to Russia. However, as Eurostat notes, the share of natural gas imports from Russia in trade value terms is published only in the range to avoid disclosure of confidential information[8]. So, for example, the range for Russian gas share in Germany's imports is 25%-50%. If we look at Russia's share of natural gas sales to Germany in in physical volume (in bcm) for 2020, the range is 43-47%. Based on this, it can be concluded that the actual share of Russian natural gas imports to EU member states, according to Eurostat, is most likely closer to the upper boundary of the specified range.

For countries outside the EU, Russia's share in their natural gas imports is determined based on physical volumes in bcm for 2021 or 2020. For example, Russia's share of gas imports in Moldova is 100%, in Serbia's imports – 51-53%, and in Turkey's imports – 57%. 7

Given the EU's critical dependence on Russian gas, which was recognized by key European countries only after the start of Russia's full-scale war against Ukraine, as of the date of preparation of this report, the EU didn't impose an embargo on Russian gas imports or financial sanctions that would prevent Russia from receiving excess profits for supplied gas.

Instead, the EU has only announced a plan to reduce its dependence on Russian energy ("REPower EU"). According to the plan, the EU will seek to slash Russian gas imports by two-thirds by the end of 2022, and completely by 2025. The plan is highly ambitious (~100 bcm of Russian gas is to be replaced already in 2022, of which 50 bcm of gas – with LNG), some EU member states question its feasibility.

The implementation of the REPowerEU plan represents a number of challenges to the EU both in terms of the availability of sufficient transport capacities and gas resources from alternative sources. In 2021, only 45% of the available capacities for LNG regasification in Europe of 240.7 bcm were used. However, most of these capacities are located in the north and west of Europe, half of which are in Spain and Great Britain. Central and Eastern European countries, which are landlocked and most dependent on Russian gas supplies, struggle with transport capacities for further LNG delivery.

However, it is worth noting that many European governments are revising their energy policies rapidly. For example, Germany (the only major EU country without existing LNG terminals) plans to build at least four LNG terminals. Italy, Poland, Spain, France, and the Baltic states also announced their plans to purchase new floating LNG terminals.

The main drawback of REPowerEU plan is that, despite the decrease in Russian gas exports, the plan allows Russia to continue earning excess profits due to record high gas prices. To eliminate this, as well as to stop Gazprom's abuse of its dominant position on the European gas market, Naftogaz of Ukraine and the GTS Operator of Ukraine submitted their proposals for regulatory changes to the European Commission, the German regulator BNetzA, and the German Ministry of Economy and Climate Protection. They also submitted suggestions to Western partners of Ukraine regarding the imposition of sanctions against Russia which include the following:

- review the decision on exemption from application of the requirements of the EU Gas Directive, which was granted to the first Nord Stream, and assess the security of gas supply to Europe through this gas pipeline;
- introduce special requirements for the storage of natural gas in underground gas storage facilities of both Europe and Ukraine, for Russian gas importers[9];
- to stop Gazprom's abuse of its dominant position, in particular, to force Gazprom to unblock the transit of natural gas to Europe from Central Asia and to provide gas delivery points on the Russian-Ukrainian border (this position was addressed in the complaint to the antimonopoly body of the European Commission, which was submitted by the company at the end 2021);
- impose financial sanctions against Gazprom, aimed at preventing it from obtaining excess profits from the sale of gas due to imposition of a special tax or a cap on the amount of funds transferred to it from European buyers (transfer cap) for the period until Russia stops its military aggression and withdraws its troops from the territory of Ukraine, as well as until it pays reparations to Ukraine for damage caused.

The advantage of these financial sanctions compared to a full embargo on Russian gas is that they will not disrupt the functioning of the European gas market. Gazprom will be forced to supply more gas to Europe (receiving significantly less money for it), which will lower the market price of gas.

In addition, CEO Yuriy Vitrenko was member of the International Expert Group on sanctions against the Russian Federation (the Yarmak-McFaul Group), which includes a focus on energy sanctions given the Russian Federation's reliance on the export of energy resources.

7 Russia's share in natural gas imports to EU countries, Turkey, Moldova and Serbia in 2021 (in trade value terms), %

Source: Eurostat, Gazprom Export

[5] The resource base for the Power of Siberia-2 gas pipeline may also be the Yamal fields, which are currently used for gas supplies to Europe.

[6] The Power of Siberia gas pipeline to China was commissioned in December 2019. In 2021, Gazprom delivered 10.4 bcm of gas to China through the pipeline or 27% of its design capacity, which is to be reached not before 2025. In addition, gas supplies through the pipeline come from the Eastern Siberia fields, which are not a resource base for gas supplies to Europe.

[7] According to Eurostat data for 2020 in physical terms (in bcm), Romania's dependence on Russian gas imports is 16%.

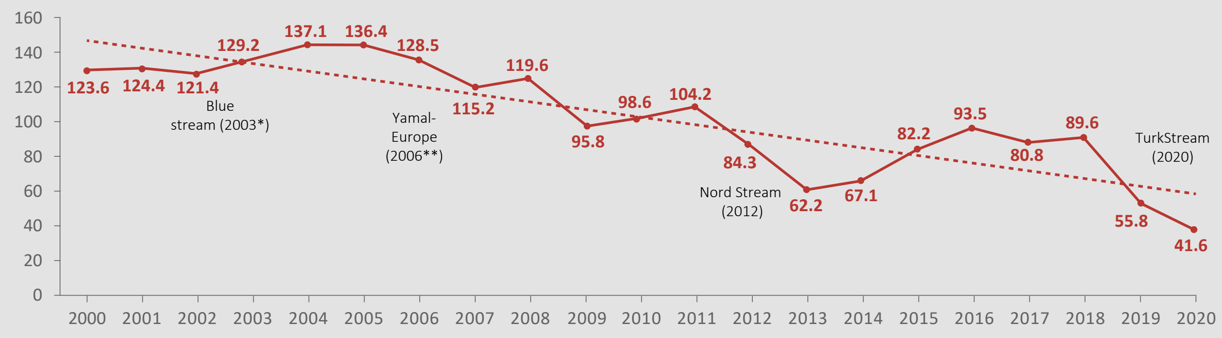
[8] https://ec.europa.eu/eurostat/statistics-explained/index.php?title=EU_imports_of_energy_products_-_recent_developments#Member_States.27_trade_in_petroleum_oils_and_natural_gas.

[9] In May 2022, the EU adopted regulatory changes, according to which European UGS must be filled at least 80% by November 2022, and up to 90% from the next year, and also introduced mandatory certification of UGS operators. However, the company's proposal regarding special requirements for gas storage by importers of Russian gas was not implemented by the EU.

GAS TRANSIT, NORD STREAM 2, AND GAZPROM'S ANTI-COMPETITIVE CONDUCT

Nord Stream 2 was to be the culmination of Russia's more than 20-year strategy implemented by Gazprom to replace existing gas transit routes through the countries of former Soviet Union and Central and Eastern Europe with bypasses through the Baltic and Black Seas. These efforts resulted in a significant reduction in gas transit through Ukraine, and the launch of Nord Stream 2 was intended to completely substitute gas transit through Ukraine. 1

1 Volumes of gas transit through the territory of Ukraine, bcm / year



Naftogaz of Ukraine, OGTSU, open sources

Notes:
* Blue Stream- commercial launch in February 2003. In 2003, the transit was only 2 bcm, by 2021 the volume of gas transmission reached the design capacity of the pipeline of 16 bcm.
** Yamal-Europe was built in 1999, the project reached its design capacity (32.9 bcm / year) in 2006.

Currently, there are four main routes for transiting Russian gas to Europe – via Ukraine, Poland, Turkey and the Baltic Sea. These existing routes have excess capacity for Europe's current and likely future gas needs. The launch of an additional route through the Baltic Sea, Nord Stream 2, would allow Gazprom to eliminate any "excessive" route at its discretion. According to Gazprom's intention, the "excessive" route was to be the Ukrainian one, the only one that Gazprom does not fully or partially own[1].

Also, unlike Ukraine, which implemented the core requirements of the EU Gas Directive on ownership unbundling of the gas transmission system operator, non-discriminatory third party access and cost-reflective tariffs, some routes for Russian gas exports outside the EU and within Europe[2], were completely or to a significant extent exempted from the requirements of the EU Gas Directive. There is no level playing field for Russian gas transit routes to Europe, and Gazprom was not interested in creating one, otherwise it would provide opportunities for competition. 2

Figure 3, shows that Gazprom prefers transit routes that are under its full control. Except for the periods of annual maintenance, the volume of gas transmission through Nord Stream from 2018 was at a level close to its maximum capacity. Also, gas transmission through the TurkStream has been gradually increasing since its launch in early 2020[3], completely substituting the Trans-Balkan Transit Corridor through Ukraine in 2020, and also transit to Hungary from October 2021. Following the signing of a new transit agreement between Naftogaz of Ukraine and Gazprom in late 2019, gas transit through Ukraine has almost halved (in particular, due to Gazprom's expectations to complete the construction of TurkStream and Nord Stream 2). In accordance with this agreement, Gazprom has booked capacities for natural gas transit through the territory of Ukraine in the volume of 65 bcm for 2020 and 40 bcm for 2021-2024. In 2021, Gazprom booked additional capacities of 4.4 bcm at the entry point to the GTS of Ukraine and 5.6 bcm at the exit point from the GTS of Ukraine on a monthly and daily basis. Total transit of Russian gas through the Ukrainian route in 2021 amounted to 41.6 bcm or 6.3% less compared to the total capacity booked by Gazprom.

From September 2021 to April 2022, Gazprom used on average 25% less booked capacities of the Ukrainian route.

Construction of Nord Stream 2 was suspended for almost a year due to US sanctions of December 2019, which were promulgated in the US National Defense Authorization Act (NDAA) for 2020. Risks of sanctions forced the sole pipe-laying contractor for Nord Stream 2, the Swiss company Allseas, to withdraw from the project.

In 2020, having had no previous experience in laying underwater pipelines for projects like Nord Stream 2, Russia eventually managed to do so by replacing Allseas vessels with its own. In December 2020, the Russian barge Fortuna resumed work on the construction of North Stream 2 and laid a section in German territorial waters. Works in Danish waters, the only section of the pipeline to complete its construction, began in February 2021.

Since Joe Biden took office as president, the position of the US presidential administration regarding Nord Stream 2 and the sanctions

[1] Unlike Nord Stream and Nord Stream 2, TurkStream and its Serbian extension, OPAL, part of NEL, the Belarusian part of Yamal and part of the Polish part of Yamal.

[2] For example, part of the capacity of the OPAL pipeline has been exempted from third party access regulation for 22 years since 2009. Under this exemption, RWE Transgas and Gazprom, due to their dominance in the Czech gas market, are limited to using no more than 50% of OPAL capacity. The exemption was relaxed in 2016, but the European Court returned the restriction.

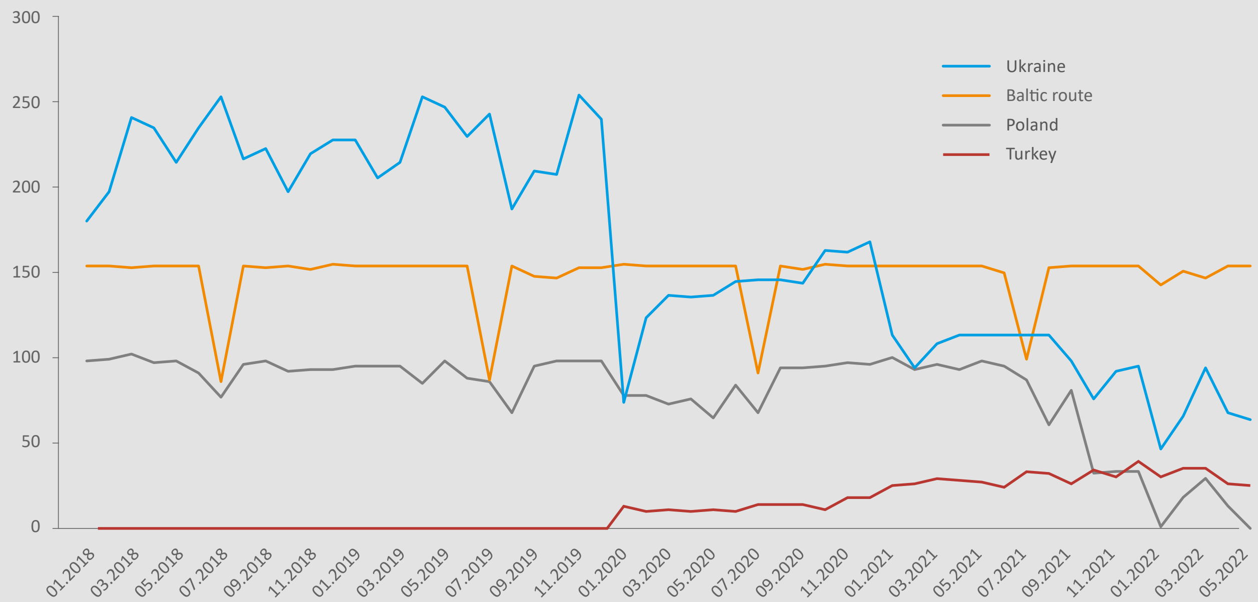
[3] Which is also related to the development of onshore infrastructure in Southern and Eastern Europe for further gas supplies to Europe from TurkStream.

2 Schematic map of the main Russian gas transit routes to Europe

Source: S&P Global Platts, analysis by Naftogaz of Ukraine

Notes:
* Onshore extension of TurkStream
** Gazprom controls gas transit routes to Europe not only through ownership of gas pipelines but also due to long-term booking of transport capacities. For instance, 77% (141.5 mcm) of exit capacity from Ukraine's GTS to Slovakia is booked, most of which belongs to Gazprom until 2050. In Bulgaria, Gazprom and its affiliated companies have long-term booked capacities for almost all of the cross-border capacities, including exit points to Greece (almost 100%), North Macedonia (100%) and Serbia (80%). Also, Gazprom still has contracts for entry capacity from Romania, which was previously used to transport gas through Ukraine to Bulgaria and further on, and an exit capacity from Bulgaria to Turkey. Regarding the Balkan route, Gazprom and its affiliates have booked more than 90% of capacity from Turkey to Bulgaria until 2039.

3 Transit of Russian gas to Europe by different routes



Source: Entsog, calculations by Naftogaz of Ukraine against it has not been clearly formulated. On the one hand, it was criticising the project, and on the other hand, it did not impose sanctions that could stop its construction. After four years of Trump's trade wars, Biden's campaign advocated a return to normality. The new administration of the US president was focused on improving transatlantic relations, particularly with Germany, and there have been signals that the administration of the US president was ready to seek a compromise on Nord Stream 2. According to public information, negotiations on the lifting of sanctions on Nord Stream 2 would be possible if Berlin presented a package of proposals that would solve key problems related to it.

On January 1, 2021, the US Congress passed an expanded set of sanctions against Nord Stream 2 as part of NDAA 2021, targeting any company that certifies the pipeline or provides or upgrades the equipment, insures or inspects the pipe-laying vessels involved. However, the Act allowed the US president to remove participants from the sanctions list if it was in the national interest.

Despite pressure from the US Congress, the administration of the US president did not introduce an expanded list of sanctions against Nord Stream 2, but only against two Russian companies – the Fortuna barge and its owner, KVT-Rus company. These companies were previously subject to CAATSA sanctions (imposed at the end of Donald Trump's presidency), but this did not prevent them from resuming their work on the construction of Nord Stream 2.

During their briefing for Congress held in the last week of February 2021, representatives of the administration of the US president answered questions from congressmen as to why they did not act faster and more decisively on the sanctions, and denied reports of negotiations with Germany regarding Nord Stream 2.

It is not formally clear why the Department of State did not impose the mandatory sanctions envisaged in the defence budget (NDAA) for 2021 on all entities breaking the provisions of the document already in February (and not only on the two Russian companies mentioned above). The lack of legal grounds for not taking the measures provided for by the NDAA for 2021 has led to an escalation of tensions regarding Nord Stream 2 between the administration of the newly elected president and the US Congress[4]. On March 3, 2021, 40 Republican senators sent a letter to President Biden criticizing his administration for failing to comply with the law and impose sanctions on all entities involved in Nord Stream 2.

Despite this, the company's previous management reported on the "effectiveness" of the imposed sanctions on March 4, 2021[5]: "There is a chance (that Nord Stream 2 will not be completed – UNIAN), and it is quite high. I believe that the sanctions that were introduced by the American government are working effectively. We see how companies are withdrawing from the project one by one: insurance companies, large oil and gas companies are stopping financing."[6]

In May 2021, Secretary of State Antony Blinken officially announced that the Biden administration had waived sanctions against Nord Stream AG and its CEO, citing considerations of US national interests. According to a representative of the administration of the US president: "We inherited a pipeline that was over 90% complete and so stopping it has always been a long shot".[7] This statement, in fact, gave the green light to the completion of the construction of Nord Stream 2, which actually took place in September 2021.

Later, the previous management of the company speculated that the sanctions against Nord Stream 2 were waived due to changes in the management: "In the eyes of our partners, in fact, a complete nullification of corporate reform of Naftogaz took place. Of course, I cannot say that there is a document where it is written plainly that sanctions should be waived as a consequence. However, it is certain that this situation influenced the waiver of sanctions."[8]

Despite the fact that Nord Stream 2 was completed, due to the company's actions under the new management and successful cooperation with its international partners, Nord Stream 2 is not operational:

- Starting from the second half of 2021, Naftogaz has been consistent in defending its position that Nord Stream 2 is not compliant with the European laws and therefore cannot be certified. Naftogaz took a very clear position – not only talking about the damage of Nord Stream 2 to the energy security of Ukraine and Europe, but also emphasising the non-compliance of this project and its operator with the European laws, using, in particular, the successful experience in the Stockholm arbitration against Gazprom, when the company defeated Russia leveraging the rule of law.
- In the joint statement of the United States and Germany dated July 21, 2021, which presented the agreements between Berlin and Washington regarding the conditions for ending the US opposition to Nord Stream 2 gas pipeline, Ukraine was supported in its position regarding Putin's use of gas as a weapon[9]. The great diplomatic victory of Ukraine in this regard is that in the joint statement of the USA and Germany there is a direct reference to the fact that Nord Stream 2 must comply with the EU Third Energy Package, otherwise it cannot be certified, and therefore cannot be operated. During Volodymyr Zelensky's meeting with Angela Merkel, in which the company's CEO took part, guarantees were actually received that Nord Stream 2 would not be certified if it was not in compliance with the European laws.
- In parallel, the company had not ceased its efforts to enable sanctions against Nord Stream 2 and Kremlin agents in Europe, politicians unwilling to follow their own rules, so that the threat of American sanctions constantly weighs on Gazprom.[10]
- Naftogaz publicly defends its position in the international media space.
- Naftogaz and OGTSU applied to BNetzA for leave to intervene in certification of Nord Stream 2 operator in October 2021, which was granted on November 15, 2021[11]. This allowed the submission to BNetzA of arguments against the applicant's certification and obliged BNetzA to consider these arguments. Intervention in certification as a third party at this stage increased the chances of being involved by the European Commission in the certification process at the next stage, which is carried out by the European Commission itself after receiving the BNetzA draft decision. The European Commission is an independent participant in the certification process, unlike BNetzA, and represents the interests of all EU countries.

Russia was preparing for certification of Nord Stream 2 gas pipeline operator long before the completion of its construction. Russia's intention was to arrange the certification of Nord Stream 2 in a way that its operator is exempted from the requirements of the EU Gas Directive, as was the case for the first Nord Stream.

However, with the amendments to the EU Gas Directive of May 23, 2019, such an exemption became impossible for Nord Stream 2 as the internal EU gas market rules (including requirements for ownership unbundling, third party access and tariff regulation aimed at ensuring competitive and properly functioning gas market, as well as the security of supply) now apply to all interconnectors, including interconnectors between the EU and third countries.

Nord Stream 2 AG, Gazprom's subsidiary, sought to challenge these changes to European law in an arbitration case against the EU on September 26, 2019[12], and later in an appeal against the refusal of the German regulator BNetzA to grant an exemption from the EU Gas Directive for Nord Stream 2 (in May 2020). However, these attempts failed. On August 26, 2021, the Dusseldorf High Land Court ruled that European law should apply to Nord Stream 2.

As the EU notes in its counter-memorial to the arbitration proceedings on the Energy Charter Treaty ("ECT") against Nord Stream 2 AG:

"In practice, Gazprom is but a trade and political instrument of the Russian Government. Claimant accuses the European Union of failure to respect certain standards relating to the treatment of foreign investments in the energy sector, as set out in the ECT. Ironically, Russia, which owns and controls Gazprom, has refused to become bound by the same standards vis- à-vis the European Union and its investors, despite being among the original signatories of the ECT. It would be difficult to conceive of a more egregious instance of double standards and free riding".

"Nord Stream 2 is likely to bestow upon its operator a dominant position, i.e. a position of economic strength that would enable its operator to prevent effective competition from being maintained on the relevant market by giving its operator the power to behave to an appreciable extent independently of its competitors, customers and ultimately of its consumers".

In parallel to proceedings against the EU and BNetzA, Nord Stream 2 AG, the operator of Nord Stream 2, applied to the German regulator BNetzA for so-called "precautionary" certification of Nord Stream 2 operator under the Independent Transmission Operator (ITO) model on June 11, 2021. This application represented blatant disregard of the rules of the Gas Directive, as the certification of the operator of a pipeline which connects the EU and a third country, according to the ITO model, was possible only for gas pipelines built before May 23, 2019[13]. ITO certification is an exception to the general requirement for full ownership unbundling of the operator and means that the operator can remain part of a vertically integrated company, i.e. Gazprom.

The final application for the certification of the Nord Stream 2 operator (according to the ITO model) was submitted upon the completion of the gas pipeline in September 2021. The 4-month deadline for the German regulator BNetzA to deliver a draft decision on certification or refusal of certification began on September 8, 2021.

In retaliation to regulatory opposition to the launch of Nord Stream 2 on Gazprom's own (illegal) terms, the latter resorted to a favorite demonstration of its power – gas blackmail. For years, Gazprom has been developing its own strategy to make Europe critically dependent on Russian gas and has made undoubted progress, dominating on the wholesale natural gas markets, transportation and seasonal flexibility. This allowed Gazprom to provoke a severe energy crisis in Europe with soaring gas prices far surpassing previous level, and at the same time, to achieve a record net profit of USD 29 billion in 2021.

Gazprom has a long history of abusive conduct on European and Ukrainian gas markets, notably by interrupting and restricting gas supplies. This pattern of politically and economically motivated gas supply disruptions in the current situation is, of course further amplified in Gazprom's current abusive gas delivery policies which are closely aligned with the Kremlin's attempts to change the security architecture of Europe.

Figure 4 shows that in 2021 Gazprom began to reduce gas supplies to Europe in the spring, and in the summer of 2021 the pace accelerated further. Overall, in 2021, Gazprom exported 20% less gas to Europe than in 2017-2019.

Gazprom has stopped offering gas sales through its Electronic Sales Platform (ESP)

In September 2018, Gazprom launched the Electronic Sales Platform (ESP)[14]. In the first two years of the platform's operations, sales volumes as well as the line of products offered

[4] https://www.osw.waw.pl/en/publikacje/osw-commentary/2021-03-10/dispute-over-nord-stream-2-stances-and-outlook

[5] https://www.unian.ua/economics/energetics/pivnichniy-potik-2-mozhlivo-ne-bude-dobudovaniy-glava-naftogazu-novini-sogodni-11342606.html

[6] Under the threat of sanctions, Norwegian company DNV GL announced the suspension of verification activities enabling technical certification of Nord Stream 2 under and for the duration of sanctions. More than 22 Western European companies, which mainly provide insurance and reinsurance services, withdrew from the project (announced in February 2021), and further tranches of loans from Gazprom's main project partners (OMV, Wintershall Dea, Shell, and Uniper) were also suspended. However, the expanded package of sanctions was not actually implemented by the US administration, and the construction of Nord Stream 2 continued.

[7] https://www.reuters.com/business/energy/us-waive-sanctions-firm-ceo-behind-Russias-nord-stream-2-pipeline-source-2021-05-19/

[8] https://lb.ua/economics/2021/11/08/498055_andriy_koboliev_groshey_vid.html

[9] https://www.state.gov/joint-statement-of-the-united-states-and-germany-on-support-for-ukraine-european-energy-security-and-our-climate-goals/

[10] https://ua.interfax.com.ua/news/interview/751865.html

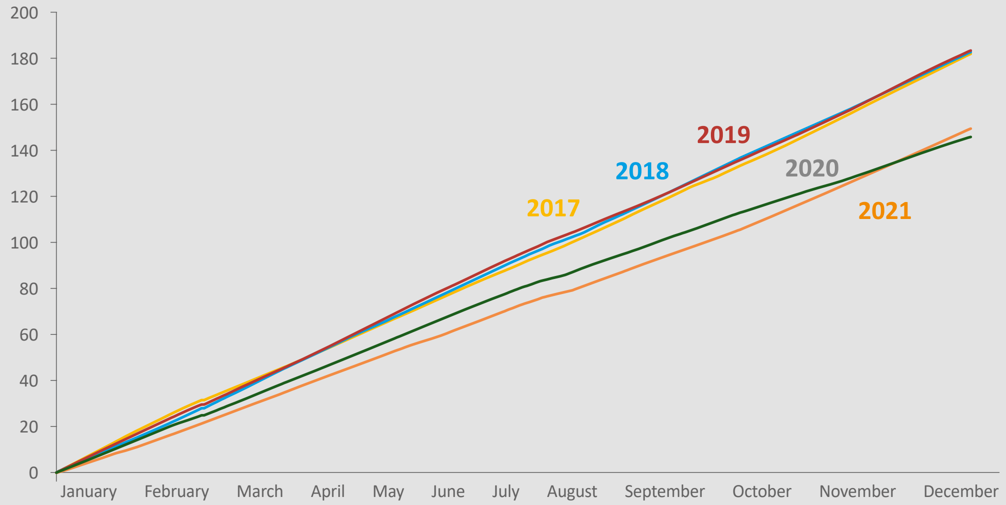
[11] On November 16, 2021, BNetzA suspended the Nord Stream 2 operator certification process because the applicant company Nord Stream 2 AG was registered in Switzerland, whereas under German law the Nord Stream 2 pipeline operator can only be operated by a company registered under German law. Accordingly, at the end of January 2022, Nord Stream 2 AG established its subsidiary, Gas for Europe GmbH, under German law, to which the assets and personnel of the parent company were to be transferred. After that, the newly incorporated company had to submit an updated application for certification. However, this did not happen before Russia's military aggression against Ukraine.

[12] https://pca-cpa.org/en/cases/239/

[13] Nord Stream 2 AG claimed that Nord Stream 2 was completed by 23 May 2019 in terms of an investment decision and not its physical construction.

[14] In 2018, the European Commission completed a long-term investigation into Gazprom's anti-competitive behavior in Central and Eastern Europe (since 2011) and imposed a number of commitments on Gazprom. The establishment of the ESP was in part of Gazprom's response to its commitments to the EU following this investigation.

4 Annual Gazprom deliveries to Europe, bcm



Source: Entsog, calculations by Naftogaz of Ukraine

Gazprom reduced gas supplies to Europe:

~182

bcm in 2017-2019

~145

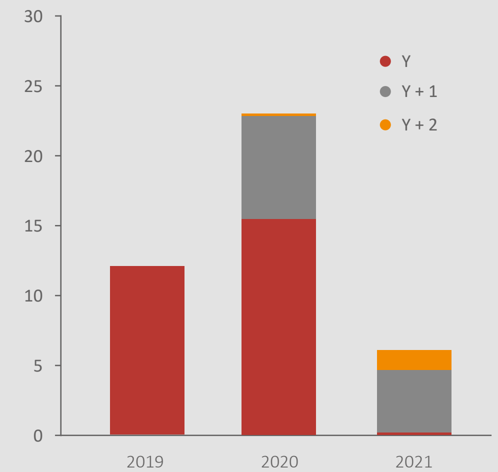
bcm in 2021

increased significantly, which generated great interest from market participants. Even in the crisis year of 2020, when demand for gas fell sharply due to Covid restrictions, Gazprom sold about 24 bcm of gas via the platform, which is 16% of total Russian gas imports to Europe. Gazprom saw the platform as an additional channel for gas sales to expand its business in the short-term gas market, including for trading.

However, in 2021, Gazprom unexpectedly reduced gas sales via the electronic platform by 73%. In addition 5, while in 2019 and 2020 most of the gas sold was for delivery in the same year (marked as "Y" on the chart), in 2021 only 11% of the total gas sales were to be delivered in 2021, and the largest volumes were for delivery in 2022 and 2023 (marked as "Y + 1" and "Y + 2" respectively on the chart). Since October 13, 2021, Gazprom has stopped selling gas via the ESP altogether. By reducing gas supply in the short-term market, Gazprom not only created artificial shortages and soaring prices, it also encouraged gas buyers to sign long-term contracts.

For years, Gazprom has been telling Europe

5 Gazprom gas sales via its electronic platform, bcm



Source: Gazprom Export site, calculations and analysis by Naftogaz of Ukraine

about its ample gas reserves, low costs, and ability to offset Europe's declining domestic production. In 2018, when Gazprom sold a record 201.8 bcm of natural gas to Europe and Turkey, which accounted for half of demand for gas imports, Gazprom said it expected to continue to supply gas at least at the same level. Nord Stream 2 was needed, according to Gazprom, because Europe would need more gas and Gazprom planned to expand its gas supplies.

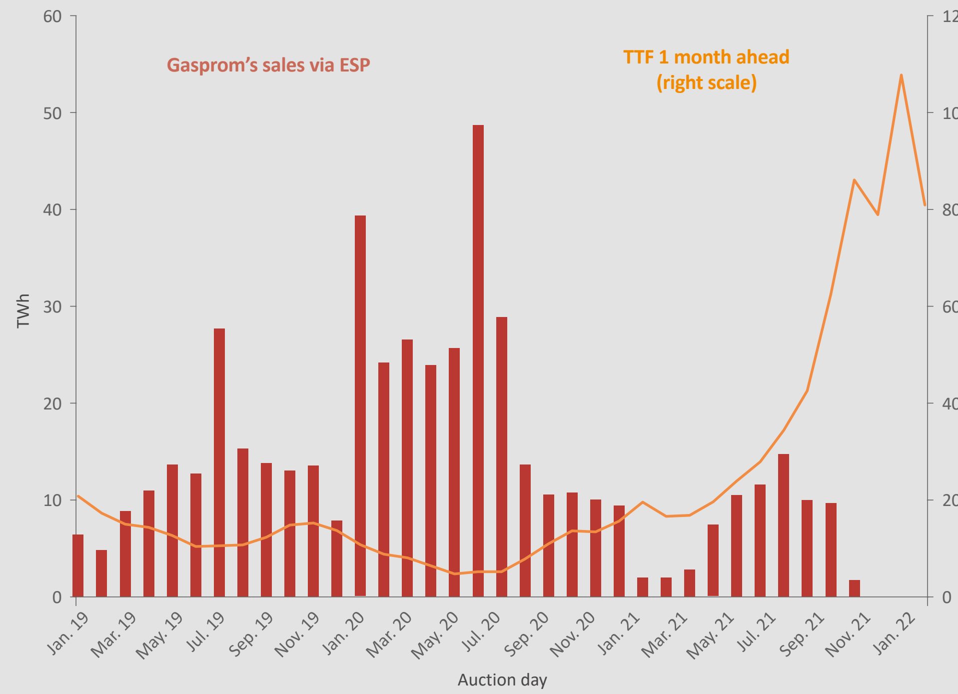
However, in 2021, Gazprom delivered only 145 bcm to Europe, which is 20% less than in 2017-2019. At the same time, according to Argus, Gazprom's gas production in the first 11 months of 2021 was 3.2% higher than the maximum production for the same period in the previous six years, and gas production of other private companies in Russia was 4% higher. Gazprom was able to increase gas supplies to Europe, but defying commercial logic, it did not respond to a fourfold increase in gas prices by supplying more gas to Europe through existing transit routes. In addition, Gazprom restricted the ability of other companies to supply additional gas to Europe and compete with Gazprom by blocking gas exports from Russia by private companies and blocking gas transit from Central Asia to Europe. 6

In 2021, Gazprom has put significantly less gas than usual into European storage

Not only does Gazprom control a significant portion of gas supplies to Europe, but it also owns or booked significant long-term gas storage capacity in Europe (15% of Europe's total UGS capacity), which allowed it to significantly reduce the gas stocks in these UGS.

As of the end of January 2022, Gazprom stored less than 3 bcm of natural gas in European underground storage facilities, which is only 20% of their technical capacity and only 35% of the average storage volume in these underground storage facilities for the period 2015-2020. At the same time, gas stocks in European underground storage facilities of other companies were about 60% of their

6 Gazprom gas sales via ESP versus TTF gas prices

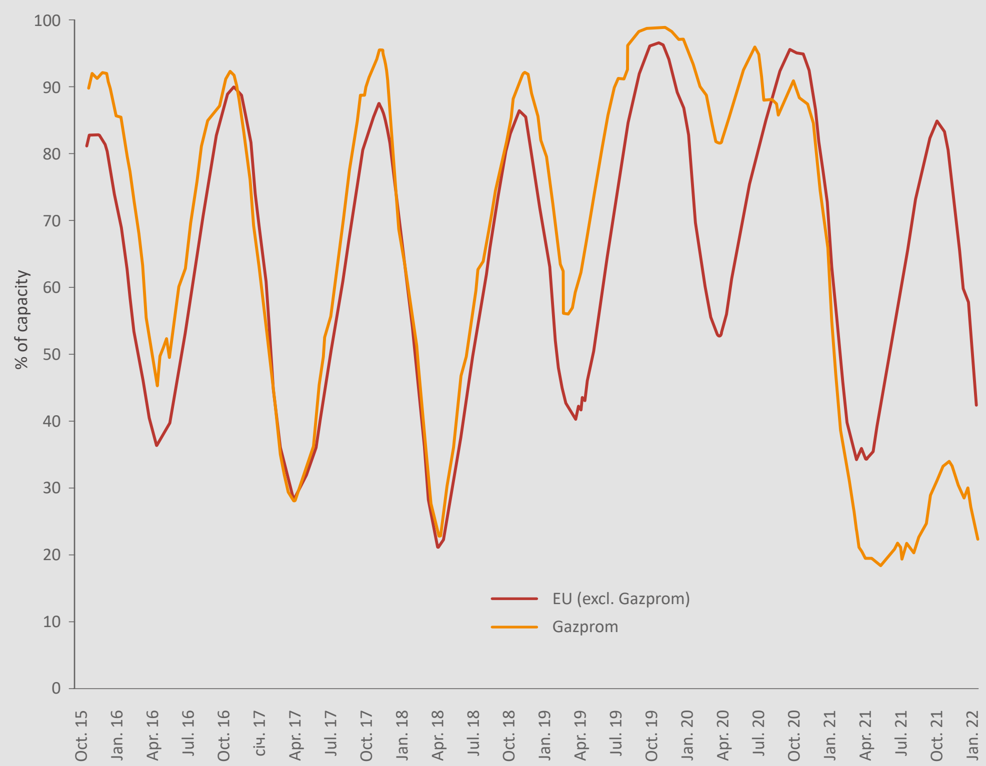


Source: Gazprom Export site, calculations and analysis by Naftogaz of Ukraine

technical capacity or 79% of the average storage capacity for 2015-2020, and the figure could be even higher if Gazprom supplied more gas to Europe in 2021. Also, Gazprom's restricted gas supplies to accumulate sufficient stocks in European underground storage facilities created potential for gas shortages for European buyers in the winter, forcing them to try to outbid Asian buyers for LNG, thus putting additional pressure on prices and generating price volatility. 7

The gas stocks in Gazprom's European underground storage facilities contrasted sharply with the filling level of underground storage facilities in Russia itself. According

7 Volumes of gas stored in European underground storage facilities as a percentage of technical capacity



Source: AGSI +, analysis by Naftogaz of Ukraine to Gazprom CEO Alexei Miller's report to the Russian president, Russia's UGS filling level was 83% as of December 29, 2021, a historic record (the average UGS filling level in Russia in 2016-2020 was 73%).

On February 4, 2022, Ursula von der Leyen, President of the European Commission, commented on the situation in the gas market as follows[15]:

"Gazprom is fulfilling its contracts – that is true – but only at the bottom end of its commitments. Other gas suppliers have increased their supply significantly in response to soaring demand and record prices, but Gazprom has not. The company, which is owned by the Russian state, has thus cast doubt on its own reliability".

The purpose of Gazprom's actions was to create an artificial gas shortage to put pressure on the European Union to launch the Nord Stream 2 pipeline as soon as possible without complying with European legislation in the short term and further strengthen its power over the EU in the long run. Gazprom's actions led to a record rise in prices of USD 1921 per 1,000 m³ as of December 21, 2021.

At the same time, public statements by a number of Russian government officials and top Gazprom managers clearly indicated that gas blackmail could be stopped only if Nord Stream 2 was launched on Gazprom's terms:

- On October 7, 2021, Alexander Novak, Deputy Prime Minister and Member of the Board of Directors of Gazprom in response to questions about the long-term surge in gas prices, said: **"I think there are two factors which could somewhat cool off the current situation. First of all, of course, this is, definitely, completion of certification and the fastest clearance for gas supplies via the completed Nord Stream 2"**[16];
- On October 21, 2021, Russian president Vladimir Putin announced that "if the German regulator gives approval **tomorrow**, supplies of 17.5 bcm of gas will start the day **after tomorrow**[17].

Gazprom's actions are anti-competitive and have had a significant negative impact on all European consumers, including Naftogaz, one of the largest gas buyers in Europe. Therefore, in late 2021, Naftogaz filed a complaint to the European Commission's antitrust authority, the Directorate General for Competition, on Gazprom's abuse of its dominant position in the European gas market and called for immediate measures to address the energy crisis in Europe.

Despite the Settlement Agreement on gas disputes signed between Naftogaz and Gazprom at the end of 2019[18], the company had no legal obstacles to filing a new complaint with the antimonopoly body of the European Commission, as the conditions were provided for in this settlement agreement. This was already proven by the company's new management in 2021. The company could and should have countered Gazprom's abuses as early as 2020, which could have prevented a crisis on the gas market in 2021.

In addition, when the new five-year gas transit contract with Gazprom was signed in 2019 (which the company actually exchanged for a waiver of its claims in the Stockholm arbitration), the company concluded it according to European rules, taking into account the expectation that not only Gazprom would be the transitor of gas through Ukraine. That now, by applying European rules, both Central Asian and Russian gas producing companies (other than Gazprom) would be able to deliver gas through Ukraine. European companies would buy it at the Ukraine-Russia border and, accordingly, would book transit capacity by themselves to supply this gas to Europe. Unfortunately, this is not the case. And this is also a violation of European competition laws, when Gazprom blocks access to the European market for other companies. This violation is also addressed in a new complaint to the competition authority of the European Commission.

According to the agreements set out in the joint statement of the United States and Germany dated July 21, 2021[19], in response to Russia's recognition of independence of the so called "DPR" and "LPR" dated February 22, 2022,the German Federal Ministry of Economics and Energy withdrew its previous positive assessment of the impact of Nord Stream 2 certification on security of gas supply in Germany and the EU (October 26, 2021), which is a prerequisite for certification. On February 23, 2022, the United States imposed sanctions on Nord Stream 2 AG and its CEO. Nord Stream 2 is now frozen, but Europe has paid and continues to pay a high price for the short-sightedness of its policy, which may also include a corruption component that Russia has exported to Europe along with energy to lobby for its interests.

Despite Russia's military aggression, OGTSU and Naftogaz managed to maintain uninterrupted transit of Russian gas to Europe until May 10, 2022, when Russian occupation authorities interfered with the Novopskov gas compressor station, redirecting gas transit to the regions in Eastern Ukraine that are under Russian-controlled separatists. Therefore, on May 10, 2022, OGTSU and Naftogaz had to declare force majeure and suspend gas transit through the Sokhranivka interconnection point, instead offering Gazprom to transport gas volumes through the Sudzha interconnection point at no additional cost. The capacity at the Sudzha interconnection point is more than enough for the total transit booked by Gazprom under a contract signed in late 2019. Moreover, the Sudzha interconnection point has been used in the past for transit of this volume. However, Gazprom makes unfounded claims that redirecting gas flows from the Sokhranivka interconnection point to the Sudzha interconnection point is technically impossible. In case the parties fail to resolve the issue in pre-arbitration, Naftogaz plans to turn to international arbitration.

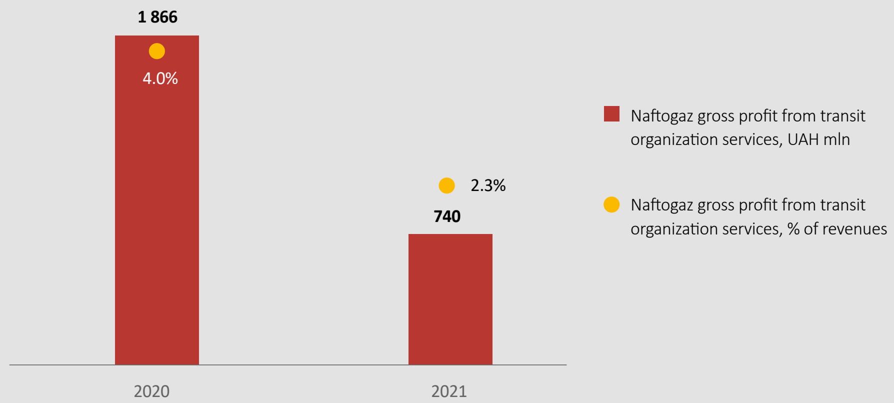
In accordance with agreements concerning gas transit, which were signed at the end of 2019, Naftogaz shall provide Gazprom with services for the organization of natural gas transmission through the territory of Ukraine, namely booking and paying for the Ukrainian GTS capacity, organizing the gas flows dispatching, and submitting nominations to the GTS Operator of Ukraine (GTSOU) information platform. GTSOU, in turn, shall be responsible for the operation of the GTS and gas transportation according to Naftogaz applications.

Naftogaz's relations with Gazprom and GTSOU regarding the transit of natural gas are regulated by separate agreements. Notably, they were structured in a way that Naftogaz, as an organizer of gas transportation services through the territory of Ukraine, shall receive a small margin for its services, which is the difference between the income from providing services to Gazprom and the costs of services provided by GTSOU.

The profit of Naftogaz from organization of gas transit services amounted to UAH 740 million in 2021 and UAH 1.866 million in 2020[20] (the decrease in profit is primarily due to a decrease in transit volumes from 65 bcm in 2020 to 40 bcm in 2021 excluding additional orders on a monthly and daily basis). In relative terms, the profit was 2.3% in 2021 (2020: 4%)[21].

However, Naftogaz is exposed to the risk of losses from the provision of these services in the future. Despite the high risk of the business, Naftogaz, as a national company, is interested in providing gas transit services, given their importance not only for the national economy, but also for strengthening our position in the European energy and political arena. Also, from a commercial point of view, the Naftogaz Group currently receives not only profit from the provision of these services, but also compensation of underrecovered gas transmission revenues from GTSOU funded with its receipts from gas transit. In 2021, Naftogaz Group received UAH 30.278 million of such compensation from GTSOU and expects an additional UAH 17.665 million for the 2020-2024 regulatory period. Naftogaz Group also reserves the right to receive compensation of underrecovered gas transmission revenues, if this is approved for the GTSOU for the regulatory periods of 2025-2034 (i.e., if gas will be transiting through the territory of Ukraine after 2024).

8 Naftogaz profit from transit organization services



[15] https://ec.europa.eu/commission/presscorner/detail/en/ac_22_801

[16] https://www.reuters.com/world/europe/europe-made-mistake-ditching-long-term-gas-deals-putin-2021-10-06/.

[17] https://www.spokesman.com/stories/2021/oct/21/vladimir-putin-says-new-pipeline-could-quickly-pum/.

[18] By this Settlement Agreement, both Parties waived any and all current and future claims related to theGas Transit and Gas Sales Contracts for 2009-2019, Final Awards in both Gas Transit and Gas Sales Arbitration, the Challenge Proceedings, Naftogaz's complaint against Gazprom's abuses of dominance to the European Commission, the 2014 and 2018 arbitrations.

[19] Which provided that, in the event that Should Russia attempt to use energy as a weapon or commit further aggressive acts against Ukraine, Germany will take action at the national level and press for effective measures at the European level, including sanctions, to limit Russian export capabilities to Europe in the energy sector, including gas, and/or in other economically relevant sectors. This commitment is designed to ensure that Russia will not misuse any pipeline, including Nord Stream 2, to achieve aggressive political ends by using energy as a weapon.

[20] Calculated as the difference between revenues and purchases made by Gas Transit segment according to the Naftogaz of Ukraine financial statements for 2021.

[21] Calculated as the difference between revenues and purchases made by Gas Transit segment according to the Naftogaz of Ukraine financial statements for 2021 and devided by the segment's revenues.

LAWSUIT AGAINST RUSSIAN FEDERATION OVER CRIMEA

In October 2016, Naftogaz Group initiated arbitration proceedings against the Russian Federation for compensation for damages caused by the Russian Federation's illegal seizure of the Group's assets in Crimea. The arbitration proceeding was initiated on the basis of the Agreement between the Cabinet of Ministers of Ukraine and the Government of the Russian Federation on encouragement and mutual protection of investments.

On September 15, 2017, the Group filed a claim with the Tribunal established at the Permanent Court of Arbitration in the Hague.

On February 22, 2019, the Tribunal issued a partial final judgment on jurisdiction and liability in favor of the Group. The tribunal recognized its jurisdiction over the claims and found that the Russian Federation is responsible for violating a number of articles of the Agreement between the Cabinet of Ministers of Ukraine and the Government of the Russian Federation on the encouragement and mutual protection of investments, including the article on the prohibition of expropriation.

On June 27, 2019, Naftogaz filed a claim with the Tribunal at the Permanent Court of Arbitration in the Hague regarding the amount of compensation for damages caused by the illegal expropriation of the Group's assets in Crimea. In December 2019, the Russian Federation submitted a counter-claim regarding the amount of compensation for damages.

On February 14, 2020, the Group submitted a response to the counter-claim of the Russian Federation regarding the amount of compensation for damages. In the response, Naftogaz additionally substantiated its claim regarding the amount of compensation for losses caused by the illegal expropriation of the Group's assets in Crimea in March 2014. The amount of losses is estimated at approximately USD 5 billion plus interest (the total amount including interest is more than USD 10 billion).

Oral hearings on determining the amount of compensation took place in February-March 2022 in the Hague. The Tribunal is expected to make a final decision on the amount of compensation in late 2022 – early 2023.

Starting from 2016, the economic substantiation of the claim and calculations of the losses incurred have been provided by Yuriy Vitrenko and the head of the company's analytical division, Oleksandr Vedeneev. From the middle of 2021, the economic part of arbitration was the responsibility of Olena Melnyk, an adviser to the CEO on economic issues.

Yaroslav Teklyuk (until October 2021) and Olga Ivaniv (during the entire period of consideration of the case) provided legal support for this arbitration on the part of the company.

UKRAINIAN DEPENDENCE ON RUSSIAN GAS

The year 2014, on the brink of the abyss

In 2014, Ukraine as a state was on the brink of the abyss, it was not ready to face Russian armed aggression that resulted in the occupation of Crimea and part of Donbas. At the same time, the state was one step away from losing its ability to provide its citizens with gas.

Ukraine was critically dependent on Gazprom for natural gas which 87% of Ukrainian households need. Gas supplies, as well as transit, were personally controlled by Putin. He made gas his most important geopolitical weapon. In Ukraine's case, it was a noose around the neck that he was just waiting to tighten.

As soon as the Revolution of Dignity changed the geopolitical vector of Ukraine and we turned from Russia to Europe, Gazprom doubled the price overnight – well above the market price and the level that Ukrainian consumers could afford. Gazprom also mentioned ficticious tens of billions of US dollars of debt that Ukraine did not actually have. Eventually, Gazprom cut off gas supplies and applied to arbitration to collect debts.

In 2014, Ukraine found itself facing economic and humanitarian disaster or surrender to Russia and return to colonial status. Decisive measures against Gazprom and corruption in the gas sector were crucial in defending the state.

How we got out of the abyss, key success factors:

- **We replaced gas supplies from Gazprom with supplies from the European market and managed to ensure gas supplies for Ukrainian consumers without any concessions to Putin while saving money.**

Provision of sufficient transportation capacities for the gas reverse flow from Europe to Ukraine and gas resources were paramount issues in early 2014. Due to unlocking the Slovak interconnector and signing a breakthrough contract with the Norwegian gas producer Statoil (currently Equinor)[1] as early as in 2014, we passed the 2014/2015 winter without any concessions to Putin.

In 2014, Russia's share in Ukraine's total gas imports reduced to 74% vs 92% in 2013 (or to 14.5 bcm from 25.8 bcm), and since November 2015, Ukraine has not been purchasing gas from Gazprom whatsoever. Also, the available European alternative options forced Russia to make concessions during the trilateral negotiations regarding the resumption of gas supplies to Ukraine (suspended in June 2014) at prices 1.3-1.5 times lower than the prices demanded by Gazprom (the so-called "winter packages"). The total savings on the gas supplies from Europe vs Russian gas amounted to USD 2.9 billion for 2014-2019.

[1] https://biz.nv.ua/ukr/naftogaz-protiv-gazproma/zavdyaki-chomu-naftogazu-ce-vdalosya-50008698.html.

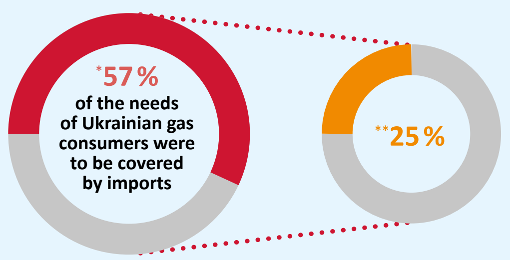
ON THE BRINK OF THE ABYSS. APRIL 2014

Structure of gas debts Russia required Naftogaz to pay in April 2014

Debt for gas withdrawn in Q4 2013 and Q1 2014	$ 2.3 billion
Advance payment for transit services	$ 1.25 billion
Take-or-pay debt for 2012-2013	$ 19.4 billion
Advance payment for renting a military base in Crimea*	$ 10.8 billion
Total	$ 34 billion

* received by Naftogaz as a discount for gas supplied by Gazprom

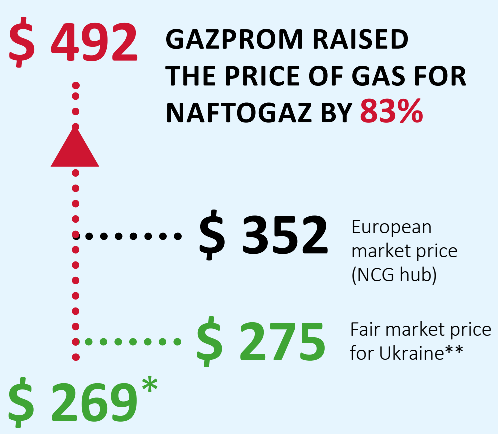
Impossibility of satisfying the needs of Ukrainian gas consumers by using only import capacities other than from Russia



Of capacity from the EU = 25% of import needs, while the share of guaranteed capacity was equal to 0%**

* calculated as the ratio of the total volume of imports to the total volume of gas consumption in Ukraine in 2013
** calculated as the ratio of the available transport capacities for importing gas from the EU as of January 2014 to the total volume of gas consumption in 2013

In April 2014, Gazprom raised the price of gas for Ukraine to the level, which significantly exceeded the fair market prices



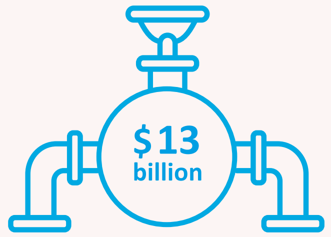
* Gazprom gas price for Naftogaz in March 2014
** export parity price ("NCG minus the cost of transportation from the eastern border of Ukraine to the German NCG and minus the margin of the wholesale supplier")

Source:
https://www.vitrenkolibrary.com/en/naftogaz-vs-gazprom/

Getting out from the abyss:

1 Security of supply: Import capacities from the EU in % of Ukraine's import needs

2 Transit: Additional revenue from transit (≈ marginal profit) earned in 2014-2024:



- Compensation according to the decision of the Stockholm Arbitration in the Transit Contract in 2009 = **$ 5.0 billion**
- Guaranteed (based on take or pay clause) revenue under the new transit contract for 2020-2024 = **$ 7.15 billion**
- Additional transit revenue from reverse gas flows from the EU = **$ 0.74 billion**

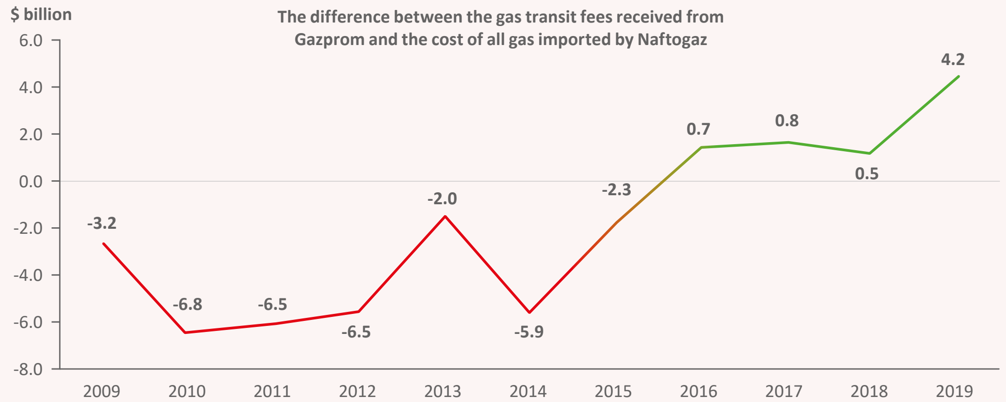
3 Price: We helped avoid much higher prices for Ukrainian consumers

Average weighted price for household consumers avoided in April 2014-2019 = **$ 414/'000 m³*** (actual price for household consumers in the same period = **$ 145/'000 m³**)

Average effective import price**avoided in April 2014-2019 = **$ 1,602/'000 m³** (actual average import price in the same period = **$ 264/'000 m³**)

* weighted average of cost of gas production by Ukrgasvydobuvannya and the effective contract Gazprom price (taking into account take or pay costs) in accordance with the ratio of own production and gas imports to meet the needs of households consumers.
** including the payments under take or pay obligations and the effective Gazprom gas contract price in the average price

4 We changed the situation in a way that MONEY GOES FROM RUSSIA TO UKRAINE, and not the other way around



Source: https://www.naftogaz.com/en/news/naftogaz-vitae-uhvalennya-kongresom-ssha-obov-yazkovyh-sanktsiy-proty-pivnichnogo-potoku-2

We defended Ukraine against Gazprom's claims in the Stockholm arbitration under a gas supply contract worth about USD 95 billion (including interest and potential claims that we managed to avoid).

In 2014, Gazprom sought to intimidate us or destroy us following the ruling of international arbitration, because it was sure it would win. If Gazprom's lawsuit was upheld by arbitration, Naftogaz would have had to pay about USD 95 billion by the end of the contract in 2019, including the demand to pay for gas ("take or pay"). This clause obliged Naftogaz to procure 41.6 bcm of natural gas per year at a higher price with no right to re-export, or to pay huge penalties in case of short offtake.

Given the scale of the threat, Naftogaz and the Ukrainian state desperately needed a victory in the Stockholm arbitration. In June 2014, Naftogaz filed counterclaims against Gazprom (which were later consolidated into one proceeding) and after four years of court proceedings won an historic victory in the largest commercial arbitration in history.

Gazprom's "take or pay" requirements were recognized as onerous and excessive based on competitive market practice. They were completely canceled for the periods 2009-2017, and for 2018-2019 the volumes under this provision were reduced tenfold in accordance with our needs. We also achieved a reduction in the price of gas tied to the market price at the German hub and proved that we do not have to pay for the alleged supply of gas to the occupied territories in the east of Ukraine.[2]

We proved in Stockholm arbitration that Gazprom violated its obligations regarding gas transit volumes and we received the respective compensation of USD 5 billion.

In February 2018, the arbitration court ruled that Gazprom shall pay to Naftogaz compensation for breach of its obligations regarding the underdelivery of transit volumes of USD 4.63 billion, including USD 2.1 billion set against our debt for gas received from Gazprom. Naftogaz received the rest of the compensation at the end of December 2018, which, together with accrued interest, amounted to USD 2.92 billion.

We signed a new 5-year transit contract with a guaranteed income of USD 7.2 billion and other benefits for Ukraine.

The main lever of influence on Gazprom to sign a new transit contract was a new arbitration initiated by Naftogaz in 2018, with claims of USD 12.2 billion. Naftogaz had already proved that it knew how to defeat Gazprom in international arbitration. De facto, Naftogaz exchanged the waiver of its claims for a new transit contract, in particular, for its "pump or pay" clause, under which Ukraine was guaranteed to receive USD 7.2 billion.

The involvement of a wide range of parties (through negotiations at the political level between Ukraine, the EU and Russia; US sanctions against Nord Stream 2), and implementation of European market rules regarding unbundling of gas transit from others activites, combined to play a supportive role in the signing of a new transit agreement.

We achieved lower tariffs for gas transportation in 2020-2024 due to agreements reached on transit extension:

- the tariff for consumers is 2.4 times lower compared to the tariff if there were no gas transit;
- the tariff for extractive companies is four times lower compared to the tariff if there were no gas transit.

The extension of the transit contract also created an opportunity to earn additional revenue from gas transit and storage and to achieve a lower import price in the future. In addition, the presence of transit strengthens our position in the European energy and political arena, strengthens the country's reputation as a reliable partner, and contributes to EU energy security.

Naftogaz was also a driver of gas market[3] and corporate governance reforms, which were necessary for success over Russia and for a targeted fight against corruption and oligarchs.

Eliminating critical dependence on Russian gas and changing commercial relations with Gazprom brought significant outcomes for the state economy. The total financial impact of changing relations with Gazprom amounted to USD 115.6 billion for the period from April 2014 to 2019, an equivalent of 3/4 of the annual output of Ukrainian economy (75% of nominal GDP for 2019). This is equivalent to almost 1/4 of total Ukrainian household incomes.[4]

This is not just about numbers. It's about keeping Ukrainian homes warm. It's about an industry that operates, and about jobs. This is about real independence, when we don't have to sell part of state sovereignty in exchange for gas[5]. It is also about the dignity of Ukrainians, who proved the false messages of Moscow propaganda: Russia did not support Ukraine at all, no matter how much Moscow wanted the world to believe it. It's about lower gas bills, allowing consumers more money to spend on other things. And it's about the ability of the state budget to allocate more funds for defense and social support. It's about a more competitive economy – economic growth and, again, more money in the state budget.

Due to significant achievements in the past years, we were able not only to defend the state during Russia's first military aggression against Ukraine in 2014, but also to create the basis for opposing Russia's second, full-scale war, which began in 2022.

[2] For more information, please, see Natogaz Annual report 2017, pages 44-45.

[3] Updated calculations from the Naftogaz vs. Gazprom special project:
https://www.vitrenkolibrary.com/data-library/
https://www.vitrenkolibrary.com/en/naftogaz-vs-gazprom/

[4] This had a limited effect – it allowed us to apply European rules (except for the "pump or pay" principle). In particular, the cessation of gas price regulation in the wholesale segment; reduction of the difference between the market and regulated price for gas in the retail segment; at least some transition to market practices in the subsidiary of Naftogaz, which produces gas, as well as the subsidiary companies engaged in sale of gas to households.

[5] For example, the "discount" under the "Kharkiv agreements" on leasing base for the Russian navy in the city of Sevastopol, which led to the occupation of Crimea by Russia in 2014, the "discount" under the agreement between Putin and Yanukovych at the end of 2013 for Ukraine's rejection of the European integration. All these "discounts" were immediately canceled by Russia as soon as Ukraine declared its will for self-determination.

What does Ukraine gain from changing its relations with Gazprom?

What is the total financial impact of changing relations with Gazprom?

$ 115.6 bn

an equivalent of 3/4 of the annual output of Ukrainian economy*

* 75% of nominal GDP for 2019

This amount consists of:

$ 109.7 bn arbitration award result and arranging gas purchases from Europe as of late 2019

$ 5.9 bn present minimum guaranteed value of the new transit contract as of late 2019

What could have Ukraine lost in 2014-2019 without these changes?

$ 81.8 bn this is equivalent to almost half (47%) of state revenues or 1/4 of total Ukrainian household incomes

Net of interest (i.e., if we would have paid to Gazprom immediately since 2014, based on its invoices), then the amount of USD 109.7 billion whould have had interest of USD 27.9 billion deducted, which would make USD 81.8 billion

The state would have been forced to cover these expenses by:
- pay cuts
- pension cuts
- tax increase

▶ This would have meant reduced income for every Ukrainian household

▶ This amount is also higher than the doubled total expenditures from the state budget for defence, education, medicine, and environmental protection for 2014-2019

UKRAINE ENERGY BALANCE

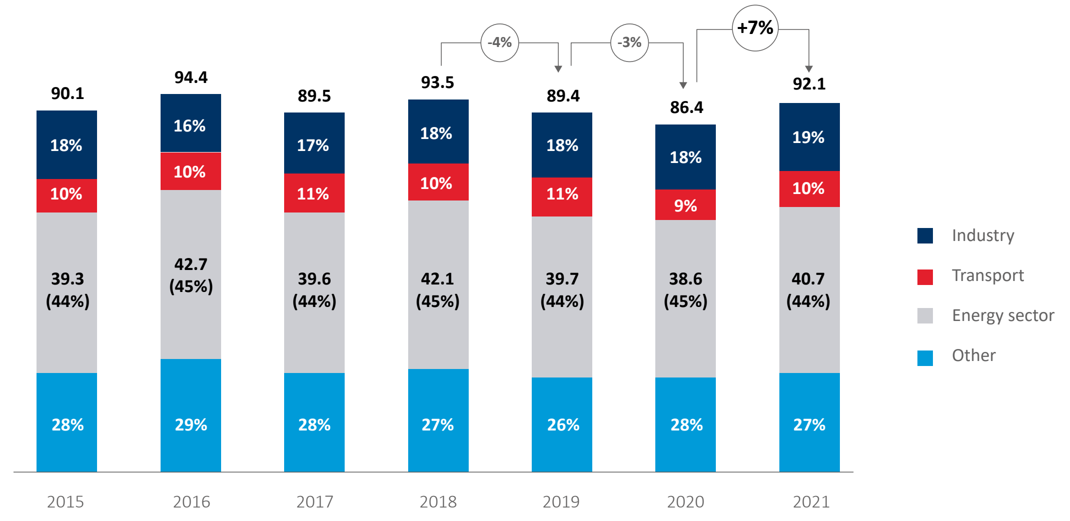
The key feature of Ukraine's energy balance in 2021 was an increase in energy resources by 5.7 million toe (+ 7%) – from 86.4 million tons of oil equivalent (toe) in 2020 to 92.1 million toe in 2021, including an increase in the production of nuclear electricity along with imports of coal and petroleum products.

With the start of the heating season, were blocked coal supplies from Kazakhstan by rail through Russia and resuming consumption after the pandemic, a situation emerged that led to coal shortages at power plants that threatened to spark an energy crisis in Ukraine. Fortunately, in October–December 2021, 1.2 million tons of coal were imported to Ukraine (including under new contracts with the United States and Australia) which, combined with the timely import of natural gas and the operation of all nuclear power units, stabilized the situation.

In particular, the production of nuclear electricity in 2021 resulted in an additional 2.6 million toe (+13%) compared to 2020.

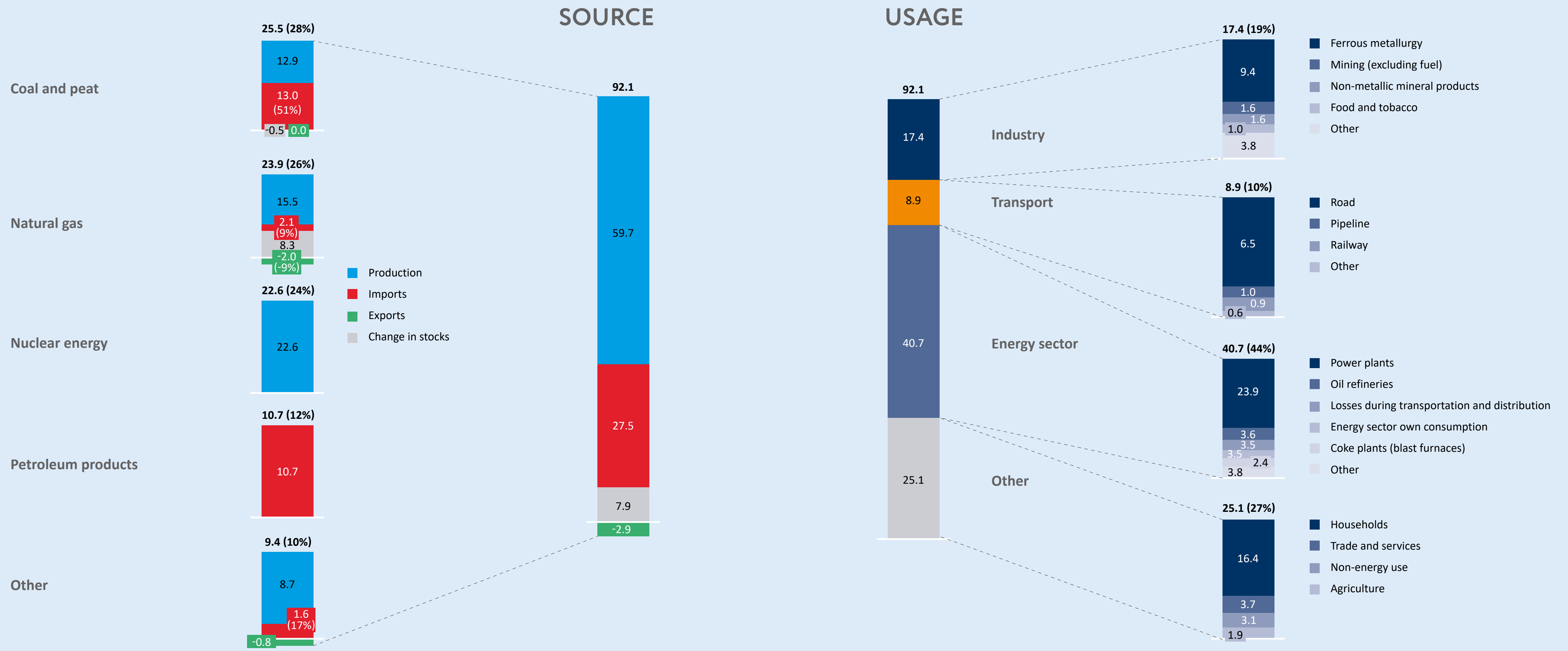
Energy consumption in Ukraine in 2021, increased by 7%, largely due to the energy sector and industry. The increase was partly due to the resumption of consumption following the easing of Covid-19 quarantine restrictions imposed in 2020 as well as colder temperatures in 2021 compared to the warm winter of 2020. Therefore, energy consumption in Ukraine resumed after 3% decline in 2020. Since in 2020 there was a decline in the economy and in the volume of energy consumption resulting from quarantine restrictions during the Covid-19 pandemic, the growth in electricity consumption in 2021 is actually a partial recovery after the decline in the previous year. The growth of gas consumption by power plants was larger

2 Energy consumption in Ukraine, million toe



Source: OGTSU, UTG, NCREU, Ukrstat, Ukrenergo, Ministry of Energy, State Customs Service, Naftogaz Group

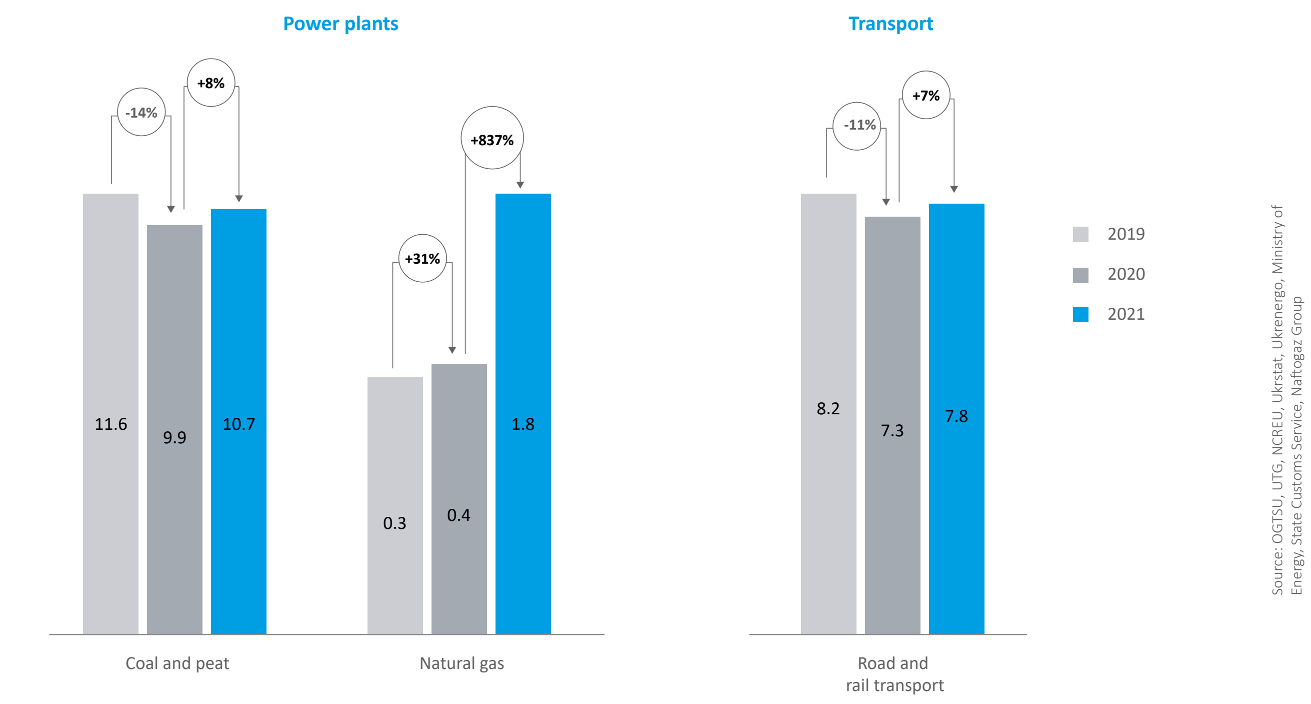
1 Ukraine energy balance in 2021, million toe



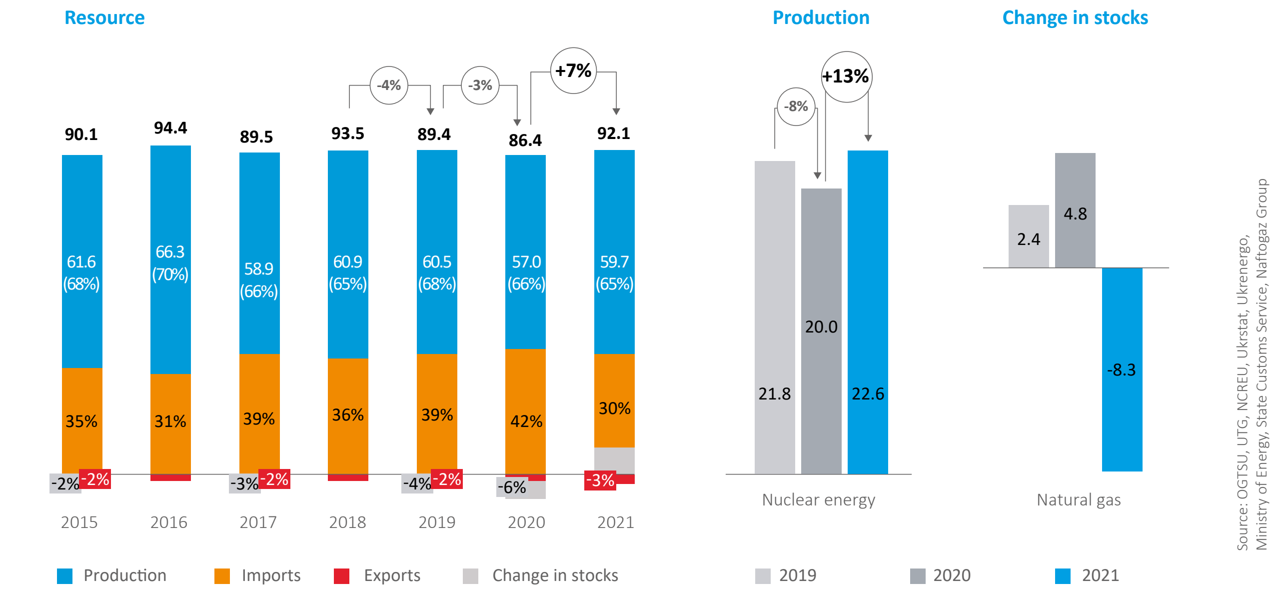
Source: OGTSU, UTG, NCREU, Ukrstat, Ukrenergo, Ministry of Energy, State Customs Service, Naftogaz Group than expected, which is due to the transfer of thermal power plants to gas as the fuel source in response to the coal shortage at the beginning of the heating season.

The largest reduction in energy consumption in 2020 due to the pandemic occurred in the transport sector. In particular, consumption in the passenger transport category decreased by 11% in 2020 and rose by 7% in 2021. The resource volume increased mainly due to increased production and changes in stock. The largest increase in energy production in 2021 was in nuclear energy. The volume of renewable energy sources (RES) generation also grew steadily.

3 Energy consumption in Ukraine by key category, million toe



4 Energy resource in Ukraine, million toe



UKRAINIAN NATURAL GAS MARKET

Natural gas consumption in Ukraine decreased by 2.9% in 2021 compared to 2020 (from 29.9 bcm to 28.8 bcm). At the same time, direct gas consumption by households increased by 0.5 bcm (6%) due to a decrease in average temperature. 6 As a result, household consumption was 8.6 bcm of gas. Gas consumption by the industrial sector decreased by 0.6 bcm (-6%) to 8.5 bcm. Gas consumption for heat production for other consumers and electricity production decreased to 3.7 bcm, which is 1.4 bcm (27%) less than the previous year. This was achieved due to measures aimed at minimizing gas consumption through the increase in gas cost to the industrial sector and for electricity generation.

In 2021, 19.8 bcm of gas was extracted in Ukraine, which is 2.2% lower than the previous year (the corresponding volume of commercial gas amounted to 18.7 bcm). 5 The share of “Ukrgasvydobuvannya” in total production was 69%, while private E&P companies accounted for 25% of the total. The gross production volume of “Ukrgasvydobuvannya” decreased by 4.0% and amounted to 13.7 bcm (the commercial volume of natural gas in 2021 amounted to 12.9 bcm, which is 3.8% lower than the 2020 level). However, during the year, the Naftogaz team managed to change the vector of gas production from a decrease to an increase. For more information about natural gas production, see page 128.

In 2021, only 2.6 bcm of gas was imported to Ukraine, which is 13.3 bcm (-84%) less than the previous year and the lowest in recent years (while taking into account gas exports, which were mainly re-exports of gas from UGS facilities, the volume of net imports amounted to only 0.1 bcm). During 2021, the main gas import route to Ukraine (including virtual reverse supplies) was through Hungary. 7

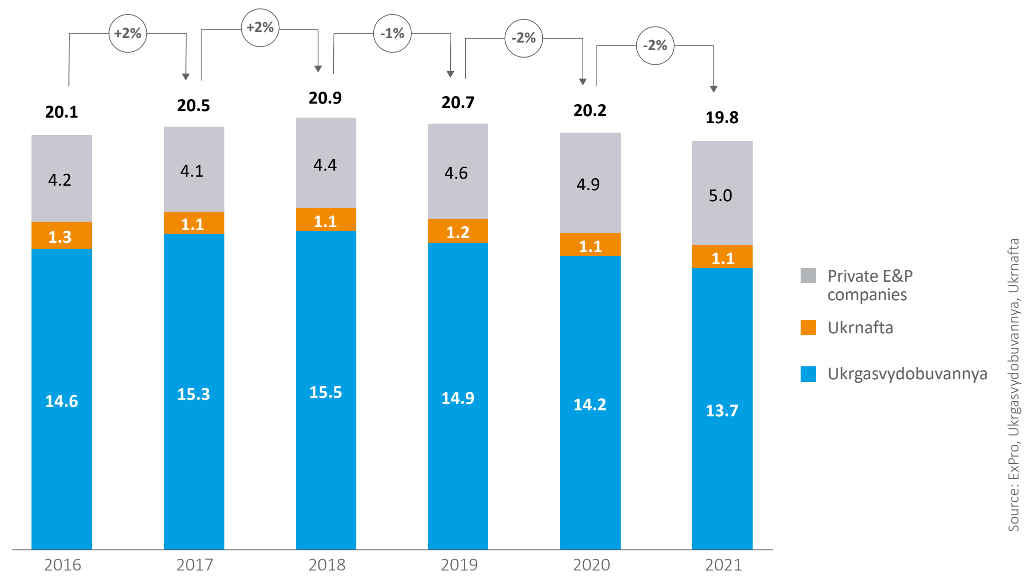
During 2021, the shares of deliveries through the Slovak Republic, Hungary, and Poland were 12%, 85%, and 3% of total imports, respectively. In 2020, the imports were 65%, 26%, and 9%, respectively.

The main reason for the dominance of supplies from Hungary was the lowest spreads for this route in the import structure. In fact, in 2021 the average level of spreads on the Hungarian route received in commercial offers to Naftogaz was on average 1.7 times lower than on the Polish route and 2.4 times lower than on the Slovak route. For more information about natural gas imports, see page 78.

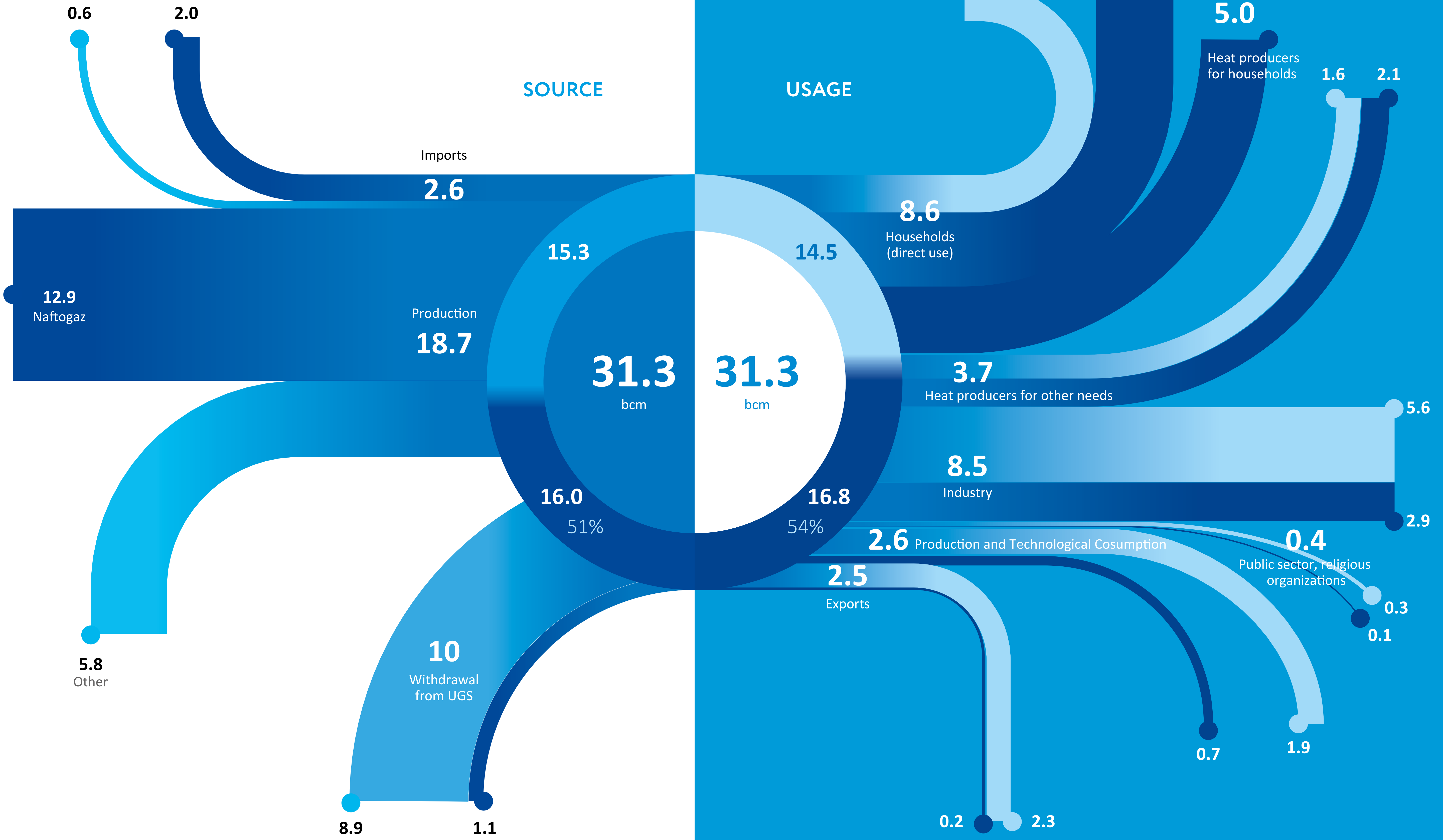
The decrease in import volumes in 2021 was achieved due to the use of natural gas volumes in UGS facilities. At the beginning of 2021, the total volume of gas stored in Ukrainian underground storage facilities was 23.7 bcm, or 77% of total underground storage capacity. At the end of 2021, the volume of gas in underground storage amounted to 13.7 bcm or 44% of the maximum capacity, which is about the average for 2014-2018. The reduction in gas reserves by a record 10 bcm made it possible to optimize and minimize imports to Ukraine to 2.6 bcm.

At the beginning of 2021, the amount of gas stored in UGS facilities owned by non-residents amounted to 7.7 bcm, and at the end of 2021 – 0.5 bcm. The remaining gas in Ukrainian UGS facilities owned by non-residents decreased by at least 7.2 bcm over the year. At the same time, the total export (mainly re-export) of gas from Ukraine in 2021 amounted to 2.5 bcm, of which 0.2 bcm was exported by Naftogaz Group.

5 Gross domestic natural gas production in Ukraine in 2016-2021, bcm



UKRAINE NATURAL GAS BALANCE IN 2021, UKRAINE, bcm

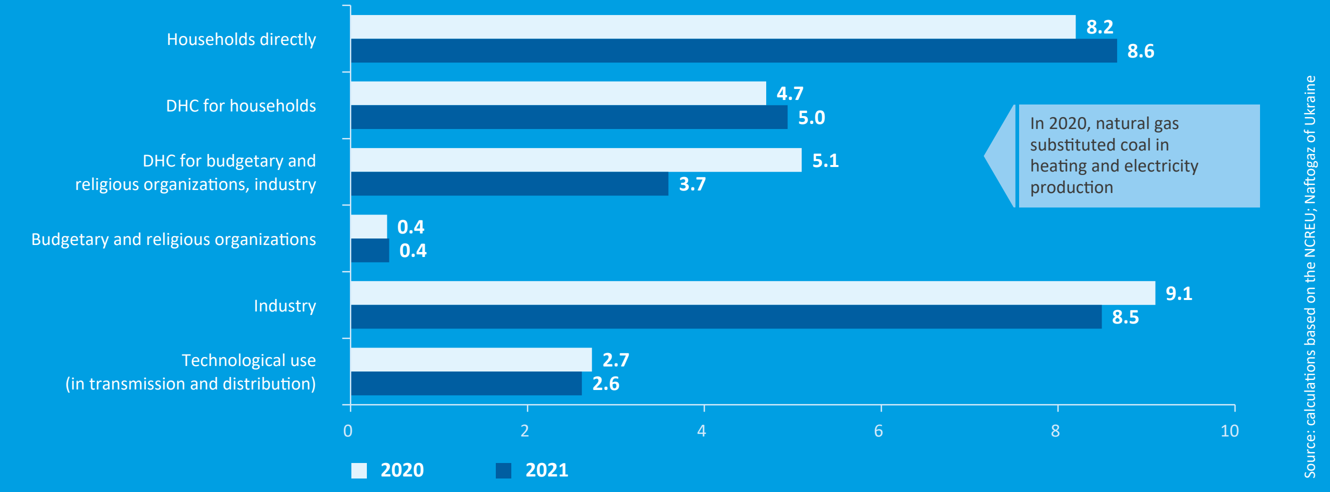


- gas sales/production by Naftogaz Group enterprises
- gas sales/production by other market players

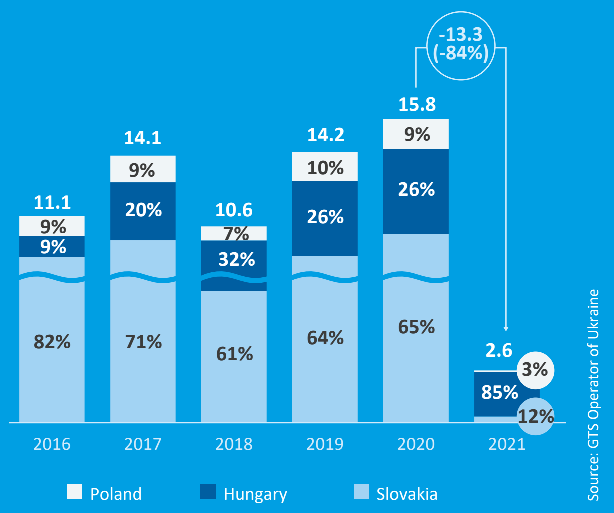
Source: Naftogaz Group

- gas sales/production by Naftogaz Group enterprises
- gas sales/production by other market players

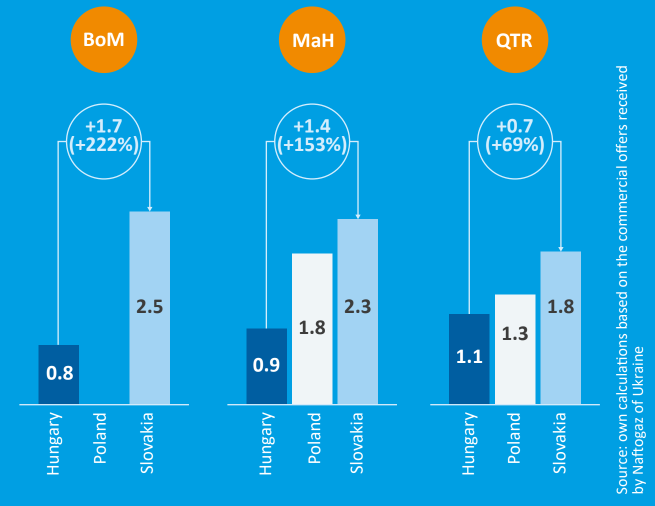
6 Gas consumption in Ukraine in 2020-2021, bcm



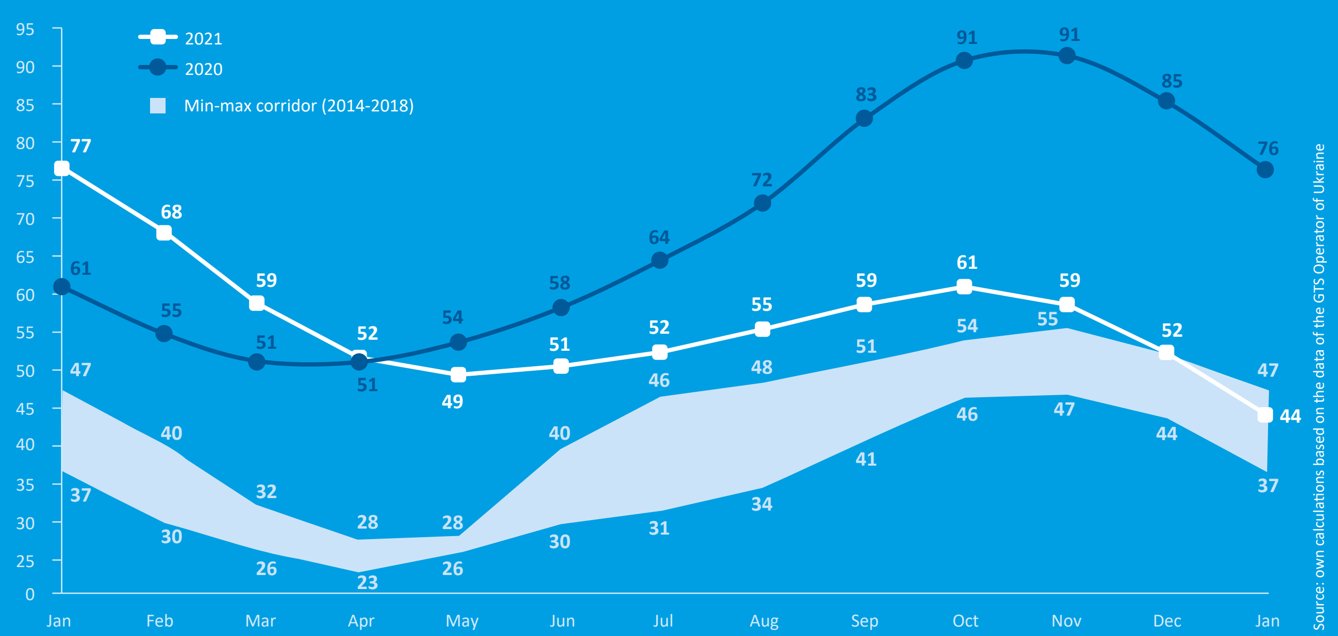
7 Distribution of gas imports to Ukraine by entry point in 2016-2021, bcm



8 Spread from TTF to the border of Ukraine, EUR/MWh



9 Dynamics of Ukrainian underground storage facilities fillage, %



Ukraine gas market prices

Since the introduction of the market pricing mechanism, wholesale gas prices in Ukraine are mainly formed on the basis of import parity, demonstrating a fairly high correlation with prices at European hubs.

At the beginning of 2021, prices in Ukraine were not so sensitive to price changes at European hubs, which led to a decrease in the spread (reduction of difference between prices in Ukraine and European hubs). This trend was mainly due to notable resource surplus, which was confirmed by significant gas stocks in Ukrainian underground gas storage facilities. However, since autumn 2021 forward price spreads have risen sharply driven by low storage stocks, rising demand, and recovery in imports.

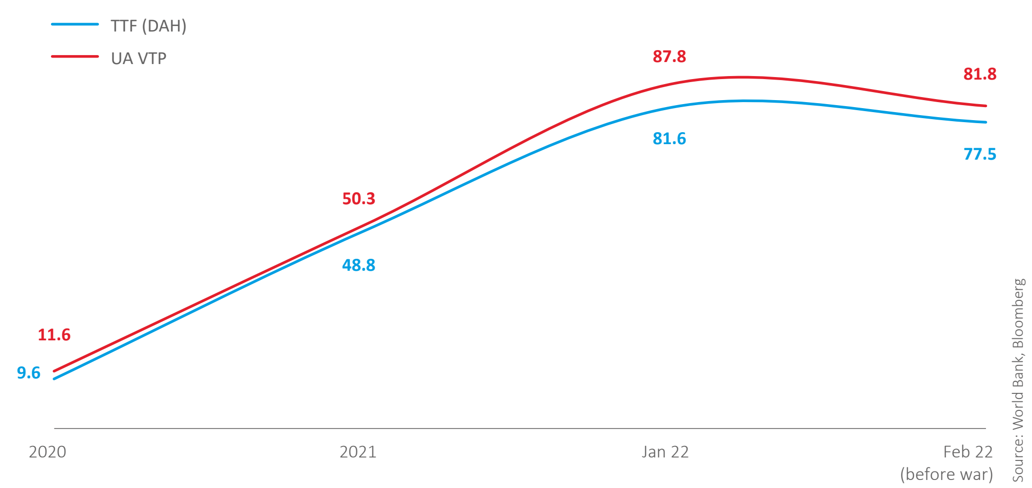
In May, the Cabinet of Ministers no longer extended special obligations for district heating companies (hereinafter – DHC). According to Cabinet Resolution № 444 of April 30, 2021, the regulation of prices for district heating expired on May 20. However, to avoid sharp price fluctuations, especially during the 2021-2022 heating season, Naftogaz Group offered long-term natural gas price proposals. Therefore, the three-year contract stipulates for DH that during the first year of the contract (until May 2022), the long-term market price for a fixed volume for the needs of households will be UAH 7.42 with VAT per m³.

From October 2021, an additional amount of DH was allocated for the needs of budgetary and religious organizations at a price of UAH 16.4 with VAT per m³.

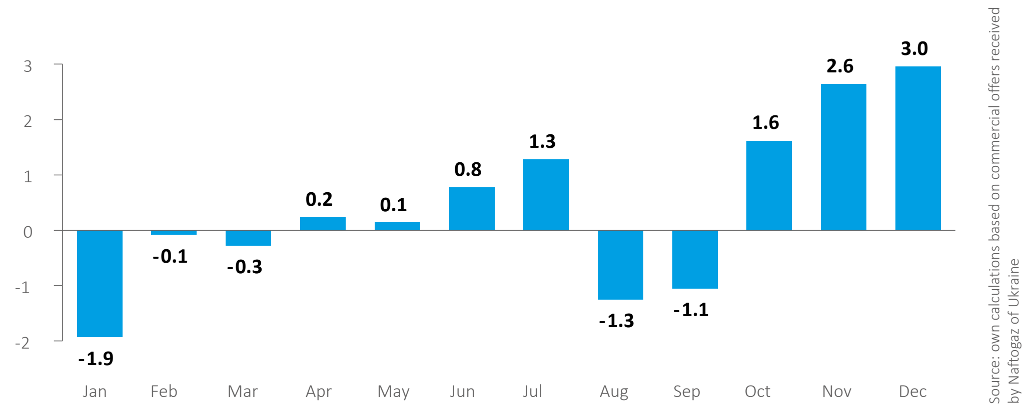
In addition, households were offered an annual tariff of UAH 7.96 with VAT per cubic meter, which is the lowest household gas price in Europe.

For more information about how consumers were protected from high prices, see page 80.

10 Price level during 2020-2021, EUR/MWh



11 Average monthly price spreads in the Ukrainian market and TTF hub, EUR/Mbtu



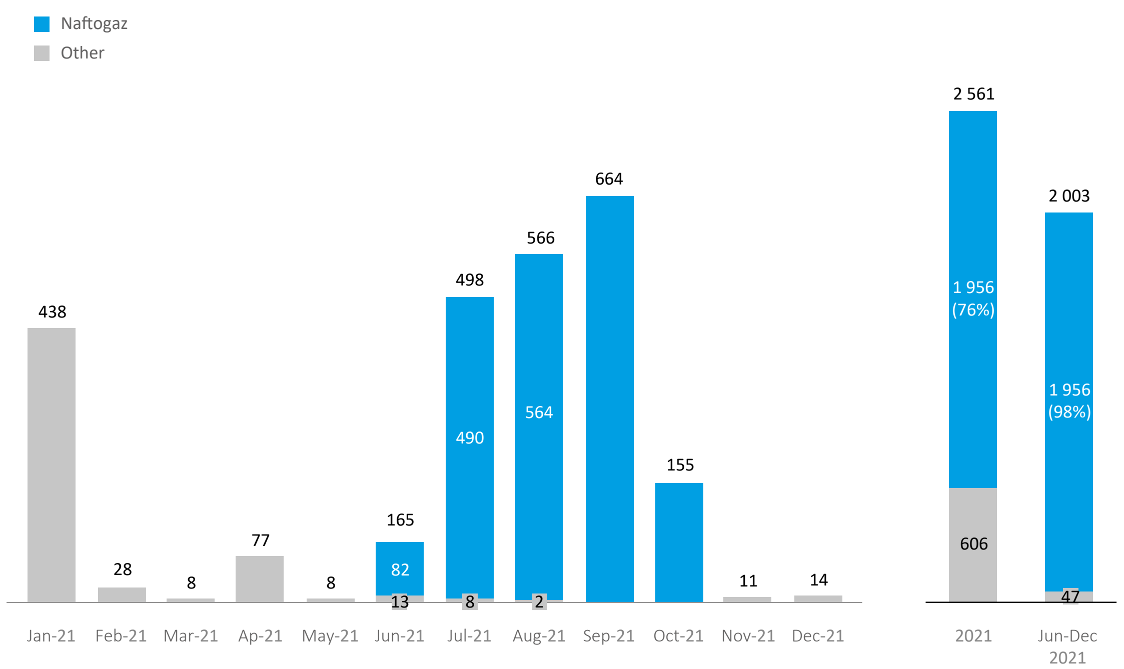
PREPARING FOR THE 2021-2022 HEATING SEASON

As part of Ukraine's preparations for the heating season, Naftogaz Group imported 2.3 bcm of natural gas during June-October 2021 to ensure the safety of supplies, which is 98% of all imports to Ukraine made during this period. As a result, Ukraine entered the heating season with a gas reserve in UGS facilities of 18.9 bcm, of which 12.8 bcm belonged to the Naftogaz Group.

In the autumn of 2021, there was an urgent need to provide additional volumes of gas for electricity generation due to insufficient coal reserves at power plants at the beginning of the heating season.

Based on the results of regular monitoring of gas market conditions, consumption dynamics, gas volumes in underground storage facilities, and the overall energy balance in the country, Naftogaz provided the necessary volumes of gas for both the basic portfolio of consumers and the energy sector. At the same time, cost optimization was achieved as the weighted average import price paid by Naftogaz in Q3 was lower than market prices. In particular, the weighted average price of imported gas during Jun.-Dec. 2021 was 25% lower than the average price on the European market for the same period.

1 Volumes of gas imports to Ukraine, mcm



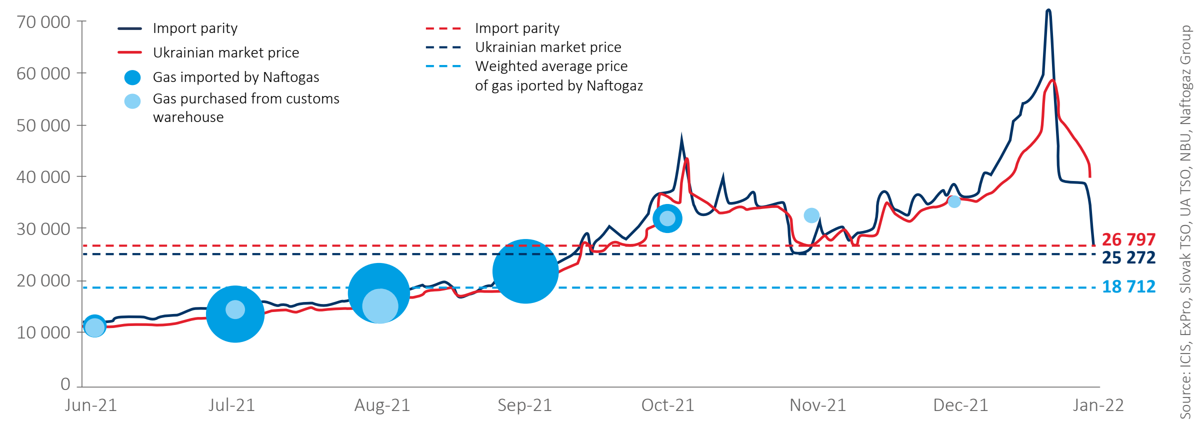
Naftogaz Group professionally manages its resources and sales portfolio, maintaining optimal parity to achieve two important goals – to ensure uninterrupted satisfaction of the needs of its customers in gas and minimize the cost of purchasing gas in an environment of historically high prices.

The heating season of 2021/2022, despite the difficult conditions faced by Ukraine, was a success. Naftogaz Group is making every effort to prepare for the next heating season despite the war in Ukraine.

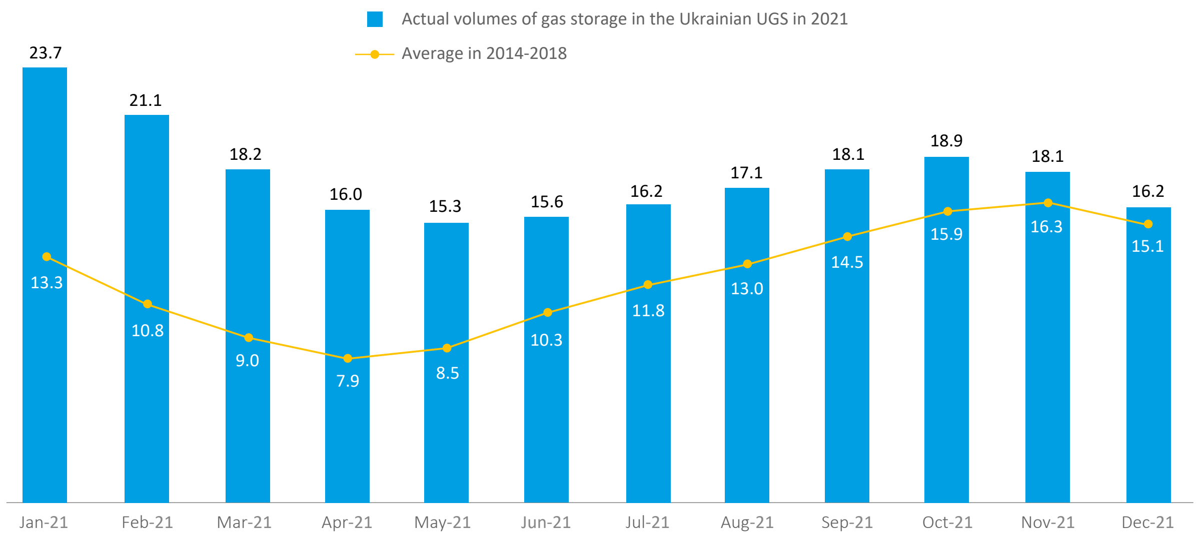
It should be noted that the company purchased imported gas not for budget funds but entirely at its own expense. Such purchases led to the replenishment of the budget of Ukraine with taxes double the amount when the company paid both income tax and customs duty for customs clearance of imported gas for future sale.

The volume of gas pumped into UGS facilities turned out to be more than enough to provide for all categories of consumers: households directly, heating and energy companies, budgetary and religious organizations.

2 Weighted average price of gas imports by Naftogaz and market prices, UAH / tcm (including VAT)



3 Gas balance in UGS facilities as of the 1st day of the month, compared to the average figures for 2014-2018, bcm



PROTECTING CONSUMERS FROM RECORD PRICE FLUCTUATIONS

Due to growing price volatility, most European countries have begun seeking ways to support their gas consumers. Priority has been given to individual measures that can effectively mitigate the impact of rising prices on vulnerable groups such as direct discounts, tax breaks and other business support. Retail price regulation was also often applied. At the same time, European countries mostly avoid direct interference in the functioning of the wholesale market and assigning special responsibilities to state-owned companies, so as not to weaken incentives for energy saving and decarbonization.

1 Measures to respond to the surge in energy prices in European countries

	Reduced energy tax	Regulated retail price	Regulated wholesale price	Subsidies for vulnerable groups	Business support	Assignment of special public service obligations to state-owned companies
Austria	2022			2022	2022	
Belgium	2021	2021		2021		
United Kingdom		2021		2022	2021	
Greece				2021	2021	2021
Denmark				2022		
Estonia	2021	2022		2021	2022	
Ireland	2021			2021		
Spain	2021	2021	2021	2021	2022	
Italy	2021			2021	2021	
Latvia	2021			2021		
Lithuania		2021		2021		
Netherlands	2022			2022		
Germany	2022			2022		
Norway				2021		
Poland	2021	2021		2021		
Portugal	2021		2021			2021
Romania	2022	2022		2021		
Hungary		2021				
France	2022		2021	2021		2022
Croatia	2022			2022		
Czech Republic	2021	2022		2021	2022	
Sweden	2022			2022	2022	
Ukraine				2021	2021	2022

● Implemented in 2021 ● Implemented in 2022

Source: Bruegel

However, despite the use of various tools, most European countries have not been able to avoid a sharp rise in gas prices for household consumers. Since the beginning of the new heating season in October 2021, gas prices have risen significantly for households in Romania (+111%), Bulgaria (+85%), and the Czech Republic (+ 68%). The price in Europe has increased on average by around 50%. 3

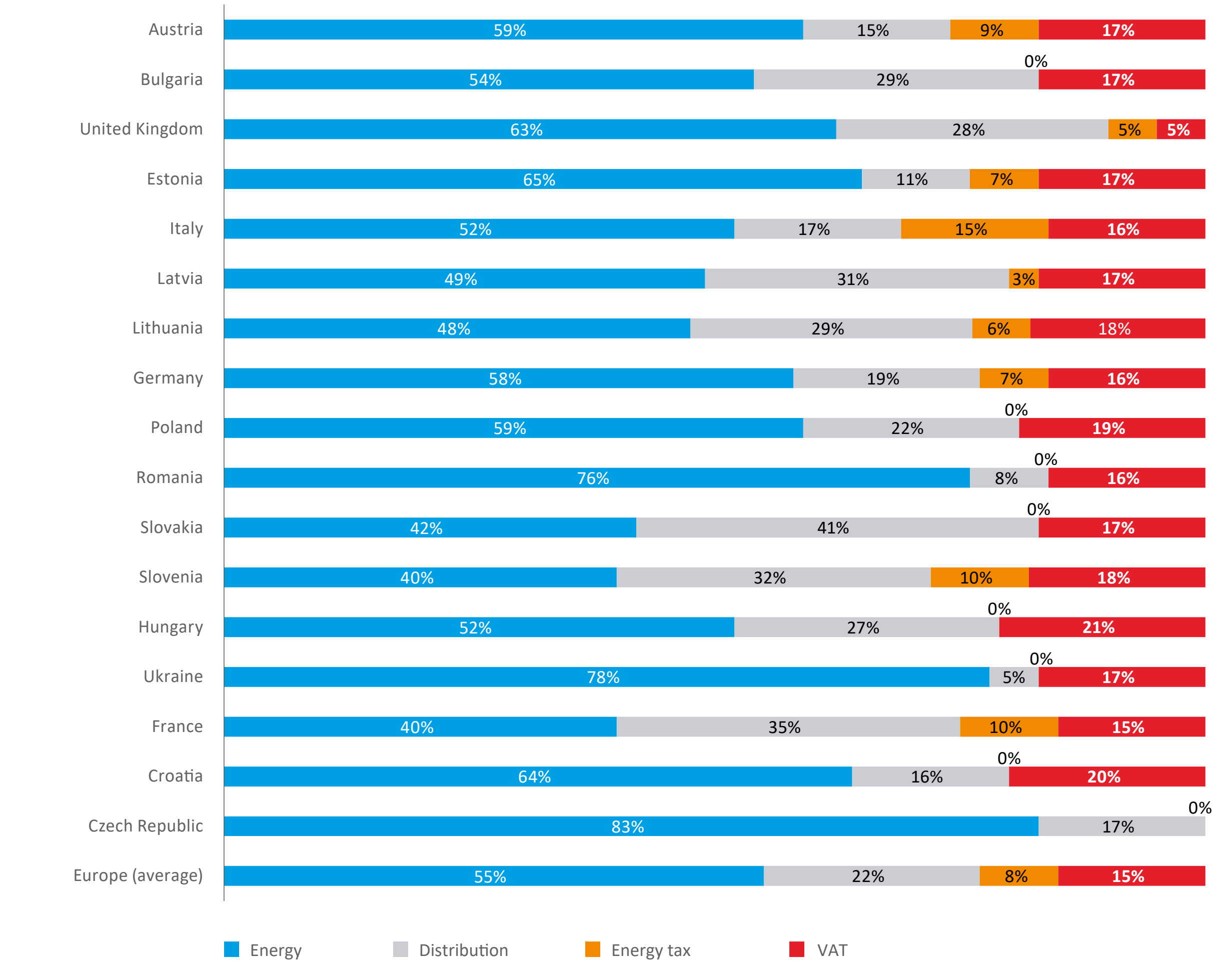
In this context, Ukraine is no exception. The Public Service Obligation (PSO) that was effective on the market since October 1, 2015, ceased to cover gas supply for households on August 1, 2020. This had been a period of extremely low prices on the Ukrainian and European gas markets so suppliers, even in situation when the market in Ukraine was in the process of opening, could offer rather competitive prices lower than the regulated rate. However, the price environment changed and prices started to grow rapidly since the end of 2020, which required certain actions from the state and Naftogaz to protect consumers and make the opening of the market gradual.

In 2021, a number of measures were taken in Ukraine to protect consumers from soaring prices. This primarily concerned medium-term contracts that Naftogaz has proposed to supply gas for the needs of households and budgetary organizations.

At the same time, the price of gas for households in Ukraine remains the lowest among all European countries, in particular due to the lack of energy tax and low transportation costs. 4

Prices for non-household consumers in Ukraine correlate with the TTF quotes (correlation coefficient is 0.9, excluding 2021). 5 At the same time, the price curve in the EU is much less volatile, indicating the long-term nature of contracts where the price formula smooths out fluctuations in spot prices, and in most periods was higher than in Ukraine (the average is

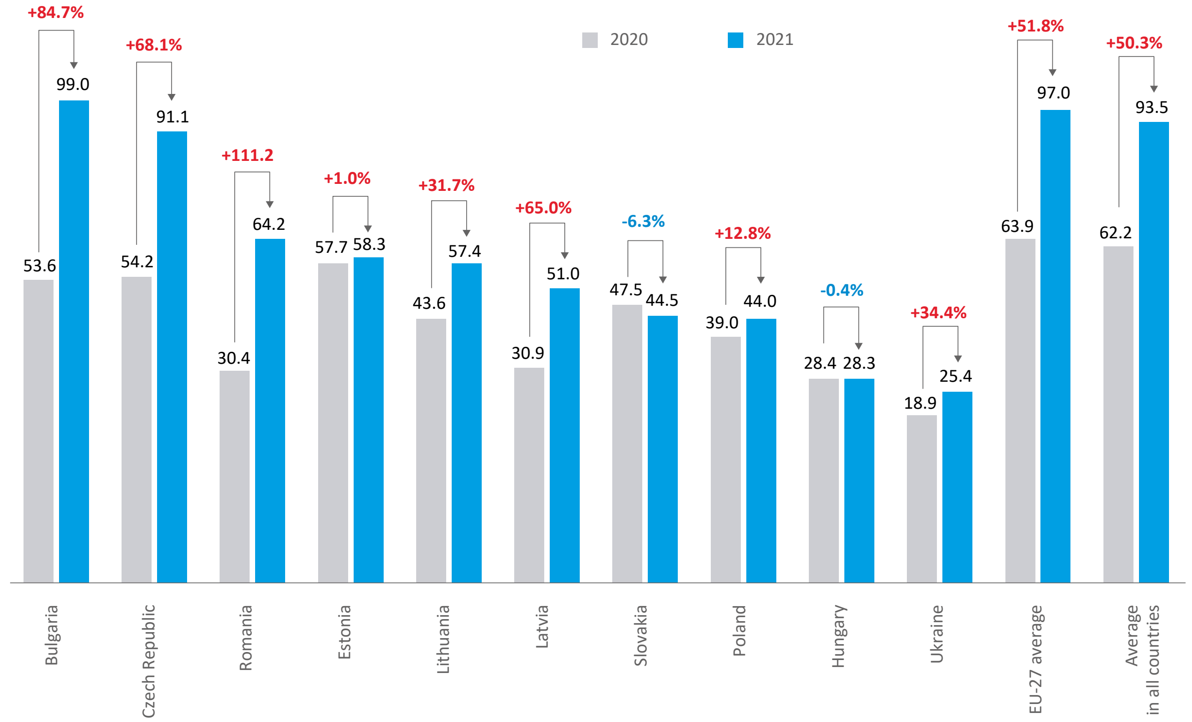
2 Structure of the gas tariff for households in European countries (December 2021), %



Source: Energypriceindex.com

3 Final gas prices for households in European countries, EUR/MWh

(including VAT, transport and delivery costs)



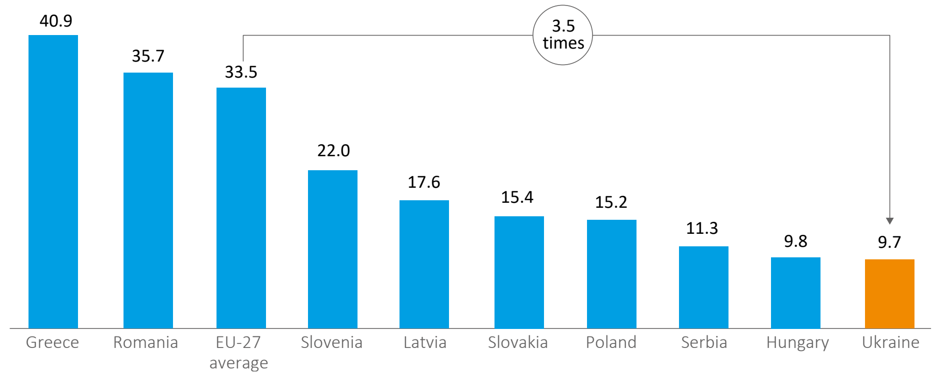
Source: www.energypriceindex.com

26.09 vs. 22.69 EUR/ MWh). Due to the absence of long-term contracts on the domestic market of Ukraine, in which the price formula smooths out fluctuations in spot prices, the increase in spot prices at European hubs immediately affected the increase in gas prices in the unregulated segment, in particular for industry. The relevant gas consumers had to either raise prices for their products, or cut or stop production.

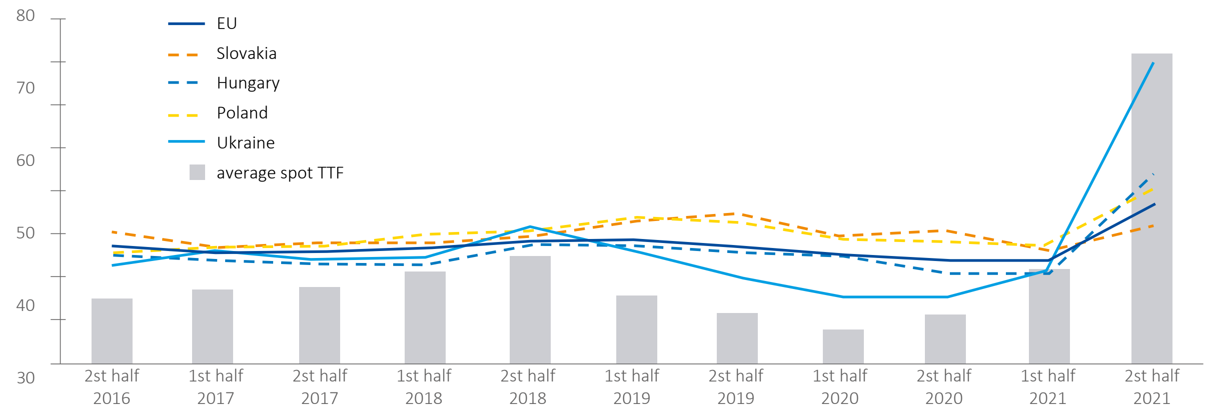
It is worth mentioning that at the end of the year, the Cabinet of Ministers of Ukraine adopted Resolution No 1433 “On approval of the list of products traded exclusively on organized commodity markets”. This resolution obliged gas extraction companies to sell 20% of gas produced in Ukraine during the quarantine period but not later than May 1, 2022, and limited the margin for Ukrainian gas to 24%. Producers of socially important products had the opportunity to buy natural gas at a price that was much lower than in other market offers to curb rising prices for the most important consumer products.

4 Final household gas prices in European countries as of December 1, 2021, UAH/m³

(including VAT, cost of transportation and delivery)

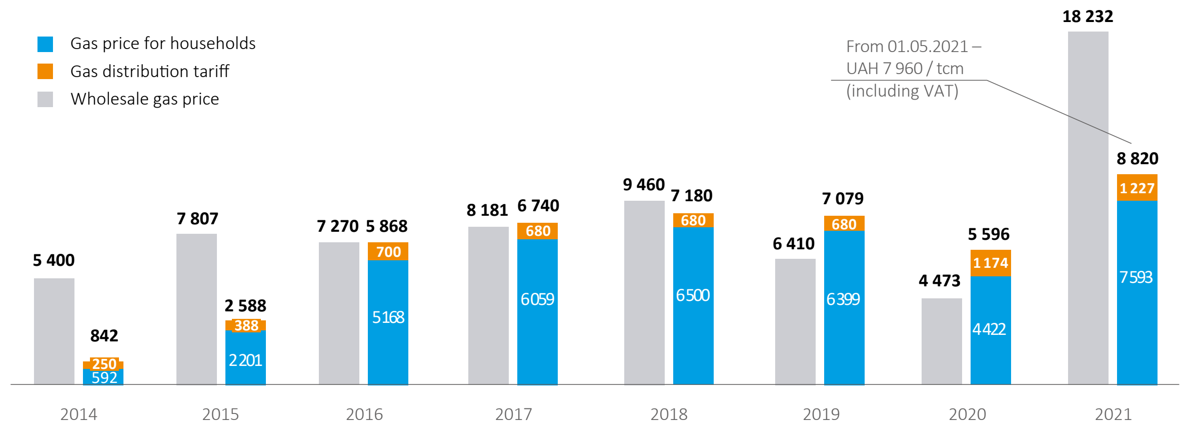


5 Prices for non-household consumers in Ukraine and Europe, EUR/MWh

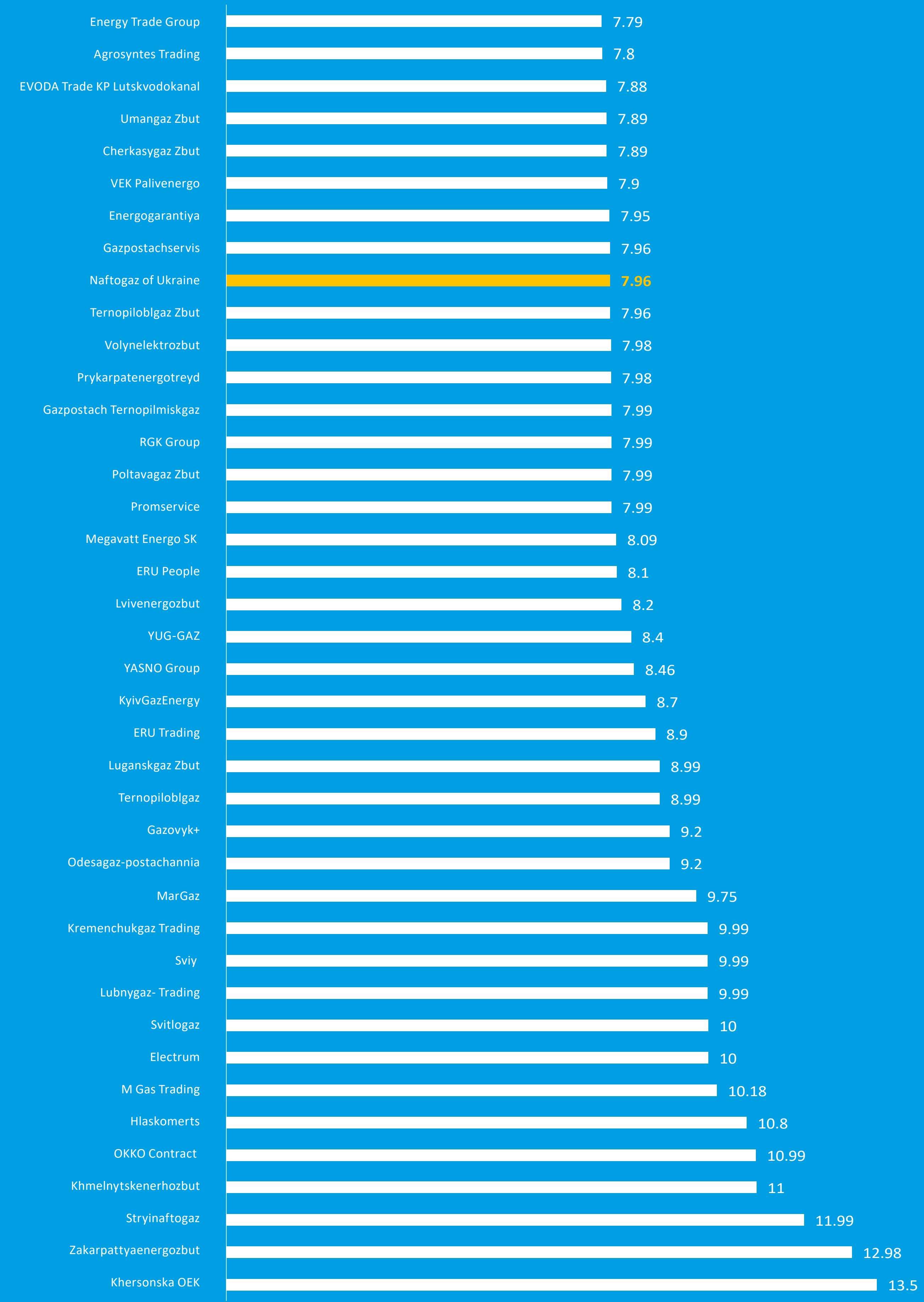


6 Wholesale prices and selling prices to households, UAH/tcm

(including VAT)



7 Gas tariffs for households in December 2021 (according to annual tariff plans), UAH/m³, including VAT



SOCIAL SECURITY & STABILITY

Energy poverty and energy (in)efficiency

An energy-poor household is a household that has little or no money for heating and lighting. Such a situation has particularly far-reaching consequences for the health and well-being of people with respiratory, cardiac and mental health conditions.

According to various estimates in 2021, this problem concerns 30% of Ukrainians. Every fifth household receives subsidies. The state allocates up to UAH 50 billion annually to pay direct (targeted) subsidies (and much more – through indirect subsidies), and every fourth household is unable to pay bills on time. It should be noted that given Russia's military actions, the situation significantly worsened in 2022.

On the other hand, the consumption of energy resources in Ukraine is inefficient – heating in Ukraine consumes 2-3 times more energy per 1 m² than in the EU countries. This is due to the fact that the buildings were constructed mainly between 1945 and 1970 (49%). And 90% of the buildings were erected before 2002 when energy-saving standards were introduced. Average heat consumption ranges from 170 to 250 kWh/m², which is the result of poor or lack of thermal insulation of buildings, and lack of modernization of heating systems.

There is a kind of vicious circle – energy poverty is largely a consequence of energy inefficiency but at the same time, significant opportunities to reduce consumption have not been realized for decades (despite declarations), both due to a lack of funds for implementing energy-efficient solutions and due to political restrictions.

In addition, the cost of gas has always been a convenient target not only for populism, but also for Russian propaganda, and therefore a significant increase in the price carried the risk of social and political instability, which in the context of Russian aggression, became a risk to national security.

On the other hand, Russia only benefited financially from the fact that gas prices in Ukraine were set at a level significantly lower than market prices. This artificially increased the demand for gas. It also artificially limited market incentives to increase domestic gas production or replace gas with alternative energy sources and increase energy efficiency. It allowed Russia to sell more of its gas – directly to Ukraine or on the European market, where Ukraine bought gas after the termination of direct supplies from Russia. Ukraine could use the lost resource to upgrade and strengthen energy independence.

Source: 2021 Energy Community Report https://www.energy-community.org
See also the report "Energy industry 30#"

Hidden (indirect) subsidies

Hidden subsidies are a phenomenon that occurs when the state grants someone the right to buy gas at a price lower than the market price.

Consequences of hidden subsidies:

- Encouraging inefficient natural gas consumption, lack of incentives for savings, opportunities for manipulation and speculation
- Increasing Ukraine's dependence on gas imports
- Less economic incentives for natural gas production, replacing gas with alternative energy sources (for example, switching enterprises generating heat for district heating companies (DHC) to biomass and heat pumps)
- Providing unfair (and hidden) subsidies to consumers who could pay for gas at the market price. Moreover, since such consumers usually use more gas (they have larger houses, etc.), they also receive larger (hidden) subsidies in absolute terms
- Shortfall in revenues by state-owned gas-producing companies and, as a result, lower state budget revenues; since not all consumers receive direct subsidies, artificially low prices always have a direct negative impact on the state budget
- Inefficient management of assets of state-owned enterprises, which are used to provide hidden subsidies

Almost during the entire history of Naftogaz, the state has used it as the largest mechanism for providing hidden subsidies. This factor is essential for understanding the group's financial performance and its role in energy security along with the social and political situation in the country.

In 2021, the amount of indirect subsidies provided by the state to consumers through Naftogaz, according to the company's calculations, was at least UAH 249 billion. It should be noted that this amount is 7 times higher than the amount of housing and communal subsidies officially included in the state budget of Ukraine for 2021 and represents about 5% of Ukraine's nominal GDP.

How Naftogaz sold gas on the wholesale market for further supply to household consumers

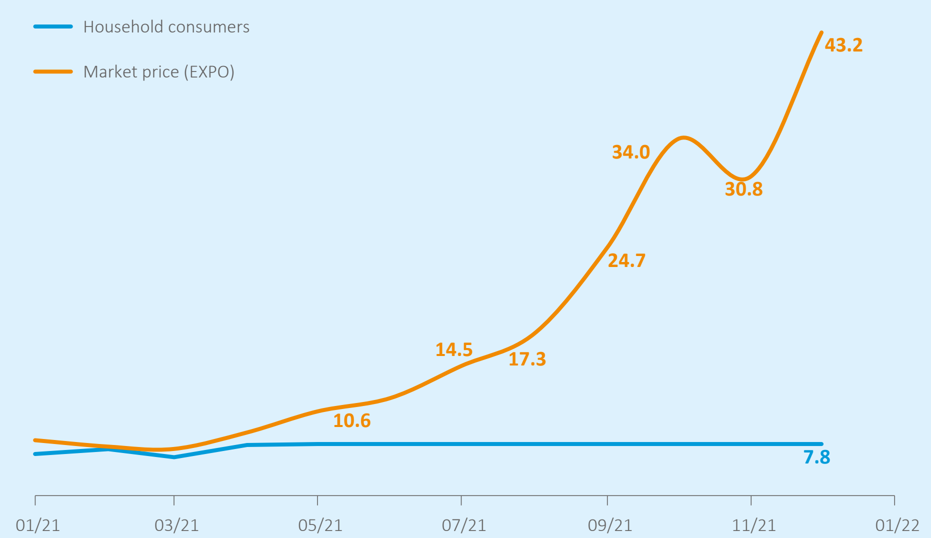
During March-April 2021, Naftogaz concluded annual contracts with the companies that were supposed to sell natural gas to the household consumers for the period from May 2021 to April 2022 at the fixed price (varying from UAH 7.4 to UAH 8.8 per m³).

The price in these contracts did not fully correspond to the market conditions that developed during the mentioned period, namely:

The spread is below the historical average. According to the contract, the European TTF spread is at EUR 0.45/MWh, although market offers for similar products were EUR 1.6.

The terms of the contract did not correspond to European practice, in particular, the risks of non-fulfillment by the counterparty of the terms of the contract were extremely high. For example, counterparties were supposed to provide financial guarantees, inter alia conditional ones, before the next heating season, almost six months after the start of the contract and gas supply. If prices on the wholesale market were to fall, the buyers under these contracts would most likely not fulfil their obligations regarding the purchase of the contracted volumes of gas. Most of these buyers are part

1 The difference in wholesale prices for household consumers, UAH/m³ with VAT



of larger groups of companies, and these groups would buy cheaper gas on the market, ignoring their contractual obligations. In the event of an increase in prices on the wholesale market, buyers under the contracts would very likely divert the contracted volumes not to supply households at low prices, but simply resell gas at higher prices in the "commercial segment", while transferring their households to the Supplier of Last Resort (SLR), which is a part of Naftogaz Group. In this way, buyers would earn excess profits, and Naftogaz would still have to supply gas at low prices. This is not a hypothetical possibility but a proven fact. These contracts are essentially more like free options for gas buyers, while Naftogaz retains all the risks of the retail market. That is why within the period from October-November 2021, Naftogaz had to switch to agreements on the establishment of a balancing group, as a result of which the volume of supply at fixed prices is limited by the needs of household consumers and the possibility of reselling natural gas to the industry is eliminated. The establishment of the balancing group has become a critical element of the security of gas supply to households, without direct state regulation such as public service obligations (PSO).

How Naftogaz sold gas to district heating companies (DHC) for household needs

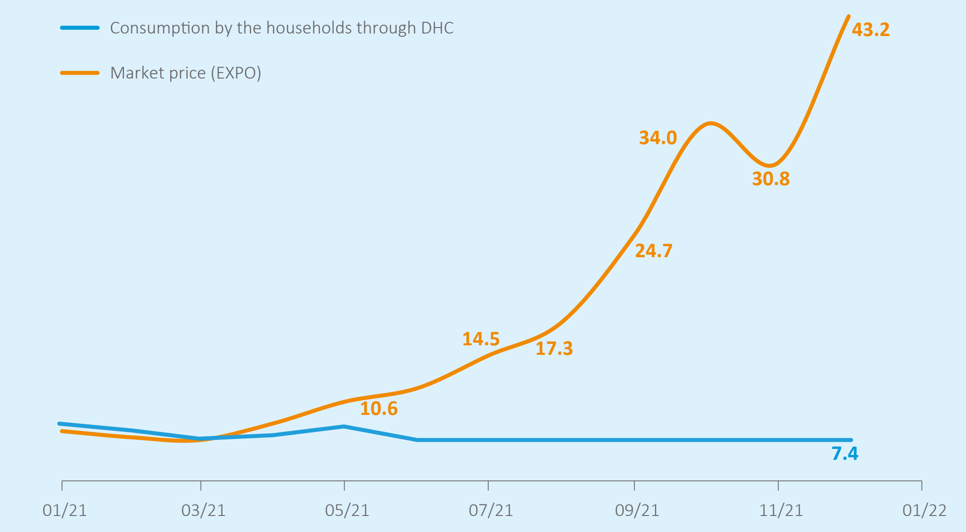
Starting from May 2021, the Group concluded contracts with DHC for the sale of gas "for the needs of households" for three years with an annual revision of price and volume.

According to these contracts, in the first year the fixed price was set at an average level for heat suppliers to household consumers (UAH 7.4 per m³).

The reason was the fact that DHC also uses gas for the household needs and is a wholesale buyer, and therefore a higher price would be unacceptable from a political standpoint. The alternative was for the government to extend the PSO regime with much worse conditions for the Group. The contract provided for the transition to formula-based pricing starting from the second year, which in turn would reflect the change in prices on the wholesale market.

It is also important to mention that the price was determined with the expectation of a proper payment discipline (in particular, the availability of a bank guarantee mechanism in the contracts) and repayment of accumulated debts. However, after the conclusion of contracts, the Regulator (the National Energy & Utilities Regulation Commission) took decisions[1] that enabled the Gas TSO of Ukraine to allocate the gas, withdrawn by the DHC which do not have a supplier, to the company. The Regulator and the Gas TSO of Ukraine actually allowed DHC to withdraw natural gas without a contract or any payment. Obviously, this does not improve the payment discipline. It is also worth mentioning that local authorities do not fulfill their obligations to provide the necessary financing to DHC for payments for the natural gas purchased. They assumed such obligations (in exchange for excluding the need to provide a bank guarantee from the contracts) in the Memorandum on Stable Heating Season concluded between the central and local authorities with the participation of the company.

2 Difference between wholesale prices for consumption by households through DHC and the market price (EXPRO), UAH/m³ with VAT



[1] The company is appealing these decisions in court

Supplier of Last Resort (SLR)

The above-mentioned decisions of the Regulator (National Energy and Utilities Regulatory Commission also NEURC) and the Gas TSO of Ukraine also allowed gas distribution system operators (DSO) to withdraw natural gas without a contract or any payment. This situation violates the very essence of the SLR mechanism and caused additional expenses of Naftogaz in 2021 of more than UAH 4 billion. At the same time, it should be noted that tariffs for the distribution of gas to consumers, set by the Regulator for DSO, are significantly lower than their costs, especially gas production and technological consumption (PTC). This is the main reason why DSO do not pay for gas covering the PTC. On the other hand, since gas is physically consumed and is the gas of state-owned companies (in this case, it does not matter whether it is the gas of the Gas TSO of Ukraine or Naftogaz), this situation is an example of indirect subsidies that the state provides to consumers through state-owned companies.

In 2022, the volume of indirect subsidies has increased significantly. To calculate the expected amount of indirect subsidies in 2022, we used the price of the so-called "export parity" as relevant, since it was gas exports that constituted a comparable alternative due to the decline in industrial consumption and the emergence of a surplus in the wholesale market.

The Verkhovna Rada adopted Government Bill No. 7427 as of August 19, 2022. The law establishes a moratorium on household gas prices and tariff increases during martial law in Ukraine and 6 months following its completion.

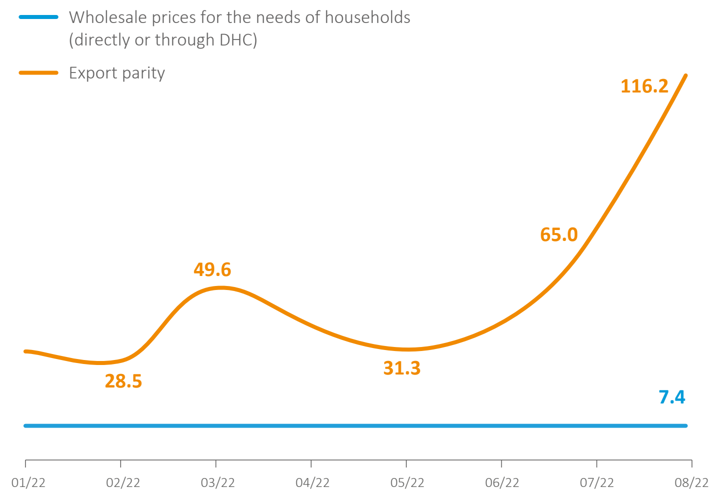
It is forbidden to raise tariffs for all categories of consumers for:

- natural gas distribution services;
- thermal energy (its production, transportation and supply);
- services for the supply of heat energy and hot water.

If we compare wholesale prices for the supply of natural gas directly to the households, to the households through the DHC, budget organizations and industry with export parity prices, the volume of indirect subsidies in 2022 may reach UAH 842 billion, which is comparable to 70% of Ukraine's security and defence expenditures or 19% of nominal GDP according to the alternative NBU forecast. (https://delo.ua/economy/ukrayina-vtratit-ponad-tretinu-vvp-nbu-sprognozuvav-situaciyu-v-ekonomici-402256/).

On the other hand, the company's calculations also show that taking into account the level of gas market prices in 2022 and the decrease in income (and number) of consumers due to the war, the corresponding level of economically justified tariffs for gas and heat will mean that the cost of individual or centralized heating (on natural gas) in winter will exceed the average household income in Ukraine.

3 Difference between wholesale prices for consumers and export parity, UAH/m³ with VAT



The above arguments eloquently prove that indirect subsidies are a huge problem for Ukraine, so it is wrong to keep silent about it. At the same time, there is no easy solution under current conditions. A relatively painless transition from indirect to targeted subsidies requires a qualitatively new level of digitalization, while in war conditions even the administration of the current subsidy system is problematic. This is not to mention the fact that a real sustainable economic solution – a significant increase in citizens' incomes due to increased labour productivity – requires at least the end of the war. But it is definitely possible and necessary to do both after the war and, as far as possible, during the war to reduce the use of natural gas, in particular through strict austerity measures, through thermal modernization of buildings and networks, and through the transition to biomass and heat pumps.

Sufficiency of state gas production in Ukraine for household needs

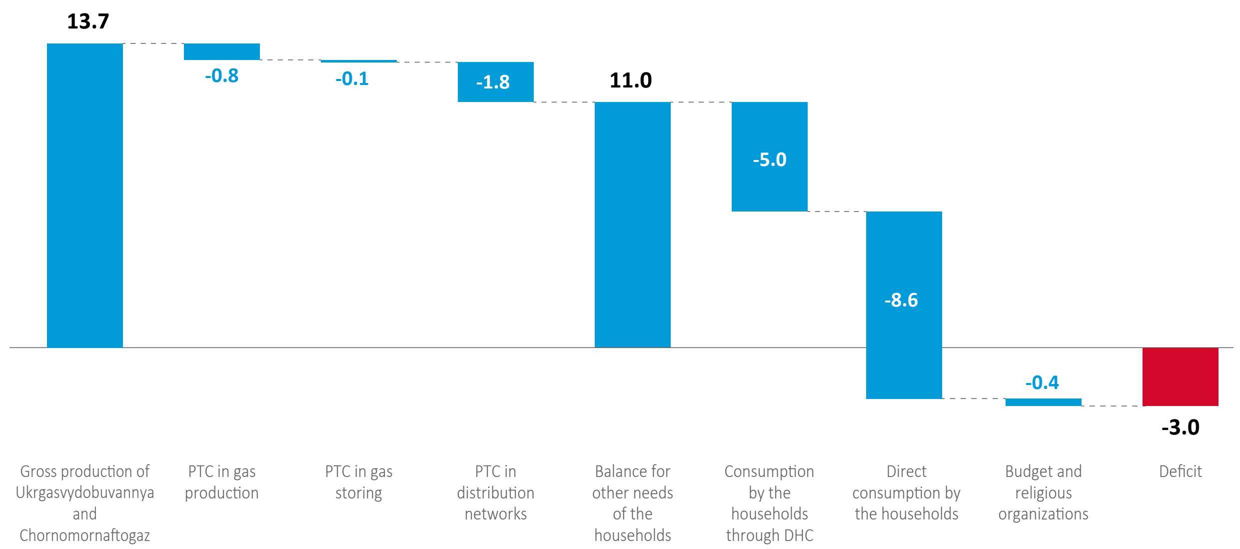
This topic is often raised by populists who want to satisfy the natural desire of voters to have “cheap gas” by selling state gas production “at cost price”. This is why they want to show that this production is enough to cover all the household needs. Spoiler alert – state production is not enough even now, and the lower the price, the greater the consumption and the more gas will be lacking.

In order to get to the end consumer, the gas must be brought from the well to the surface, then it must enter the main gas pipeline system through the industrial gas pipeline system, then in summer it may need to be transported across the country and pumped into the underground storage system, then in winter it must be pumped out and re-fed into the main gas pipelines system, and from there it reaches the consumer through the system of gas distribution networks. The operation of all these systems is accompanied by production and technological consumption (PTC). Therefore, if a household consumer (population) needs gas, part of the gas allocated to meet these needs will be spent on the operation of the relevant infrastructure.

It should be noted that now most of the gas in Ukraine is consumed by the population directly or through centralized heating, so this infrastructure[2] works primarily for the population. That is why the state now sets tariffs for the operators of this infrastructure at a level significantly lower than that which is economically justified. Therefore, supporters of the idea of low tariffs for the population at the expense of state production should subtract these PTC from the volume of gross production.

The remaining volume should be compared with the direct consumption by the population (kitchen stoves, individual water heating, and space heating) and the use by enterprises that generate heat for the centralized heating of the population. It makes sense to subtract consumption by budget and religious organizations since this is also the needs of the population.

4 Comparison of state production and population needs in 2021, bcm



It should be noted that in 2022, due to the war, the PTC of DSO has significantly increased.

It should also be noted that the analysis of coverage of the household needs should take into account the following factors:

– natural gas consumption by the households is seasonal in nature – during the heating season, it can be more than 10 times higher per day than consumption in the summer;

– due to the limited capacity of UGS facilities, the volume of gas pumped from UGS facilities may not exceed on average 1% of the gas volume in UGS facilities per day. To balance the operation of the system, it is necessary to accumulate significantly more gas in UGS facilities than the expected use during the heating season, or it is necessary to import gas during low temperatures.

Cost price of natural gas production and fair price of natural gas

The cost price of natural gas domestic production is a highly politicized topic that most political forces have speculated on throughout Ukraine’s independence. At the same time, myths about the extremely low price of domestic production, as well as approaches to determining the fair price of natural gas, are running rampant. In this report, we want to dispel these myths by presenting how the cost price is calculated, how the cost price relates to the market price, and how pricing should take place in the Ukrainian natural gas market.

[2] The system of main gas pipelines, Gas TSO of Ukraine, which is now also used for gas transit, is a separate issue in this context

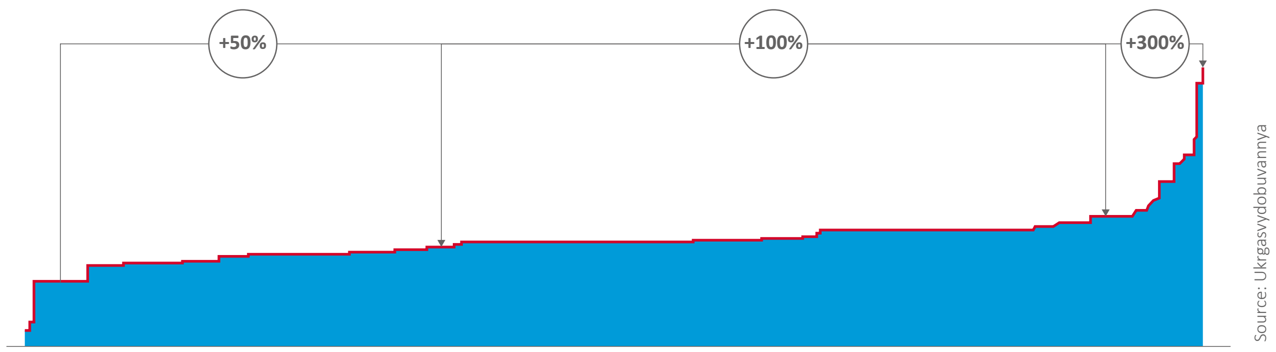
The right way to calculate the cost price of domestically produced natural gas

As noted above, in order to sell gas to the end consumer, in particular to the households, gas must be transported by various gas pipeline systems and stored in storage facilities, and the corresponding expenditures must therefore be included in the cost price of the gas sold. There are marketing and administrative costs of companies in the chain from the well to the consumer, and they are also indirectly but fairly manifested in the cost of products sold by the company at the end of that chain.

The cost price of natural gas sold directly at the level of the gas-producing company includes direct costs, which include a fee for subsoil use (rent), production costs for gas lifting and treatment (lifting cost), depreciation charges, fee for entering the GTS, costs for conducting geological seismic work, as well as such costs as the depreciation of oil and gas assets, etc.

We would like to draw your attention to the fact that the cost price of an item (i.e., the average cost of one m³ of gas) does not reflect the difference in production costs at different fields at different depths (which affects both the level of operating costs and the level of fee for subsoil use), geological and surface conditions, different well flow rates, and so on. The difference in the level of this cost for the best and worst performing fields is fourfold or even more. 5

5 Illustrative cost curve of 1000 m³ commercial volume of natural gas sold from the fields of Ukrgasvydobuvannya in 2021



Note: This does not include small fields with a commercial gas supply volume of less than 10 million m³.

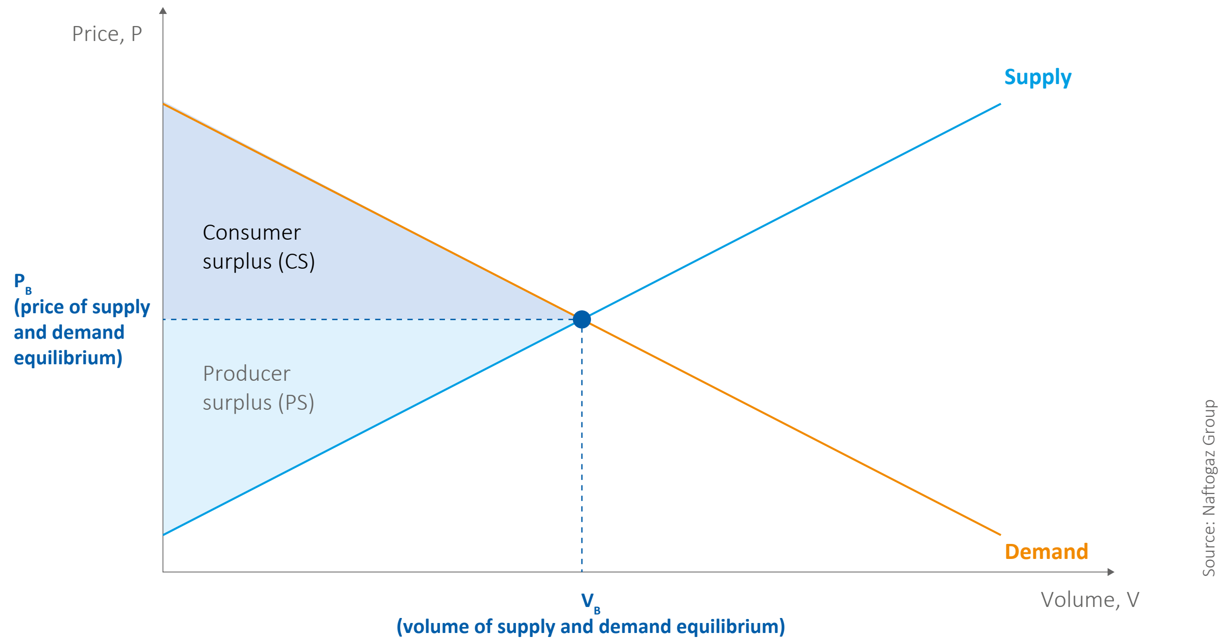
It is important to note that the cost price of natural gas sold as described above does not take into account the economic costs of raising capital to make investments that ensure the production of this gas. After all, until the moment when the natural gas molecule can be lifted to the surface and sold for consumption needs, the producer company must invest in the exploration and development of the field in the form of geological seismic work, exploration and production drilling and construction of land Infrastructure. At the same time, the company incurs costs associated with geological risks, when the implemented geological exploration activities do not confirm the expected potential of prospective exploration targets. The financial resources raised have their own cost (cost of capital), which is a significant component of the costs of the full field development cycle.

The right way to determine the fair price of natural gas

In market economies, the price is determined by establishing an equilibrium between supply and demand. For supply, price usually corresponds to the cost of the maximum supply volume (in the Ukrainian gas market before the war, this price was the price of import parity). At market equilibrium, demand is at the level of supply and, in the conditions of carrying out operations for the purchase and sale of goods at the market price, those consumers who were ready to purchase goods at a higher price receive a certain benefit which is called consumer surplus (CS) in economics. Accordingly, those producers of goods who had a lower cost price and were willing to sell it at a lower price also receive a certain benefit which is called producer surplus (PS) in economics. The volume of such surpluses is determined by the relative position of the supply and demand curves in relation to each other, which, in turn, is determined by the elasticity (i.e., the rate of change) of supply and demand in relation to price. 6

If the regulated marginal selling price of a product is set below the equilibrium price, a situation occurs when the supply volume of the product decreases, because not all producers are ready to sell the product at a new (lower) price. As a result, the total producer surplus in

6 Market price as the price of supply and demand equilibrium



the economy decreases because producers not only sell fewer products but also sell at a lower price. At the same time, although consumers are buying fewer products, they are receiving them at a lower price than at market equilibrium. Consequently, the surplus is transferred from the producer to the consumer (in this case, the benefit is received by consumers who were willing to pay a higher price). However, setting a regulated price distorts the market and leads to an overall result that is worse than the state of market equilibrium, because setting a low price discourages production by those producers who would be willing to sell, and consumption by those consumers who would be willing to buy at a higher price. This lost volume and, as a result, lost value for all market participants is called deadweight loss (DWL).

If, together with setting a regulated price that is less than the market equilibrium price, the state sets the task of ensuring the corresponding demand that arises at such a price, producers (or suppliers) provide demand that exceeds the equilibrium price, bearing the cost of producing or purchasing products that are higher than the selling price. In such a situation, the benefit (CS) received by the consumer is significantly increased at the expense of the producers (or suppliers) or the state if the state compensates for costs. In this case, not only does a transfer of almost all of the producer surplus (PS) to the consumer occur, but the producer also has to incur direct losses to ensure the necessary supply volume to cover demand. At the same time, part of these losses is used to provide additional subsidies to consumers, and part is deadweight loss (DWL) to create a more valuable product offer. While the consumer benefits significantly from hidden subsidies that are provided through price regulation, this value is created in a financially unsustainable way. 7

On the Ukrainian natural gas market, ensuring demand under regulated prices has historically been achieved by assigning public service obligations to supply natural gas to a significant part of the country's consumers to Naftogaz. At the same time, according to the Law of Ukraine "On the Natural Gas Market", a supplier who is assigned the public service obligations has the right to receive compensation for economically justified expenses. If regulated prices are set by a mechanism other than the assignment of the public service obligations, the state may provide other options for reimbursing the costs incurred by producers (or suppliers).

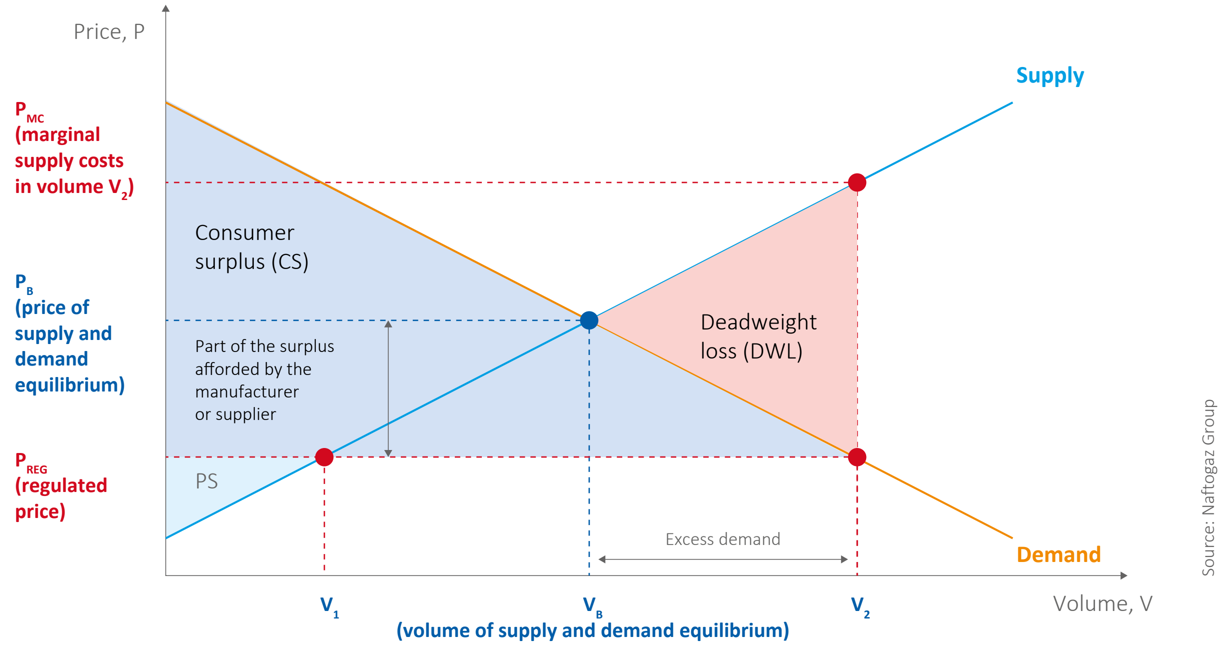
It is clear that in conditions of economic poverty, the level of which has increased further due to the war, and high gas prices, which are also a consequence of aggression and gas blackmail on the part of the Russian Federation, setting the price below equilibrium ensures the availability of energy for consumers in difficult war conditions.

At the same time, after the end of martial law and with the beginning of the recovery of the Ukrainian economy, the advantages of market mechanisms should be fully taken into account, when the price of gas corresponds to the market equilibrium price.

From an economic point of view, it should be taken into account that the equilibrium price after the end of martial law and the removal of restrictions on natural gas exports will be formed at a level not lower than the level of export parity. The market price cannot be lower than the level of export parity, because any producer or supplier will always have an alternative of exporting natural gas and selling at the European price while incurring the corresponding transport costs (which is called export parity).

At the same time, since the volume of domestic natural gas production in Ukraine was not enough to fully meet demand, the country had to import

7 Impact of setting a regulated price that is lower than the equilibrium price on consumer and producer (or supplier) surpluses and deadweight loss



natural gas from Europe at the import parity price (that is, paying the European gas price and carrying the cost of its transportation to Ukraine). Since natural gas imports performed a balancing role, balancing supply and demand, the equilibrium price before the war was the import parity price.

At the same time, it is important to take into account that this equilibrium was formed in conditions of imperfect competition. On the one hand, Gazprom abused its dominant market position by artificially blocking the gas supply on the eastern border of Ukraine, in particular by refusing to sell gas to European counterparties with gas delivery points on the Ukraine-Russia border, as well as by blocking the transit of Central Asian gas through the Russian Federation and the export of gas from producers independent of Gazprom. Without such abuses, the price of gas physically coming from the territory of Russia can be expected at the level of export parity in Ukraine, since the alternative to selling this gas in Ukraine would be to export this gas to Europe. I.e., in this case, import parity would be equal to the export parity.

On the other hand, state regulation in the Ukrainian market led to the above-mentioned distortions of market incentives, which resulted in economically inefficient gas consumption and unrealized potential for natural gas production and biomethane production. Without such distortions, Ukraine can be expected to export rather than import gas.

If at least one of these distortions of competition is eliminated, gas imported from Europe ceases to be a balancing resource. In the first case, the alternative would be gas received on the Eastern border of the country at a price lower than that of Europe by the level of transportation costs. And in the second case, the equilibrium price would be set at the level of the opportunity cost of natural gas in conditions of excess. In any case, this is the price of export parity.

If the fair price is considered the price of market equilibrium under conditions of perfect competition, then such a price for Ukraine is export parity.

In conclusion, we note that market pricing will allow Naftogaz to create value for consumers in a financially sustainable way, and will allow the state to significantly improve the situation with the state budget by both fairly limiting the surplus received by those consumers who can pay the market price and, more importantly, avoiding deadweight losses associated with ensuring demand at below-market prices (inefficient consumption stimulated by the provision of hidden subsidies). At the same time, the state will be able to protect the most vulnerable categories of consumers through a system of targeted subsidies. Market prices will also encourage consumers to reduce demand which, in turn, will accelerate the achievement of self-sufficiency and gas independence of our country, the creation of export opportunities and the formation of a market price based on export parity.

4 OIL MARKET

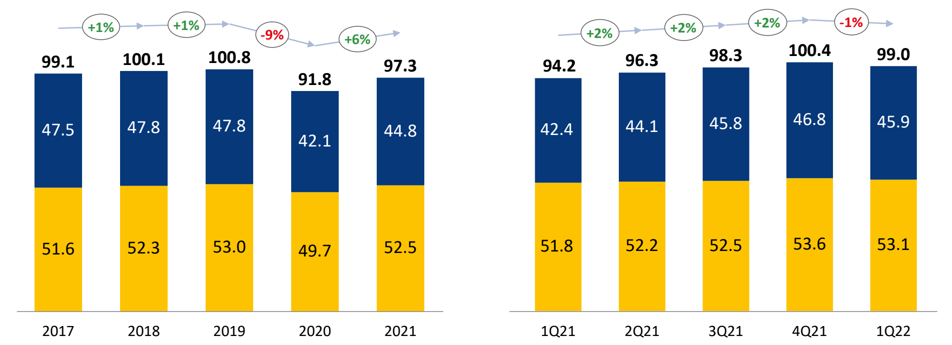
GLOBAL OIL MARKET

Demand for oil

The world economy quickly recovered after the impact of COVID-19 – the average annual oil consumption increased by 5.5 mln b/d to 97.3 mln b/d, and demand in December 2021 added 10% to January level and exceeded 100 mln b/d.

The year of 2021 was a year of recovery for the world economy after a significant decline during the previous period primarily due to the global COVID-19 pandemic. Despite the fact that the number of confirmed cases and deaths in the spring and fall of 2021 exceeded the corresponding indicators of the first year of the pandemic (due to the spread of more dangerous strains of the virus), business activity had expanded throughout the calendar year. The key factors fueling the recovery included the positive impact of vaccination programs (reducing the lethality of the disease) and the softer policy of state regulators, in particular in EU member states, regarding the introduction of quarantine restrictions. Financial aid provided by governments to the most affected industries should be also mentioned.

1 World oil consumption* in 2017-2021, mln b/d



Source: EIA

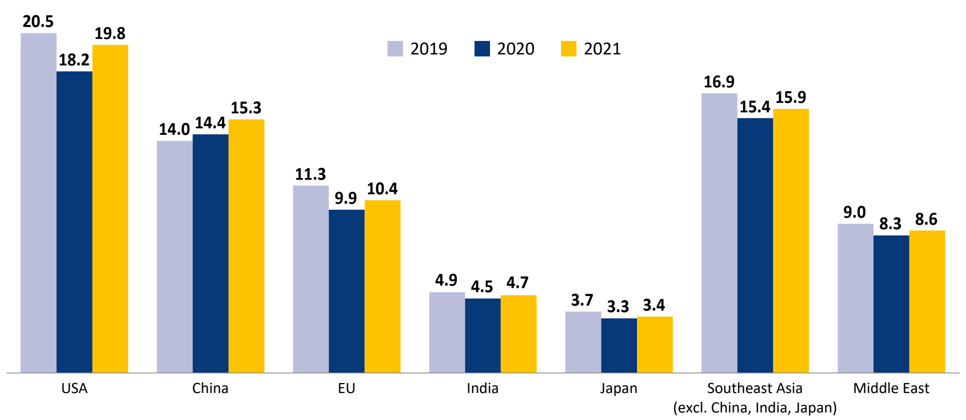
* Note: Data includes oil and gas condensate received for processing

The average level of demand in the reporting year was 97.3 mln b/d, which was 6% (5.5 mln b/d) higher than in 2020. Growth in oil consumption was demonstrated by OECD members (44.8 mln b/d, +6.3% by 2020), as well as other countries (52.5 mln b/d, +5.7% by 2020). 1

The most dynamic boost in demand was in the US, where the volume of oil consumption in 2021 reached 19.8 mln b/d, adding 8.7% to the previous year. However, in the pre-pandemic years of 2018-2019, demand for oil exceeded 20.5 mln b/d. There was a consumption decline in 2020 in many developed economies except for China, where oil demand has been growing for the past three years.

Some other countries demonstrated a significant increase in oil consumption, including the Russian Federation (+6.5% YoY) and some EU countries (+5.8% YoY). 2

2 Largest consumers of oil in 2019-2021, mln b/d

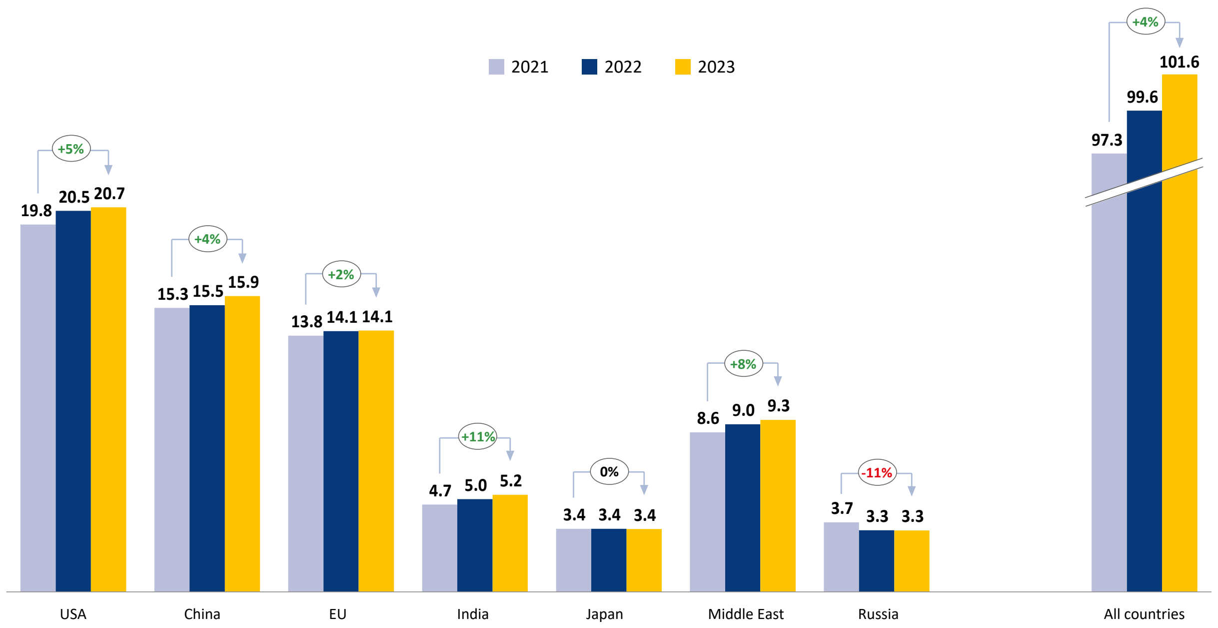


Source: EIA, bp Statistical Review of World Energy June 2022

According to the EIA, in Q1 2021 world oil consumption amounted to 94.2 mln b/d, which is 0.9 mln b/d (-0.9%) lower than in the previous year, and 5.6 mln b/d (-5.7 %) lower than in Q1 2019 (pre-pandemic year). The key factors driving low demand were the emergence of new strains of coronavirus and the resumption of quarantine restrictions (lockdowns) in most developed economies. However, it is worth noting that in Q1 2021, demand grew by 2% MoM (from 92.7 mln b/d in January to 95.9 in March). In the following two months, demand fluctuated at 95.5 mln b/d without growth, which can be explained by the negative impact of lockdowns in most of the major economies and the outbreak of COVID-19 in India during the spring of 2021. From June, the world average monthly consumption for oil steadily exceeded 98 mln b/d amid the lifting of quarantine restrictions and a significant revival of business activity. In the second half of 2021, the biggest threat to global demand was the potential introduction of strict quarantine limitations due to the spread of the Delta and Omicron strains; however, government measures were not large scale and had little impact on demand. In November and December, global oil consumption exceeded 100 mln b/d.

At the beginning of 2022, the dynamics of oil consumption gave grounds for optimistic forecasts. In January, the volume of demand fell to 97.5 mln b/d, but the following month it increased to 101.6 mln b/d. The indicators of the following periods and further forecasts are significantly affected by the Russian military invasion of Ukraine. First of all, a drop in oil consumption in the Russian Federation itself is expected by an average of 9% in Q2-Q4 2022, which is a consequence of the collapse of the economy due to the imposition of sanctions by the developed world (in April 2022, the IMF estimated the fall in GDP of the Russian Federation in 2022 as -8.5%). In the second half of 2022, demand in Europe is also expected to fall by 2-4% YoY (introduced embargo due to abandonment of Russian oil with its incomplete replacement, and development of a recession). The atypically low dynamics of China (-1% YoY in Q1-Q2 2022 with recovery in the second half of the year) is an additional key factor, which is superimposed on the outbreak of COVID at the beginning of spring 2022 and the introduction of the corresponding logistics restrictions. 3

3 Forecast demand for oil in 2022-2023, mln b/d



Source: EIA

Despite the factors of high economic uncertainty (the majority of analysts predict a full-scale economic crisis at the end of 2022), the latest estimates made by the EIA, IEA and OPEC predict the average annual level of oil consumption in 2023 at the level of 101 mln b/d (+4% to 2021). It is worth noting that, according to OPEC analysts, the greatest potential for demand growth in 2022 is in India (+11%), the Middle East (+8%) and the "Asian tigers" (+5%). It is clear now that in the group of key risks for the forecasted demand, the epidemiological factor is not a priority amid the growing geopolitical threats (Russia's attack on Ukraine with the danger of transforming into a global conflict, the risk of clashes around the island of Taiwan and in the Middle East).

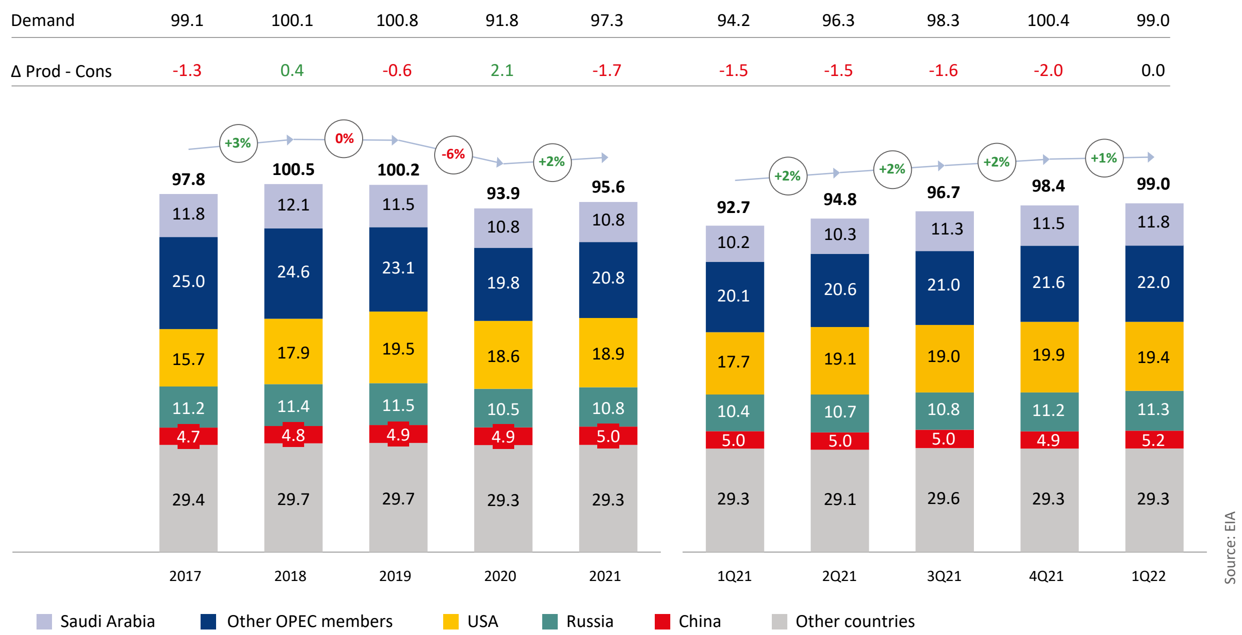
Global oil supply

Oil production growth lagged behind demand rise – production in December 2021 exceeded January by 5%, reaching 98.2 mln b/d, and average annual volumes increased by 2% compared to the previous year and amounted to 95.6 mln b/d.

Global oil supply increased by 1.9% (1.7 mln b/d) compared to 2020, well below the 2019 level of 100.3 mln b/d. A third of global production is provided by OPEC member states, the United States accounts for a fifth of the global oil supply, and the Russian Federation – 11% of the total (unchanged). Saudi Arabia, the most powerful member of OPEC, is still the third largest oil producer in the world; in 2021, the average annual output of crude oil and other liquids in the country was the same as in 2020 at the level of 10.8 mln b/d.

At the beginning of 2021, OPEC continued to adhere to its policy of restraining its own production in order to support oil quotations while demand was weak. In addition, Saudi Arabia announced plans to cut its domestic extraction by 1 mln b/d in Q1 2021. In April, OPEC+ member countries agreed to extend restrictions on their production quotas. In Q1 and Q2 2021, total supply from OPEC member countries was 30.3 and 30.9 mln b/d, respectively. Taking into account the recovery of demand at the beginning of summer, the OPEC+ meeting on July 18, 2021 decided to gradually expand output by 0.4 mln b/d every month. In Q4 2021, OPEC daily output was already 33.1 mln b/d, exceeding the same figure for Q1 by 9%. In general, OPEC increased its average annual production by 3.2% compared to 2020 (31.7 mln b/d vs. 30.7 mln b/d), but it did not reach the supply levels of 2017-2019. 4

4 Oil production* in 2017-2021, mln b/d



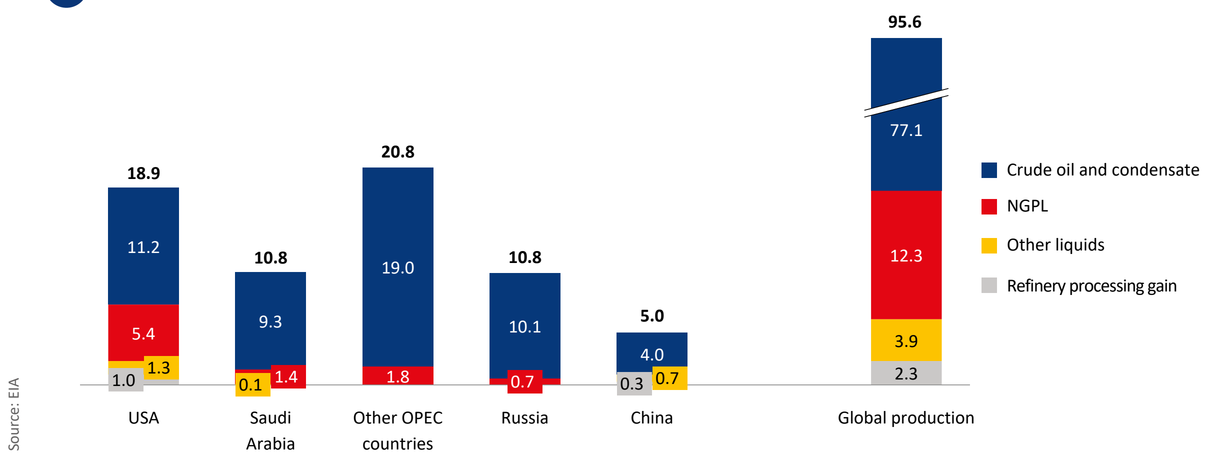
The production of hydrocarbons in the US in 2021 amounted to 18.9 mln b/d (+1.6% to the level of 2020, -3% to the level of 2019), of which crude oil – 11.2 mln b/d (-1% compared to 2020, -9% compared to 2019). The market environment was favorable for American producers and stimulated the increase of active rigs during the year by almost twofold – from 275 to 549. At the same time, the actual number of operating rigs was limited in February (abnormal weather in the state of Texas) and in August-September (due to Hurricane Ida 79% of platforms in the Gulf of Mexico were temporarily shut down). 5

Despite the relatively stable level of production of liquid hydrocarbons (the second highest record in history after 2019), the US had to deplete the Strategic Petroleum Reserve in the reporting period and in 2022. In November 2021, amid rising oil prices, there was an announcement saying that 50 mln barrels would be released after unsuccessful negotiations with OPEC to increase supply by its members. On March 1, 2022, US President Joe Biden's plans to allow the release of another 30 mln barrels because of the energy risks associated with the Russian military invasion of Ukraine were announced.

According to EIA estimates, the average annual production of liquid hydrocarbons by the Russian Federation increased by 3% in 2021 compared to the previous period, to 10.8 mln b/d. Output grew at an increasing pace throughout the year, from 10.4 mln b/d in January to 11.18 mln b/d in December. Meanwhile, according to OPEC estimates, crude oil extraction accounts for 89% of the total output of the Russian Federation. As per available forecasts, in 2022 oil production in Russia may fall from 11.3 mln b/d in February to 10.1-10.3 mln b/d in December.

* It should be added that the given level of production includes not only crude oil, but also gas condensate and other liquid hydrocarbon resources. Actual production of crude oil in 2021 amounted to 77.1 mln barrels per day, which made 81% of the total production of the above raw materials. In figure 5 you wil find data on the main producers.

5 Liquid hydrocarbons production in 2021, mln b/d



The military aggression of the Russian Federation against Ukraine, which began on February 24, 2022, is definitely the greatest risk for the oil supply on the global market. In order to influence the occupying country, the USA and Great Britain decided in early March to implement the ban of imports of Russian oil. During the spring, similar restrictions on Russian oil were imposed by individual oil refining corporations (Total, Equinor, others). On May 31, 2022, the EU adopted the 6th package of sanctions against Russia, which provides for a ban on the imports of crude oil from the Russian Federation with a transition period of 6 months for existing contracts and spot deals to allow global markets to adjust. After a transition period of 8 months for existing contracts and spot deals, the EU will also prohibit imports of refined petroleum products from Russia. Currently, pipeline imports remain permitted due to the high dependence on Russian hydrocarbons of certain EU members, in particular Hungary, Slovakia and the Czech Republic. After the 8 months transition period, EU member states that import Russian oil and oil products via pipeline will not be able to resell these products to other member states or third countries. In the first half of 2022, several EU countries increased oil imports from Russia; India, Turkey and China are actively buying Russian oil amid falling prices for Urals (a discount of more than USD 30 per barrel, historically the spread did not exceed USD 5 per barrel). In order to stabilize the market, the possibility of lifting restrictions on oil supplies from Iran and Venezuela, whose combined average annual production in the reporting period was approximately 3 mln b/d, is being considered.

A relatively low volume of investments in oil production may become an obstacle on the way to expanding production. According to the Rystad Energy analytical agency, total investments in oil production projects amounted to USD 287 bn in 2021, exceeding the indicators of 2020, but significantly lagging behind the expenditures in the pre-pandemic period. According to experts, similar dynamics will be maintained in the next three years.

According to EIA and OPEC estimates, global production of liquid hydrocarbons in 2022 will grow by 4.7%, reaching 100 mln b/d. Therefore, supply will exceed aggregate demand. OPEC is expected to meet average output of 34.3 mln b/d which means production growth by 9%. However, it is worth noting that in order to ensure the corresponding growth of OPEC+, idle extraction capacities will have to be significantly reduced (usually they act as a buffer in case of shock deliveries) to 4.5 mln b/d, which may lead to an increase in prices due to growing risks of supply interruptions. According to the EIA forecast, the supply of US liquid hydrocarbons will increase to 20.3 mln b/d (+7%). In contrast, OPEC foresees a slight growth in American production (up to 2%). In relation to Russian output, estimates for 2022 average annual production vary between 10.6 (OPEC forecast) and 10.8 (EIA), but Russian average extraction level is expected to fall below 9.5 mln b/d in 2023. 6

Crude oil prices

In 2021, the upward trend of quotations for crude oil continued. In the reporting period, the price of Brent increased by 51% to USD 77.46 per barrel.

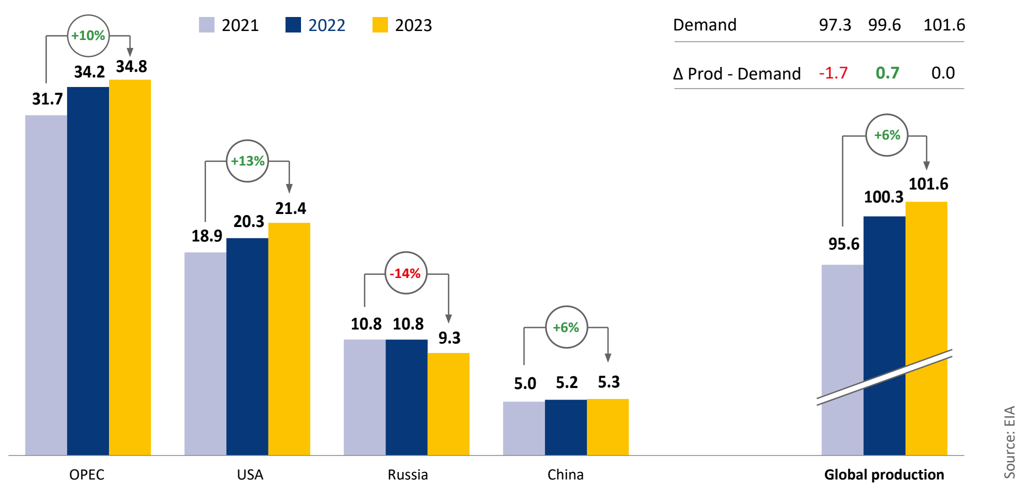
After the record drop in oil prices in April 2020 amidst the unfolding of severe shocking disruptions related to the COVID-19 pandemic, as well as the short price war between Saudi Arabia and the Russian Federation, oil quotations showed signs of stability with an upward trend. This was facilitated by both global tendencies in the fight against COVID-19, in particular the implementation of large scale vaccination programs, and the decision to limit production by OPEC+ member countries. Low prices also drove some US private producers out of the market, leaving more efficient players. Average monthly Brent quotes in December 2020 were at USD 49.5 per barrel, 21% less than the prices at the beginning of 2020.

Oil quotes maintained an upward trend throughout 2021 and at the beginning of the following period. On January 5, 2021, Saudi Arabia announced plans to voluntarily reduce its own production by 1 mln barrels per day in the next two months (later this was extended until April 2021). In addition, there was an optimistic forecast regarding the vaccination scaling up and, as a result, a faster recovery of the world economy. Weakening of the US dollar and start of US President Joe Biden's tenure, who, in particular, announced his intention to launch a program to help overcome the consequences of the COVID-19 pandemic worth of USD 1.9 tln, were also important factors supporting oil prices. The lowest Brent price was recorded on January 4 – USD 50.37 per barrel, and the highest on March 5 – USD 69.95 per barrel (since the beginning of 2021, the price has increased by 39%, since mid-November 2020 – by 70%). News about the spread of a new wave of COVID-19 and the introduction of lockdowns to contain it reduced the closing Brent quote for the period Q1 2021 to USD 64 per barrel (price growth in Q1 2021 +25%).

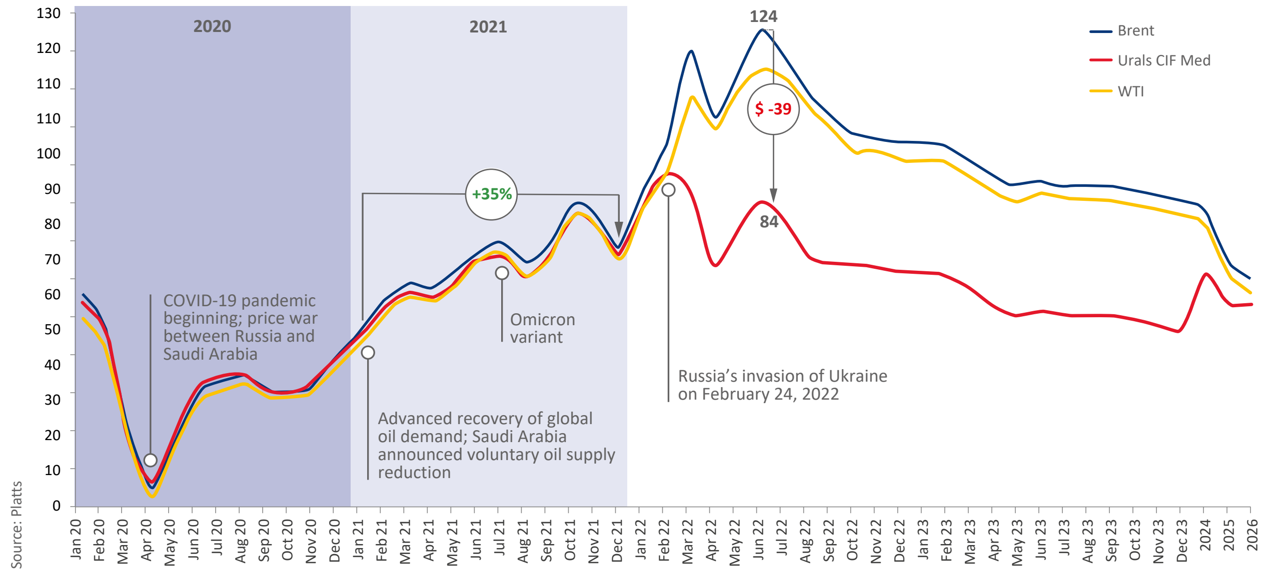
Prices continued to rise in the following quarter, mostly based on optimistic sentiments and forecasts of a rapid recovery of the world economy (in particular, demand in EU member states and developing countries was rapidly recovering). Low oil reserves in the US and favorable economic forecasts for China also fueled optimism. While on April 5, 2021 the Brent price was USD 61.43 per barrel, at the end of June it rose to USD 75.12 per barrel (22% growth).

In Q3 2021, in view of the rapid recovery of oil consumption, OPEC member countries agreed to boost their output. This step caused a decrease in oil prices from USD 73.8 per barrel on July 16 to USD 68.6 per barrel on July 20; however, the average monthly price was USD 74.39 per barrel. In August 2021, the volatility of quotes was observed due to news of the rapid spread of the Delta strain and the accompanying threat of new restrictions in China and other Asian countries, which led to a 9% decline in prices. However, at the end of the month, Brent rose to USD 71.65 per barrel (fuel demand in the US was the highest since the pandemic, the US oil reserves fell to January 2020 levels while China reported a drop in COVID-19 cases). In September, prices went up (Brent added 11%, reaching a record high of USD 78.8 per barrel since mid-2019). Despite news of the spread of the Delta strain, which created grounds for curtailing demand, prices were pushed up both by the impact of Hurricane Ida, which hit the Gulf of Mexico, and by more fundamental factors including the strengthening of the US dollar, expectations of positive results from the talks between the President of the US Joe Biden

6 Estimated oil production by key producers, mln b/d



7 Historic and forecasted prices on crude oil in 2020-2026, USD per barrel



and the leader of China Xi Jinping on the terms of mutual trade, and disagreements between the OPEC+ member countries. In October, prices continued to rise amidst the decrease in oil reserves in the United States and the refusal of OPEC+ to raise production due to uncertainty about the further spread of COVID-19. The average monthly price of oil was USD 83.9 per barrel, which was the maximum for the previous three-year period. However, at the beginning of November there was a tendency toward lower prices, mainly due to the forecast of a warm winter in the USA, the expectation of an increase in oil extraction by Iran, as well as a drop in gas quotations in the same period. The fall in prices was also supported by the further strengthening of the US dollar. At the end of November, the price of Brent was USD 71.5 per barrel, which was a loss of 15% compared to the beginning of the month. In December, the market followed the same trends. Quotes fell due to the potential threat of the spread of the new Omicron strain of COVID-19, which could lead to a curtailment of demand. In late December, prices started to go up again amid encouraging news regarding Omicron's low fatality rate, as well as the highest US annual inflation forecast since 1982. On December 23, the price exceeded USD 75 per barrel; however, the average price in December was USD 74.1 per barrel compared to USD 81.4 in November (9% drop). On December 31, 2021, Brent quotes were USD 77.6 per barrel, which is 13% higher than the prices at the beginning of the month, which gave reason to expect further growth.

At the beginning of 2022, oil prices continued to rise, from USD 78.4 per barrel to USD 86.4 per barrel in mid-January and to USD 91 per barrel at the end of the month (+16% to the opening numbers of the year, the highest value since 2014). While at first the key factors were the reduction of the USA reserves, long cold winter in North America and Europe, as well as the protests in Kazakhstan on January 2-11, 2022, later the aggressive rhetoric of the Russian Federation in relation to Ukraine came to the forefront, which was reinforced by the concentration of troops along the borders with Ukraine. On February 23, 2022, the Brent price exceeded USD 100 per barrel. Since the beginning of the Russian military invasion of Ukraine on February 24, 2022, the price of oil has grown at a galloping pace, reaching a record since 2008 – USD 139.1 per barrel of Brent on March 8, 2022. However, by March 15, the price of Brent had fallen by 28% from its peak to USD 99.9 per barrel. This was due to traders' optimistic sentiment about a ceasefire in the near future and the resumption of Russian supplies, as well as a rise in the number of COVID-19 cases in China.

The gap between Brent/WTI/Azeri and Urals prices also widened since the beginning of March, as the developed countries began to abandon the consumption of hydrocarbons of the aggressor country. In particular, oil deliveries from the Russian Federation to Europe by sea were blocked de jure (de facto, the issues of origin control and the possibility of mixing oil from the Russian Federation are still relevant). Asian countries, especially India, Turkey, and the People's Republic of China actively benefit from discounts on Russian oil. In June 2022, the President of Kazakhstan, Kassym-Jomart Tokayev announced his readiness to increase oil exports to Europe through the Trans-Caspian route (bypassing the Russian Federation). Most analysts expect a curtailment of business activity due to the prolongation of the military conflict in Ukraine, which will restrain the demand for oil and, accordingly, will contribute to lower prices.

In the long term, it is forecasted that the discount between Urals CIF Med and Brent will not return to its usual level of USD 3-5 per barrel before 2024. 7

European oil refining in 2021 and early 2022

At the beginning of 2021, refining margins in Europe were improving, even despite rising raw material prices and epidemiological restrictions in some countries. This improvement was caused by the export of gasoline to West Africa, which substantially reduced product stocks. In addition, significant scaling up of vaccination efforts provided grounds for trader optimism. In February, the situation worsened somewhat, as the dynamics of reducing fuel stocks suspended and refinery utilization increased by 2%. Despite the maintenance of a significant export flow to African countries and the US, quarantine restrictions in some EU countries (Germany, Italy, the Netherlands, Finland and others) reduced demand for basic oil refining products. In March, a slight growth in demand and improved exports led to a growth in the profitability of processing by 44% compared to the previous month. The blockade of the Suez Canal by the Evergreen vessel, which happened at the end of Q1 2021, on the one hand contributed to an increase in the prices of raw materials, and on the other hand created the preconditions for growth in the price of diesel fuel due to the increase in demand for road deliveries. However, these fluctuations did not have a long-term effect.

In April, the profitability of oil refining doubled, reaching USD 2.72 per barrel. But as soon as the following month, it fell by 21% amid increased utilization of European refineries and unstable demand due to maintenance of a number of restrictions related to COVID-19. At the end of Q2 2021, when the refining level increased to 9.4 mln b/d, the margin fell to USD 1 per barrel. Output grew in the context of cancellation of lockdowns and lifting of most quarantine restrictions, a significant expansion of the air transportation market, and the return of a number of refineries to operation from planned turnarounds.

Since Q3 2021, there has been both an increase in the volume of oil refining and a rise in the profitability of the production of petroleum products. This can be explained by the sharp increase in demand for all types of fuel, from fuel oil to jet kerosene, amid a significant economic recovery from the effects of severe lockdowns. Substantial volumes of exports to the US and African countries, as well as reduced supplies from the Russian Federation and declined European reserves in August (partly due to devastating floods in Germany) led to a 143% increase in the average monthly processing margin compared to July 2021 levels. In September, several European refineries reduced production due to turnarounds, which caused profitability to rise to USD 4.50 per barrel. At the same time, the margin of European refineries has been under pressure from rising natural gas prices, which have pushed up technological costs.

In October, the profitability of oil processing in Europe increased by 32% to USD 5.9 per barrel – the highest value since October 2019. This happened amid heightened product consumption due to the recovery of the European economy, the growth of air transportation, and suspended operations of a number of refineries because of turnarounds. High gas prices in Europe continued to drive up average production costs. In November, demand for petroleum products, especially transportation fuel, fell due to the introduction of new lockdowns to combat the COVID-19 Delta strain and negative expectations with regard to the Omicron strain. In addition, refinery utilization increased by 2 percent due to the fact that some capacities ended the repair phase, which led to a 12% drop in refining margins. At the end of the year, capacity utilization was 83% (9.77 mln bpd), but stronger demand (along with reduced reserves and increased exports) for fuel before the holidays kept refining margins at USD 5.24 per barrel.

At the beginning of 2022, the refining margins decreased by 23% compared to the previous month due to high prices for oil and natural gas, on which more than 80% of oil refining capacity in Europe directly depends. Oil refinery utilization fell below 80% in January and reached 81% only in May. The turning point for the profitability of processing was the invasion of the Russian Federation of Ukraine. Concerns about blocking the import of Russian products, primarily diesel fuel, and, as a result, shortages in Europe led to an increase in the price of almost all types of motor fuels. Thus, even despite the rise in the Brent price, the refining margin in Europe has almost tripled, reaching USD 15 per barrel. In Q2 2022, the processing margin crossed the level of USD 25 per barrel of refined oil. In May, supplies of petroleum products from the Russian Federation to Europe fell by 230,000 b/d, which, together with the increase in gasoline exports from the EU, creates the grounds for further growth in the profitability of oil processing and the utilization of refineries. In the context of forecasts for the future period, the unfolding of negative effects of crisis conditions, in particular high inflation in developed countries, may lead to a drop in business activity and demand for fuel in the EU, the US (where gas station prices have already exceeded 2008 levels) and in other countries. 8

The aggregate demand for fuel in Europe in 2021 increased in comparison to the crisis 2020, primarily in the segments of aviation fuel and gasoline, which is directly related to the lifting of Coronavirus restrictions in EU countries (according to Eurostat data for 2020, even in the conditions of lockdowns and reduction of logistics activity, the transport sector accounted for 60% of the total demand of petroleum products in the EU, in particular, 47.6% was consumed by motor vehicles). As per the latest Fuels Europe report, in 2021 the demand for petroleum products in Europe amounted to 512.5 mln tons. 9

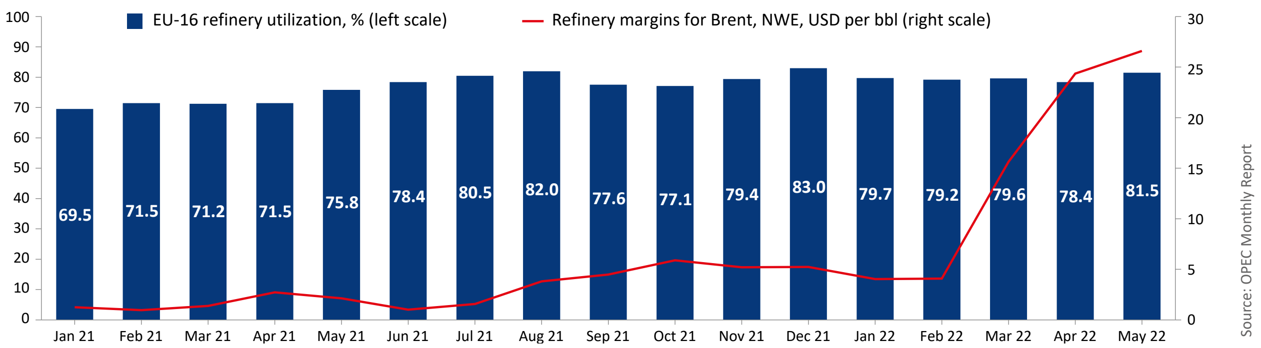
According to the IEA forecast, despite the pressure on fuel demand from the side of high prices and the curtailment of business activity, in 2022 the consumption of petroleum products in the developed countries of Europe will increase by 435 thousand barrels per day, primarily on the wave of recovery in demand for aviation gas. Demand for gasoline and diesel will be characterized by lower rates of expansion. It is expected that high gas prices will provoke an increase in the share of liquid petroleum products in heating (according to the IEA, the demand for fuel oil, gas oil and other fuel substitutes for gas in Europe has grown by approximately 300,000 b/d). In the longer term, Europe is expected to follow the trend of reducing consumption of diesel and gasoline for vehicles in favor of ecological substitutes.

Based on Eurostat preliminary data for 2021, the production of oil products in the EU increased by 3%, almost equaling the demand – 512 mln tons. The structure of output over the past five years remained unchanged – the largest share is occupied by diesel fuel. Since the majority of motor vehicles, in particular in municipal and cargo transportation sectors, run on diesel fuel, Europe is highly dependent on imports, especially from Russia. The second place is held by gasoline, which European countries widely export to the markets of the USA, African countries and South Asia. Aviation fuel is traditionally produced in small quantities at European refineries, which also creates demand for imports from the Middle East and Asian countries. 10

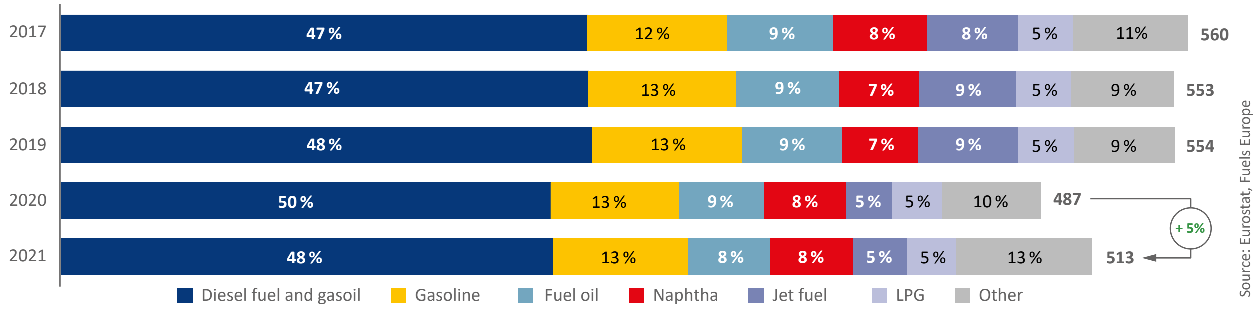
The technological lag in the field of oil processing in Europe in comparison with other regions remains the major problem – no large refinery has been built in 20 years, while about 10% of the continent's capacity has been withdrawn since 2008 (according to KPMG).

According to the Fuels Europe study, in 2021 the 75 largest European refineries accounted for the primary processing of 651 mln tons of oil (of which 580 mln tons fell to 67 plants in the EU), which is 156 mln tons (or 19%) less than the 2009 numbers. At the same time, OPEC expects that by 2045 investments in European refineries will amount to USD 120 bn (less than the CIS region, lower only in Africa), the absolute majority of which will be for upgrading the equipment of existing enterprises. According to McKinsey forecasts, in the coming years the utilization of European processing capacity will fall to 70% due to increased competition in the background of falling demand.

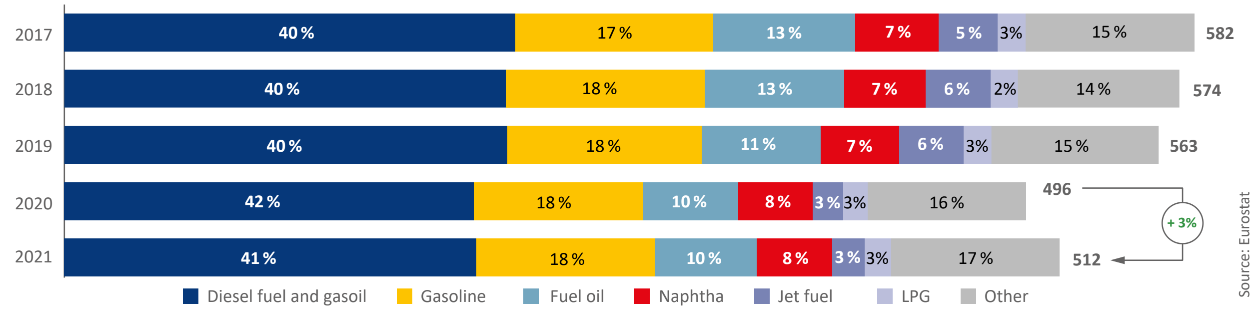
8 Refinery margins and utilization rates in Europe



9 EU-27 demand for oil products, mln t



10 Petroleum products output in the EU-27, mln t



SPOTLIGHT: RUSSIAN OIL AND PETROLEUM PRODUCTS

Despite the drop in volume of oil exports from Russia in 2021 by 3% compared to 2020, high prices led to a 52% increase in Russian Federation revenues from the sale of oil. According to the customs service of Russia, 231.5 mln tons of crude oil were sold abroad in the reporting period, resulting in USD 110 bn income (note that the GDP of Russia in 2021 was USD 1.78 tln) against USD 72 bn in 2020 and USD 122 bn in 2019.

Exports of petroleum products from Russia increased by 2% in volume in 2021, reaching 144.5 mln tons. However, this is lower than in 2017 or 2018, when exports of refined petroleum products reached 148.6 and 150.4 mln tons respectively. The increase in prices of petroleum products followed the trend of crude oil quotations, which led to a 55% surge in revenues from petroleum products exports from USD 45 bn to USD 70 bn.

Revenues from crude oil overseas sales in 2021 doubled the earnings from Russian exports of services and accounted for 22% of the proceeds from export of goods from Russia (at the level of 2020; in 2018-2019, the figure reached 29%). Petroleum products amounted to 14% of Russia's total income from goods exports.

Russia remains a raw material economy with a significant degree of dependence on energy company production and exports. At the same time, in the last two years, the share of hydrocarbons a proportion of the total revenues from commodity exports has slightly decreased.

In addition, in 2021 tax revenues from the oil and gas sector – RUB 25 tln – accounted for 35% of the budget of Russia and 7% of GDP (compared to 7.5% in 2019).

Mutual dependence of the Russian Federation and the world

According to BP's annual research, oil exports from Russia account for about 13% of global foreign oil trade. 8 The regions most dependent on Russian oil supplies include the CIS countries, where 98% of the imported oil comes from Russia, Europe (30% from Russia), and China (15% from Russia). In the US, India and Japan, Russian oil accounts for less than 5% of imports.

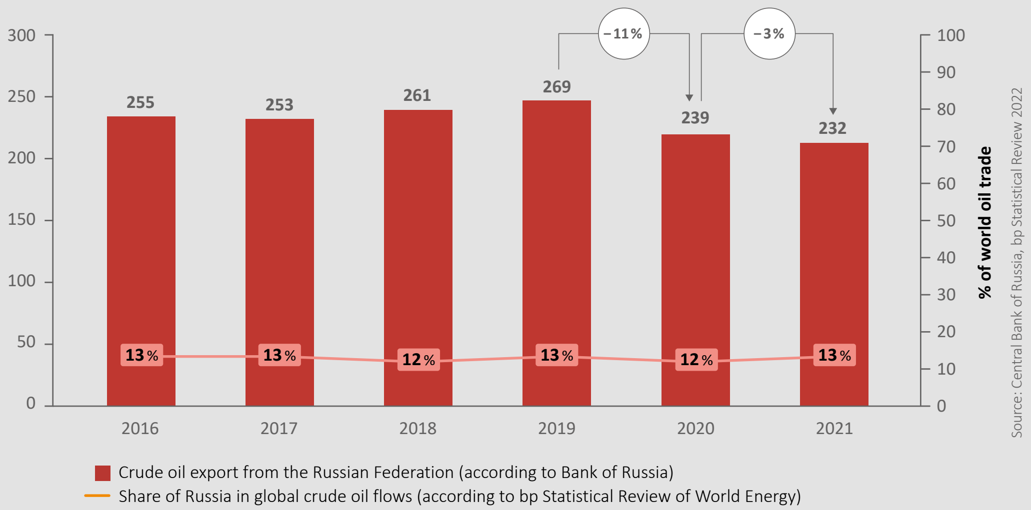
In 2021, 54% of Russian oil exports went to the European Union, while in 2017-2018 the same figure was more than 60% (according to Eurostat). Another important consumer of Russian exported crude oil is China, whose share is estimated to be between 30 and 33%. Before 2022, India and Turkey accounted for less than 3% of Russian crude oil exports. The share of American buyers was approximately the same. 9

In terms of the share of Russian oil in consumption, Europe is one of the regions directly dependent on Russian oil imports – about 30% of all crude oil supplied to Europe comes from Russia. For EU countries, this indicator is 26%, which is 5 percentage points less than in 2018. Russian oil makes up about 15% of China's crude oil imports. The share of Russian liquid hydrocarbons in the annual oil consumption of the USA and developed Asian countries is below 5%. 10

Among EU members, the Central European and Baltic states are the most dependent on Russian oil imports as they are the most cost-effective in terms of logistics. On top of that, the refineries of these countries are technologically configured to process Urals oil. The Druzhba oil pipeline is one of the main ways of delivering crude oil from Russia to the EU. Through this pipeline, crude oil is transported from the Volga-Ural Basin (in the Russian Federation) to Germany. In 2021, Russian oil accounted for 19% of total oil imports of Germany, compared to Poland (36%), the Czech Republic (50%), Slovakia (97%) and Hungary (57%). Pipeline deliveries from Russia to other markets also include 40 mln tons of oil delivered to China every year. 11

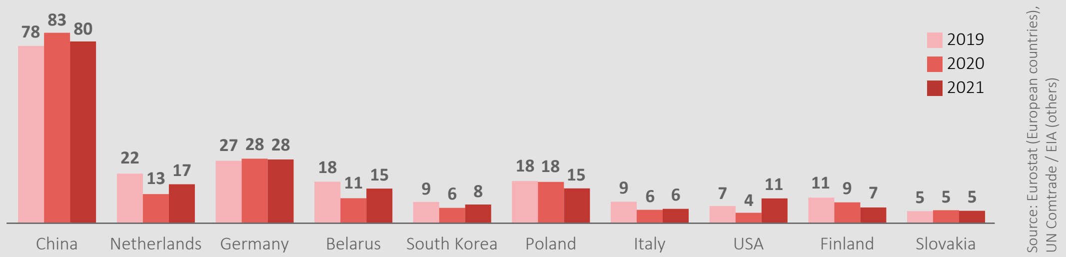
Druzhba supplies oil to the following refineries: ORLEN Plock (capacity 16.3 mln tons per year),

8 Russia: volumes of crude oil exports and share in world trade, mln tons



Source: Central Bank of Russia, bp Statistical Review 2022

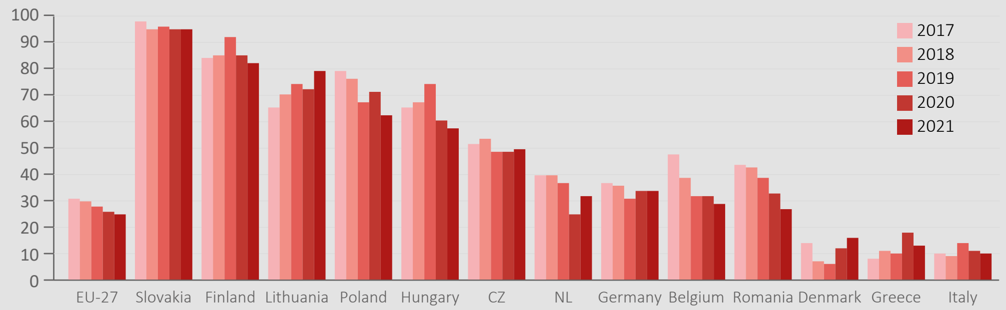
9 Top-10 largest importers of Russian oil, mln tons



Source: Eurostat (European countries), UN Comtrade / EIA (others)

Note: data differs from the statistical information of Russia customs service

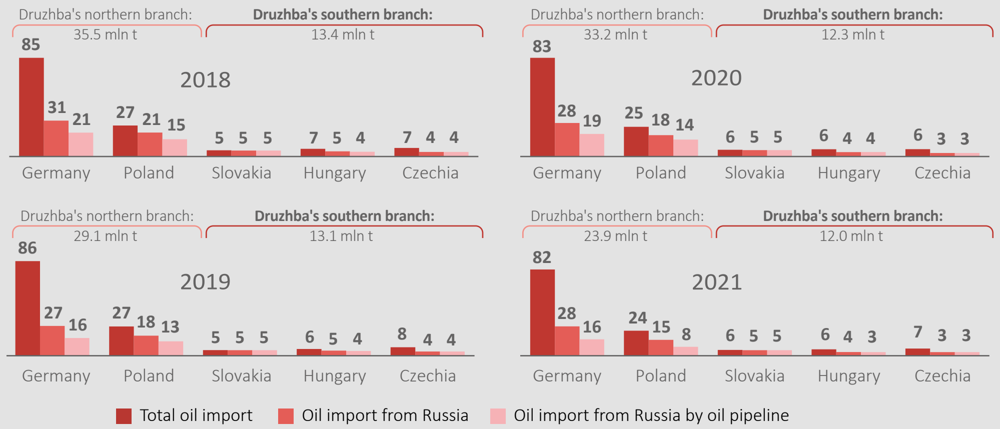
10 Share of Russian oil in EU imports, % of total oil imports



Source: Eurostat

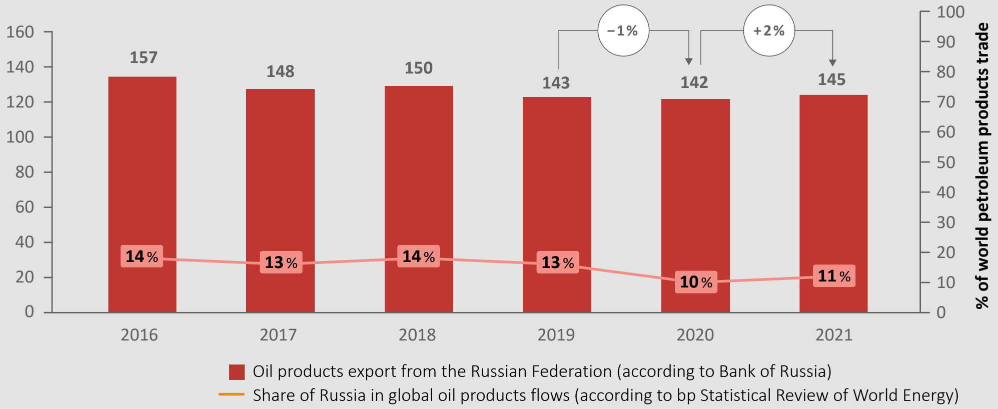
Note: Bulgaria – no data available for 20/21; Russian oil imports is > 60% (4 mln tons annually).

11 Pipeline supplies in the total import of Russian oil, mln tons



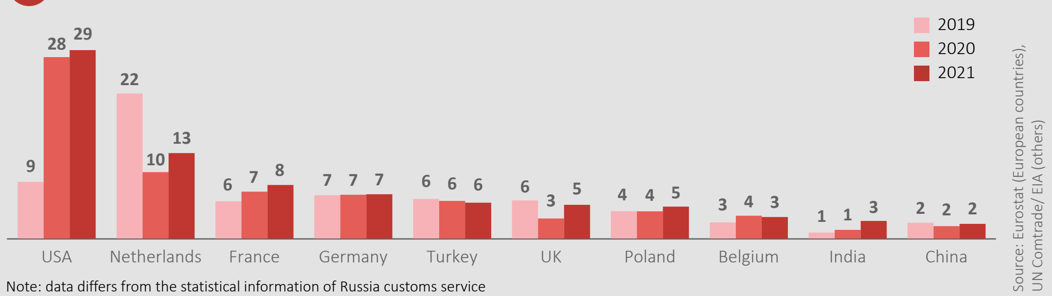
Source: Ukrtransnafta, based on Transneft (Russia) annual report

12 Petroleum products exports from Russia and share in world trade, mln tons



Source: Bank of Russia, bp Statistical Review 2022

13 Top 10 largest importers of Russian petroleum products, mln tons

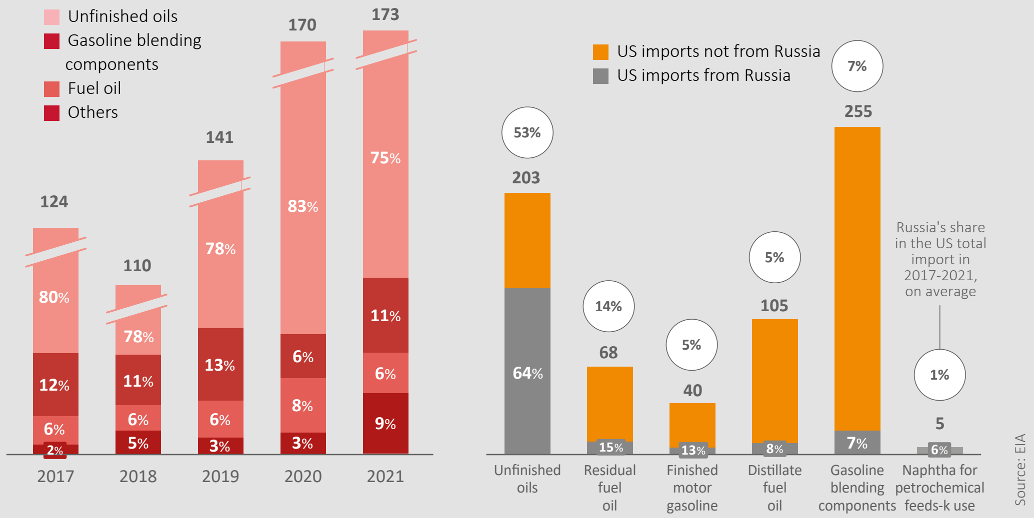


Note: data differs from the statistical information of Russia customs service

14 Overview of Russian petroleum product exports to the US

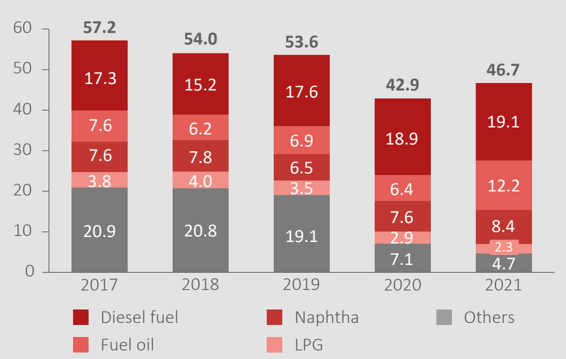
Russian oil products export to the US, mln bbls

Oil products from Russia with the largest share in the US total import in 2021, mln bbls

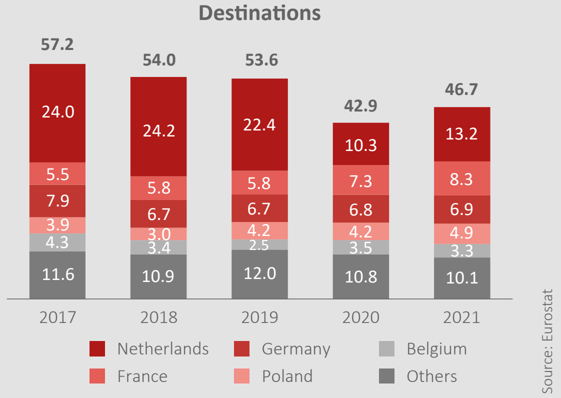


15 Overview of Russian petroleum products export to Europe, mln tons

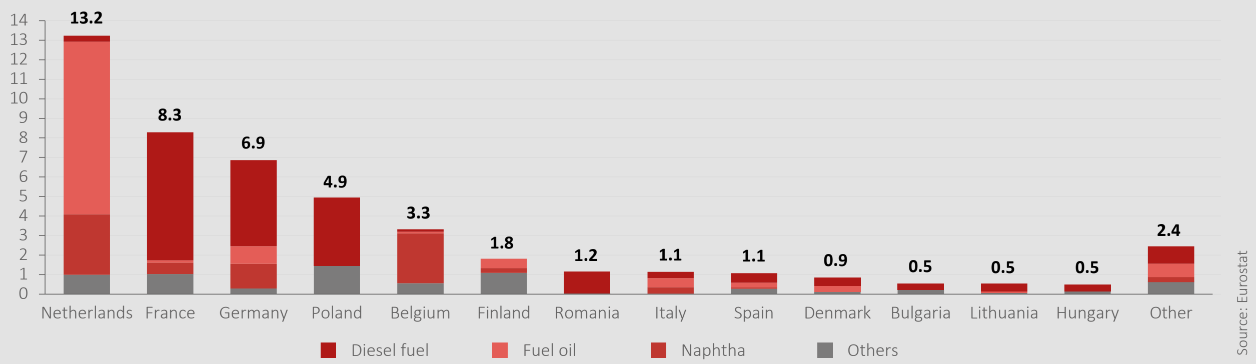
Products



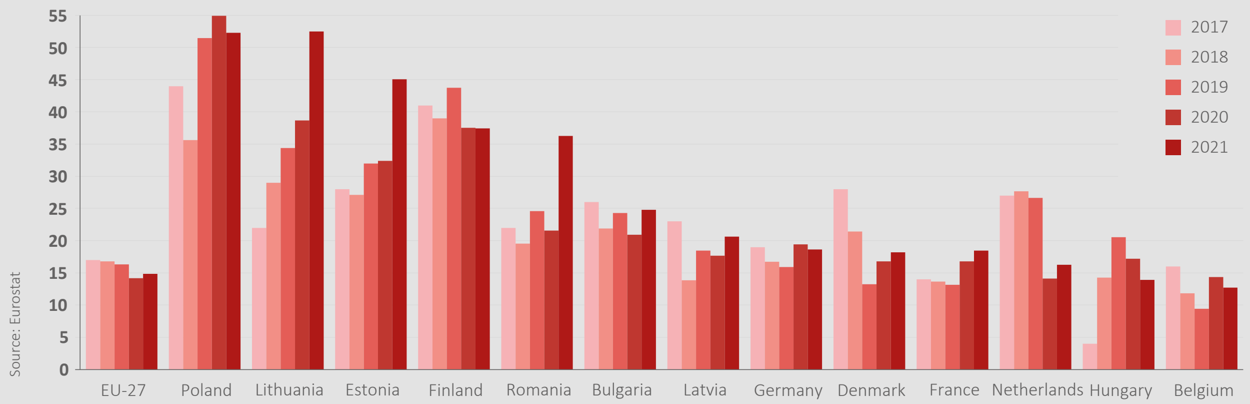
Destinations



Import of Russian oil products by EU states in 2021, mln tons



16 Share of Russian petroleum products in EU imports, % of total imports



Lotos Gdansk (10.5 mln tons) – Poland; Rosneft Schwedt (12 mln tons), TotalEnergies Leuna (12 mln tons) – Germany; Slovnaft (up to 6 mln tons) – Slovakia; ORLEN Unipetrol Kralupy (3.3 mln tons), ORLEN Unipetrol Litvinov (5.1 mln tons) – Czech Republic; MOL Danube (8.1 mln tons) – Hungary.

Germany and Poland receive oil through the northern branch of the Druzhba oil pipeline, which runs through Belarus. Oil terminals located in the cities of Gdansk (Poland) and Rostock (Germany) facilitate the diversification of oil supply sources. For landlocked states that receive Russian oil via the southern branch of the Druzhba (passing through the territory of Ukraine) – Hungary, Slovakia, the Czech Republic – currently there are no other options to fully satisfy demand (the Transalpine/Transbalkan oil pipelines, which can supply oil from Adriatic ports, are at full capacity).

In the petroleum products sector, Russia accounts for 11-14% of world trade; meanwhile, EU oil products imports are also greatly dependent on Russian supplies accounting for more than 30% (in 2018-2019 this figure reached 50%). 12

In terms of the petroleum products imported by the People's Republic of China, Russian energy carriers constitute less than 5%. At the same time, Russian supplies reach 18-20% of the total petroleum products imported to the United States. Other regions which are also dependent on Russian exports include the CIS countries (on average 70% of total imports), Middle East destinations (5% to 11% of regional imports), as well as developed Asian states (Singapore and South Korea receive up to 10% of their annual supply of petroleum products from Russia).

Consumption in Europe accounts for more than 50% of Russian exports of petroleum products, in the United States – 13% on average, and in the developed countries of Southeast Asia more than 7%. On the other hand, Russian exports to China and India are extremely small. In 2021, Russian exports to the Middle East expanded (6% of the total up from less than 3%), while the reverse trend was observed in Russian trade with CIS countries.

According to UN Comtrade, supplies to the USA are the most important in the structure of Russian petroleum product exports both in volume and value. In 2021, 29 mln tons of petroleum products with a total value of more than USD 13 bn were delivered to the country. 13

At the same time, according to EIA statistics, Russia barely exports light petroleum products to the USA. Supplies include raw materials for further processing (unfinished oils) and residual fuel oil. Nevertheless, the share of the Russian Federation in these segments of total US imports is significant. In the first 4 months of 2022, the share of Russian unfinished oils fell to 57% of total US imports, while in the residual fuel oil segment it increased to 18%. In January 2022, supplies of motor fuels from Russia accounted for 13% of American purchases of these petroleum products; in the next months, this indicator fell below 1%, according to the EIA. 14

For the US, the import of Russian oil products, despite a significant share in certain product categories, is not critical and can be replaced with domestic production or other sources of imports. It should be noted that Russia does not export products with high added value to the US.

In 2021, the EU-27 countries purchased more than 46 mln tons of Russian petroleum products (32.3% of all Russian exports) worth EUR 23 bn. Unlike the USA, EU imports are marked by a much higher share of light petroleum products, primarily diesel fuel and naphtha. 15

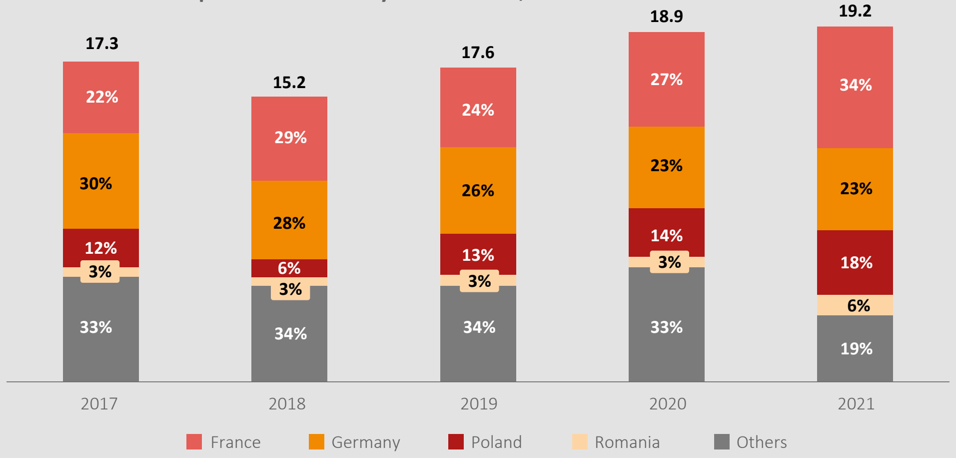
The Nordics and the Baltic States, with each separately purchasing no more than 2 mln tons of Russian petroleum products, have the largest share of supplies from Russia in the structure of their own imports. 16

Among the countries of continental Europe that are not part of the EU but have joined or are discussing joining the anti-Russian sanctions the anti-Russian sanctions, Turkey (30%), Great Britain, Georgia and Norway (18-20% each) are highly dependent on petroleum products import from Russia.

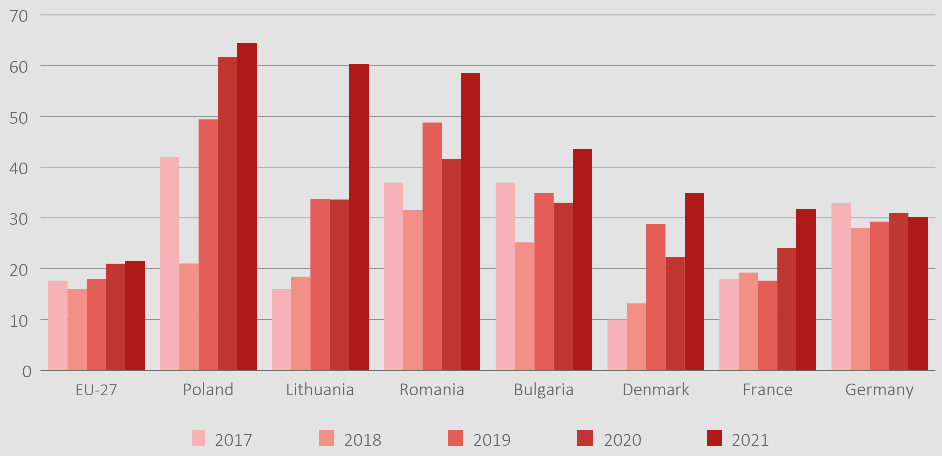
Diesel fuel is the main component of Russian petroleum product exports to European countries and the supply network is the widest, covering almost all countries of the continent. For the majority of European countries, diesel fuel accounted for more than 60% of the total petroleum products imports from Russia, and for Ireland, Croatia and Romania the figure is more than 95%. 17

17 Overview of European imports of diesel fuel from Russia

Diesel fuel import from Russia by EU countries, mln t



Russian diesel fuel share in total EU import, %



Source: Eurostat

Fuel oil replaced naptha as the second largest export from Russia to the EU as the Netherlands bought 8.8 mln tons of residual fuel oil, which is 160% more than in 2020. In these product markets, Russia has a less diversified supply network compared to sales of diesel fuel. Fuel oil import is most common where countries have access to the sea. For example, Russian exports to the Netherlands are the largest (a third of the total imports to the country), and the supply of petroleum products to Malta consists exclusively of residual fuel oil. The maritime Nordic countries and the Baltics purchase residual fuel oil mostly from Russia, but their imports are quite small (for example, in 2021, Lithuania imported residual fuel oil only from Russia, however the volume was just 90,000 tons).

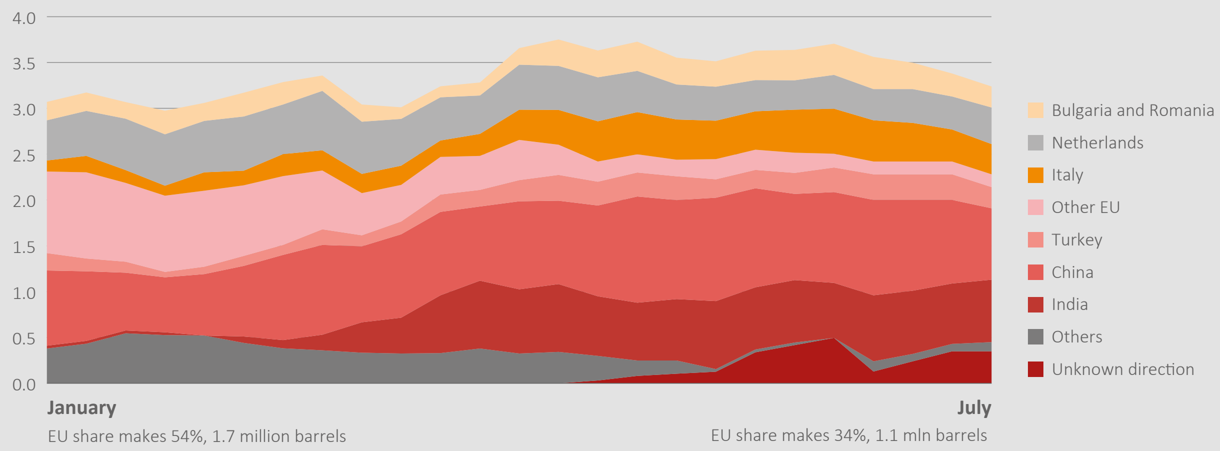
Naphtha is the third largest oil product that the EU imports from Russia. More than 80% of supplies go to the Netherlands, Belgium and Germany, however, the share of Russian products in total imports is less than a third. As with residual fuel oil, Nordic countries countries (Finland, Sweden) also tended to import Russian product, but the total volume of naphtha purchases was low.

Despite significant European dependence on fuel and petroleum products from Russia, there is potential for their replacement by supplies from other regions. The biggest problems may arise in the Baltic States and Central European countries. On the other hand, Russian exports to Europe make up more than half of the total and consist of finished products (with higher added value). This could make the potential refusal by Europe to import further Russian petroleum products quite unpleasant for the Russian Federation.

Russia's position on the oil market in 2022

At the start of the Russian invasion of Ukraine, the oil market underwent radical changes. The introduction of restrictions on Russian oil has become one of the cornerstones of international politics. As early as March 2022, the USA and Canada announced an embargo on Russian oil and gas. Some European corporations (Total, Equinor) have gradually abandoned operations with Russian energy carriers. Companies are withdrawing from investment projects and joint ventures in Russia. However, the issue of introducing an embargo on Russian oil supplies caused heated discussions among EU member states due to the significant dependence of the

18 Marine exports of Russian oil in 2022, mln b/d



Source: Bloomberg

above-mentioned Central and Eastern European countries (Hungary, Slovakia, the Czech Republic, as well as Bulgaria) on Russian oil and the inability to replace it on the domestic market in a short period of time.

Nevertheless, in the fourth package of EU sanctions adopted in March 2022 restrictions were imposed for European companies co-operating with Russian corporations Rosneft and Gazpromneft (with the exception of critical supplies).

On May 31, 2022, after long discussions, the European Commission adopted the sixth package of sanctions against Russia which, among other measures included restrictions on oil and petroleum products:

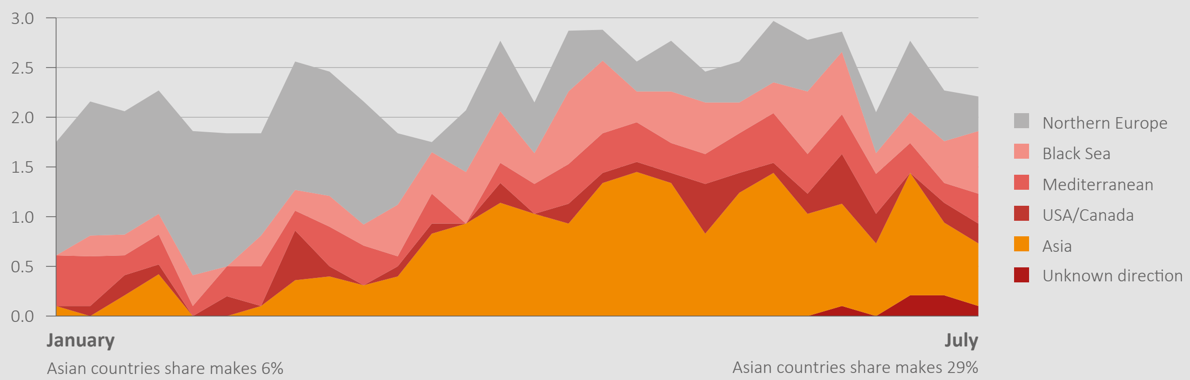
- For oil delivered by sea, spot transactions and execution of existing contracts will be allowed for six months after entry into force. The exception is Bulgaria, which is allowed to import Russian oil until the end of 2024.
- The EU members that receive Russian oil via pipelines and remain highly dependent (Hungary, Czech Republic, Slovakia) are temporarily exempted from the need to limit imports. Ukrtransnafta expects the volume of oil transit to these countries in 2022 to be 12.5 mln tons. Germany and Poland, which also receive oil from Russia via the Druzhba oil pipeline (the northern branch) agreed to voluntarily stop importing oil, despite the fact that they also fall under exclusion as the states importing large volume of Russian oil via pipeline.
- The EU will also ban petroleum product imports from Russia after a transition period of eight months for existing contracts and spot transactions. Import via pipeline is still allowed.

In addition to the direct import of oil, the sixth package of EU sanctions also addresses the issue of marine oil transportation insurance. According to the adopted measures EU operators will be prohibited from insuring and financing oil transportation by sea vessels to third countries. In order to support countries such as Greece, Cyprus, and Malta, which specialize in shipping, the package provides for a delay in the start of the sanction for six months following its adoption.

Import restrictions become effective at the end of 2022. However, statistics of sea deliveries of oil from Russia to European countries show that the countries of Northern and Western Europe have begun gradually reducing their purchases of Russian oil since the beginning of the war in Ukraine, while Mediterranean and Black Sea buyers are expanding their imports amid a significant discount on Urals, which is also related to the intervention of Russian troops in Ukraine. It is worth noting that Italy, Bulgaria and

19 Reorientation of Russian ports to oil export to Asia in 2022, mln b/d

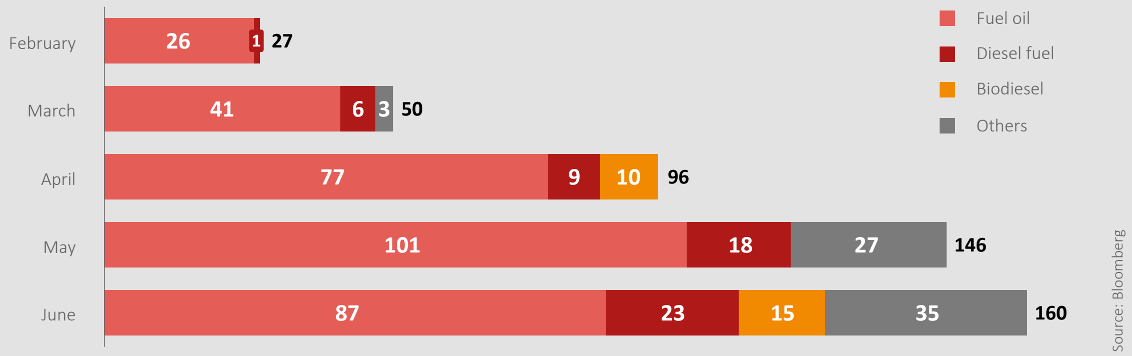
Ports of the European part of Russia*



* Ust-Luga, Primorsk, Novorosiysk, Murmansk

Source: Bloomberg

20 Expansion of petroleum products supplies from Russia to the Middle East in 2022, thousand b/d



Romania, which have all increased oil purchases from Russia, host Russian-owned refineries – ISAB (owned by Lukoil, capacity 320 thousand b/d), Neftochim Burgas (Lukoil, 196 thousand b/d), and Petrotel (Lukoil, 54 thousand b/d) respectively. In Germany, there are three refineries with more than 20% of the share capital owned by Rosneft (total capacity 768 thousand b/d), in the Netherlands – Zeeland Refinery (Lukoil, 45% of shares; capacity – 149 thousand b/d). [18]

It is also important to note that European countries are actively seeking ways to replace Russian oil, primarily on the other side of the Atlantic. Thus, according to BNN Bloomberg data, in the first five months of 2022, European countries imported more than 213 mln barrels of crude oil from the US, which is a third more than American exports to Europe during January-May 2021.

However, the reorientation of Russian exports and the increase of oil supplies to Asian markets has been much more significant than the reduction of Russian oil imports by EU countries. In the wake of a substantial drop in the price of Russian resources, India increased its crude oil imports from the Russian Federation to almost 0.8 mln b/d (5-7% of the total Russian production), deliveries to China grew by a third, and shipments to Turkey increased by at least 50%. At the same time, according to Bloomberg, not only Pacific but also Baltic and Black Sea ports are reorienting towards exports to these countries. [19]

As evidenced by data on sea deliveries of oil from the Russian Federation, the latter managed to replace the reduction in purchases by European and American counterparties with an increase of its sales to Chinese and Indian buyers. At the same time, according to analysts, the share of “wandering” ships carrying Russian oil with no destination clearly specified on departure has increased. This phenomenon has been common in recent years for exports of Iranian oil, which is also under sanctions.

Regarding petroleum product exports, Russia also manages to establish new fuel supply chains. According to Bloomberg, the expansion of exports to the countries of the Middle East is the most dynamic. From January 2022, Russian-processed product exports to the Middle East have increased every month, and product sales portfolio keeps expanding. Before the war in Ukraine Russian oil supplies to the Middle East included mostly fuel oil. [20]

According to research agency Platts, the average price of a barrel of Urals CIF Med oil was USD 77.8 in May, and USD 82 in June. Considering the fact that the federal budget of Russia for 2022 was drawn up based on a Urals oil price of USD 44.2 per barrel, even additional discounts allow Russia to maintain their budgets. On the other hand, the strengthening of the ruble exchange rate in 2022, caused primarily by the arrival of significant export revenue to the country with a parallel drop in imports, puts pressure on the Russian budget, as it reduces the revenue in rubles from taxation of the Russian oil production and exports.

According to IEA monthly data, in June 2022 Russia increased liquids production to 11.07 mln b/d (including oil – to 9.74 mln b/d). At the same time, exports decreased by 7.4 mln b/d (-3% compared to the previous month), but this was due to the growth of domestic processing. Export revenues increased by USD 700 mln up to USD 20.4 bn. Nevetheless, in the future, the IEA expects a decline in Russian production and exports due to a decrease in the level of utilization of refineries, as well as the launch of the EU embargo mechanism.

Overall, the situation with Russian oil and petroleum products exports is ambiguous. On the one hand, according to estimates by Bloomberg Economics experts, Russian revenues from the sale of oil, its refined products, and natural gas in 2022 will exceed the previous year by 20%, reaching USD 285 bn. The lack of unanimous support for the introduction of new restrictions on Russian oil, in particular in the form of price caps or secondary sanctions on buyers of Russian oil in third countries (India, China), at the G7 summit in June 2022 gives grounds for pessimistic expectations. In contrast, in the wake of high prices, production is increasing in the USA and Canada; in July 2022, Saudi Arabia raised its output to 11 mln barrels per day, and Middle Eastern supplies to Europe increased to 2.2 mln barrels per day and practically doubled since the start of 2022. The announcement made by Saudi Arabia about the possibility of additional expansion of crude oil production by 30%, up to 13 mln b/d, also gives reason to hope that the world will be able to replace Russian fuel and significantly narrow the potential of the aggressor country.

OIL REFINING & FUELS MARKET IN UKRAINE

In 2021, Ukraine produced 2.4 million tons of oil and gas condensate, maintaining 2020 levels. The figure includes condensate and oil production by Ukrgasvydobuvannya of 414 thousand tons (7.2% less than in 2020) and oil production by Ukrnafta of 1,500 thousand tons (unchanged from 2020). The contribution of private companies in oil and gas condensate production amounted to 0.5 million tons. In particular, the largest private gas producer, Naftogazvydobuvannya DTEK-Naftogaz, produced 96 thousand tons of condensate (+45%) by year end.

Processing

According to research agency Argus, the amount of raw materials processed by Ukrainian facilities (Kremenchuk Refinery and Shebelynka Refinery) increased by 245.1 thousand tons (by 7.3%) compared to 2020, amounting to 3.59 million tons, the highest level since 2012. In particular, the volume of crude oil processed at the Kremenchuk Refinery increased by 247,000 tons to 3.17 million tons, the highest processed volume since 2012. Shebelynka reduced its output by 1.9 thousand tons compared to 2020, down to 420.6 thousand tons. 1

Diesel fuel

In 2021, the diesel fuel market in Ukraine grew by more than 9% compared to 2021 and amounted to a record 8.07 million tons. Ukraine's domestic production of diesel fuel was 1.11 million tons (or 13.8% of the Ukrainian market), with imports totalling 6.96 million tons (86.2%). 2

Belarus remained the main supplier of imported resources in 2021, with an increase in volume to 2.97 million tons (an increase of 780 thousand tons compared to 2020) and mainly constituted the products of Mozyr Refinery, which were delivered to Ukraine by rail.

Imports of diesel fuel from Russia in 2021 were 20% less than in 2020 and amounted to 2.07 million tons. This was mainly due to the shutdown of the petroleum product pipeline Samara – Western Direction from mid-February 2021 and a decrease in supply from Rosneft due to the change of the supplier to Ukraine since April last year. The overall shipment of diesel fuel by Rosneft decreased to 1.05 million tons (0.7 million tons less than in 2020). Imports of Russian diesel fuel also included the oil produced by the Volgograd Refinery (0.58 mln tons), the Moscow Refinery (0.33 mln tons) and the Nizhnekamsk Refinery (0.068 mln tons).

Diesel fuel imported from Lithuania (Mažeikiai Refinery) accounted for 10% of total Ukrainian imports and reached 696.4 thousand tons, an increase of 77.1 thousand tons compared to 2020.

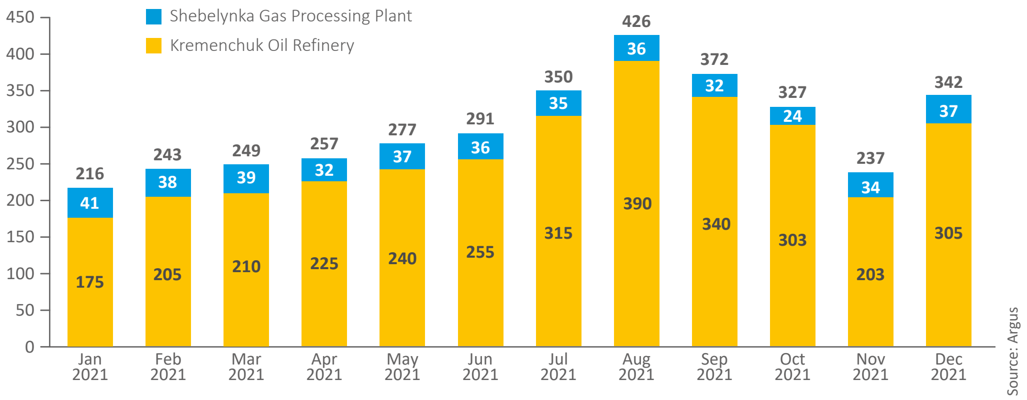
In 2021, imports of diesel fuel by sea significantly increased. Total imports that arrived at the ports of Mykolaiv, Odesa, Pivdenny, Kherson and others amounted to 1.22 million tons and consisted mainly of diesel fuel produced in Greece (26.3%), Turkey (25.2%), and India (22.8%). In 2021, diesel fuel also came from Israel, Italy, Bulgaria, Malaysia, and Spain.

Gasolines

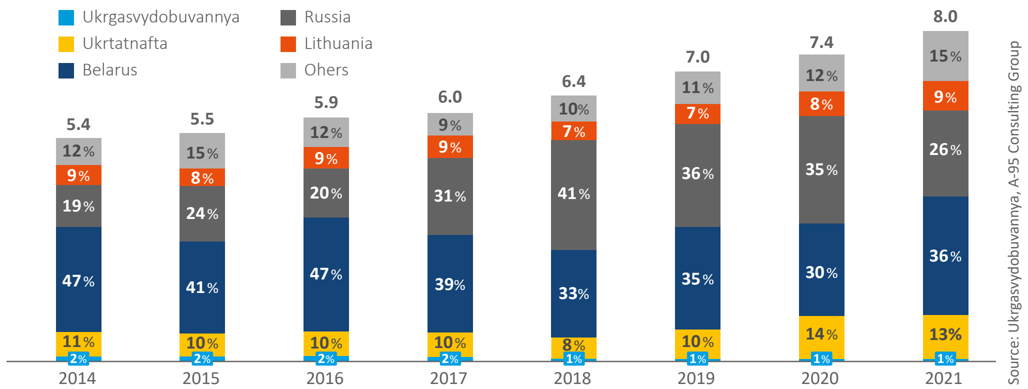
According to Argus, the Ukrainian gasoline market balance in 2021 was 2.33 million tons, which is 201 thousand tons more than the previous year (approximately 9.4%). In 2021, the imported resource was 55.4% of the total market volume – 1.29 million tons; domestic production of gasoline without mini-refineries, according to the Naftorynok analytical portal, is estimated at 1.04 million tons and is almost at the level of 2020. The lion's share of this volume was produced at the facilities of the Kremenchuk Refinery, with the owner's share in the gasoline market of about 38%. 3

In 2021, Belarus remained the main gasoline supplier to the Ukrainian market, with the volume of deliveries of 1.01 million tons. More than 90% of the total volume of Belarusian imports came from the Mozyr Refinery (924.2 thousand tons according to Argus). Belarusian resources mainly came to Ukraine by rail. More than 60% of the total volume of arrivals were A-95 gasoline (609.9 thousand tons, according to Argus), with A-92 gasoline being the second top with a total volume of 385.0 thousand tons. In 2021, Belarus also supplied A-98 and A-100 gasolines.

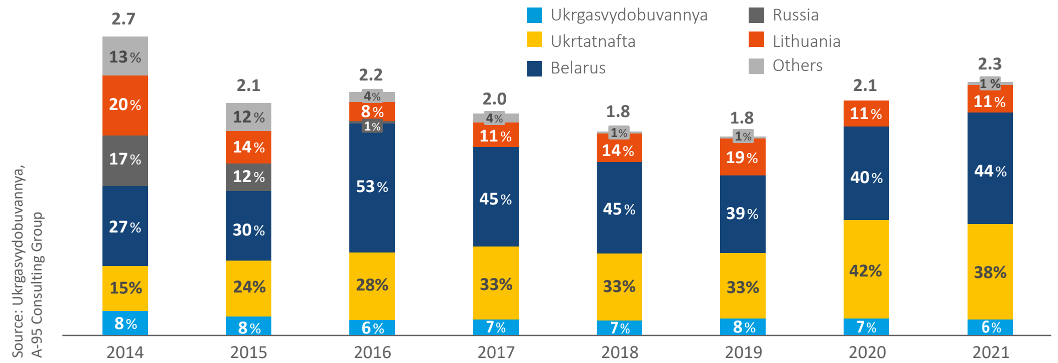
1 Monthly volumes of oil refining in Ukraine in 2021 (Ukrtatnafta and Ukrgasvydobuvannya), thousand tons



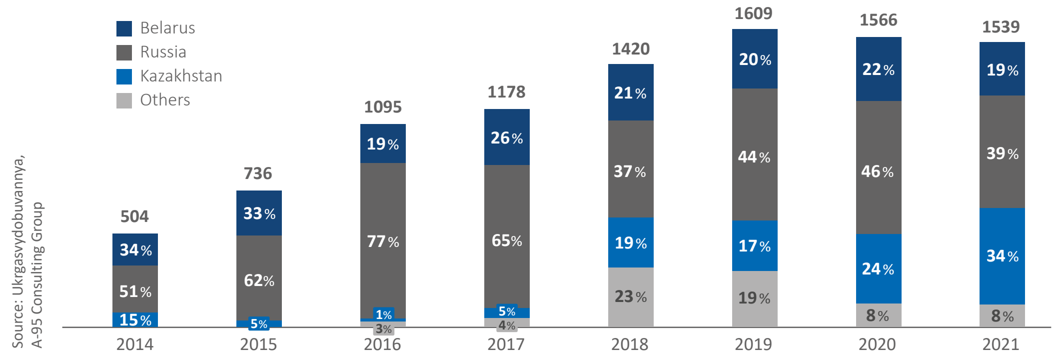
2 Structure of diesel fuel supply on the Ukrainian market in 2014-2021, mln tons



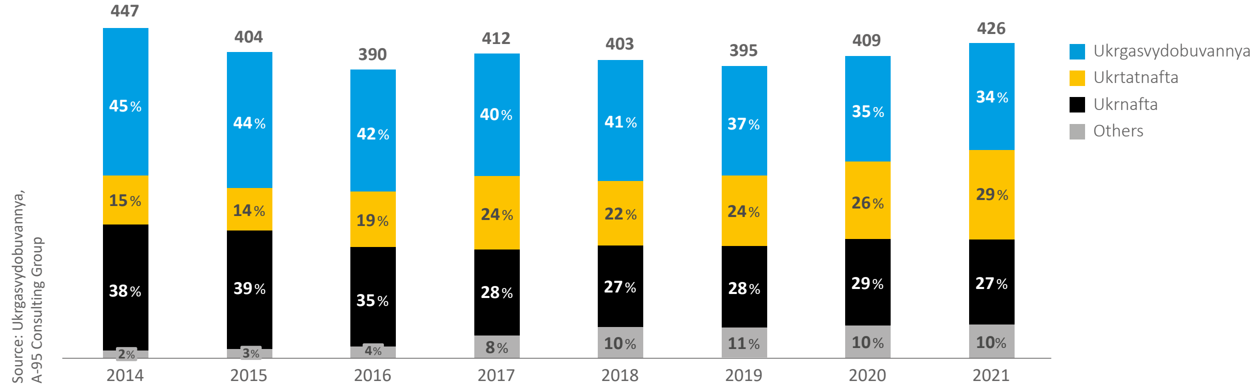
3 Structure of gasoline supply on the Ukrainian market in 2014-2021, mln tons



4 Ukrainian imports of LPG in 2014-2021, thousand tons



5 Ukrainian domestic production of LPG, thousand tons



Imports of gasoline from Lithuania (produced by Mazheikyai Refinery) increased in 2021 to 264.7 thousand tons and mainly consisted of A-95 gasoline.

In 2021, gasolines were also imported by sea, mainly from Greece and Romania.

Aviation fuel

According to the A-95 Consulting Group, the Ukrainian aviation fuel market balance at the end of 2021 had grown by 35%, to 364.8 thousand tons (2019: 269.7 thousand tons).

Kremenchuk Oil Refinery is the only producer of this type of fuel in Ukraine. In 2021, the refinery produced 204 thousand tons of aviation fuel, or 53% more than in 2020. The relevant market share of Ukrtatnafta increased from 49% to 56% in 2021.

This boost in the production of aviation fuel resulted from an increase in demand due to the recovery of the air transportation market and the growing purchases of the Ministry of Defense of Ukraine. According to the State Aviation Service, Ukrainian airports received 16.221 million passengers in 2021, which is 87.2% more than in 2020, but 33% less than in 2019. Ukrainian airlines are the main consumers of aviation gas. They performed 73.8 thousand commercial flights (an increase of 62.9%), including 59.9 thousand international flights (+69.7%).

According to the results of 2021, 161 thousand tons of aviation fuel were imported into Ukraine, which is 18% more than in 2020 (136.71 thousand tons). Aviation fuel supplies from Belarus quadrupled to 81.4 thousand tons, and from Lithuania decreased by 11% to 57.1 thousand tons. Marine supplies showed a two-fold drop to 22.5 thousand tons.

LPG

The balance of the liquefied petroleum gas market in Ukraine in 2021, as in 2020, exceeded 2 million tons, of which, according to Argus and Naftorynok sources, imports were 1.6 million tons (or 1.53 million tons excluding gas for processing).

Almost three-quarters of imported gas was delivered by rail from Russia and Kazakhstan. The Belarusian resource mainly came via truck. Imports by sea intensified in 2021, with total arrivals at Ukrainian ports of 114.7 thousand tons, 25% more than in 2020. Most of the sea imports were produced by Tengizchevroil (Kazakhstan). In 2021, for the first time, the resource was imported by sea from Great Britain (2.3 thousand tons) and Nigeria (5.05 thousand tons).

Overall, the Russian Federation remained the largest exporter of liquefied gas in 2021. The volume of liquefied gas received from Russia amounted to 652.8 thousand tons, which is 89.1 thousand tons less than the previous year. The decrease in volumes is mainly due to a change in the resource supplier (an intermediary in the Ukrainian market): in the spring of 2021, the operations of Proton Energy trader were suspended. Another reason was a series of accidents at processing and mining facilities in the Russian Federation.

Kazakhstan was the second largest supplier of LPG to the Ukrainian market in 2021 (501,000 tons). According to Naftorynok, imports of LPG from Kazakhstan increased almost eleven times over the past five years.

In 2021, the volume of LPG supplies from Belarus (mainly produced at Rechytsk Refinery and Mozyr Refinery) amounted to 256.5 thousand tons and remained at the level of 2020. 4

According to Argus, Ukrainian producers increased the volume of liquefied gas production to 438 thousand tons in 2021 (+26.6 thousand tons to the level of 2020), which is actually a record high since 2014. According to Naftorynok, production levels reached their highest in seven years in November 2021, at 42.2 thousand tons. The increase in production up to 131 thousand tons of liquefied gas (26 thousand tons more than last year) was due to the increase in capacity of Kremenchuk Oil Refinery. Ukrgasvydobuvannya, the largest LPG producer in Ukraine, maintained almost the previous year's level of production at its own processing facilities – 144.3 thousand tons. Ukrnafta produced 117.5 thousand tons of fuel. Other liquefied gas producers such as Poltava Gas and Oil Company and Regal Petroleum, according to Argus, also had positive movements in their production volumes – an increase of 1.1 thousand tons and 0.3 thousand tons respectively. Natural Resources PJSC reduced its production reduced its production by 1.6 thousand tons in the reporting period. 5

According to Argus and Naftorynok experts, 2021was marked by a drop in the LPG vehicles market segment in Ukraine and an increase in liquefied gas consumption by industrial and agricultural enterprises, which actively switched from using natural gas to liquefied gas in their production processes.

Bitumen

According to Naftorynok, in 2021 the balance of the bitumen market increased by 21.9% (or 260.4 thousand tons) compared to 2020, up to 1.45 million tons, including imports of 1.10 million tons (i.e. 76.2% of the market).

The domestic production of road bitumen amounted to about 350 thousand tons, including 320 thousand tons produced by Ukrtatnafta, and 30 thousand tons by Kirovohrad Oil Company (KNK) (partial exports to Moldova).

Belarus was the main bitumen supplier to the Ukrainian market last year, with 625 thousand tons of the resource delivered to Ukraine (+7.2% compared to 2020) or 57% of total bitumen imports. In 2021, 118 thousand tons were shipped from Poland, compared to 123 thousand tons in 2020. According to last year's results, 38 thousand tons of bitumen arrived from Lithuania, while in 2020, bitumen import volumes from this country were negligible (1 thousand tons). Supplies by sea transport more than doubled — from 128 thousand tons to 267 thousand tons. Sea imports came from countries including Greece, Italy, and Azerbaijan.

Record volumes of bitumen supplies in 2021 were due to increased funding for the Great Construction program, which has forced traders to increase supplies from non-traditional sources.

Ukrainian crude oil, gas condensate, and petroleum products market (H1 2022)

At the beginning of the intensive hostilities of February 2022, the Russian army launched systematic missile strikes on Ukraine's fuel infrastructure. As a result of these attacks, the largest oil refineries were destroyed: Kremenchuk Refinery (finished products stored at the refinery after the strike were still delivered to the Ukrainian market until April 2022) and Shebelynka Refinery (its operations were stopped due to the risks of hostilities on February 26, and on June 18 the refinery was hit by rocket fire). Plants that had already been shut down years before also were destroyed during the war: Odesa Refinery and Lysychansk Refinery (LYNIK PrJSC; currently the company is in the temporarily occupied territories). Many so-called "mini-refineries" were also destroyed due to missile attacks.

As a result, according to market experts, the volume of raw materials processing dropped dramatically, from 330,000 tons in 2021 (including imported raw materials) to 40,000 tons per month in 2022.

Naftogaz Group companies Ukrnafta and Ukrgasvydobuvannya, being the largest Ukrainian producers of liquid hydrocarbons, faced a new challenge – there was no company in Ukraine they could transfer oil and gas condensate to for processing.

In the first six months of 2022, the motor fuel market in Ukraine was completely up-ended. Imports from the aggressor country have stopped as have supplies from Belarus and Kazakhstan.

Suspension of operations of the largest Ukrainian oil/gas refineries resulted in a significant reduction in the volume of domestic production of petroleum products. More than 30 oil depots were destroyed in many regions of Ukraine, namely in Kyiv, Zhytomyr, Dnipropetrovsk, Odesa, Rivne, Chernihiv, Kharkiv, Zaporizhzhia, Lviv, Ternopil, Sumy, and Volyn regions.

Imports of petroleum products by sea have stopped due to the blockade of the ports by the aggressor country. Russian troops launched missiles on the Moldovan tanker Millennial Spirit causing a fire of more than 500 tons of diesel fuel.

However, the lack of fuel in the first months of the war significantly eased by June 2022 as a result of active co-operation of the Ukrainian government, market participants and the governments of European countries. According to preliminary data, by the end of June 2022, the volume of weekly imports of motor fuels increased to 140 thousand tons (in March, the total volume of imports was 60 thousand tons).

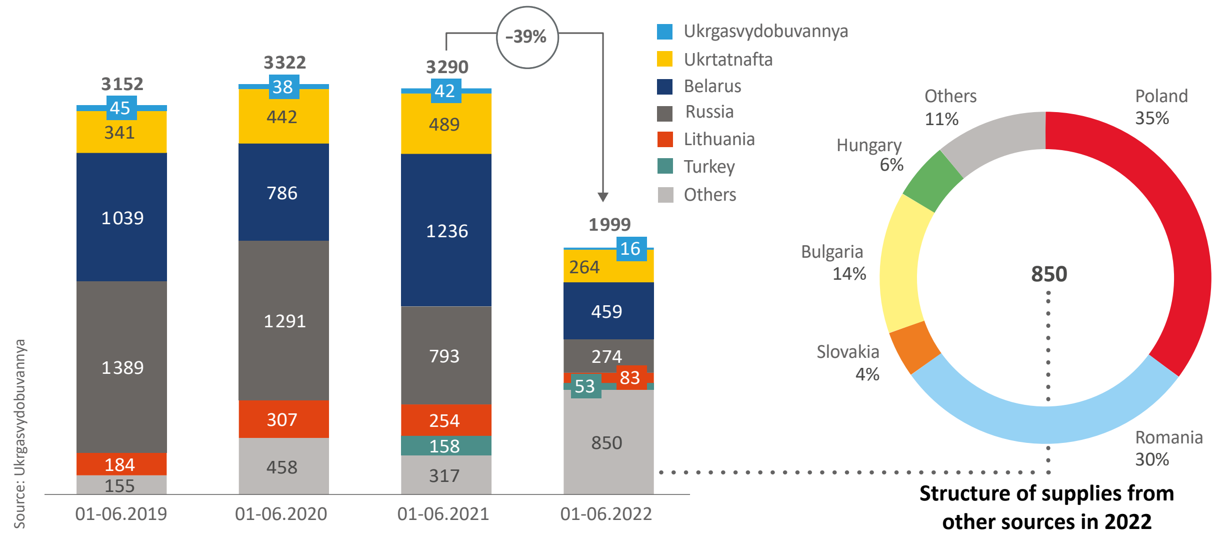
Currently, petroleum products are supplied from Poland, Romania, Moldova, Bulgaria, Hungary, Lithuania, Latvia and others. Supplier countries including Belgium and the Netherlands.

Due to the intensive hostilities, petroleum products are being delivered mostly by road transport (which had accounted for only 3% of imports in 2021) and by rail. Importers have been forced to develop new logistical supply routes and the government was obliged to develop a new mechanism for regulating the growing flow of road transport.

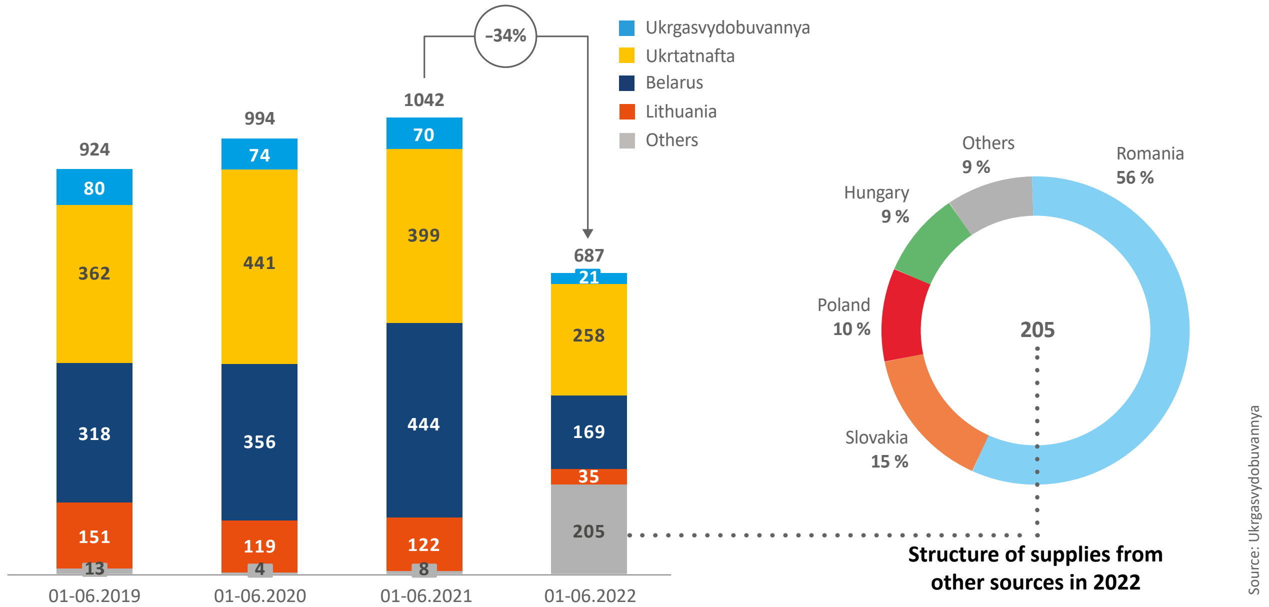
The shortage of drivers and fuel tankers, as well as locomotives and tanks for fuel transportation, became acute. The government had to deal with long lines of vehicles at checkpoints, in particular, at the western border crossing points of Ukraine. The following solution was found: several border crossing points were designated only for gasoline trucks and other vehicles were redirected to different crossing points.

Railway infrastructure is also being reoriented.

6 Balance of the Ukrainian market of diesel fuel in the first half of 2022, thousand tons



7 Balance of the Ukrainian gasoline market in the first six months of 2022, thousand tons



In particular, the operations of Poland's PKP and Ukrzaliznytsia are being synchronized.

Despite active hostilities, the number of importers of oil products on the market has increased. For example, some agro-industrial companies have begun to import fuel on their own. As of the beginning of July 2022, more than 150 importer companies operate in Ukraine's fuel market.

A number of European countries canceled all permit requirements for Ukrainian fuel carriers, which greatly facilitated fuel supply logistics (Romania, Latvia, Slovakia, Bulgaria, Hungary, Austria, Turkey, Denmark, Italy, Lithuania, Germany).

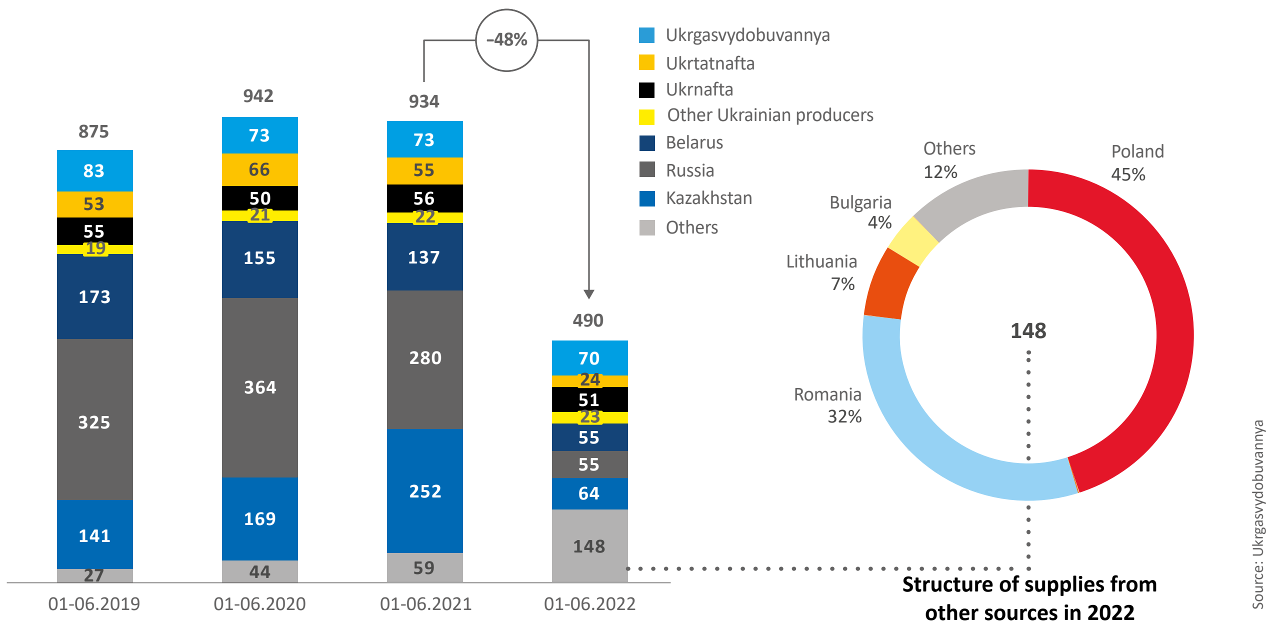
Since April 2022, the procedure for obtaining permits for all types of road transportation during the period of martial law has been simplified in Ukraine. In addition, licenses are issued electronically and made public through the electronic services of the State Transport Security Service.

Since May 2022, permits to import fuel into Ukraine from the countries that had canceled similar permits on their territory have been eliminated.

On June 29, Ukraine signed an Agreement on Transport Liberalization with the EU ("transport visa-free"), which abolishes the need for Ukrainian carriers to obtain permits for bilateral and transit transportation to EU countries. The agreement also provides for the recognition of Ukrainian driver's licenses.

In 2022, the government of Ukraine continued to control retail fuel prices through the formula for calculating maximum retail prices for gasoline and diesel fuel, which was improved twice

8 Balance of the Ukrainian LPG market in the first six months of 2022, thousand tons



following the suggestion of market operators. Ultimately, government regulation of fuel prices in retail chains was suspended in May 2022 to allow market operators to supply the market in the face of higher external prices.

In May 2022, the Government made changes to the "Technical Regulations on Requirements for Vehicle Gasoline, Diesel, Ship and Boiler Fuels", which allowed the circulation of Euro-3 and Euro-4 fuel standards during martial law, which was planned to contribute to legalization of production of petroleum products at mini-refineries.

From March 18, 2022, amendments were made to the Tax Code of Ukraine for the period of martial law regarding the establishment of a "0" rate of excise duty on motor fuels (gasoline, diesel fuel and liquefied gas, etc.) and a reduction of the VAT rate on these products to 7%, which restrained the surge in fuel prices.

On June 10, a Government decree added fuel oil with a zero quota to the list of goods, the export and import of which are subject to licensing and quotas in 2022 (i.e., the export of fuel oil is prohibited until the end of 2022).

The Government ordered large state-owned companies (Ukrzaliznytsia, Ukrtransnafta) to systematically fill the Ukrainian market with diesel fuel.

The beginning of the gradual stabilization of the oil products market in Ukraine in June 2022 stopped the reverse price rally: wholesale prices fell below retail prices. Gas stations began to increase (and in some regions to eliminate) limits for refueling vehicles and queues at gas stations disappeared. However, in many regions, in particular in the Eastern part of Ukraine, there is still a shortage of fuel.

According to market participants, as of the beginning of July 2022, the situation with the supply of motor fuels to the Ukrainian market has stabilized. In July, market needs for diesel fuel are expected to be satisfied by 80%, and for gasoline – by 50%. The autogas shortage was overcome by the beginning of June.

The consumption of petroleum products in Ukraine is forecasted to fall by 20% in 2022 to approximately 800 thousand tons per month.

5 STRATEGY AND TRANSFORMATION

NAFTOGAZ GROUP STRATEGY AND TRANSFORMATION

The primary task before strategy development is answering the question why the state and the people of Ukraine need a nationally integrated energy company Naftogaz. The answer to this question lies in our mission, which we developed in 2017, and which defines the strategic choices that the company has made and continues to make today.

The mission of Naftogaz is "to be the engine of modernization and professionalism in the Ukrainian energy sector, integrated with the European market, ensuring security of supply and competitively priced energy, while maximizing the value of national resources".

In other words, we see Naftogaz currently as the only energy company in the country, which is able to secure a reliable supply of energy at affordable prices to consumers, while at the same time, ensuring reform and modernization of the energy sector and an energy transition in the interests of the state and the people of Ukraine.

In implementing this mission, we realize that Ukraine, as a nation state is at an early stage in its development, which began a little more than 100 years ago (from the date of declaring its independence from the two empires, which controlled Ukrainian lands at the beginning of the World War I), and its new history comprising just over 30 years. During this phase of new history, the Ukrainian nation is going through an active rethinking of its own history, realizing its national identity, and is currently bearing arms to defend its right to existence and independence.

This tough history and struggle are reflected in the values of the Ukrainian society built around the imperative of survival – both national and economic, which differentiates us from nations that have overcome these challenges much earlier, in particular, from the European nations, which no longer have survival on their agendas.

At the same time, we realize the need to modernize and transform our values and bring them closer to European ones. Hence, the values that we declared and that we see in the Naftogaz of the future are conscientiousness, fairness, openness, and courage.

Today, Ukraine is moving towards developing a market economy and modernizing to become a proper member of the European community of nations. We see Naftogaz as a necessary participant and, as the national company, a partner to the state in ensuring rapid progress towards a modernized society.
At the same time, Naftogaz is a commercial company, which must be profitable and create value for its customers and partners in a sustainable way ensuring financial resilience, operational efficiency while adhering to high standards of health and safety and environment protection. It is for this reason that the State Committee for Oil and Gas was transformed into the government-owned company Naftogaz of Ukraine in the 1990s, since the mechanisms to state management were not adequate for managing companies. This is still relevant even in wartime, when Naftogaz has to ensure the social and energy resilience of Ukrainian society in the face of an existential threat from the Russian Federation.

The response to these challenges and an understanding of Naftogaz' mission are reflected in the strategic goals of the Group. To deliver on its mission and strategic goals, in 2017, Naftogaz developed its corporate strategy "Affordable Energy for Ukraine", which unfortunately was not approved by the Cabinet of Ministers of Ukraine in their capacity as the shareholder of Naftogaz. Similarly, the Cabinet did not approve a strategy developed in 2021. Hence, during this time the company has had to operate without a finally approved strategy.

We would like to note that certain attempts to create a mechanism for managing Naftogaz as a national company were made. In 2020, the Cabinet of Ministers of Ukraine adopted the ownership policy of Naftogaz (the CMU resolution # 982 dated October 21, 2020 "Some matters of the activities of joint-stock company "National joint-stock company "Naftogaz of Ukraine" https://zakon.rada.gov.ua/laws/show/982-2020-%D0%BF#Text). We are of the view however that this document should primarily answer the question of why Ukraine needs a state-owned Naftogaz, and why the company should not be privatised.

In 2021, an important step towards improving the public governance efficiency of Naftogaz was taken with the definition of key directions for the company's activities for 2021 (the CMU resolution # 1011 dated September 27, 2021, "Some matters of the activities of joint-stock company "National joint-stock company "Naftogaz of Ukraine" https://www.kmu.gov.ua/npas/deyaki-pitannya-diyalnosti-akcionernogo-tovaristva-nacionalna-s1011-270921.). This step enabled Naftogaz actions in ensuring security of supply and affordability of energy for key consumer segments. (For more information on protecting consumers from record price volatility, see page 80).

Even in the absence of an approved strategy, we understood that the strategic actions proposed by us could not be implemented without transforming Naftogaz into an efficient organization with competences and capabilities on a par with best practices. We are certain that

Naftogaz Group strategic goals

SECURITY OF SUPPLY

- Strengthen energy security of Ukraine through growing resource base and efficiently managing production
- Ensure sufficient volume of natural gas for going through the heating season
- Develop wholesale and retail segments and prevent potential market failures

FINANCIAL SUSTAINABILITY

- Strengthen financial sustainability along the whole value chain of Ukraine's oil and gas industry
- Ensure effective price risk management and minimize the impact of sharp price increases on consumers

GREEN TRANSFORMATION

- Lower carbon dioxide and other greenhouse gas emissions by the companies of Naftogaz Group
- Ensure development of low carbon businesses – biomethane and biofuels production, switching heat generation companies to biomass, hydrogen production etc

EFFICIENCY AND COMPETENCES

- Improve technical and operational efficiency to the level of comparable benchmarks
- Ensure development of competences along strategic areas of activity and value drivers
- Ensure adhering to the highest industry standards in health and safety, industrial security and environment protection

to be able to help with modernizing the country, first of all, Naftogaz has to modernize itself.

To achieve this goal, a concept of transformation for Naftogaz Group was developed and approved by the Supervisory Board of the company in 2018. This concept assumed that Naftogaz Group would quickly turn into a company with the quality of management that meets the best global standards.

It is the view of the new management that, this transformation did not happen, and, starting from 2019, it went in the wrong direction. The problems with that phase of attempts to transform Naftogaz are presented in the report on transformation results "Measuring progress of Naftogaz's Organizational Transformation: "Isn't it too little, too late?" (http://www.nefterynok.info/upload/images/Document-NAK.pdf).

In April 2021, in the response to the unsatisfactory performance of Naftogaz, the Cabinet of Ministers of Ukraine decided to replace the Chairman of the Executive Board of the company. Due to differences in outlook between the Chairman of the Executive Board and the Supervisory Board and other members of the Executive Board with regard to development of the company's strategy, much time was lost before initiating the necessary changes that would only became possible after the resignation of the Supervisory Board and appointment of the new Executive Board in September 2021. (For more information on corporate governance, see page 222).

We believe that any strategy and transformation begins with people and defining how these people work together. Changes at the Executive Board level and most of the management significantly strengthened the competences of the management team.

In ensuring the effective work of Naftogaz team, we rely on the principle of individual accountability, when the heads of legal entities, which conduct business activities, take responsibility for achieving operational and financial goals and ensuring financial sustainability of the businesses they manage. While earlier the accountability for activity streams was concentrated at the level of the corporate center, today we transfer this accountability to the level of legal entities. At the same time, the role of the corporate center, in addition to control functions, is mostly focused on building effective corporate functions which will enable businesses to work effectively and ensure corporate synergies.

At the same time, a number of challenges of building the high-quality corporate governance system remain unresolved. In particular, today the Executive Board members combine performing duties, which are assigned to the Executive Board with regard to managing the whole of Naftogaz Group, with accountabilities of the directors of certain activities. Although the new management of Naftogaz initiated an open and transparent process to form the Supervisory Board of Naftogaz, the new members have so far not been appointed.

In 2022, we expect an appointment of a new Supervisory Board, which will resolve most of our corporate governance challenges and build a new performance management system. This, in turn, will enable Naftogaz to efficiently change the top management team, build the right motivation mechanism, form high-performance teams, and complete the necessary change of the organizational structure and processes. All of this is an important prerequisite for changing our culture and modernizing the way the company operates.

Once the Supervisory Board is appointed, we will update the strategy that was developed in 2017. This strategy will reflect the realities of the war, in which the society and Naftogaz live and operate today, the evolution of the energy industry that has taken place over the past five years, including the global trends of decarbonization, energy transition as well as innovations that have happened in the traditional oil and gas industry segments. At the same time, we would like to note that, in our opinion, the key strategic imperatives, which formed the basis of the strategy developed in 2017, remain unchanged, with most of them having become even more relevant.

Across 2021 and 2022, we have wasted no time and have been actively working on updating the strategic approaches to managing the businesses of the Group:

1) We have renewed the company's focus on analysis of the financial return of the businesses of the Group, based on ROIC (return on invested capital) and evaluations of the effectiveness of management of the Group's assets vs. comparable company benchmarks and opportunity cost of capital. This includes comparing the value created by Naftogaz businesses to the estimated market value of the assets under management. This ratio is the objective measure of financial sustainability of the company and its ability to ensure long-term viability and capacity to work for the benefit of the people of Ukraine. Unfortunately, this analysis has revealed that almost all of Naftogaz businesses are not financially sustainable and require immediate and sometimes difficult decisions in order to restore sustainability.
2) We are implementing a portfolio approach to managing the businesses and assets of Naftogaz Group. The principle of portfolio management assumes defining key target metrics and development strategies for each business and asset to maximize value, which includes searching and evaluating alternative solutions or management approaches (including replacement of senior management, competence development, partner engagement or sale of businesses or assets, if this has strategic and economic rationale).
3) We have created a business development capability at the Group level and have intensified our efforts in developing new green businesses within Naftogaz. As of today, the company already has in its portfolio an operating asset generating electricity from waste gas and is actively working on implementation of portfolio of projects which assume usage of biomass for production of heat and power. (For more information on the development of low carbon businesses at Naftogaz, see page 164).

The full-scale war of the Russian Federation against Ukraine has complicated and somewhat changed – however, not removed – the focus of our strategy, business development and transformation work. From the first days of the full-scale war, we have actively engaged in efforts to provide the Armed Forces of Ukraine and our employees with protective gear, efforts to ensure our employees are able to conduct their activities as well as have worked on other humanitarian matters.

At the same time, we are actively working to ensure resilience of Naftogaz Group in the conditions of war – seeking funding for procurement of natural gas as well as implementation of new projects both during the war and in the post-war recovery. Today such efforts include working on both green energy projects which can be implemented even in wartime, due to the small scale of each individual project, and larger projects related to exploration and production, oil transportation and refining modernization which will be implemented in post-war recovery stage. This work will be a fundamental input for the comprehensive update of the strategy of Naftogaz Group.

WHAT IS ROIC?

ROIC (Return On Invested Capital) is a ratio which helps company leadership determine whether the way a company creates value for consumers is financially sustainable and how efficiently a company uses capital provided by its shareholders and creditors. To determine the acceptable level of such a return, ROIC is compared to the opportunity cost of capital. Opportunity cost of capital is the cost of forgone opportunities of using the capital in alternative ways (e.g., through transferring assets under partner's management, selling or even liquidating assets and investing the obtained cash resources in another business with comparable level of risk). ROIC is calculated separately for each business, as each business has its own nature, own risk level, invested capital needs and, respectively, its own opportunity cost of capital.

If ROIC is higher than the opportunity cost of capital for the business, this is considered as confirmation of the effective capital deployment and creation of customer value in a financially sustainable way. In other words, the business has a positive economic profit and hence it can attract capital on market terms to invest into sustainable operations in the future.

Alternatively, if ROIC is below the opportunity cost of capital on a regular basis, this indicates that the creation of customer value is not being conducted in a financially sustainable way for the company, or, in simple terms, this signals that invested capital is being "eaten away" and that "parasitism" is occurring either from those who are in charge or those who decide how the asset is being managed.

Two key inputs are used to calculate return on invested capital: NOPLAT (net operating profit less adjusted taxes) and invested capital. Net operating profit less adjusted taxes is derived from the official financial reporting confirmed by an independent auditor based on IFRS.

Invested capital is an estimate of value of assets actively involved in the business and used to create value for the customer. There are different methods to estimate the value of invested capital. The first group of methods relies on the evaluation of costs that have been incurred (balance sheet value) to create a business or an asset, or what would have to be spent in order to replace it (depreciated replacement cost). Another set of methods is based on an estimate of value which could have been obtained as an alternative to managing a business or an asset (from transfer under management, sale, or liquidation).

Below we provide details of the methods and results of ROIC calculations for the three Naftogaz businesses that have the largest asset bases and effective management of which in turn defines the opportunities for long-term value creation and the financial sustainability of Naftogaz, and at the same time ensures the preservation of invested capital for the future generations of Ukrainians.

Exploration and production

For companies involved in exploration and production of hydrocarbons and whose key assets are hydrocarbon reserves, the size of invested capital can be assessed using estimated market trading multiples of the value of proven reserves of 1P category. 1P reserves are an international standard, and are determined and reported by all publicly traded companies, confirmed by an independent evaluator. They are one of the most important parameters to define the value of a company and a measure that allows the comparison of companies between each other. Although the market trading multiples method is approximate, it provides management with the most objective evaluation of a company's efficiency and makes it possible to estimate return on investment capital vs. the alternative of selling it at market prices.

Romania's company Romgaz SA is the closest comparable company for Naftogaz Group's business of exploration and production by structure of business and by geography. In 2021, Romgaz SA on average traded at the multiple of 45 USD per 1 tcm of 1P reserves. If we apply this multiple of Naftogaz reserves value as a measure of estimated market value, the return on invested capital for Naftogaz (at nominal prices of gas sales) in 2021 was 7.5%, which was below the weighted average cost of capital used by the company (10% for USD-denominated cash flows).

Alternatively, the size of invested capital can be assessed based on the value of 1P or 2P reserves (2P is the sum of proved and probable reserves) which is assessed and confirmed by an independent evaluator in financial value terms at the balance sheet date. The value of reserves in financial terms is calculated by an evaluator based on the value that the company will receive given full production of the remaining reserves of these categories based on the planned cost of production and forecast prices for the produced commodities.

If we use an evaluator-approved assessment of the reserves of Ukrgasvydobuvannya at the beginning and end of 2021, then its average value of reserves substantially exceeded that estimated based on the above-mentioned market trading multiple and stood at 75 USD per 1 tcm for 1P reserves and 63 USD per 1 tcm of 2P reserves. If such invested capital estimate is applied, the ROIC for the business (at nominal prices of gas sales) was considerably lower than the above-mentioned level and was equal to 4.5% and 4.1% respectively.

It should be noted that gas sales in 2021 were done at prices which were substantially below market levels, while royalty expense was accrued based on import parity price level. This had a significant impact on the operating results for the year. In a scenario where Ukrgasvydobuvannya would have sold its natural gas at market prices, return on invested capital, estimated based on the market trading multiple, would have equaled approximately 32%. Applying estimate of invested capital based on a financial assessment of reserves by an evaluator would have resulted in return on invested capital of c.19% for 1P reserves and c.18% for 2P reserves. Hence, if natural gas sales would have happened at market prices, return on invested capital in 2021 would have been substantially higher than estimated cost of capital for any of the methods. We would like to point out that the difference between nominal (actual) and market prices is in essence indirect subsidies that the government, through Naftogaz, provided to Ukrainian customers in 2021. Taking into consideration that the Ukrainian people, who choose the parliament which in turn appoints the government, are the ultimate owner of Naftogaz, one can presume that such indirect subsidies are dividends that the owner of Naftogaz received in indirect form.

This analysis points to the fact that Naftogaz' activity in gas production in 2021 was economically beneficial for Ukraine, however it was done not in a financially sustainable way if one looks only at the company and applies nominal prices. The analysis also shows that based on 2021 data at least it is not obvious that elsewhere there is a better owner of Naftogaz' production business.

If compared to 2020, the ROIC based on the market trading multiple estimate of invested capital of this business segment (at nominal prices) in 2021 was 4.5 p.p. higher than the level of the previous year when it amounted to c.3%. It should be noted that in 2020 Ukrgasvydobuvannya sold natural gas at market prices, which were on average even lower than regulated actual prices of 2021.

For more information on gas production results go to page 128.

For more information on indirect subsidies and energy (in)efficiency go to page 84.

Natural gas storage

NOPLAT of the natural gas storage segment in 2021 was negative UAH 9.2 bn indicating that not only there are opportunities to use capital in a more efficient way, but that there was direct value destruction through negative financial results.

Usually, depreciated optimized replacement cost (or DORC) is used to determine invested capital for large infrastructure companies with a significant asset base. However, in the case of gas storage systems, one should consider the fact that this system was originally built as seasonal storage for gas moving from the USSR to Europe, while currently Gazprom, is abusing its dominant position in the European market, preventing them for being used in such a way. Due to to this factor, it is more appropriate to use liquidation value (value that could be obtained by the country from the withdrawal of cushion gas and active gas in long-term storage and directing this gas to meet domestic demand and replace gas imports) to assess the asset base of underground gas storages (UGS).

Today, based on accounting information, there are almost 19.5 bcm of cushion gas and active gas in long-term storage in the Ukrainian UGS. If we assume that we need 2.5 years to prepare for withdrawal of this gas and 7 more years will be needed to produce it, then it is estimated that investment capital (conservatively taking into effect only the value of withdrawn gas) as of 2021 year-end was more than USD 1.5 bn.

Given that NOPLAT of natural gas storage activity in 2021 was negative UAH 9.2 bn, ROIC of natural gas storage segment was respectively negative 28.3%. With that, for Ukrtransgaz it was even worse – negative 36.9%.

Such result indicates, first of all, that there are indirect subsidies that the state provides to consumers through Naftogaz. Given that this system of using natural gas storage assets in an economically ineffective way has been taking place for years, especially taking into account negative financial results, this may indicate the systemic problem of "eating away at capital" (parasitizing on assets).

The key ways to improving ROIC are, first of all, increasing tariffs to an commercially justified level as well as optimizing gas storage capacity (taking into account the strategic rationales for Naftogaz and the country).

If compared to 2020, the natural gas storage segment ROIC based on the liquidation value method of invested capital estimate was 18 pp. below the respective level of 2020 (negative 10.0%), which was the result of much worse NOPLAT in 2021 vs. 2020.

For more information on gas storage results, see page 142.

For more information on indirect subsidies and energy (in)efficiency, see page 182.

Oil Transit and Transportation

For oil transit and transmission activity, we use the depreciated optimized replacement cost (DORC) method to estimate invested capital size. For oil transit and transmission, this method is most appropriate since it allows an assessment of the quality of management and tariff setting in an environment where the manager must plan for replacement of the assets for their operation in the future.

Application of this approach shows an insufficient level of return for transit routes and negative return for domestic transmission operations. Thus, return on invested capital for oil transit in 2021 was 3.9% (for oil transit via the Druzhba oil pipeline this ratio was at 7.3% level), which is below the cost of capital of 10% that Naftogaz used in 2021. Such return level points to tariffs which are too low for transit routes. In turn, it may mean that the Russian counterparty which is the recipient of transit services obtained an unjustified benefit in 2021.

We would like to note that the increase in the Russian oil transit tariff in 2022 has to a large extent (although not fully) solved the problem of obtaining a return which can ensure the replacement of invested capital for the Druzhba oil pipeline route at current transit volumes. However, at the same time ensuring such level of return in the long-term prospective remains at risk due to the absence of "ship or pay" condition in the current contract, transit termination risks related to the European sanctions against the Russian Federation and the war.

ROIC for domestic oil transmission activity was negative 8.2% due to very low tariffs, of which Ukrtatnafta is the beneficiary. Possibly, in this way Ukrtatnafta was obtaining partial compensation for the problems facing oil refining industry of Ukraine and, in general, problems in the domestic fuel products market in 2021. But this, anyway, points to the situation where through the low tariffs set by the regulator subsidies are provided to consumers, in this case to consumers of domestic oil transmission services.

If compared to 2020, ROIC for oil transit activity in 2021 was 2.6 p.p. lower than in 2020 (6.4%) and for oil transmission – 1.2 pp. higher (in 2020, ROIC for this segment was negative 9.4%).

For more information on oil transit and transmission results go to page 158.

Other areas of Naftogaz activity

We do not cover return on invested capital for other streams of Naftogaz' activities in this report.

The systemically negative financial results of the "Gas imports, trading and supply" segment quite convincingly indicates that this activity has been conducted in a financially unsustainable way due to indirect subsidies that the state traditionally provides to gas consumers, mainly to households. We would like to note that there was no "trading" of gas in Naftogaz, at least in the present-day understanding of this business. The "retail business" was also in essence not a business, but rather spending money without any clear prospective of financial sustainability. (For more information on indirect subsidies and energy (in)efficiency, see page 84).

The "gas transit" segment is a particular activity of transit organization where invested capital is relatively immaterial for Naftogaz Group. (For more information on gas transit, see page 56).

The "Ukrnafta" segment is itself a separate company with minority shareholders and with complex legacy issues. In recent years, Naftogaz has suggested to the government in their capacity as shareholder that the company be split, however due to the political sensitivity of the issue the prospects for this solution currently remain uncertain. In turn, such conditions complicate the performance of analysis of return on invested capital.

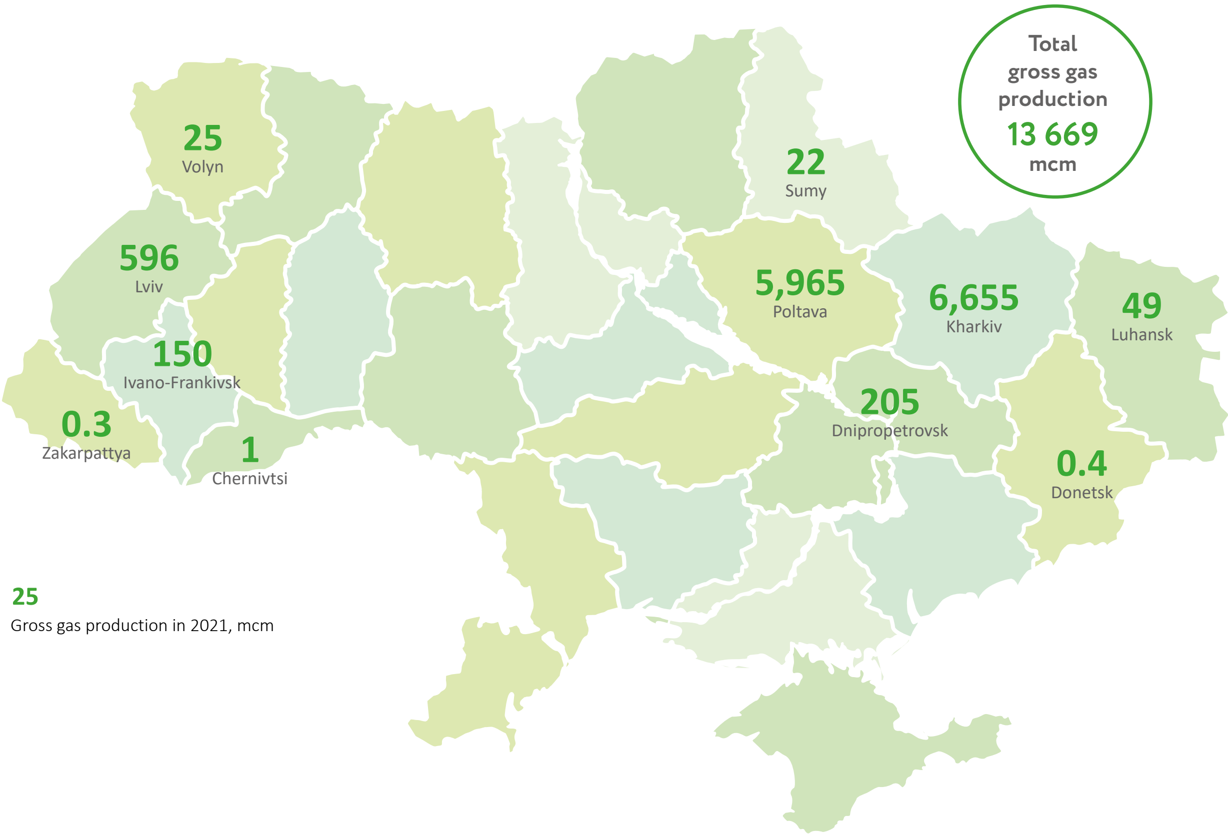
The "other" segment is a combination of different activities and hence an analysis of combined results would not have any particular value. At the same time, these activities are relatively immaterial for the Group and for that reason we do not present an analysis of each particular activity in this report.

Conclusion

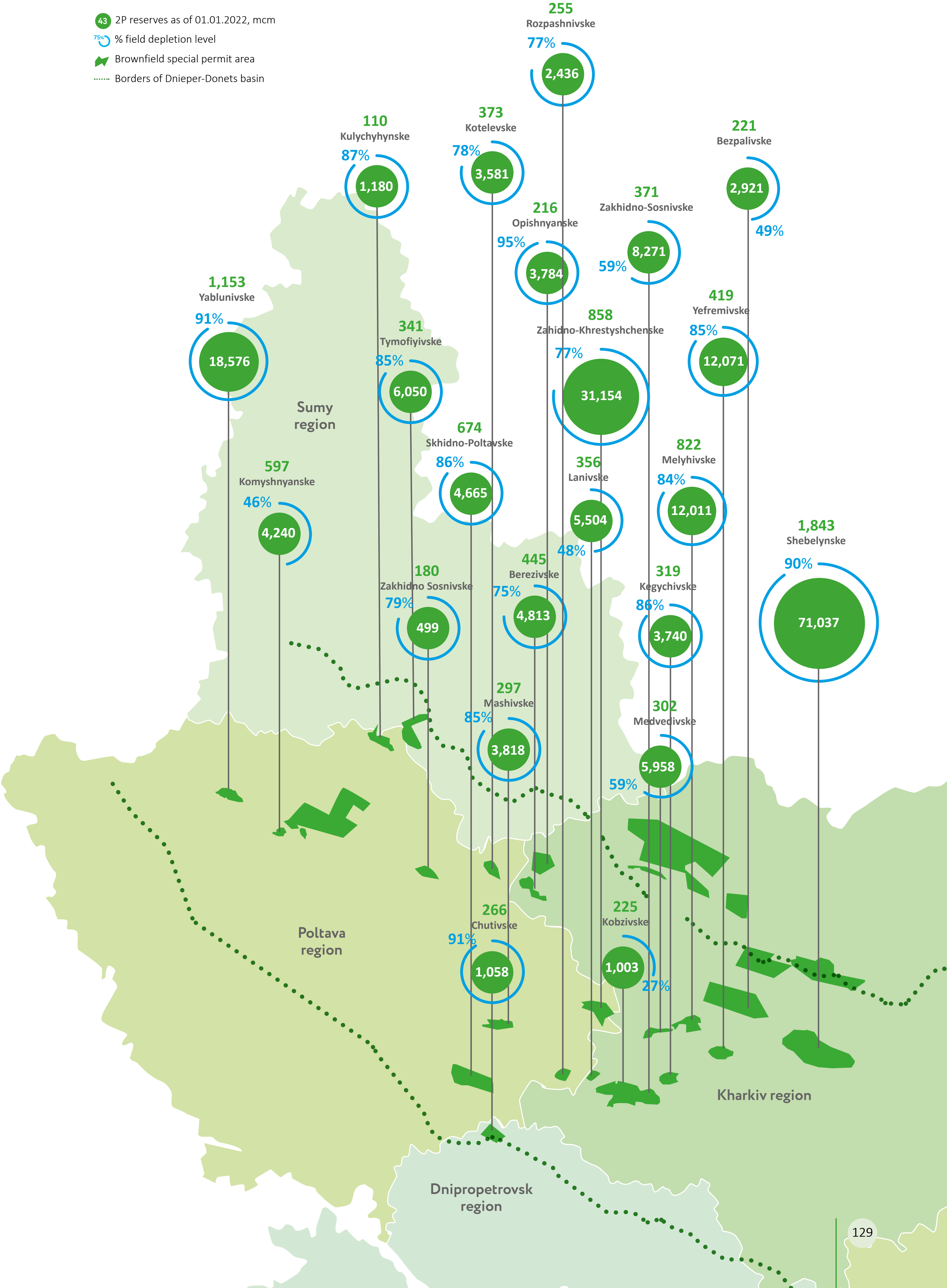
The concept of return on invested capital has been well-known in the West for a long time, however it is not widely used in the management of state-owned enterprises in Ukraine. Despite a set of assumptions and hypotheses that can be used in calculation and analysis of ROIC, this approach allows to ask the right questions, makes one see the challenges and think in the paradigm of creating and preserving long-term value. This is especially important when managing the national wealth.

6 BUSINESS ACTIVITIES

EXPLORATION AND PRODUCTION



25
Gross gas production in 2021, mcm

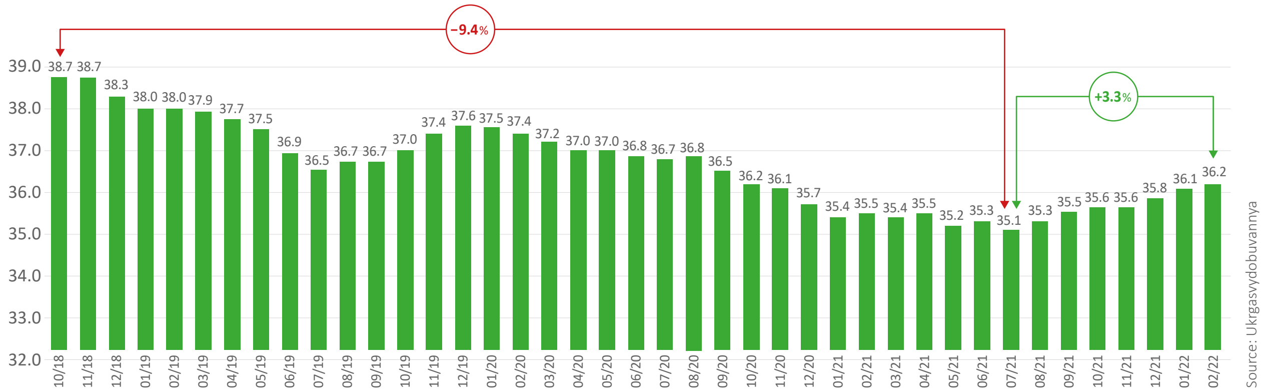


EXPLORATION & PRODUCTION

2021 key results:

- 2021 was a year of change for gross production trends in natural gas – from decline to growth. As of 31 December 2021, daily trade gas production was 36.3 mcm, c.1% higher than the beginning of the year and c.4% higher than at the end of H1 2021;
- These levels have been achieved due the commissioning of 50 wells (including 8 high production rate wells with stabilized production rates of over 100 tcm per day), modernization and commissioning of a number of strategic surface infrastructure facilities with combined incremental production rate of 500 tcm per day as well as completing other production optimization measures at active wells;
- Despite the change in production trends, total trade gas production amounted to 12.93 bcm, which was 3.8% below 2020 levels;
- Ukrgasvydobuvannya was successful in ensuring a record increase of 2P reserves of approximately 10 bcm, reaching a reserve replacement ratio of 73%. For comparison, in 2020, reserve addition amounted to 5.9 bcm with a reserve replacement ratio of 41%;
- Net operating profit less adjusted taxes (NOPLAT) of the business segment amounted to UAH 18.0 billion, which was 2 times higher than 2020 (UAH 7.5 billion);
- Actual 2021 return on invested capital (ROIC), using an invested capital estimate based on market multiples of 1P reserves value and actual NOPLAT based on nominal (actual) regulated price, amounted to 7.5%, which was 2.5 percentage points below the cost of capital of 10% for USD-denominated cash flows used by the company. In the theoretical scenario where gas would have been sold at market prices, ROIC in 2021 would have amounted to c.32%. This means that natural gas production activity in 2021 was economically profitable, and the difference between nominal (actual) and market prices was in essence indirect subsidies that the government, through Naftogaz, directed to Ukrainian consumers in 2021;
- The volume of investments according to the cash flow statement amounted to UAH 12.5 billion- 4% higher than 2020 levels, mostly due to substantial increases in drilling operations: meters drilled reached 210 km in 2021, or 48% higher than in 2020 (142 km);
- Naftogaz Group obtained special permits and licenses for new areas with significant potential: areas in the shallow and deep water of the Black Sea, Yuzivska area, and plots obtained under production sharing agreements. The combined hydrocarbon estimated ultimate recovery potential of the whole portfolio of Naftogaz Group (including Ukrnafta) based on internal estimates of Ukrgasvydobuvannya stands at more than 1.2 trillion m³. This potential is higher than combined reserves and resources estimate of Ukrgasvydobuvannya and other companies of Naftogaz Group in the evaluator reports, since these reports did not include the estimates of resources from Black Sea offshore areas, the Yuzivska area, as well as the unconventional potential of the special permits portfolio of Ukrgasvydobuvannya;
- In 2021, 5000 km² of Black Sea shallow waters were covered by 3D seismic surveys with the interpretation is currently underway. Unfortunately, due to the war, further geological and seismic works have been placed on hold;
- A significant reduction in LTIFR (calculated per 1 million man-hours) from 0.38 in 2020 to 0.16 in 2021 was achieved.

1 Average daily trade gas supply of Ukrgasvydobuvannya from October 2018 to February 2022 by month, mcm per day



Natural gas and liquids production

After the change in Naftogaz management in May 2021 and certain managerial decisions, the company defined new goals and implemented initiatives which changed the trend of production (trade gas production) in H2 2021. Thus, as of 31 December 2021, trade gas production was at 36.3 mcm per day, c.4% higher than the midpoint of the year and c.1% higher than the start of the year. The growth in production trend was also confirmed by results from January and February 2022, when trade gas production amounted to 2.135 bcm, which was 2% above the same period of 2021. The day before the war in Ukraine started, Ukrgasvydobuvannya reached 36.5 mcm daily trade gas production. Therefore, in July 2021, a decline in trade gas production which had lasted thirty three months was ceased and reversed into a seven month period of growth, until the Russian Federation invaded Ukraine. **1**

However, the positive dynamics of H2 2021 were not sufficient to overcome the decline in natural gas production in annual terms compared to 2020. Thus, in 2021, Ukrgasvydobuvannya produced trade gas of 12.93 bcm, which was 3.8% lower than the level of 2020, 349 thousand tons **2** of condensate and 67 thousand tons of oil and oil bitumen - which on a combined basis was 7.3% lower than the liquid hydrocarbon production in the prior year. **3**

When analyzing gross production of natural gas over the past 5 years, it is worth noting that gross production decline was faster than the decrease of trade gas production in 2018-2020. In 2020, gross gas production was 8.2% below the level of 2018, while trade gas production decreased by only 2.4% over the same period. This decrease in gross gas production occurred in the context of a 2019 review into production norms and measuring technical losses, which the company used to determine gross production volume. As a result of this review, it was determined that the norms for production and technological losses that had been significantly increased in 2017-2018 were not justified and, as a result, have overstated gross production volume of natural gas. Reduction of these norms to the justified level has led to a larger decline in gross gas production compared to trade gas production in 2019-2020.

Another important reason for the decline in natural gas production was the increase in liquid production losses due to well downtime caused by loading or other reasons, as well as unplanned downtime of surface infrastructure. Thus, in 2019, losses from well downtime and other events amounted to 918 mcm compared to 583 mcm in 2017. This, in particular, indicates inefficient operation of wells and fields in the prior periods, including an insufficient number of preventative workovers. Starting from 2020, the level of these losses began to gradually decrease and, in 2021, amounted to 540 mcm.

The company would like to also bring attention to the fact that, in the middle of 2019, the management of the Integrated Gas business division decided to significantly reduce the volume of drilling. The company not only discontinued the usage of external drilling contractor services but also significantly decreased drilling activity by its own drilling fleet. As a result, drilling volume decreased from 313 km in 2018 to 212 km in 2019 and 142 km in 2020. This decrease in drilling volume led to a decrease in natural gas production from new well commissioning. It is estimated that decreased drilling activity in 2019 has led to underproduction of 250 mcm in 2020, with a respective effect in subsequent years.

To better understand accountability for production during this period, it is important to note that, starting from December 2018, the creation of the Integrated Gas business division at Naftogaz of Ukraine, the strategic management of gas production was transferred from Ukrgasvydobuvannya to Naftogaz of Ukraine. Therefore, from June 2015 to December 2018, it was the head of Ukrgasvydobuvannya O. Prokhorenko who had the respective authority and ultimate influence over production, from December 2018 up until the end of March 2020, it was A. Favorov. From April 2020 until the end of September 2021 authority belonged to the Chief Operating Officer of Naftogaz Group O. Waterlander, and from October 2021 – to the head of Exploration and Production business division (and later acting general director of Ukrgasvydobuvannya) O.Romanyuk. With the appointment of the new Supervisory Board, the current management intends to change the operating model.

Returning to the 2021 results and efforts from Naftogaz to shift production trends from decrease to growth in H2 2021, we highlight the

[1] From June 2015 until October 2018, Y. Vitrenko was the coordinator of relations between Ukrgasvydobuvannya and Naftogaz of Ukraine as the parent company; with that, the head of Ukrgasvydobuvannya did not report to him, hence Y. Vitrenko was not his superior and was not responsible for production.

2 Gross natural gas production and trade natural gas supply by Ukrgasvydobuvannya in 2014-2021, mcm

Gas production	2014	2015	2016	2017	2018	2019	2020	2021
Gross production of natural gas	15,114	14,528	14,605	15,251	15,497	14,892	14,233	13,669
Trade natural gas supply by Ukrgasvydobuvannya	13,409	12,819	13,002	13,889	13,785	13,621	13,448	12,932
Trade natural gas supply under joint activity agreements	1,126	1,075	911	487	181	25	12	6

Source: Ukrgasvydobuvannya

3 Liquid hydrocarbons production by Ukrgasvydobuvannya in 2014-2021, thousand tons

Product	2014	2015	2016	2017	2018	2019	2020	2021
Production of liquid hydrocarbons by Ukrgasvydobuvannya (not incl. production under joint activity agreements)								
Condensate	412	394	381	389	373	393	382	349
Oil	122	118	101	80	73	85	63	64
Oil bitumen	2	3	3	2	3	3	3	3
Production of liquid hydrocarbons under joint activity agreements								
Condensate	49	49	44	21	6	–	–	–
Oil	24	18	8	3	1	–	–	–

Source: Ukrgasvydobuvannya

impact of an acceleration the implementation of surface infrastructure modernization and pressure optimization, commissioning of priority wells and increasing the efficiency of the existing wells (workovers, reperforations, artificial lift installation, sidetrack and hydro fracking operations).

In the second half of the year, a following major projects were completed and commissioned, significantly impacting the stabilization of gas production growth:

- First stage of the Glazunov booster compressor station (BCS), which will decrease wellhead pressures at the largest field in Ukraine – Shebelynske. Despite complications with the supply of key components and equipment at the beginning of the project, the team successfully completed the project by the end of the year. As of the end of 2021, this station increased daily gas production by c. 290 tcm;
- The "zero" stage of Yablunivske gas treatment unit – facility for gas treatment and stabilization, and wellhead pressure reduction for wells of Yablunivske, Skorobahatkivske and Komyshnyanske fields – was built and commissioned. This facility was put in operation in July 2021, and as of the end of the year increased daily gas production of c.200 tcm;
- A working pressure optimization program, which included installation of mobile booster compressors at natural gas treatment unit locations and construction of pipelines, increased daily gas production by 120 tcm;
- 28 new wells were drilled, completed, and commissioned vs. 22 such wells commissioned in the first half of the year. In H2 2021, we have completed wells at the fields, which show top production results but are technically more complex and relatively deep. These fields include Komyshnyanske, Yablunivske, Rozumivske, and Skydanivske. Of the wells completed in the second half of the year, seven reached stabilized production rates of over 100 tcm per day;
- 86 wells were commissioned after workovers (vs. 61 wells in the first half of the year), 30 coil-tubing intensification operations were performed (vs. 19 such operations in the first half of the year), 53 wells equipped with artificial lift systems (vs. 37 wells equipped in the first half of the year).

Overall, in 2021, 147 wells were put into operation after workovers, 46 wells from existing well stock were commissioned after hydro fracking operations, 375 standalone coil-tubing operations on existing well stock and 234 support coil-tubing operations during well completion of hydro fracking operations and 30 reperforations without the use of workover rig. Fifty new wells, of which 28 production wells and 22 exploration and appraisal wells, were commissioned.

It is important to note that improving the effectiveness of well work operations is an important pillar in ensuring the effectiveness of capital spending on production maintenance and production growth measures. Thus, based on 2021 results, approximately 40% of workover operations resulted in zero or less than 1 tcm per day incremental production, while only c.30% of operations resulted in achieving target incremental production rate. Improving the quality of candidate selection and application of new technologies for performing operations will increase the effectiveness of workover and other production enhancement operations.

In 2021, we continued cooperation with Halliburton Ukraine (subsidiary of Halliburton, USA) in conducting sidetrack operations (12 wells commissioned) and with Weatherford Ukraine (subsidiary of Weatherford International Ltd., Switzerland) in an artificial lift program implementation (90 artificial lift systems were installed). Artificial lift installation operations are relatively new for Ukrgasvydobuvannya (being performed over the past 2 years). Based on these results, Ukrgasvydobuvannya sees potential in continuing to increase the volume of these operations in the future. Incremental production from artificial lift system installation in 2021 was 76 mcm, which is a substantial result given the relatively small number of operations compared to traditional existing well work operations, such as workovers and hydro fracking operations.

To sum up, in 2021, the following wells each yielded an incremental stabilized production rate of over 100 tcm per day:

1. New production wells commissioned:

- Bezpalivske # 52 – 135 tcm per day
- Komyshnyanske # 60 – 118 tcm per day
- Rozumivske # 80 – 130 tcm per day
- Komyshnyanske # 59 – 172 tcm per day

Additionally, three wells with a starting production rate of over 100 tcm per day were commissioned, however subsequently the wells declined and operate with following stabilized production rates: Yablunivske # 365 – with 68 tcm per day, Yablunivske # 366 – with 68 tcm per day, Zakhidno-Sosnivske # 90 – with 67 tcm per day.

2. New exploration and appraisal wells commissioned:

- Skydanivske # 2 – 259 tcm per day
- Bugayivske # 41 – 126 tcm per day
- Zakhidno-Sosnivske # 122 – 159 tcm per day
- Komyshnyanske # 31 – 115 tcm per day

3. Wells put in operation after workover:

- Medvedivske # 509 – 151 tcm per day
- Kotelevske # 118 – 103 tcm per day

4. Wells put in operation after hydro fracking:

- Komyshnyanske # 29 – 284 tcm per day

5. Wells put in operation after sidetrack drilling:

- Berezivske # 114 – 110 tcm per day.

To ensure future increase of production, in 2021, the team continued to actively implement capability development initiatives. As part of the production processes digitization program, Ukrgasvydobuvannya together with US company Honeywell International implemented a system of remote monitoring of high production rate wells that would allow to control operation modes in real-time and make effective and timely adjustment decisions, as required. In 2021, 338 wells were equipped with this system, which, together with the wells equipped in 2020, fully covered the contracted volume of 386 wells. Currently, the team actively uses the data it receives from the system to control operation of the wells and make timely decisions. After conducting a detailed analysis of the implementation results and confirmation of the system's quality in practice, the team plans to increase the number of wells equipped with the system.

As of the date of this report, DeGolyer and MacNaughton has completed its audit of reserves and resources of Ukrgasvydobuvannya. As of 1 January 2022, the volume of 2P reserves addition in 2021 amounts to 10 bcm and is the highest result over the past 5 years. 4

These results were achieved due to a strengthening of competencies of the geology team, in particular due to the creation of a petroleum economics team, which supports work with the evaluator of reserves and resources, and together with geology and reservoir management teams details field depletion plans that are one of the key inputs for reserves evaluation. It is worth highlighting the commissioning of successfully completed exploration and appraisal wells at Zakhidno-Sosnivske, Komyshnyanske and Skydanivske fields; the discovery of new fields such as Mospanivske, Hercevanivske and Topolyove as well as significant increase in exploration and appraisal drilling volume. In 2021, exploration and appraisal drilling volume amounted to 76 km, which is 41% above the volume in 2020 (54 km). The company now focuses on exploration works on new areas and searches for additional resources, increasing reserves of depleted fields, building the base for future production growth, and achieving energy independence of Ukraine. In this context, it was very critical that, at the start of 2021, Naftogaz Group obtained special permits and licenses for new high potential areas: namely, in shallow and deep water in the Black Sea, Yuzivska area, and licenses under production sharing agreements. Combined natural gas estimated ultimate recovery potential of Naftogaz Group (including Ukrnafta), before geological risk application, has increased substantially and is currently estimated by the team of Ukrgasvydobuvannya at the level of more than 1.2 trillion m³. This is above the combined volume of reserves and resources of Ukrgasvydobuvannya and other Naftogaz Group companies as per audit reports, since these reports do not include resource estimate of the Black Sea licenses, areas obtained under production sharing agreements, the Yuzivska area, and the recently identified the unconventional potential of the special permit portfolio of Ukrgasvydobuvannya.

Strategic projects

Development of unconventional natural gas reservoirs portfolio

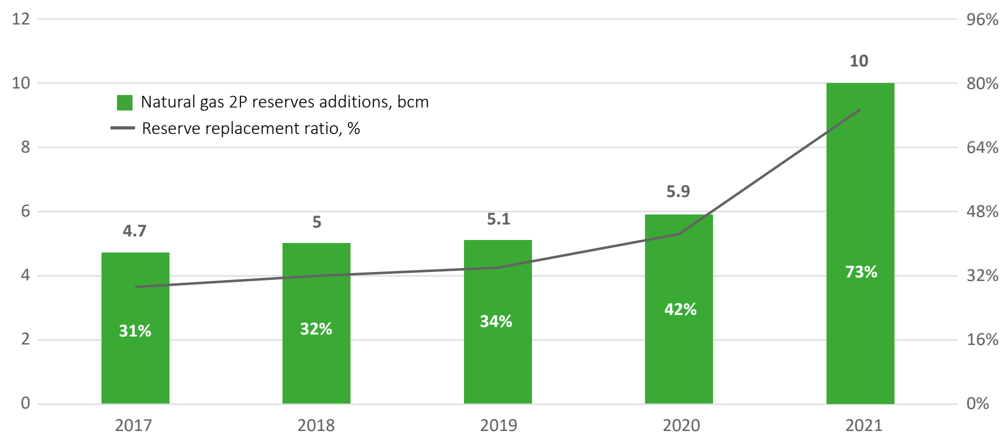
This project is considered by the expert team at Ukrgasvydobuvannya as the most promising. The total area of the Lower Visean unconventional play of the Dnipro-Donets Basin identified by the geology team of the company comprises over 13 thousand km². Key geological parameters of this prospective project are comparable or even better than parameters of key unconventional hydrocarbon resource basins of the US and Canada that indicate significant prospects of development of such reservoirs, the estimated ultimate recovery of which, if confirmed, will not only create an opportunity to fully cover the demand for natural gas in Ukraine but also provide natural gas resource for export to Europe. As of today, the estimated ultimate recovery potential of the special permits of Naftogaz is assessed by the experts of Ukrgasvydobuvannya to exceed 400 bcm. During 2021-2022, the team evaluated the prospective areas and built an ambitious plan to be implemented in 2022-2023 to conduct exploration works and confirm the potential, which includes the drilling of horizontal wells with multi-stage fracking completions, the first ever project of its kind in Ukraine.

Deep horizons potential development

At the end of 2020, the company finished drilling of Shebelynske # 888 exploration well and, in 2021, moved to completion and testing stage, which it conducted throughout the year. As of today, the well completion and testing have not been finished yet (works have been put on hold due to the military action); however, current results do not confirm the potential of deep horizons at the Shebelynske field.

At the same time, it is important to highlight strong results from exploration and produc-

4 Natural gas 2P reserves addition and reserve replacement ratio at Ukrgasvydobuvannya in 2017-2021



Source: Ukrgasvydobuvannya, reserves audit reports tion wells with depths of over 5 km drilled at the Komyshnyanske, Skydanivske and Zhemchuzhne fields. These results demonstrate the significant potential of their further development and hydrocarbon production.

Exploration of the Black Sea potential

In Q1-Q3 2021, in implementation of the decision by the Cabinet of Ministers of Ukraine, the State Geology and Subsoil Service of Ukraine awarded Naftogaz of Ukraine 36 special permits (Dolphin and Skifska areas) for geological studies of oil and gas subsoil deposits, including research and industrial development of the fields with further production of oil and gas for the term of 30 years.

In 2021, the Norwegian company PGS conducted 3D seismic works and covered 5,000 sq km of the inner shallow water area. Interpretation of the results of a seismic survey are now underway.

It is worth highlighting that seismic survey projects and the development of plots in the Black Sea carried a high risk due to the military presence of armed forces of the Russian Federation in the maritime area and geographical proximity of at least part of the prospective plots to the production assets that have been occupied by the Russian Federation since the armed annexation of the Autonomous Republic of Crimea in 2014. After conducting the 3D Seismic acquisition in the inner shallow waters, PGS could not obtain a permit from the Norwegian Commerce and Industry Chamber due to high military risks of continuing seismic acquisition in the remaining area.

The full-scale war waged by the Russian Federation against Ukraine since February 24, 2022, has confirmed the risks of further exploration. Today, the prospects of development of hydrocarbon potential of the Black Sea remains uncertain.

Development of fields under production sharing agreements

In 2019, Ukrgasvydobuvannya won the right to enter in four production sharing agreements at Balakliyska, Ivanivska, Berestyanska and Buzivska areas. In December 2020, the production sharing agreements for the 4 areas were signed and, in the beginning of 2021, Ukrgasvydobuvannya obtained access to the plots and existing geological information. According to the agreements, during the first five years from the date of signing of the agreements the company needs to conduct 3D seismic studies covering the area of 1.55 thousand km² and drill 12 exploration and appraisal wells. The total guaranteed investment should reach USD120 million.

During 2021, the team carried out reprocessing of the geological materials and 2D seismic works done in the prior years. Based on existing information, the team has prepared and launched a procurement tender for large- scale 3D seismic studies on each of the areas, however conducting 3D seismic works is impossible in the areas in the east of the country due to the war and will be performed once the war is over. The company plans to start 3D seismic studies at the part of Berestyanska area in the West of Ukraine in 2022.

Yuzivska area development

In December 2020, Naftogaz of Ukraine and Nadra of Ukraine signed the sale-purchase agreement of 99% of the statutory capital of Nadra Yuzivska. This company owns the right to explore and produce hydrocarbons of Yuzivska area. Additionally, Naftogaz of Ukraine entered into an agreement to buy 1% of the statutory capital of Nadra Yuzivska that belonged to "Ukrainian Geological Research and Production Center", the subsidiary company of Nadra of Ukraine. As a result, Naftogaz of Ukraine became the sole owner of Nadra Yuzivska.

During 2021, the team analyzed the existing geological data and started reprocessing of existing 2D and 3D seismic data. The team also identified locations for exploration well drilling and started development of the necessary project and technical documentation.

For exploration drilling purposes, the company obtained land plots for usage, developed an environment impact report and received the conclusion of the responsible Ministry necessary for start of works. As part of social responsibility to the local communities, the company developed the strategy of social investments and completed a number of projects aimed at development of those communities.

As of the date of this report, Yuzivska area is located in the war zone and further works in the area are possible only once the war is over and demining works are completed.

Studies of Carpathian region potential

Today the company carries out analysis of the geological potential of the region together with international partners – OMV Petrom and PGNiG. The company signed a memorandum of cooperation with PGNiG (the Republic of Poland), within which the representatives of PGNiG reviewed a number of assets in western Ukraine. The management of PGNiG confirmed its interest in partnering to study and develop the assets of the company. The company also signed a memorandum and joint study agreement with OMV Petrom (Romania). As part of the joint study agreement, the technical teams carried out detailed studies of the areas in the West of Ukraine, which resulted in identification of promising plots for further joint nomination for production sharing agreement competitions or auctioning.

Comparison to the prior periods

Such opportunities to obtain access to the prospective areas in a transparent way stand in contrast to the situation of prior years when Naftogaz Group not only had problems with obtaining new special permits but also lost some of them. Thus, in 2017, the State Geology and Subsoil Service of Ukraine annulled the special permits and right of Naftogaz of Ukraine to develop Budyshchansko-Chutivska, Obolonska and Pysarivska areas. Later (in August 2020), the special permit to develop Budyshchansko-Chutivska area was put on auction, as a result of which the right to develop the area was acquired by Naftogazgeorozvidka, which is part of DTEK Naftogaz, for UAH 650.5 million.

Partnerships and production enhancement contract (PEC)

In 2020, the company signed a production enhancement contract with Romanian company Expert Petroleum. From October 1, 2020, Expert Petroleum was granted access to the fields covered by the PEC contract and obtained 13 fields under its management. Upon contract signing, 42% of hydrocarbon production of Gas Production Unit Lvivgasvydobuvannya (organizational unit of Ukrgasvydobuvannya) is managed by Expert Petroleum.

In 2021, gross production of natural gas by Expert Petroleum amounted to 315.3 mcm, including incremental production of 44.9 mcm obtained from completed well work. Production increase at the fields covered by the contract compared to the level of 2020 was 6.4%, or 18.9 mcm. It is important to note that the partner has invested approximately USD 6 million since the start of the agreement.

Expert Petroleum plans to increase the number of operations in the future and drill first new wells and conduct 3D seismic acquisition in 2022.

The team of Ukrgasvydobuvannya sees potential in increasing the number of such projects at the depleted fields and, in the beginning of 2022, had a round table discussion with potential partners where it presented the list of fields for the next round of partner engagement under PEC terms. The list includes four clusters (Yuliyivsky, Pereshchepynsky, Karlivsky and Izyumsky), which include 35 fields with total annual production of over 1 bcm. As of now, the tender is on hold and will be resumed after the war in Ukraine is over.

In 2021, Naftogaz Group also developed other projects with engagement of experienced partners. In particular, it signed memorandum of cooperation to develop the potential of areas in the Black Sea with Naphta Israel Petroleum Corp. Ltd. (Israel), Dragon Oil Holding Limited (the UAE), Helmerich and Payne International Holdings (the US), 3 Seas Energy (the US) and SOCAR-AQS (Azerbaijan).

Analysis of return on invested capital based on 2021 results

ROIC calculation methodology and detailed analysis is presented in the chapter "What is ROIC: how the analysis of return on invested capital helps us see challenges to the financial sustainability of Naftogaz businesses". Below we provide key results and conclusions of the analysis.

If we use the market multiple of the value of the reserves of Ukrgasvydobuvannya as the measure of the market value, the return on invested capital of Ukrgasvydobuvannya (based on nominal (actual prices) in 2021 was 7.5%, which is lower than the cost of capital used by the company (10% for USD-denominated cash flows). If we use estimate monetary values of the 2P reserves of Ukrgasvydobuvannya from the reserve assessment reports as of the beginning and end of 2021, ROIC of the business (based on nominal (actual) prices) for 2021 was substantially lower the above-mentioned ROIC of 7.5% and was equal to 4.1%.

It is important to note that, in 2021, natural gas sales by Ukrgasvydobuvannya were done at prices which were substantially below market levels, while royalty expense was accrued based on import parity price levels, which had a significant impact on the operating result for the year. In case Ukrgasvydobuvannya sold gas at market prices, the return on invested capital, estimated based on the market multiple, would have equaled approximately 32%. Applying estimate of investment capital based on financial assessment of reserves by the evaluator would have resulted in the return on invested capital of 18%. Hence, if natural gas sales would have happened at market prices, return on invested capital in 2021 would have been substantially higher than estimated cost of capital for any of the methods.

This analysis points to the fact that Naftogaz' activity in gas production in 2021 was economically beneficial for Ukraine, and the difference between nominal (actual) and market prices was in essence indirect subsidies that the government through Naftogaz provided to the Ukrainian consumers in 2021.

Results and development of oil and gas field service capabilities

Drilling

2021 was a year of increased drilling activity following a substantial decline in activity in 2019-2020, which happened as a result of managerial decision of the Integrated Gas business division in the middle of 2019. The company discontinued using external drilling contractors, but also significantly reduced usage of its own in-house drill rig fleet. As a result, drilling dropped in 2020 to below the level of 2017, despite an upgrade of the drilling rig fleet of Ukrgasvydobuvannya. 5

In 2021, thanks to upgraded fleet, increased utilization of the rigs and process optimization, the company reached record commercial drilling speed, which jumped to 1,600 meters per month. On average, the commercial drilling speed reached the level of 890 meters per month, which was 14% higher than the average commercial drilling speed of 2020 (778 meters per month).

Despite an increase of drilling activity, the company managed to lower the cost of one meter drilled by 22%. Operating results of drilling activity also increased substantially compared to the level of 2020, in particular:

- Number of wells finished by drilling increased by 50%;

- The average drilling speed of modernized drill rigs increased three times;
- Non-productive time ratio (which includes accidents, defects and other idle time of the rig during drilling and is calculated as share of drilling time, not including rig-up and rig-down operations) decreased more than 2 times from 9.3% to 4.3%. 6

With that, we see significant potential in increasing the efficiency of drilling rig fleet utilization through reduction of idle time outside drilling operations. In 2021, by increasing the drilling rig fleet utilization, such idle time has decreased and was equal to 17% of total calendar time compared to 28% in 2020.

It is worth highlighting the wells which were completed with the best results:

- Skydanivske #6 – the deepest well (6,535 meters) drilled in the history of Ukrgasvydobuvannya;
- Vesnyanske # 116 – well with the largest stepout (1,150 meters) from the vertical, drilled using directional drilling technology;
- Gadytske # 74 – well with the record daily number of meters drilled (686 meters);
- Kehychivske # 522 – well with the highest drilling speed (1,690 meters per month).

In 2021, the company used the following new technologies:

- Completion of productive horizons with oil-based drilling fluids;
- Procurement of directional drilling services using a rotary-steerable system.

The company also implemented other measures to increase drilling efficiency, in particular:

- Implementation of pilot project of integrated project management in Stryi drilling unit to evaluate feasibility of switching "Ukrburgas" drilling unit to the new model of drilling operations management;
- Implementation of a new method of restoring drill bits;
- Development of online interactive map of the activities of "Ukrburgas" drilling unit;
- Purchasing and putting into operation two new cementing units;
- Full renewal of living camps for 16 drilling crews.

Workover operations

In 2021, the company performed 246 workover operations, of which 150 workovers were standalone operations done to increase hydrocarbon production, including 2 workovers under production sharing agreements. Eight capital workovers were done on base production wells and 88 were done in support of other operations or drilling. 47 out of 246 workovers were done using external contractor rigs.

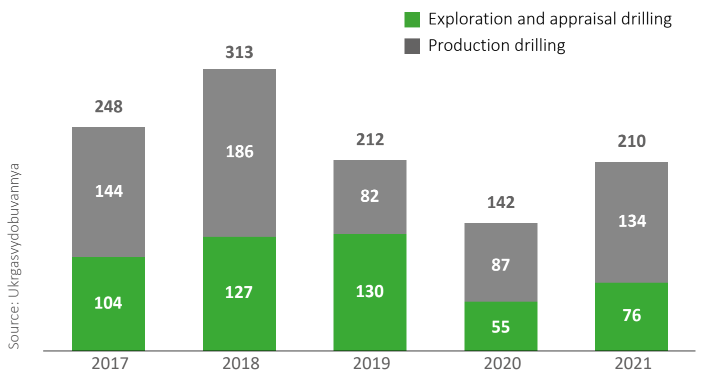
While performing workover operations, the company saw slight growth in the non-productive time during workover operations of its internal workover unit, "UGV-Service", from 10.8% in 2020 to 13.2% in 2021. 7 It is important to note, that we are also working to reduce the non-productive time outside of responsibility of internal contractor, which was 12.7% of calendar time in 2021. The company has developed a plan to reduce nonproductive time and is implementing it.

In 2021, the company actively worked to build the capability of its personnel. 100 professionals attended the program "Wellbore intervention and fishing", passed the exams and obtained the completion certificates.

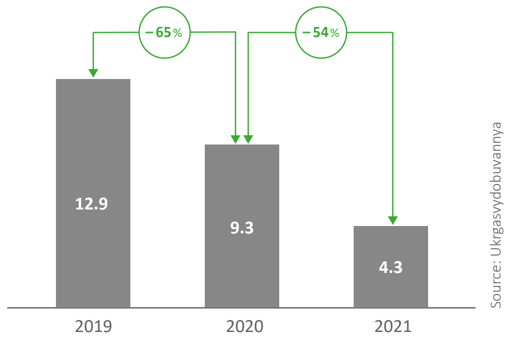
The company developed and implemented changes to the organizational structure of "UGV-Service" unit and implemented transformation of the processes, which in turn enabled the following:

- Staff workover crews with qualified personnel to reduce non-productive time;
- Ensure development of workover design at the budgeting stage for more effective budgeting of workover operations;
- Minimize usage of third-party contractors for engineering support to reduce operation cost;
- Reduce number of managerial levels, and hence the number of decision-making levels, from 5 to 3;
- Ensure discontinuation of fishing works at the initial stage, when the obtained results show that further works are not economically feasible, reducing the non-productive costs;
- Maintain the operations efficiency with lower number of external contractor fleet used;
- Introduce a single format of reporting for internal and external contractor, which allowed to maintain single data base;
- Update non-productive time classification in line with product lines and delineate areas of responsibility between the service provider and the owner of the well.

5 Drilling volume of Ukrgasvydobuvannya in 2017-2021, thousand meters



6 Non-productive time during drilling for Ukrburgas drilling unit in 2019-2021, %



As part of reorganization of "UGV-Service" unit, the company created a central facility for production maintenance of oil and gas service equipment, which, among other things, includes wellbore equipment maintenance shop and welding and surfacing shops. Both shops manufacture, service and restore fishing and milling tools, which in turn leads to cost reduction and a decrease of using third party services during workover operations performed by own fleet.

In additon, the company created a facility for servicing and manufacturing of pipe products, which performs coordination, storage, cleaning, inspection, repairs, and restoration of pipe products, using new tools and technologies.

The company also created an equipment and components usage coordination unit, which acts as a dispatch and logistic center for operations supply and rebalancing of needed resources between locations. Stock taking and relocation of equipment allowed to free up warehouses from out-of-order equipment and involve existing equipment in workover operations, while delivering equipment to locations in short time.

The engineering and project support group worked on standardization and improvement of business process efficiency as well as their incorporation into SAP system. Production wellbore equipment passports have already been standardized and catalogued, the process of equipment ordering has been substantially simplified and information database of technical documentation of existing workover equipment has been set up.

Coiled tubing operations

During 2021, the company performed 609 coiled tubing operations, of which 320 operations were carried out by own fleet of 7 coiled tubing units, while 289 operations were completed with the help of 8 units of third-party contractors.

Among the key achievements of 2021:

- Creation of an engineering and technological units for support of coiled tubing operations performed by own fleet, significantly impacting the reduction of non-productive time of coiled-tubing operations from 18.5% in 2020 to 14.6% in 2021;
- Equipping one of coiled tubing units with flexible pipe with logging cable, which allows to conduct logging studies in the wellbore during the coiled tubing operation. The technology is applicable for usage in the complex wells (wells with sidetracks or long horizontal sections), where application of standard logging tools is difficult. Wider application of the technology is expected in 2022;
- Application of the technology of non-damaging kill fluid into the well before the workover. The technology assumes setup and removal of the high viscosity pill before and after a workover operation, which protects the reservoir from harmful impact of technical fluids during a workover operation;
- Application of hydro fracking technology without using proppant at 2 wells. The technology assumes pumping of special technological fluids and nitrogen at pressures higher than the formation pressure and is suitable for idle wells;
- First ever application of velocity string technology by own coiled tubing fleet to restore production at Pivdenno-Hrabivske # 15 well, which had been slowly loading up and became idle in 2020 after water shutoff operation.

Hydro fracking operations

In 2021, Ukrgasvydobuvannya performed 105 hydro fracking operations 8, of which 39 operations were completed using own fleet, while 66 operations were completed using a third-party contractor. 52 hydro fracking operation were performed on the existing well stock, 52 operations were carried out on newly drilled wells and 1 – after a side-track operation. 46 wells from existing well stock were put into production after hydro fracking operations in 2021.

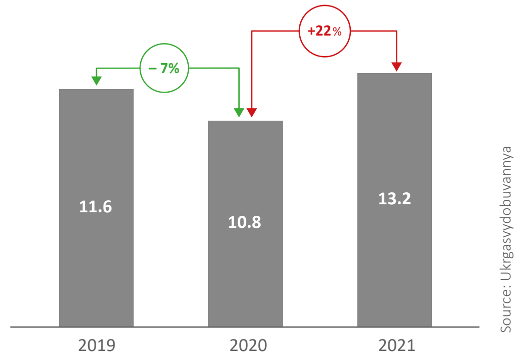
Key achievements of the hydro fracking program in 2021:

- Performance of the first ever successful hydro fracking operation at the production horizon over 6,000 meters deep (Komyshnyanske # 29), which resulted in initial gas production rate of 350 tcm per day, declining to a stabilized level of 284 tcm per day;
- Executing a nitrogen and foam hydro fracking operation, for the first time in the Western Ukrainian field of Ukrgasvydobuvannya;
- Increased number of operations performed by own hydro fracking fleet by 18% (39 operations in 2021 vs. 33 operations in 2020).

Key technologies applied in 2021, depending on well conditions, were the following:

- Hydro fracking operations with application of gel systems;
- Hydro fracking operations with pumping of viscous fluids with friction reducers (HV-FR systems);
- Nitrogen and foam hydro fracking operations, which assume injection of foam systems, allowing to significantly reduce volume of the injected fluid and accelerate completion of reservoirs with depleted reservoir pressures.

7 Workover operations non-productive time of UGV-Service organizational unit in 2019-2021, %



Geophysics services

In 2021, Ukrgasvydobuvannya managed to significantly improve geophysics operations efficiency, in particular, achieving the following results:

- Increase the number of well inspections by 25% to 2,647 jobs;
- Increase the volume of perforations by 20%;
- Lower the accident level during performance of well logging jobs by 50%;
- Increase the number of well logging crews from 24 to 26;
- Perform open bore cable logging operation in the extra deep Skydanivske # 6 well (6,535 meters deep), using GoWell logging tools;
- Complete development (jointly done by Ukrgazpromgeophysics geophysics unit, Lvivgasvydobuvannya production unit and LIKVO specialized emergency service of Ukrgasvydobuvannya) and start application of small-scale preventor and lubricator system to conduct perforations in the wells with balance well bore pressure;
- Successfully conduct joint operations (Slim Shuttle, perforations, perforation on tubing, logging) together with the Big Four oil and gas service companies.

Artificial lift operations

In 2021, 90 wells were equipped with capillary and plunger lift systems with the engagement of Weatherford Ukraine. Additionally, two first methanol supply systems were installed to reduce hydrate formation. Implementation of these systems allowed to obtain incremental production of 76 mcm in 2021. All installed solutions are linked to a monitoring system that allows to see and make changes to operating parameters in real-time. 9

The company automated operation of sucker rod pumps at wells # 54 and # 151 of Gadyatske field with the help of Weatherford Ukraine.

The team also implemented a pilot project of installing an electric submersible pumping unit at Novotroyitske # 37 well with the help of Schlumberger Services Ukraine. This solution is the first such system equipping the wells of Ukrgasvydobuvannya, allowing to monitor and change operation regimes in real time. The pump installation allowed to move the well from the idle well stock and put it into operation with production rate of 16 tons per day of oil production and 13 tcm per day of gas production.

Supply chain management

Warehouse and inventory management

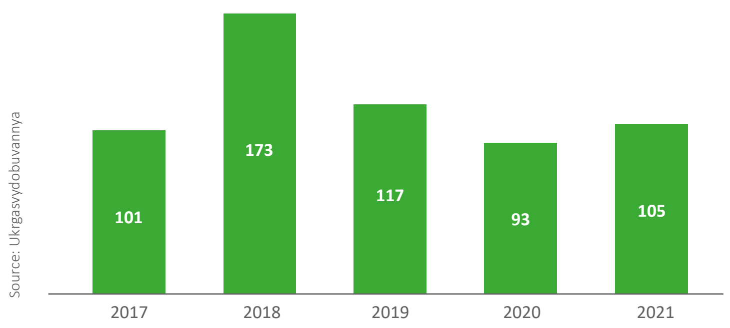
In 2021, the company continued its implementation of the warehouse transformation program. The objective was to ensure effective goods flow management, the creation of regional logistics centres and warehouse consolidation.

Upcoming key initiatives include the implementation of the digital warehouse management system (WMS), modern video surveillance and location access control systems. These initiatives will allow us to deliver a more professional, reliable, and controllable warehousing service.

During the warehouse consolidation process, the company sought to write off old and illiquid stock and obsolete fixed assets. As a result, the company sold scrap metal and used pipes for UAH 185 million.

It is important to highlight our work on master data management, including the creation of a register of all reference books which are for the operational activity. The reference books contain details of materials, quantities, purchasing codes, classes, and groups of more than 100,000 material accounts in SAP.

8 **Number of performed hydro fracking operations in 2017-2021, # of operations**



Transport and logistics management

In 2021, we launched the centralized transportation management function within the supply management. The key objectives of this activity are ensuring efficient and reliable logistics, ensuring efficient allocation of transport capacity, reducing transportation costs, improving planning and control of transportation operations, and making transportation operations more environmentally friendly.

There is more work to be done on our transportation management, but the initial results are promising. For example, improvements in our demand management in passenger transportation and auxiliary equipment capacity has allowed us to reduce the associated capital expenditure by 20%, or UAH 135 million.

In 2021, Ukrgasvydobuvannya more than doubled the number of vehicles in their transport fleet equipped with GPS systems to 88% and they intend to achieve 100% coverage. Ukrgasvydobuvannya introduced a digital dispatch system and they plan to create a centralized transport dispatch capability.

The supply chain management team worked to develop effective solutions to provide logistics for new gas fields, in particular unconventional reservoir fields, which is estimated to be the most promising in the portfolio of Ukrgasvybuvannya.

Hydrocarbon stabilization and refining

Hydrocarbon stabilization and refining operations of Ukrgasvydobuvannya support the production of hydrocarbons. Having our own hydrocarbon stabilization and refining capabilities allows the company to perform oil and condensate stabilization, produce LPG and fuel products from the resource of own production is vital, given the limited options to transport liquid hydrocarbons via oil pipeline for refining at Kremenchuk oil refinery.

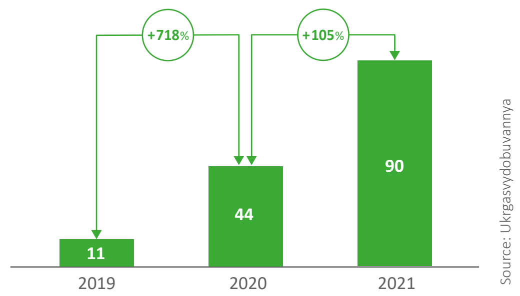
The volume of crude hydrocarbon processing and fuel product production at Ukrgasvydobuvannya and its key asset Shebelynsky gas processing plant is determined, primarily, by the liquid hydrocarbon production volume. Overall gas and liquid production has been declining along with the declining condensate to gas ratio. 10 In 2021, despite decline in liquid hydrocarbons production, the company managed to ensure crude hydrocarbon processing volume almost at the level of 2020 (441 thousand tons in 2021 vs. 446 thousand tons in 2020) by purchasing liquid hydrocarbons in the market.

Light petroleum products extraction ratio amounted to 86% compared to 91% in 2020 due to the change in the structure of processed raw materials. Fuel products output of Shebelynsky gas processing plant amounted to 411 thousand tons, including 130 thousand tons of gasoline (Šhebel 92 and Šhebel 95) and 76 thousand tons of diesel fuel (DF Šhebel), which was almost at the level of 2020. LPG production at the company's facilities also stayed at the level of 2020 and was 144 thousand tons.

In 2021, supply of diesel fuel and other fuel products for own consumption purposes of Ukrgasvydobuvannya was almost 66,000 tons, including supply of diesel fuel of 61,000 tons, mostly for operations of drilling rig and workover rig fleet. Sales of the rest of fuel products and LPG produced by Ukrgasvydobuvannya were done through electronic auctions at Ukrainian Energy Exchange platform or via own gas retail network.

It is important to highlight that low scale and obsolete technologies make Shebelynsky gas processing plant inefficient compared to other oil refining assets. However, taking into account the advantages of location and group synergies as well as required alternative cost to build oil transportation infrastructure in case of shipments of liquid hydrocarbons to Kremenchuk oil refinery, it is still more economical for the company to process raw materials on its own at the Shebelynske gas processing plant.

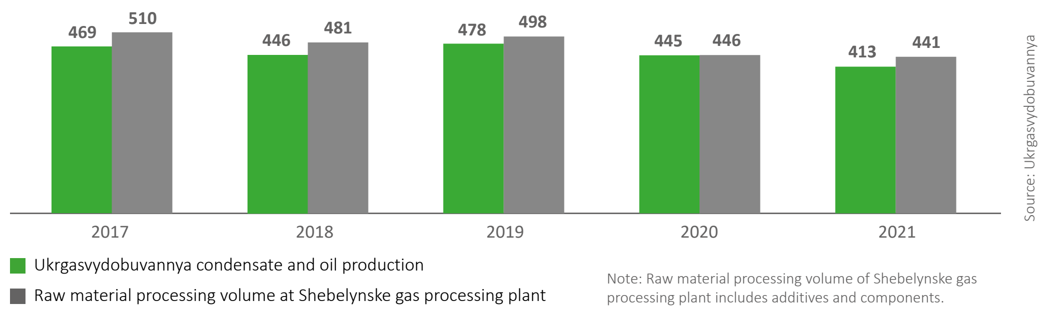
9 **Number of artificial lift systems installed in 2019-2021, units**



Challenges of 2022

The full-scale war of the Russian Federation against Ukraine, which started on February 24, 2022, significantly impacted the exploration and production activity of Naftogaz. Since the beginning of the war, almost all work at existing wells and drilling operations, primarily in eastern Ukraine, were stopped. Supply of critically needed services and materials was significantly complicated. Part of the existing well stock is now in the temporarily occupied areas. The team also had to put on hold several strategic initiatives in eastern Ukraine. As of the date of this report, the team of Ukrgasvydobuvannya is returning to active operations mode with maximum caution and with all due concern for the health and safety of its employees. It is important to add that the company's team, even in wartime conditions, has protected the production of natural gas from steep decline. In the first half of 2022, 6.310 bcm of trade gas trade volume was produced, which was only 1.5% below the first half of 2021.

10 **Ukrgasvydobuvannya condensate and oil production and Shebelynsky gas processing plant raw material processing volume in 2017-2020, thousand tons**



Note: Raw material processing volume of Shebelynske gas processing plant includes additives and components.

HYDROCARBON RESERVES AND RESOURCES OF NAFTOGAZ GROUP

	Natural gas (billion m³)	Oil and gas condensate (million tons)	Natural gas (million barrel oil equivalent)	Oil and gas condensate (million barrels)
NAFTOGAZ OF UKRAINE proved (1P)	–	–	–	–
probable	–	–	–	–
2P reserves as of 31.12.2021 (audited)	**–**	**–**	**–**	**–**
production	–	–	–	–
reserves increase	–	–	–	–
Reserves as of 31.12.2021	**–**	**–**	**–**	**–**
Prospective resources as of 31.12.2021 (audited)	34.96	1.31	205.67	9.52
Prospective resources of Black Sea special permits (internal estimate)	300.0	–	1 765.75	–
Total Prospective resources as of 31.12.2021	**354.96**	**1.31**	**1 971.41**	**9.52**
- including prospective resources in area of military action and temporarily occupied areas of Donetsk and Luhansk regions	34.96	1.31	205.67	9.52
UKRGASVYDOBUVANNYA proved developed	188.01	2.93	1 106.62	26.08
probable	54.40	0.93	320.15	8.07
2P reserves as of 31.12.2021 (audited)	**242.41**	**3.85**	**1 426.77**	**34.15**
production	–	–	–	–
reserves increase	–	–	–	–
Reserves as of 31.12.2021	**242.41**	**3.85**	**1 426.77**	**34.15**
Prospective resources as of 31.12.2021 (audited)	152.89	25.35	899.90	185.08
Prospective resources of unconventional deposits (internal estimate)	419.00	–	2 466.16	–
- including prospective resources of unconventional deposits under Buzivska PSA	51.00	–	300.18	–
Prospective resources of conventional deposits under Balakliyska, Ivanivska and Beresteyska PSAs (internal estimate)	12.00	–	70.53	–
Total Prospective resources as of 31.12.2021	**583.89**	**25.35**	**3 436.69**	**185.08**
NADRA YUZIVSKA proved (1P)	–	–	–	–
probable	–	–	–	–
2P reserves as of 31.12.2021 (audited)	**–**	**–**	**–**	**–**
production	–	–	–	–
reserves increase	–	–	–	–
Reserves as of 31.12.2021	**–**	**–**	**–**	**–**
Prospective resources as of 31.12.2021 (audited)	–	–	–	–
Prospective resources (internal estimate)	65.00	–	382.58	–
Total Prospective resources as of 31.12.2021	**65.00**	**–**	**382.58**	**–**
UKRNAFTA proved (1P)	14.97	18.57	88.05	135.52
probable	11.38	10.30	66.92	75.19
2P reserves as of 31.03.2019 (audited)	**26.34**	**28.87**	**154.97**	**210.71**
production	3.22	4.31	18.93	31.44
reserves increase	0.13	0.83	0.75	6.08
Reserves as of 31.12.2021	**23.25**	**25.39**	**136.80**	**185.36**
Prospective resources as of 31.12.2021 (internal estimate)	**9.62**	**45.60**	**56.60**	**332.84**
ASSETS OF NAFTOGAZ GROUP IN AR OF EGYPT proved (1P)	0.15	0.27	0.89	2,01
probable	0.06	0.16	0.38	1.17
2P reserves as of 31.03.2018 (audited)	**0.06**	**0.16**	**0.38**	**1.17**
production	0.24	0.29	1.40	2.10
reserves increase	0.32	0.40	1.86	4.81
Reserves as of 31.12.2021	**0.14**	**0.27**	**0.85**	**3.88**
Prospective resources as of 31.12.2021 (internal estimate)	**0.38**	**1.18**	**2.22**	**8.64**
NAFTOGAZ GROUP proved (1P)	203.13	21.77	1 195.56	163.61
probable	65.84	11.39	387.45	84.43
2P reserves as of the audit report date (audited)	**268.97**	**33.15**	**1 583.01**	**248.05**
production	3.45	4.59	20,32	33.54
reserves increase	0.44	1.23	2.62	10.89
Reserves as of 31.12.2021	**265.96**	**29.79**	**1 565.30**	**225.40**
Prospective resources as of 31.12.2021	**993.85**	**73.43**	**5 849.49**	**536.08**

Source:

For Naftogaz of Ukraine: Naftogaz of Ukraine, Ukrgasvydobuvannya, Naftogaz of Ukraine Branch in Arab Republic of Egypt Estimated Future Reserves, Resources and Income Attributable to Certain Interests and Derived Through a Concession Agreement Escalated Parameters as of December 31, 2014 by Ryder Scott company, L.P. In 2017, the State Geologicals and Subsurface Service of Ukraine annulled the special permits for the use of the subsoil and the right of Naftogaz to develop Budyschansko-Chutivska, Obolonska and Pysarivska areas, hence reserves of Naftogaz equal zero as of year-end 2021. Prospective resources for the Black Sea special permits are based on internal estimate of Ukrgasvydobuvannya team as of the date of this report and are not audited under PRMS. Numbers for Naftogaz do not include data for special permits in the Black Sea and the Sea of Azov, control of which was lost due to annexation of the Autonomous Republic of Crimea.

For Ukrgasvydobuvannya: Report as of January 1, 2022 on Reserves and Revenue of Certain Properties with Interests Attributable to Ukrgasvydobuvannya in Ukraine PRMS Case (for proved and probable reserves) and Report as of January 1, 2022 on Prospective Resources and Potential Present Worth Associated with Various Prospects and Leads with Interests Attributable to Ukrgasvydobuvannya in Various License Blocks Ukraine (for prospective resourcesby DeGolyer and MacNaughton. Prospective resources (audited) are under 2U (P50) estimate basis, truncated TEFS (threshold economic field size) adjusted. Prospective resources for unconventional deposits (including unconventional deposits under Buzivska PSA) and conventional deposits under Balakliyska, Ivanivska and Berestyanska PSAs are based on internal estimates of Ukrgasvydobuvannya team as of the date of this report and are not audited under PRMS.

For Nadra Yuzivska: Prospective resources (internal estimate) numbers are based on internal estimate of Ukrgasvydobuvannya team as of the date of this report and are not audited under PRMS.

For Ukrnafta: Report as of April 1, 2019 on Reserves and Revenue and Contingent Resources of Certain Properties with Interests Attributable to Ukrnafta in Ukraine PRMS Case by DeGolyer and MacNaughton. Production data are provided for period from April 1, 2019 to December 31, 2020 and include production volumes of companies with Ukrnafta full or partial ownership that is not reported in Ukrnafta production volume pro rata to Ukrnafta ownership. Hydrocarbon reserves increase data are for years of 2019-2021. Both production and reserves increase data are based on non-PRMS management data. Prospective resources as December 31, 2021 have been provided by Ukrnafta management, are based on Ukrainian classification standards and have not been audited under PRMS.

For Naftogaz Group assets in AR of Egypt: Naftogaz of Ukraine Branch in Arab Republic of Egypt Estimated Future Reserves and Income Attributable to Certain Interests Escalated Parameters as of March 31, 2018 and Naftogaz of Ukraine Branch in Arab Republic of Egypt Estimated Contingent Resources and Income and Prospective Resources Attributable to Certain Leasehold Interests in the Territory of Alam El-Shawish East Area, in Western Desert in Arab Republic of Egypt Escalated Parameters as of March 31, 2018 by Ryder Scott company, L.P. Production and reserves increase are provided for the period of April 1, 2018 to December 31, 2021 and are based on non-PRMS management data. Prospective resources and reserves increase is estimated based on share of Naftogaz Group in assets.

For PRMS audited reserves and resources, ratios to convert volumes of liquid hydrocarbons from metric tons into barrels, as wells as ratios to convert natural gas volumes from m³ into barrels of oil equivalent were identified by evaluators according physical properties of hydrocarbon fluids. For Ukrgasvydobuvannya, ratio of 6,000 cubic feet of gas per barrel of oil equivalent is used for conversion purposes. For Ukrnafta, 7.30 ratio is used to convert 1 thousand m³ of natural gas or 1 ton of condensate or oil into barrels (of oil equivalent). For Naftogaz Group assets in AR of Egypt, 7.33 ratio is used to do conversion between tons and barrels for oil and condensate. For Naftogaz of Ukraine and Nadra Yuzivska, 7.28 ratio is used to do conversion between tons and barrels for oil and condensate.

NATURAL GAS STORAGE

2021 key results

— The total physically injected gas volume into Ukrainian underground gas storage facilities (UGS) amounted to 3.6 bcm. The total physically withdrawn gas volume from the storage facilities during 2021 was 13.6 bcm, which was 5.7 bcm more than in 2020.

— Ukrainian UGS ended 2021 injection season with 18.7 bcm of gas in stock, which was 9.6 bcm less than in 2020, when a significant surplus of natural gas in Europe and price decline led to an increase in the demand for gas storage services by non-residents (for comparison, in 2019, when the EU and Ukraine injected additional gas volumes in preparation for potential transit termination, 21.8 bcm was accumulated in the Ukrainian UGS by the end of the injection season, which was significantly higher than the average 16.4 bcm on comparable dates of 2015-2018, when there were no anomalies similar to those of 2019 and 2020).

2021
injection season ended with
18,7 bcm
of gas in stock

— The volume of natural gas stored in the "customs warehouse" regime was 3.5 bcm at the beginning of the 2021/2022 withdrawal season (including 2.7 bcm stored by non-residents), which was significantly less than in 2020 (8.6 bcm).

— The net operating profit less adjusted taxes (NOPLAT) for the Natural Gas Storage segment in 2021 amounted to negative UAH 9,2 billion, which was UAH 6.8 billion worse than the result of the previous year. Ukrtransgaz NOPLAT was negative UAH 12.0 billion in 2021 compared to negative UAH 2.4 billion in 2020.

— ROIC, or return on invested capital, calculated using the depreciated optimized replacement cost (DORC) of assets, was negative 2.1% in 2021, and ROIC of Ukrtransgaz was negative 2.8% (in 2020, the corresponding ROICs were negative 1.6% for the segment and the company).

— ROIC, calculated using the alternative value method, was negative 28.3%, and ROIC of Ukrtransgaz was negative 36.9% in 2021 (in 2020, the corresponding indicators were negative 10.0% and 9.9%).

Ukraine has the largest underground gas storages in Europe and the third largest in the world. Ukrtransgaz operates 12 UGS with a total capacity of almost 31 bcm (including Vergunske and Krasnopopivske UGS with total volume of 0.82 bcm, which as of July 2022 are located in the temporarily occupied territories). For comparison, total capacity of UGS in Europe is 108 bcm, therefore our country can offer storage services not only for domestic consumers, but also for EU countries in the amount of up to 10 bcm.

The UGS operated by Ukrtransgaz are created on the bases of depleted gas fields. Given technological features and lower gas withdrawal speed, compared to salt caverns, they are mainly used for seasonal storage. At the same time, the external demand for Ukrainian UGS is largely determined by the gas surplus as well as market and price sentiments prevailing on the natural gas market.

2021 operational results

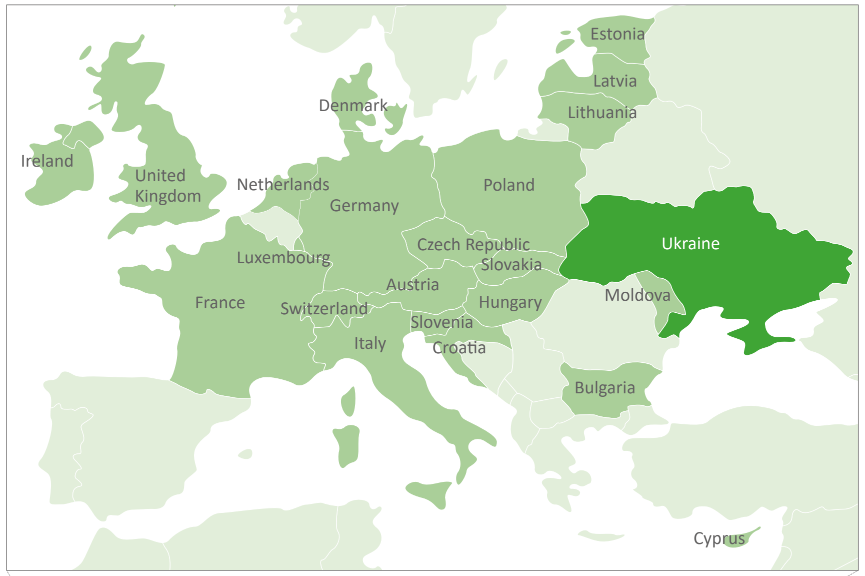
Record increase in natural gas prices, energy supply limitations, and the tense geopolitical situation affected EU UGS stock levels (as of the beginning of October 2021, European gas storage facilities were only 75% full) as well as utilization of the Ukrainian underground gas storages, which were 61% full at the beginning of October 2021, or 46% full adjusted for active gas of long-term storage.

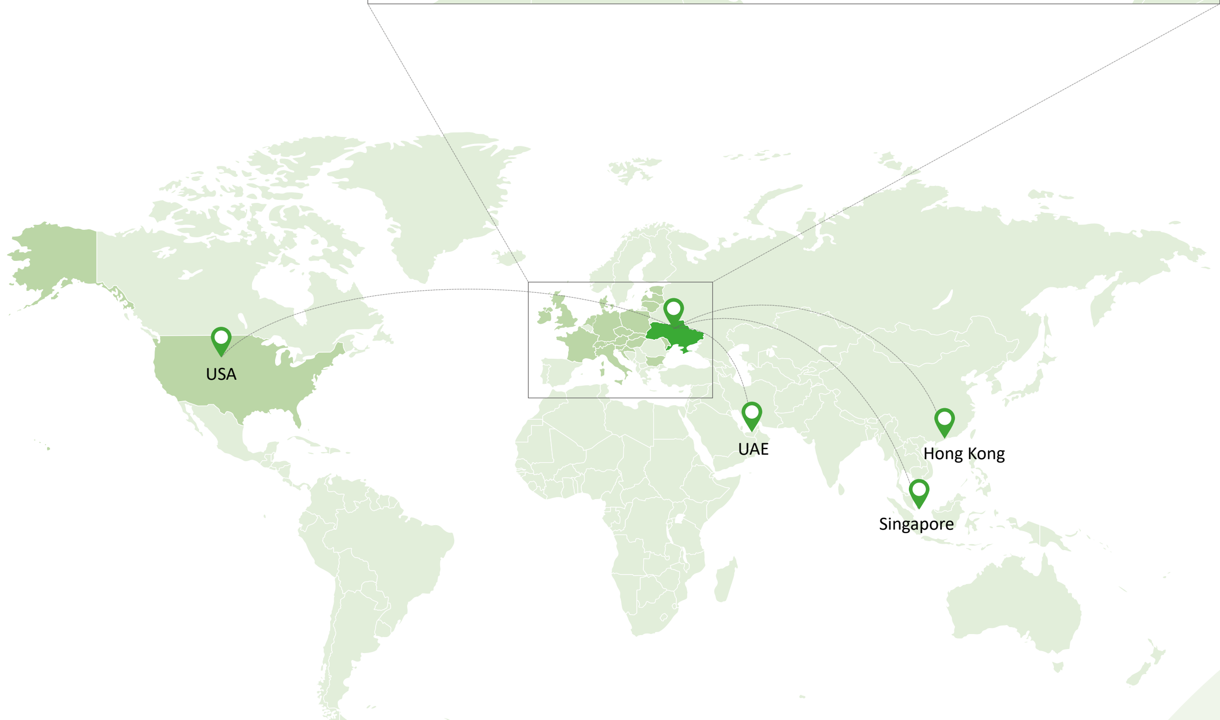
In 2021, the Storage System Operator of Ukraine (hereinafter – the UGS Operator) injected 3.6 bcm of gas into the UGS. This is 3.5 times less than in the "abnormal" 2020, when a significant surplus of natural gas in Europe and gas prices drop fueled demand for gas storage in Ukrainian gas storages by non-residents. Ukraine's underground gas storages accumulated 18.7 bcm of gas in stock by the beginning of the withdrawal season, which is 14% more as compared to average levels at the beginning of the heating seasons of 2015-2018, and 33% less than in 2020, when 28.3 bcm of gas were stored in Ukrainian UGS by the beginning of the withdrawal season. It should be noted that the volume of natural gas stock in 2020 was the result of higher demand for gas storage services both due to the surplus and a drop in prices caused by pandemic, and due to the increased level of natural gas injection in 2019 in anticipation of the gas transit halt through the Ukrainian GTS.

In 2021 gas volumes stored in Ukrainian gas storage facilities decreased, including natural gas stored by non-residents. At the beginning of the withdrawal season, foreign customers stored 2.7 bcm of gas in Ukrainian UGS, which is 3.7 times less than in the previous year. In 2021, 111 non-resident companies were served

1 Customer dynamics during 2021

January 1 2021	January 1 2022
848 clients	1003 clients
24 countries	27 countries
91 non-residents	111 non-residents
757 residents	892 residents

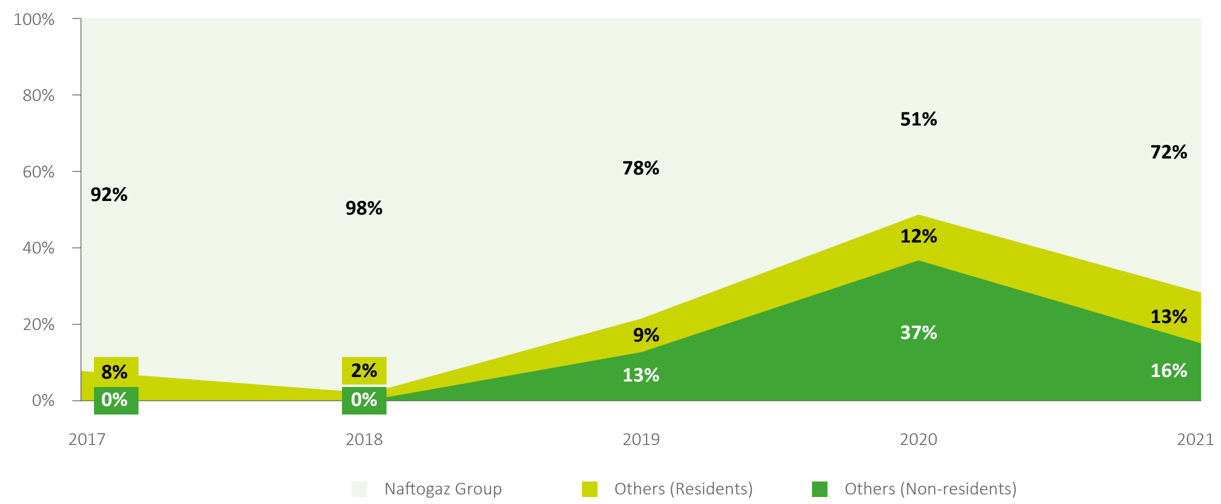




by Ukrtransgaz during 2021, 20 companies more than during 2021 (91 non-resident companies). 1

The largest customer was Naftogaz Group, with 72% of the total volume of gas storage by the identified owners in 2021. This changed the upward trend for the share of private customers of services and, in particular, non-residents, established during three preceding years. 2

2 Dynamics of changes in the share of Naftogaz Group (including Ukrnafta) and other determined consumers of gas storage services in 2017-2021



Source: Ukrtransgaz

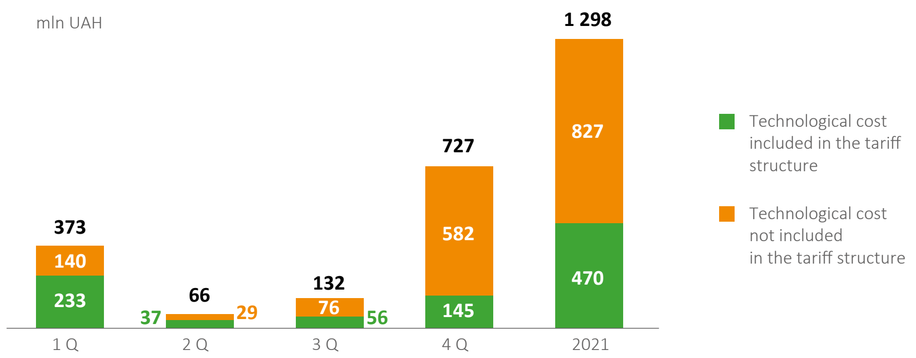
Note: Excluding the volume of natural gas owned by undetermined owner.

Tariff regulation of natural gas storage activities

Tariffs for gas storage services in Ukraine are regulated by the National Energy and Utilities Regulatory Commission (NEURC) and have been kept at the lowest levels as compared to the EU countries. Historically, tariffs set for Ukrtransgaz, did not cover economically justified costs and therefore and did not cover return on invested capital. Until 2015, low gas storage tariffs served to ensure subsidized gas price for end consumers. After the Law of Ukraine "On the Natural Gas Market" was adopted and with gradual deregulation of natural gas prices, amid the introduction of incentive tariffs for the services of the Gas Transmission System Operator of Ukraine (GTS Operator), the approach to tariff revenue setting for the Storage System Operator remained almost unchanged, namely based on the cost-plus pricing model. During 2021 and the first half of 2022, the tariffs established back in July 2020 were in effect. During the specified period, the price of natural gas increased more than sixfold, which provoked a sharp increase in the cost of gas for technological needs. At the same time, tariffs in 2021 were based on gas price of UAH 4,051 per tcm, while the actual weighted average cost of gas used for technological needs was UAH 11,175 per tcm for Ukrtransgaz, which is 2.8 times higher than the price included in the tariff structure. 3

Should the storage tariffs have remained unchanged in 2022, Ukrtransgaz would not be able to cover UAH 1.8 billion in revenues due to disparity of market gas price and the one in storage tariff structure in 2022.

3 UAH 827 million or 63% of the total cost – the price of the undervalued cost of gas in the tariff for UGS services provided by Ukrtransgaz in 2021



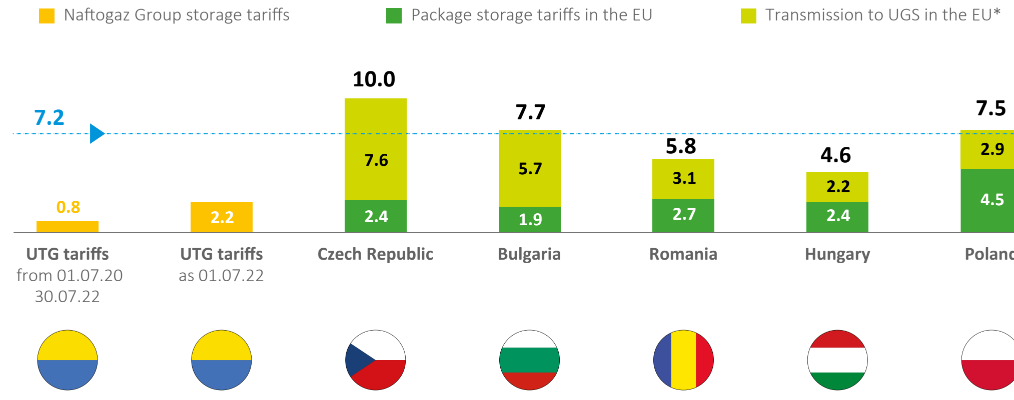
Source: Ukrtransgaz

From July 1, 2022, new tariffs for underground storage services (injection, withdrawal) of natural gas in the UGS of Ukrtransgaz are in effect (NEURC Resolution of June 30, 2022 No. 656). As a result of new tariffs introduction, total cost of annual capacity increased 2.65 times, mostly explained by gas market price increase.

Despite the fact that the tariff increase will have a positive effect on the expected results of Ukrtransgaz in 2022, tariff revenue does not ensure the required return on invested capital.

Accordingly, natural gas storage activities do not create value for the owner. From the domestic clients' perspective, the current cost of gas storage in Ukraine is on average 3.3 times lower than in the EU. 4

4 Comparison of effective gas storage costs in Ukraine and Eastern European markets, EUR/MWh with VAT in July 2022



Source: Ukrtransgaz, UGS operators of EU countries

* Package tariffs – storage + services of the GTS operator on the route to/from the UGS (entrance to /exit from the GTS)

2021 financial results

For the purposes of management analysis of performance of the Natural Gas Storage segment, Naftogaz management uses the net operating profit less adjusted tax (NOPLAT), as presented in the financial statements, particularly, in Note 3 "Information by Segment". Net operating profit is further adjusted for the results of Ukrtransgaz from operations that are not directly related to natural gas storage (for example, the reversal of provisions for doubtful account receivable from gas distribution network operators, accumulated under the licensed activities of Ukrtransgaz as the gas transmission system operator of Ukraine before 2020).

Ukrtransgaz ended 2021 with a negative NOPLAT (UAH 9.2 billion) for natural gas storage segment, which is UAH 6.7 billion worse than net operating loss of negative UAH 2.5 billion for the previous year. At the same time, the total NOPLAT of Ukrtransgaz amounted to negative UAH 12.0 billion, compared to negative UAH 2.4 billion in the previous year.

Tangible deterioration of segment's NOPLAT in 2021 resulted from the negative effect of the additional accrual of provisions related to gas volumes stored in Vergunske UGS, currently not under control (UAH 5.8 billion), increase of VAT allocated to expenses (UAH 1.8 billion) and assets impairment (UAH 0.3 billion). However, irrespective of the above items, financial result of the natural gas storage operations was negative and amounted to UAH (1.2) billion. The result indicates that the regulated tariff revenue of Ukrtransgaz in 2021 did not cover the costs borne by UTG to conduct storage operations. Moreover, as already mentioned, the current tariff methodology does not provide for return on invested capital.

On a separate note, during 2021 Ukrtransgaz incurred UAH 7.9 billion losses related to the operations of title transfer for 305 mcm of gas to Profi Gas as part of the settlement agreement of November 13, 2020. These losses were partially netted by the reversal of the provision for doubtful debts of gas distribution system operators in the amount of UAH 5.1 billion. Both transactions affect Ukrtransgaz but are not directly related to natural gas storage activity. Therefore, NOPLAT of Ukrtransgaz was UAH 2.8 billion worse than the indicator of the natural gas storage segment.

As stated in the section "What is ROIC: how return on invested capital analysis helps us see financial sustainability challenges facing Naftogaz businesses" of this report, two approaches to assess invested capital value are used for natural gas storage activities: based on the depreciated optimized replacement cost (DORC) and at the opportunity (liquidation) value (conservatively, the later approach suggests that only the value of the withdrawn gas can be derived). The estimated invested capital of the segment in 2021 was c. UAH 429 billion and UAH 33 billion, respectively, depending on the approach used. The corresponding ROIC for the segment was (2.1%) based on DORC and (28.3%) based on opportunity (liquidation) value. At the same time, the ROIC for Ukrtransgaz as a legal entity was (2.8%) and (36.9%), respectively. It should be noted that ROIC based on the results of 2021 was significantly worse than that for 2020, which, in fact, was the most successful in the last decade in terms of UGS load levels and, accordingly, tariff revenue. However, even taking into account the record utilization, ROIC for the segment in 2020, calculated using the depreciated optimized replacement cost of assets was (1.6%), and using the opportunity cost of invested capital- (10.0%), given negative NOPLAT for period.

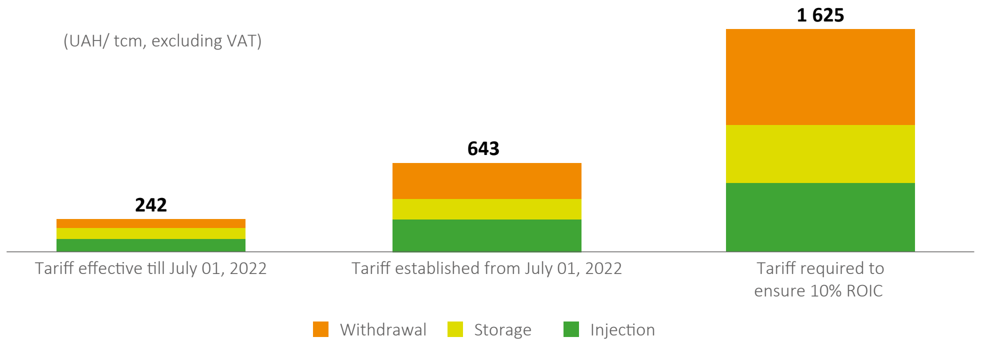
It is worth noting that cushion gas is the key component of the UGS Operator's invested capital. Ukrtransgaz being the operator of the largest underground gas storage facilities in Europe, accounts for about 15 bcm of injected cushion gas on its balance sheet. Taking long-term storage gas into account, the asset base of the segment is about 19.7 bcm of gas, including about 19.5 bcm of withdrawable gas. At the same time, the adjusted USG utilization (net of the volumes of long-term storage) did not exceed 60% over the previous three years. It should be taken into account that the underground gas storage system was historically constructed and used for seasonal storage of Russian gas to be further transported to Europe (transit volumes reached 137 bcm in 2004). However, over time, Gazprom deliberately reduced the volume of transit through the territory of Ukraine (only 41.6 bcm were transported to the EU in 2021), and by abusing its dominant position on the EU market, it actually makes the transfer of natural gas on the eastern border of Ukraine impossible. In addition, Gazprom also prevents access of Central Asian gas and gas of private Russian companies to the Ukrainian GTS. At present, given the above UGS of Ukraine face surplus of unutilized storage capacities.

Accordingly, the NOPLAT level that would cover economic costs can be achieved through two major drivers: setting tariffs that cover the required return on invested capital, and asset base optimization, which would ensure the long-term optimal operations of the underground gas storage system and would account for the expected peak withdrawals and long-term utilization.

If economically justified tariffs for natural gas storage services were established in 2021, at based on the liquidation value of the invested capital approach, the net revenue of the segment would have amounted to UAH 8.2 billion instead of the actually accrued net revenue of UAH 3.6 billion, i.e., by UAH 4.6 billion, or 128% higher.

The estimated annual tariff for 2022 covering the return on the opportunity (liquidation) value of the invested capital of 10%, should be UAH 1,625 (without VAT). 5

5 The required increase in tariffs for natural gas storage to ensure return on invested capital, calculated using the liquidation value method



Source: Ukrtransgaz, Naftogaz of Ukraine

At the same time, since the Naftogaz Group is a key customer of natural gas storage services (with a share of about 72% of the total in 2021) and sells the resource at below-market prices, the cost of storage is not translated into the final price for most of the company's customers.

Investments in UGS system modernization and development

During 2021, Ukrtransgaz made capital investments of UAH 0.7 billion, or over three times more as compared to the previous year. The amount of investments in the development of underground gas storage facilities was record high for the company over the past decade.

The company successfully completed a number of strategic projects, including, in particular, the reconstruction of the gas dehydration facility at the Dashavske UGS (UAH 174 million, without VAT). Also, the Company launched design the construction of gas consumption measurement points for nine UGS (with the total budget of UAH 1.4 billion, excluding VAT). The main technological equipment was upgraded for the reconstruction of compressor shop No. 4 of the Bilche-Volytska booster compressor station at the largest gas storage facility in Europe – Bilche-Volytsko-Uherske UGS (with the total budget of UAH 988 million, excluding VAT). In addition, the UGS Operator upgraded the equipment of the UGS network to facilitate gas measurement in energy units. In Addition, Ukrtransgaz started, for the first time in the last 13 years, preparations for construction of a new compressor shop at the Bogorodchany underground gas storage facility (the total budget is UAH 994 million, excluding VAT).

New products for customers of natural gas storage services

The UGS Operator introduced the long-awaited possibility to trade gas stored in UGS using the electronic platform of the Ukrainian Energy Exchange. During the year, the service was extended to include both customs-cleared and non-customs-cleared gas. As a result, not only Ukrainian, but also foreign companies that store gas in the "customs warehouse" regime can be engaged in exchange trading.

In addition, in 2021, the UGS Operator developed and tested an algorithm for bank monitoring of gas in collateral for non-resident customers. The service is now available to the customers storing both customs-cleared gas and gas in the "customs warehouse" regime and wish to expand their financing opportunities, benefit from better loan terms, and guarantee the safety and security of gas in collateral.

Operations of service branches

Service branches of Ukrtransgaz provided services both for Ukrtransgaz and to external customers, including GTS Operator of Ukraine, in the field of construction and engineering works. The GTS Operator of Ukraine remained the key customer for the above.

In 2021, service branches remained loss-making, net loss comprised UAH 250 million. The management of Ukrtransgaz made the decision to optimize its service branches and divest non-core assets.

Legislative and regulatory initiatives

In 2021 the issue of declaring transactions with natural gas stored in the "customs warehouse" regime was ruled out due to cooperation at the level of the State Customs Service of Ukraine, UGS Operator and GTS Operator.

After the adoption of the Law of Ukraine "About the measures directed to overcoming the crisis phenomena and ensuring financial stability in the natural gas market" of July 14, 2021 No. 1639-IX, Ukrtransgaz was able to restructure long-term debts accumulated by heat generation and heat supply enterprises.

In November 2021, by adoption of the Law of Ukraine "On Amendments to Certain Laws of Ukraine Regarding the Introduction of Energy Units for Gas Volume Measurement and Settlements on the Natural Gas Market" No 1850-IX, the Verkhovna Rada approved country's transition to gas measurements in energy units. A one-time and final transition from m³ to kilowatt hours was planned for May 1, 2022. However, the transition was postponed due to the start of a full-scale war with the Russian Federation.

Throughout the year, the legal team of Gas Storage Operator was also engaged in drafting law No 6133, which was first adopted by the Verkhovna Rada in January 2022. The draft law, which is yet to pass the second reading, among other things, introduces the concept of "critical and non-critical underground gas storage facilities". This would open wider opportunities for the Storage System Operator to better manage storage assets, in particular, those which are currently unprofitable.

Major tasks and problems to be addressed

In 2020-2021 Ukrtransgaz worked on resolving numerous legacy issues, those related to the prior activity as a gas transmission system operator, i.a. the problem of settlements for balancing services.

Collection of debts for the provision of GTS balancing services in 2016–2019

In 2016–2019, Ukrtransgaz, gas transmission system operator at the time, provided gas balancing services to the network users. The total debt for negative imbalances in 2016–2019 as of the end of 2021 amounted to UAH 41.6 billion. During 2021, this debt decreased by UAH 2.0 billion, including pursuant the court rulings. Just to add, that in 2021, a total of UAH 695 million was collected in favor of Ukrtransgaz according to court decisions.

Debt collection from heat generating enterprises

In 2015–2019, heat utility companies withdrew about 1.7 billion m³ of natural gas from the GTS, but did not pay for it. The total debt exceeds UAH 10 billion, provided that it is repaid at PSO prices. In 2021, the Law of Ukraine "On measures aimed at settling the debt of heat supply and heat generating organizations and enterprises of centralized water supply and drainage" dated July 14, 2021 No 1639-I X was adopted. The law opened up new opportunities for solving the issue. In particular, heat companies were given the right to restructure their debt with subsequent write-off of fines and penalties charged to them, as well as to avoid potential lawsuits.

Settlement of issues related to the storage of natural gas on the technical account "unidentified owner"

Since 2020 Ukrtransgaz has been continuously analyzing, gathering information, and seeking ways to settle and document gas volumes which have been injected since 2006. During 2020–2021, the issue was settled with regard to storage of 769 mcm of natural gas, of which 702 mcm are identified as natural gas owned by Ukrgasvydobuvannya.

The problem of filling the technologically required volumes of cushion gas

The issue of purchasing and financing cushion gas volumes as provided for by the technical and design documentation of UGS has not been resolved at four UGS facilities, in particular:

- 3,700 million m³ – Bilche-Volytsko-Uherske UGS
- 622 million m³ – Dashavske UGS
- 250 million m³ – Uherske UGS (14–15 horizons)
- 90 million m³ – Olyshivske UGS.

Challenges in 2022

As a result of the full-scale war of the Russian Federation against Ukraine, the UGS Operator of Ukraine had to significantly revise its activity plans in order to mitigate and prevent negative consequences of the aggression. As of mid-June 2022, Ukrtransgaz operates 10 UGS located in the controlled territory. Control over two UGS was temporarily lost: Vergunske UGS – in 2014, and Krasnopopivske UGS – in March 2022. Ukrtransgaz has transferred significant volumes of active gas stocks from UGS facilities in the east and north of Ukraine to gas storages near the western border of the country. Despite the crisis caused by the full-scale hostilities on the territory of Ukraine, the management of the UGS ensures the uninterrupted operation of the facilities in the Ukrainian Government controlled territory, has strengthened security measures at strategically important facilities and control over the operational activities of gas storage facilities.

HEAT ENERGY

2021 KEY RESULTS

Heat production in **2021** reached **170 thousand Gcal**

- Heat production in 2021 reached 170 thousand Gcal, which was 4% higher than in 2020 (163 thousand Gcal).
- Supply of useful heat to customers in 2021 amounted to 111 thousand Gcal, posting a 12% increase compared to the previous year (99 thousand Gcal).
- Total volume of electricity generated equaled to 9 thousand MWh, which was 23% less than in 2020 (12 thousand MWh).
- The volume of power distribution services amounted to 99 thousand MWh, which was almost a threefold increase compared to 2020, since, in 2020, these services were provided starting from September only.
- Total revenue of Naftogaz Teplo in 2021 amounted to UAH 211.6 million, which is 54% higher than in 2020.
- Net operating loss (NOPLAT) slightly decreased in 2021 compared to 2020, and amounted to UAH 128 million loss, compared to UAH 137 million loss in 2020.
- Settlements for heat energy supplied reached 89% compared to the previous year level (87%).
- Settlements for natural gas used for heat production reached 90% (since the start of the company's operations on November 25, 2019), including due to the state budget subvention to local budgets to repay arrears resulted from the difference in the tariffs.

Naftogaz Teplo (further also the company) was incorporated on August 16, 2018 to engage in heat production activities, electricity generation, heat energy transportation, and supply, and the power distribution.

Naftogaz Teplo has been acting as the asset manager for two companies – Energia-Novyi Rozdil and Energia-Novoyavorivsk since November 2019.

In 2021, Naftogaz Teplo ensured heat production, transportation and supply for 9.9 thousand clients in Novoyavorivsk, and 9.3 thousand clients in Novyi Rozdil in Lviv region[1].

The production equipment of the mentioned CHPs, which is used under the management agreements with the National Agency of Ukraine for finding, tracing and management of assets derived from corruption and other crimes (the "ARMA") as of December 31, 2021, has not been transferred to the company's balance sheet and is under management of Naftogaz Teplo till 2026. This fact had a negative impact on the company's business activities (in particular, in terms of limiting the possibilities for financing capital investments and modernisation of core assets).

In 2021, the Cabinet of Ministers of Ukraine resolved to transfer the shares of several joint stock companies, namely: Dnipro CHP, Mykolayiv CHP, Kryvyi Rih HP, Kherson CHP, Odesa CHP, and the shares of the joint stock company established as a result of the transformation (corporatisation) of Sievierodonetsk HP, from the State Property Fund of Ukraine to the share capital of Naftogaz of Ukraine. 1 (see pages 152-153)

2021 OPERATING RESULTS

In 2021 Naftogaz Teplo ensured timely preparation to and successful passing of the 2021/2022 heating season in the cities of Novoyavorivsk and Novyi Rozdil, with almost 60,000 residents, and 111 thousand of Gcal of the heat energy consumed. At the same time, given the poor technical condition of the assets handed over for the management of Naftogaz Teplo, in particular, distribution infrastructure, the total heat energy losses amounted to almost 35%, in particular, 42% for Novyi Rozdil CHP and 23% for Novoyavorivsk CHP 2.

Since the production equipment of the Novoyavorivsk and Novyi Rozdil CHPs were not transferred into the ownership of Naftogaz Group, Naftogaz Teplo has limited possibilities for further significant investments in the facilities, in particular, in the grids modernisation.

[1] Data on the subscribers number is given as of December 2021

1 Key performance indicators of the CHP managed by Naftogaz and the CHP to be handed over into the ownership of Naftogaz

Novoyavorivsk CHP

Installed thermal capacity
77 Gcal/h
Installed electricity capacity
50 MWh
Number of customers
9.9 thousand

Novoyavorivsk Power Grids

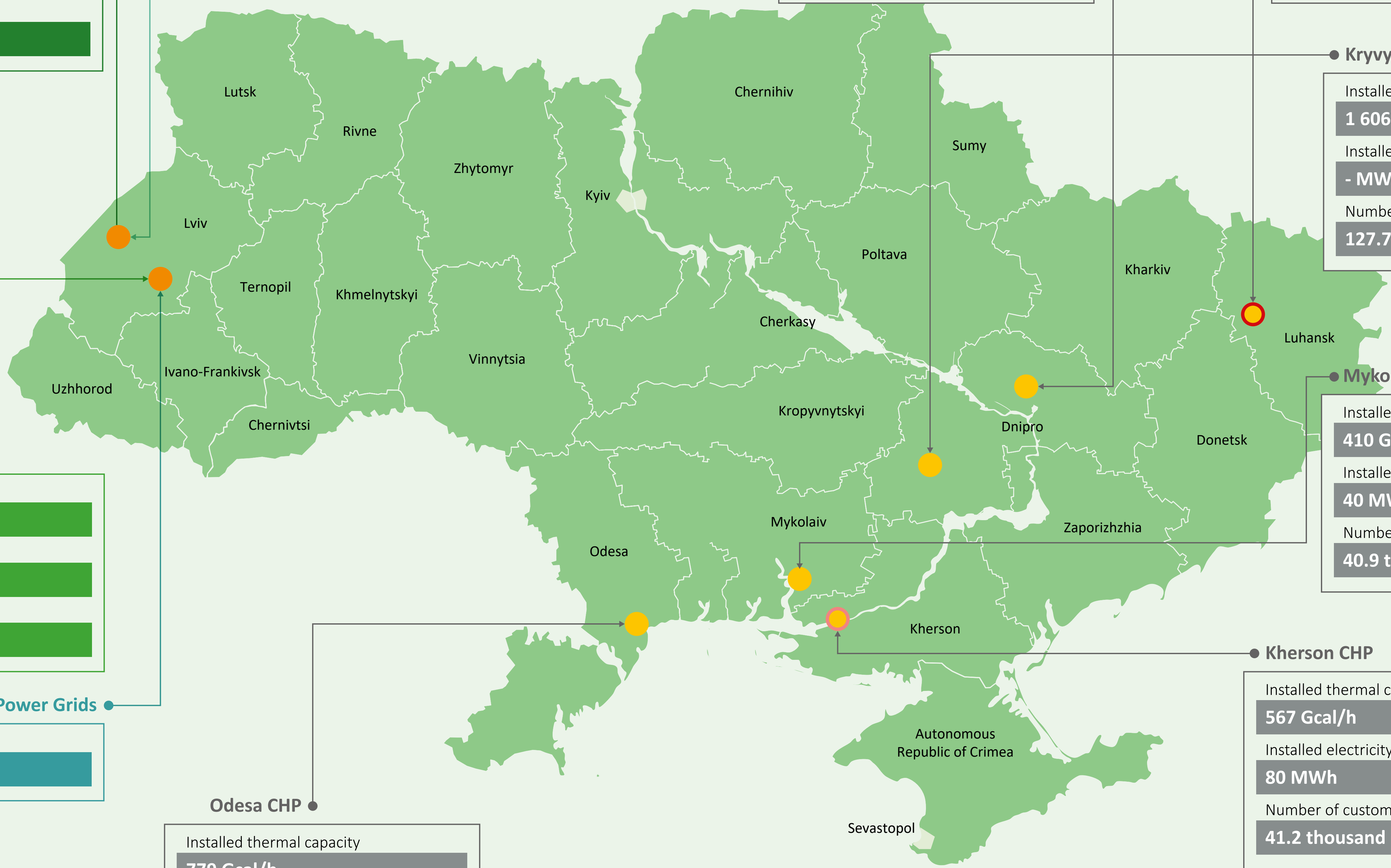
Total length of grid lines
192 km

Novyi Rozdil CHP

Installed thermal capacity
149 Gcal/h
Installed electricity capacity
52 MWh
Number of customers
9.3 thousand

Novyi Rozdil Power Grids

Total length of grid lines
184 km



Odesa CHP

Installed thermal capacity
779 Gcal/h
Installed electricity capacity
68 MWh
Number of customers
1 (KP)

Dnipro CHP

Installed thermal capacity
500 Gcal/h
Installed electricity capacity
62 MWh
Number of customers
25.2 thousand

Sievierodonetsk HP

Installed thermal capacity
600 Gcal/h
Installed electricity capacity
260 MWh
Number of customers
28.9 thousand

Kryvyi Rih HP

Installed thermal capacity
1 606 Gcal/h
Installed electricity capacity
- MWh
Number of customers
127.7 thousand

Mykolaiv CHP

Installed thermal capacity
410 Gcal/h
Installed electricity capacity
40 MWh
Number of customers
40.9 thousand

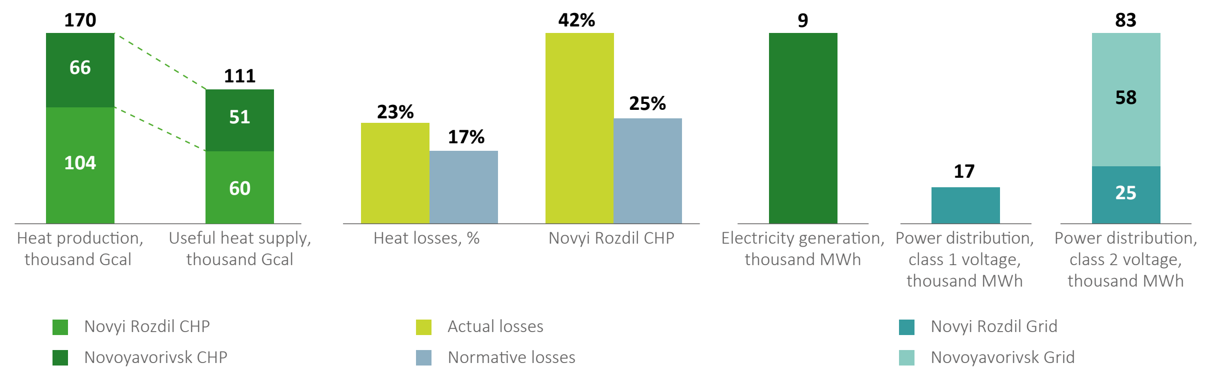
Kherson CHP

Installed thermal capacity
567 Gcal/h
Installed electricity capacity
80 MWh
Number of customers
41.2 thousand

Source: Nafrogaz Teplo, CHPs data

– Transferred to management
– Planned for transfer to the ownership of Naftogaz of Ukraine
– Destroyed as a result of hostilities
– Temporarily occupied

2 Key operational results of Novoyavorivsk and Novyi Rozdil CHP in 2021



Source: Naftogaz Teplo

2021 FINANCIAL RESULTS

Heat energy production, transportation, supply, electricity generation and distribution activities historically were and remain loss-making for Naftogaz Group.

Net operating loss (negative NOPLAT) slightly decreased in 2021 to the level of UAH 128 million loss compared to the negative result of UAH (137) million in the previous year.

The segment's systematically negative financial result clearly indicates that this business is not financially sustainable (therefore, we do not analyse return on invested capital for the segment in this report).

Negative NOPLAT in 2021 occurred as a result of the following key factors:

– Low load level of CHP equipment. The actual capacity utilization of Novyi Rozdil CHP is 20%, and of Novoyarivsk CHP - 22% of the nominal capacity. Low capacity utilization results in significant share of semi-fixed costs and respective higher justified tariffs, even with low price for fuel natural gas.

– Outdated and inefficient equipment, including worn-out heat networks, requiring emergency repair, where the actual heat losses during transportation significantly exceed the normative ones (which are covered by the heat energy tariff).

– Based on the preliminary assessments, Naftogaz Teplo investments in the infrastructure needed to cut the heat losses to at least the normative level, and to reduce the corresponding volumes of fuel natural gas use, can reach up to UAH 500 million.

– Current approaches to tariff setting results in the tariffs that do not cover production costs, in particular, in terms of fuel gas costs, fixed production costs, and other components.

Moreover, the current tariff setting methodology does not provide for return on invested capital to a licensee, which would be required to ensure the financial stability of enterprises in the heat generation and heat supply sector.

In line with the provisions of the Memorandum of Understanding on the settlement of issues in the area of heat energy and hot water supply in the 2021/2022 heating period (the "Memorandum")[2], in the 2021/2022 heating season tariffs for the supply of heat energy and hot water for the population shall not exceed the level of tariffs for the previous heating season, while the difference between the current and the economically justified tariff to be compensated by local authorities. Guided by the provisions of the Memorandum, the executive committees of the Novoyavorivsk and Novyi Rozdil city councils set the tariffs for heat energy and hot water for the needs of the households for the 2021/2022 heating season at the level of the 2020/2021 heating season.

Taking into account the abovementioned factors, the tariff revenue from the sale of produced heat energy for the needs of the households covered the corresponding production costs of Novoyavorivsk CHP by only 65%, and of Novyi Rozdil CHP by 49%.

It is worth noting that contrary to the Memorandum, local communities did not compensate for the difference in the tariffs of the CHP (even though Naftogaz has fully complied with the provisions of the Memorandum and supplied gas to the CHP at prices significantly lower than the spot market price).

Also in 2021, in line with the resolution of the CMU dated December 15, 2021 No. 1340, settlements were made in respect of the debts resulted from the relevant difference in tariffs for the previous periods through payables settlements with the Naftogaz of Ukraine for the natural gas used for the production of the heat energy for the needs of the households. Such compensation for Novoyavorivsk CHP amounted to UAH 60.0 million, and for Novorozdilska CHP amounted to UAH 79.5 million. It should be noted that the amount of compensation, given the procedure for its calculation, did not allow Naftogaz Teplo to fully cover its costs for the previous periods, since the calculation is based on normative heat losses, not the actual ones (which are significantly higher than normative figures).

Setting of the tariffs that would ensure the financial stability of the heat producer not only requires amendments to the applicable tariff regulations, but also finding a solution to a number of legacy problems of the heating sector, such as the introduction and financing of a large-scale program for the energy efficiency of production, transportation and consumption of heat energy, a system for the vulnerable households protection from the adverse effect of increasing energy costs.

In 2021, revenue from the sale of electrical energy amounted to UAH 8.0 million, which is UAH 2.5 million less compared to the same figure in 2020. In 2021, Naftogaz Teplo resolved to reduce the volume of electricity production due to a significant increase in the price of fuel natural gas in the second half of 2021. With the weighted average price of electrical energy on the wholesale market in November 2021 at the level of UAH 3,295 per MWh, the estimated cost of electricity production in the same month for CHP was UAH 4,160 per MWh. According to the calculations of Naftogaz Teplo, further electrical power production at the level of 3,220 MWh (the actual volume in Q4 2020) could have resulted in additional UAH 3.6 million in losses for the Entity.

In 2021, revenue from electrical energy distribution services amounted to UAH 82.1 million, which is UAH 57.9 million more compared to 2020, since in 2020 distribution services were provided starting from September.It should also be noted that in 2021, Naftogaz Teplo managed to ensure a review of the tariffs for electricity distribution services in 2021 by an average of 10%. Also, at the initiative of the Entity, amendments to the Methodology and Charges for Connection to the Electricity Distribution Systems, which made it possible to set the rate for connecting the capacity for 2021 at the average level within Ukraine. In 2021, rates for standard connection increased by 65% and rates for non-standard connection by 38% for Novyi Rozdil power grids, and by 46% for Novoyavorivsk power grids.

TRANSFER OF CHP SHARE PACKAGES FROM THE STATE PROPERTY FUND OF UKRAINE

In 2021, the Cabinet of Ministers of Ukraine resolved to transfer the shares of several joint stock companies, namely: Dnipro CHP, Mykolayiv CHP, Kryvyi Rih Heating Plant, Kherson CHP, Odesa CHP, and the shares of the joint stock company established as a result of the transformation (corporatisation) of Sievierodonetsk HP, from the State Property Fund of Ukraine to the share capital of Naftogaz of Ukraine.

Even before the transfer of ownership, in order to effectively fulfill the instruction of the Government, the Entity developed and implemented an Action Plan to prepare the CHPs for the timely start and stable passing of the 2021/2022 heating season; an Action Plan to ensure the efficient operation of the CHPs; and an Action Plan to ensure Naftogaz of Ukraine control over the CHPs and respective corporate governance.

In addition, during 2021/2022 heating season Naftogaz of Ukraine has allocated repayable financial assistance to Dnipro CHP, Mykolayiv CHP, Kryvyi Rih HP, Kherson CHP, Odesa CHP, Sievierodonetsk HP totaling to UAH 972.6 million for the entities to purchase natural gas for the heating season.

It is to be noted that mentioned CHPs are large debtors to Naftogaz Group companies for the used natural gas. As of December 31, 2021, the total debt of 6 CHPs, including fines and penalties, amounted to UAH 7.76 billion (where fines and penalties were UAH 1.77 billion), and increased by UAH 1.13 billion over six months of 2022 up to UAH 8.89 billion (where fines and penalties were UAH 1.60 billion).

The actions implemented from October 2021 to January 2022 reduced the total consumption of natural gas at the CHPs by 58 mcm compared to the previous heating period. The market value of the saved natural gas was over UAH 2 billion.

The Entity's constant monitoring of the procurement process at Dnipro CHP, Mykolayiv CHP, Kryvyi Rih HP, Kherson CHP, Odesa CHP, Sievierodonetsk HP also improved the efficiency and transparency of procurement procedures and prevented purchases with unreasonably inflated costs of about UAH 450 million.

Once the assets are transferred to the ownership of Naftogaz, Naftogaz Teplo will continue work on increasing the operational efficiency of the heating plants.

It should be noted that due to full-scale hostilities and Russian aggression, the Sievierodonetsk HP was destroyed, and control over the Kherson CHP, which is under temporary occupation, was also lost (both CHPs are located at the temporarily occupied territories). In

[2] On September 29, 2021, the Cabinet of Ministers of Ukraine, Naftogaz of Ukraine, the Office of the President of Ukraine, the Ukrainian Association of local self-government authorities "Association of Cities of Ukraine" and the Chamber of Local Authorities of the Congress of Local and Regional Authorities have entered into the Memorandum of Understanding on the settlement of issues in the heat energy and hot water supply sector in the 2021/2022 heating period.

general, the martial law status in the country may affect the future transfer of the shares of the CHPs, in particular Sievierodonetsk and Kherson CHPs, to Naftogaz Group.

PROBLEMS AND CHALLENGES FACED BY NAFTOGAZ TEPLO

Unsatisfactory state of the core equipment of production facilities

In order to increase reliability of the operation of Novyi Rozdil and Novoyavorivsk CHPs and to reduce costs/losses of technological resources, a number of activities are needed in 2022:

– repairs of steam boilers and steam turbines;

– major repairs of the water heater, electric pump PE-56-100 with an electric motor, and 15 electric motors;

– upgrade measuring devices and control devices;

– carry out repairs of main and distribution heat networks;

– purchase special machinery and equipment necessary to ensure the production process.

Substations and networks (110-0.4 kV) were put into operation back in the 1950s and 1960s. The equipment is obsolete, both technically and physically, and its condition significantly contributes to electricity losses in the distribution system and the number of technological failures.

Therefore, for the trouble-free and efficient operation of the network, a number of activities included in the Distribution System Development Plan for 2022-2026 should be implemented, namely:

– technical re-equipment of electrical substations and distribution devices;

– purchase of meters, current transformers and meter data transferring devices to ensure accuracy of accounting and reduce technological losses of electrical energy;

– purchase of special equipment for operational field teams and repair teams;

– replacement of household induction type energy meters of accuracy class 2.0 (more than 50% in the total number of household meters) with energy meters of accuracy class 1.0.

Inability to transfer assets of Novyi Rozdil and Novoyavorivsk CHP to ownership of Naftogaz Teplo

During 2019-2022, Naftogaz Teplo was engaged in several court cases considered by the High Anti-Corruption Court of Ukraine, the Commercial Courts of the cities Lviv and Kyiv as well as courts of appeal regarding property (asset) management, or the entities of Novoyavorivsk and Novyi Rozdil CHPs transferred by ARMA. The goal of Naftogaz Teplo in these cases was to obtain ownership of the specified production facilities. As at the date of this report, capacity acquisition remains blocked due to existing judicial seizures and prohibitions imposed on the property of both CHPs in previous years.

Tariffs below economically justified levels, delays in setting and revising

As mentioned above, the current heat energy production tariffs do not cover production costs of the Entity as well as full costs and adequate return on invested capital. In turn, in order to set the economically justified tariffs, the methodology is to be amended. Naftogaz Teplo, as a market participant, is working on the analysis of tariff regulation options applied in EU countries to define optimal approach to tariff setting.

The local authorities of Novoyavorivsk set heat energy and hot water tariffs six months after the date of submission of the application for setting the tariffs, while the local authorities of Novyi Rozdil set them nine months after the submission of the application. Unreasonable delay by local authorities in heat energy tariff setting and their revision leads to deterioration of the Entity financial standing and accumulation of additional losses.

Despite the revision of heating and hot water supply tariffs by the local authorities, the tariffs of 2020/2021 heating season continue to apply for the households of Novoyavorivsk and Novyi Rozdil, as stipulated in the Memorandum.

Meanwhile, local authorities do not seek ways to compensate the Entity for revenue shortfalls in connection with the application of the 2020/2021 tariffs, despite the fact that the Law of Ukraine "On the State Budget for 2022" provides for additional sources in the local budgets for such compensation.

In addition, the Novyi Rozdil city council unjustifiably and in violation of legally established deadlines delays revising tariffs for heat energy supply services provided by the Novyi Rozdil CHPfor the "budgetary institutions", "religious organisations" and "others" consumer categories. In order to protect its interests and prevent the accumulation of losses, the Entity prepared a lawsuit to recognise the inaction of the executive committee of the Novyi Rozdil city council of Lviv oblast illegal.

KEY AREAS AND INITIATIVES FOR FURTHER DEVELOPMENT

Increasing the level of consumer payments for services

The Entity has a number of initiatives to be implemented in the near future. It plans to expand the functionality of the consumption accounting system, develop personal consumer accounts, develop a mobile application, and introduce electronic administration while implementing an automated payment system.

Reduction of heat energy losses

In the coming inter-heating period, works are ongoing on the insulation of heat networks of Novyi Rozdil CHP, which will reduce losses in heat networks by 10% (the expected result is a decrease in natural gas consumption by 1.60 mmcm). The Entity also planned installation of heat meters with automatic data transferring to the control center. It would help analyse actual heat losses in the heat networks.

Fuel gas savings due to transition to RES

Naftogaz Teplo started the development of the abovementioned CHPs reconstruction concept. The objective of reconstruction is to reduce the consumption of natural gas by partially replacing natural gas with alternative energy sources (biomass or solid waste). The first pilot project is to be implemented in Novoyavorivsk. The project involves the construction of a biomass CHP plant with an installed capacity of 6.6 MW and a solid waste sorting complex.

Development of power grids

In order to achieve the Entity objective of reducing technical losses in power grids, NEURC resolutions approved UAH 9.6 million investment programs for the distribution system operator for 2022. These investment programs provide for the reconstruction of the power grids and the purchase of electric meters.

OIL TRANSIT & TRANSMISSION

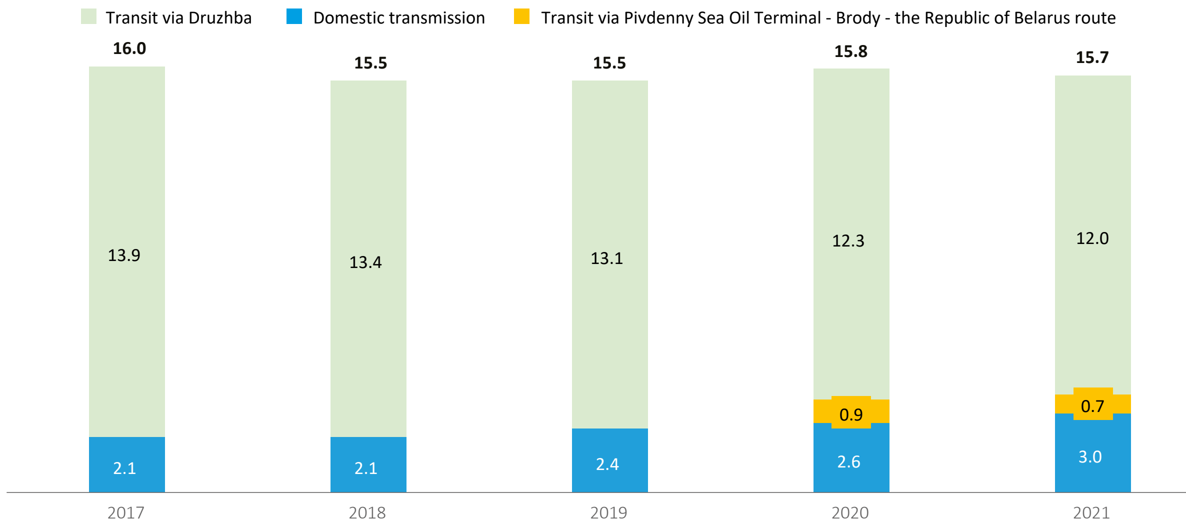
2021 key results

- The total oil transit and transmission through the territory of Ukraine in 2021 was 15.7 million tons (0.2% below the level of 2020), of which transit accounted for 12.7 million tons (3.2% lower than in 2020) 1
- Oil transit via the Ukrainian part of the Druzhba oil trunk pipeline was 12.0 million tons (2.2% below the level of 2020) that accounts for 94% of all transit volume
- Domestic oil transmission volume increased by 15.0% or 0.4 million tons to 3.0 million tons in 2021, mostly due to additional imports of oil via sea routes
- Revenue from oil transit increased by 3.4% in 2021 and reached UAH 3.6 billion, while revenue from domestic transmission increased by 49.3% and was equal to UAH 0.4 billion
- Net operating profit less adjusted tax (NOPLAT) for oil transit was UAH 1.1 billion (21.1% above the level of 2020)
- NOPLAT for domestic transmission was negative UAH 822 million, which is by UAH 116 million lower than the level of 2020, that is the result of very low tariffs which do not cover costs for maintaining the oil pipeline system to provide the services of domestic transmission
- Return on invested capital for oil transit was 3.9% (or below the cost of capital that the company used in 2021 – 10%) and ROIC for domestic transmission activity was negative 8.2%
- In addition to main operations of oil transit and transmission, Ukrtransnafta sold 91.4 thousand tons of oil, receiving UAH 784 million of income, with positive profit impact of UAH 229 million

For over three decades since the day of Ukraine's independence, oil transit and transmission activities performed by Ukrtransnafta have been happening in the conditions of declining transit volumes, constraints of domestic demand for oil due to shutdown of oil refineries, concentration of demand for oil transmission services with single consumer Ukrtatnafta.

The monopoly positions of consumers of transit and transmission services combined with imperfect tariff setting system and alongside the problems of efficiency of oil refining in Ukraine as well as conjuncture in the domestic fuel products market (in particular, dominant positions of Russia's and Belarus' fuel products in the market) have led to historical "subsidizing" of consumers of services and, as the result of this, insufficient return on capital for Naftogaz and the people of Ukraine as the ultimate owner of the company, from the ownership of the oil transit and transmission assets.

1 Oil transit and transmission volume in 2017-2021, mln t



Source: Ukrtransnafta

Oil transit

On December 5, 2019, Ukrtransnafta and Transneft entered into additional agreement No. 47 to the agreement on the provision of oil transportation services through the territory of Ukraine dated November 16, 2004 No. 0019100, which regulates the transportation of Russian oil through the territory of Ukraine until January 1, 2030. According to the terms of the agreement, Ukrtransnafta shall provide technical ability to transport up to 17 million tons of oil per year.

In 2021, the total volume of oil transit through the territory of Ukraine amounted to 12.7 million tons, which is a decrease of 3.2% compared to 2020. At the same time, the volume of transit of Russian oil to the EU countries via the Druzhba oil pipeline decreased by 267 thousand tons (reduction of 2.2% compared to 2020) to 12.0 million tons, while the volume of oil transportation from Pivdenny Marine Oil Terminal to the Republic of Belarus dropped by 18.2% to 719 thousand tons.

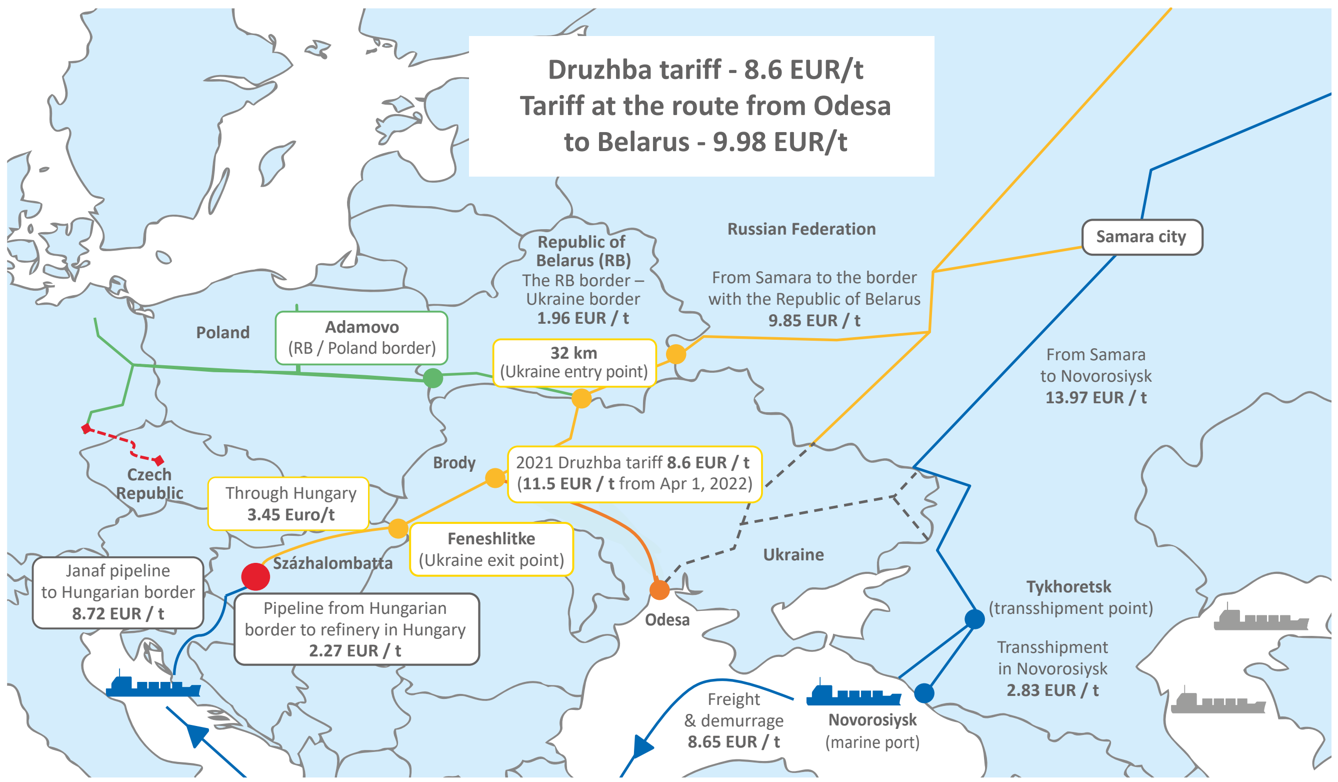
Net revenue from oil transit in 2021 amounted to UAH 3.58 billion, which is 3.4% higher than 2020 level. At the same time, revenue from transit of Russian oil to the EU countries via the Druzhba oil pipeline increased by 4.9% to UAH 3.35 billion, while revenue from oil transportation via Pivdenny Marine Oil Terminal – Brody – the Republic of Belarus dropped by 15.1% from UAH 274 to 232 million.

Growth in revenue of oil transit via the Druzhba pipeline was achieved due to the change in UAH/EUR exchange rate, since the tariff for Russian oil transit did not change in 2021 and was equal to 8.6 EUR / t, or 1.30 EUR / 100 tkm. At the same time, it should be noted that oil transit tariffs are not regulated and are established based on the contractual relations. In December 2021, Ukrtransnafta conducted negotiations with Transneft, which resulted in the rise of oil transit tariff to 9.0 EUR / t starting from January 1, 2022. Already after the start of full-scale war by the Russian Federation against Ukraine, in March 2022, Ukrtransnafta agreed with Transneft the increase of the tariff to 11.5 EUR / t. At the same time, according to the calculations of Naftogaz Group specialists, estimated cost of the alternative route of transportation of Russian oil by sea to the terminal in Croatia with following transportation via oil pipeline systems of Croatia and Hungary to the Hungarian refinery in the city of Százhalombatta is almost twice higher than the cost of the route using the Ukraine's section of the Druzhba pipeline in 2021. 2

In 2021, net operating profit less adjusted tax (NOPLAT) for Russian oil transit activities amounted to UAH 1.29 billion, which was 18.9% lower than 2020 result, while return on invested capital estimated based on depreciated replacement

2 Comparison of the cost of alternative routes for Russian oil supply to European refineries in 2021

calculation data



Source: Ukrtransnafta, Argus, Transneft, antimonopoly services of Russia and the Republic of Belarus cost approach was 7.3%, which was lower than the cost of capital of 10% used by Naftogaz in 2021 (for more information go to "What is ROIC: how return on invested capital analysis helps us see financial sustainability challenges facing Naftogaz businesses" section of this report).

Estimated NOPLAT for Pivdenny Sea Oil Terminal – Brody – the Republic of Belarus route operation amounted to negative UAH 188 million due to low utilization of the route (despite a higher tariff of 9.98 EUR / t), with respective ROIC at negative 1.6%.

In summary, oil transit NOPLAT amounted to UAH 1.1 billion in 2021 (21.1% lower than 2020 level), while return on invested capital estimated based on depreciated replacement cost approach was 3.9% (or 2.6 p.p. lower than the level of 2020). The increase of oil market prices and, as a result, increase in the invested capital value in 2021 was the key factor behind the decrease of ROIC from 2020 to 2021.

Increase of Russian oil transit tariff to 11.5 EUR/t, starting from April 1, 2022, has to a large extent (however, not fully) solved the problem of obtaining economic profit for the Druzhba oil pipeline operations at the current transit volume level. However, at the same time, ensuring such level of return in the long-term perspective remains at risk due to the absence of "ship or pay" condition in the current contract, transit termination risks related to the European sanctions against the Russian Federation and the war. In case of transit termination or significant decline in transited volume of Russian oil to the level when return on invested capital will become lower than the required return even for the liquidation value estimate of invested capital, the company will consider the options of mothballing of (at least part of) the oil pipeline and pumping out and selling the technological oil. The prospects of Odesa – Brody oil pipeline usage shall be decided after the victory of Ukraine, deblocking the oil supply sea routes and assessment of the Ukrainian oil refining industry rebuilding opportunities and / or the opportunities to use this oil pipeline to deliver oil to the European consumers.

Domestic transportation of oil

The volume of domestic oil transmission in 2021 increased by 15.0% or 0.4 million tons compared to 2020 and reached 3.0 million tons. Kremenchuk oil refinery (Ukrtatnafta) was the key customer of the transmission services. Transmission of oil produced by Ukrnafta to Kremenchuk oil refinery remained at the level of 2020 (994 thousand tons), while transmission via Odesa – Kremenchuk Refinery route grew by one third and exceeded 1.5 million tons.

In 2021, Ukrtransnafta began supplying Algerian Saharan Blend oil to the system and pumped it through the Odesa – Kremenchuk Refinery oil pipeline. In addition to that, British Flotta Gold oil, which is produced near the Orkney islands, was transported for the first time.

Net revenue from domestic oil transmission services grew by 49.3% in 2021 from UAH 275 to 411 million. Odesa – Kremenchuk Refinery route showed the highest increase on the absolute and relative basis: revenue grew by UAH 100 million and reached UAH 261 million (62% increase compared to 2020).

Increase of transmission tariffs (from 17 to 45% depending on a route) was the key factor behind the revenue increase. At the same time, the expenses of Ukrtransnafta to ensure operation of domestic oil pipeline network to transport crude oil to refinery facilities in Ukraine are not covered by the tariff income. The activities of Ukrtransnafta as a licensee performing oil transmission are subject to the state regulation by the National State Regulation in Energy and Utilities Commission (NEURC), in particular in respect to setting tariffs for transmission services for Ukrainian customers. Tariffs for domestic transmission are set by the transmission route by the NEURC. The tariffs were established on November 1, 2019 (the start of the first year of the transition period), assuming a subsequent gradual increase in the second and third years of the transition period until November 1, 2022, when Ukrtransnafta has the right to revise the tariffs. Thus, tariffs for domestic transmission of crude oil in 2021 did not match the economically justified level, covering only 15% of fully allocated costs (which do not take into account the opportunity cost of capital) for domestic transmission and did not ensure the justified return on invested capital.

NOPLAT for domestic transmission activities amounted to negative 822 million in 2021, and hence the return on invested capital (estimated based on depreciated replacement cost approach) was also negative 8.2% (for comparison, 2020 NOPLAT was negative UAH 708 million, while ROIC was negative 9.4%). To fully cover costs and reach 10% return on invested capital level, weighted average tariff for domestic transmission would have to be UAH 825 / t compared to the actually obtained tariff of UAH 136 / t, i.e., would have to be 6 times higher. Such difference resulted in subsidizing of transmission services consumers, which are Ukrtatnafta and Ukrnafta, in the volume of UAH 2 billion. Fixing these problems shall become the important precondition to ensuring financial sustainability of oil transmission activity, which is an important pillar of national energy security of Ukraine (for more information go to "What is ROIC: how return on invested capital analysis helps us see financial sustainability challenges facing Naftogaz businesses" section of this report).

Samara – Western Direction oil product pipeline management

On February 19, 2021, the National Security and Defense Council of Ukraine instructed the Cabinet of Ministers of Ukraine to take the necessary measures to return the part of the Samara – Western Direction oil product trunk pipeline, which goes through the territory of Ukraine (previously these assets were owned by PrykarpatZakhidtrans) to the state ownership. The pipeline with the length of 1,248 km runs through the territory of 6 regions of Ukraine and has throughput capacity of approximately 3.5 million tons of diesel fuel per year. In 2018, it was used to import 1.98 million tons of diesel fuel (30.5% of the national imports of this product) to Ukraine, in 2019 – to import 1.23 million tons (19.9%), and in 2020 – to import 635 thousand tons (10.1%). This fuel was delivered from the Russian Federation and the Republic of Belarus.

On February 24, 2021, Ukrtransnafta accepted the respective facilities for temporary safekeeping. On June 20, 2021, the company signed a 5-year contract with the Agency for Search and Asset Management (ARMA) to manage the Ukrainian part of the Samara – Western Direction oil product pipeline. Ukrtransnafta has the rights and obligations regarding conduct of business activities related to transportation, storage, transshipment of oil products to auto and rail transport. The company also takes responsibility to ensure at least UAH 1.1 million monthly state revenue from the management of this oil product pipeline.

In 2021, the company spent UAH 79 million to maintain the Samara – Western Direction oil product pipeline.

Opening oil and fuel products customs warehouses in the territory of Ukraine

Ukrtransnafta launched the service of storing oil in the "customs warehouse" mode in the territory of Ukraine. Two facilities of the oil transportation system received the status of the customs warehouse: Pivdenny Marine Oil Terminal reservoir park and trunk oil pipeline Lysychansk – Kremenchuk. Customers can store crude oil and fuel products at these facilities in the "customs warehouse" mode for up to 1,095 days. However, demand for such services remains to be confirmed, since as of the date of this report, no company has used the offer to store oil or oil products in the "customs warehouse" mode.

Challenges of 2022

The company's initial plans for 2022 were significantly adjusted to reflect the negative consequences of the invasion of Ukraine by the military of the Russian Federation on February 24, 2022. In February-March 2022, production facilities located in the north and south of Ukraine were occupied by the military of the Russian Federation, which puts in danger the operation of the oil pipeline system for domestic oil transmission. In addition, due to the blockade of the Black Sea ports it is impossible to deliver oil to Pivdenny Maritime Oil Terminal for further transportation.

It is important to note that oil transit volumes directly depend on the current political and economic situation, since the key transit route is the Ukrainian section of the Druzhba oil pipeline which is exclusively used for transit of the Russian oil. In particular, discussions regarding the introduction of an embargo on the import of oil from the Russian Federation to the EU countries also concern supply through the Ukrainian section of the Druzhba, which was used in 2021 to transport oil to Hungary, the Czech Republic and Slovakia. However, given the high dependence of these countries on this oil supply channel (50% to 100% of total oil supply), on May 31, 2022, the European Commission decided to make a temporary exemption for these countries and allow them to continue imports via the Ukrainian section of the Druzhba. However, at the same time the risks of both the EU embargo extention to this route and reduction of oil supply volume via this route by the Russian Federation remain relevant. According to IEA data, oil production in the Russian Federation is expected to decline from 11.0 to 10.3 million barrels per day over the course of 2022. In addition, the Russian Federation is reorienting its exports towards the Asian countries, which do not impose sanctions and increase discounted Russian oil purchases.

In the conditions of significant uncertainty with regard to futher functioning of the oil transportation system, the option of the current Company operating model review is being considered, in particular, of the option assuming optimization of the company's asset base, including technological oil, which will not be used to support oil transportation operations.

In May 2022, the General Director of Ukrtransnafta was replaced. Instead of Mykola Havrylenko, Volodymyr Tsependa who had earlier worked as the head of operations provision department at Ukrtransgas was appointed as the General Director of Ukrtransnafta on May 24, 2022.

In 2022, in the conditions of the full-scale war of the Russian Federation against Ukraine, the challenge of providing the country with fuel products to meet internal demand has become acute. Blockade of the sea routes and termination of imports from the Russian Federation and the Republic of Belarus created a temporary collapse in the domestic market. In 2022, the management of Ukrtransnafta conducted negotiations with the Hungarian company MOL Group to arrange diesel fuel supply from the EU countries. In June 2022, the Samara – Western Direction oil product pipeline began operation in the reverse mode – to supply fuel to Ukraine.

UKRNAFTA

The Naftogaz of Ukraine's portfolio of subsidiary companies includes Ukrnafta with 50% + 1 share ownership. The main group among the minority shareholders of Ukrnafta, which is associated with Ihor Kolomoiskyi[1], owns 40.1009% of Ukrnafta shares (hereinafter referred to as the Main group of minority shareholders).

Ihor Kolomoiskyi is a Ukrainian oligarch with a reputation that limits Naftogaz's ability to attract investors and international partners to develop its business and increase its value.

Ukrnafta had legal proceedings regarding transactions with the parties related to Ihor Kolomoyskyi. Independent auditors have issued their modified opinion on Ukrnafta's financial statements for many years due to the lack of sufficient audit evidence on transactions with related parties and/or their disclosure. Due to accumulated tax debt as a result of transactions with the parties related to Ihor Kolomoyskyi, Ukrnafta was in a situation of high uncertainty about its operation as a going concern. Thanks to the actions of Naftogaz, the company's majority shareholder, that the problem of Ukrnafta's tax debt was resolved at the end of 2020.

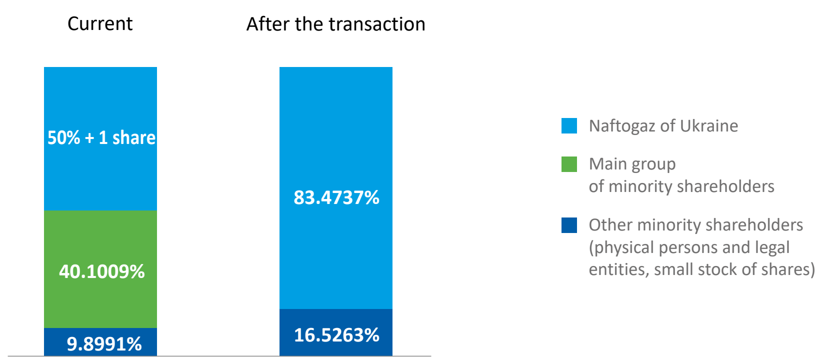
Given the lack of a competitive environment among oil buyers – refineries (there is only one large oil refinery in Ukraine – the Kremenchuk Oil Refinery[2] (also controlled by the Main group of minority shareholders of Ukrnafta), Ukrnafta being the only major oil producer is de facto integrated with oil refining. In addition, Ukrnafta owns a large fuel filling stations network. Therefore, for the Main group of minority shareholders of Ukrnafta, building a value chain from oil extraction, refining, and further sale of fuel to end users, de jure, is expedient. At the same time, for Naftogaz, the lack of a competitive market raises issues about both the sale price of oil for refining and the price of refining, which generally could form the basis for inefficiency and corruption.

From the Naftogaz point of view, the company sees the potential for increased hydrocarbon production growth and operational synergies from the integration of the upstream assets of Ukrnafta and Ukrgasvydobuvannya. However, the realization of this potential, given the above, is only possible under condition of termination of doing Ukraina's business together with the Main group of minority shareholders of Ukrnafta.

Ukrnafta's assets split between key shareholders of Ukrnafta has been negotiated for a long time. In 2021, the parties were finally close to defining the terms of the split and taking all the necessary steps for its implementation. The Main group of minority shareholders was to terminate its participation in Ukrnafta's equity through the sale of its stake in Ukrnafta in exchange for the purchase of part of Ukrnafta's upstream assets (mostly oil and condensate) and the fuel filling station network. In turn, Naftogaz was to receive a part of Ukrnafta's upstream assets, primarily gas-producing assets, and increase its ownership share in Ukrnafta to 83.47%. The split of assets was considered both from the point of view of the potential for value creation for Ukrnafta shareholders and the opportunity of attracting investors for further asset development (in particular, for upstream assets in western Ukraine, in which a number of international partners of Naftogaz are interested), as well as technological, geographical and other factors.

In addition to the spilt of Ukrnafta's assets, this transaction was also supposed to resolve the long-standing mutual claims of the parties, which include both claims to Naftogaz regarding disputed volumes of gas (for more details, please see Note 25 to the Financial Statements of Naftogaz of Ukraine "Legal proceedings with Ukrnafta"), and settlement of debts of related parties of the Main group of minority shareholders of Ukrnafta. However, with the start of military aggression against Ukraine, the parties proposed to suspend work on the transaction.

1 Ukrnafta shareholders structure



[1] Kolomoyskyi himself says that he is not a shareholder but a representative of the company's shareholders associated with him.

[2] Naftogaz owns 43% of Ukrtatnafta's shares, however it is actually removed from making management decisions and does not receive any dividends.

DEVELOPMENT OF LOW CARBON BUSINESSES

In line with our mission "to be the engine of modernization and professionalism in the energy sector of Ukraine", we plan to **become the leader of green transformation of Ukraine's energy sector,** in particular through building resilience during the war as well as driving post-war recovery of the energy industry.

The strategic goals of Naftogaz Group include: (1) reduction of greenhouse gases emissions at the companies of the Group and (2) development of low carbon businesses. These goals not only reflect the world's energy transition and climate change agenda but are also directly linked to solving the challenges of energy security, energy poverty and strengthening financial sustainability of Ukraine's energy sector as a whole. Russia's invasion in 2022 vividly demonstrated the importance of delivering projects aimed at reducing the consumption of fossil fuels to strengthen the resilience of the state's economy in the face of the enemy that uses it as a political weapon.

In these efforts, we plan to leverage the competitive advantages of Ukraine in geographic location, natural resources, and the structure of its economy. For example, according to the Bioenergy Association of Ukraine, **the national potential to generate energy from biomass, which includes forest residues, agricultural biomass, and other types of waste, amounts to almost 22 million tons of oil equivalent per annum** (for comparison, in 2021, 2.4 million tons of oil and condensate were produced in Ukraine). At the same time, 2000-2020 data show that there is a trend of increase of such potential (in 20 years energy potential grew by 3.5 times). Together with this, Ukraine also possesses favorable conditions for developing more traditional green energy segments – wind and solar energy generation. For more information on Naftogaz' mission and strategic goals, go to page 118.

Implementation of green energy projects in 2021

Back in 2020, Naftogaz started implementation of pilot projects – it put into operation a solar PV facility "Andriyivka" with installed capacity of 1MW in Kharkiv region. In 2021, another solar PV facility "Chudniv" with installed capacity of 33MW was put into operation in Zhytomyr region. Total energy produced by both solar PV facilities in 2021 amounted to 1,444 thousand MWh.

At the same time, it started work on a few wind energy projects. In 2021, Naftogaz Group continued studies of the potential of wind energy projects with combined installed capacity of up to 100MW, in particular of Mariyivka 50MW capacity wind farm in Mykolayiv region and Berezivka 50MW capacity wind farm in Odesa region.

In 2021, the company continued development of pilot projects in retail EV charging business: 7 additional EV charging stations with combined capacity of 300kW were installed in Kyiv.

Appointment of Yuriy Vitrenko as the Chairman of the Executive Board of Naftogaz also resulted in changes for development of low carbon businesses. New role of Director for Strategy and Business Development of Naftogaz Group was created and Sergiy Boyev who had worked as head of the Department of Strategy and Business Analytics of Naftogaz and Director for Business Development of Ukrgasvydobuvannya was appointed into this role.

We defined priority green energy streams, where we developed a portfolio of pilot projects, in particular, in biomass-to-heat and biomass-to-power, biomethane, biofuels and solar and wind powered green hydrogen production segments. We started active engagement with potential domestic and international partners. In particular, in September 2021, we signed a memorandum of understanding (MoU) with German company RWE Supply and Trading, which is aimed at cooperation in creation the full value chain of green hydrogen production and supply in Ukraine. Naftogaz also joined the European Clean Hydrogen Alliance, where we plan to leverage experience of clean hydrogen projects implementation and engage partners to carry out respective projects in Ukraine. Another initiative of Naftogaz of Ukraine and Ukrtransgas was joining the project "H2EU+Store", which is aimed at building green hydrogen production in the West of Ukraine together with international (Austrian companies RAG Austria and Gas Connect Austria, German companies Bayernets and Open Grid Europe, and Slovakian companies Nafta and Eustream) and domestic (Eco-Optima) partners.

It is important to note that in its low carbon business development plans Naftogaz decided not to pursue projects with economics entirely dependent on receiving FIT (green tariff) from the state. We think that green tariff mechanism is de facto a burden to the state and from the beginning laid incorrect stimuli for renewable energy sector development. This resulted in the unbalanced energy system, which in turn led to the situation where the development of renewable energy sector did not translate into decarbonization of Ukraine's energy sector. At the same time, the size of compensations based on green tariff mechanism is an excessive load on the state budget and is an example of inefficient spending of public finances.

Additionally, the analysis of the efficiency of delivery of solar energy projects implemented by Naftogaz indicates that these projects were done with lower efficiency than those executed by private companies, which says that these projects – relying on green tariff-based revenue in ensuring their payback- do not create value neither for the customer, nor for the state.

Speaking about carbon neutrality plans, it is important to note that back in February 2021 Naftogaz announced its goal to reach net zero carbon emissions for Scopes 1 and 2 by 2040. This goal was rather an ambition, as there was no detailed plan in place how to reach carbon neutrality. Today in the conditions of the military aggression by the Russian Federation and infrastructure and other damages for Naftogaz Group caused by it as well as uncertainty about the opportunities of green businesses, we are not able to develop such action plan, which would support the ambition of reaching carbon neutrality by the Group by 2040. However, we continue developing the low carbon development concept, which will define the principles and approaches and detail the projects that will help Naftogaz get on the path of steady emissions reductions and achieving carbon neutrality.

For more information on climate change and carbon neutrality plans, go to page 178.

Strengthening energy resilience under conditions of military aggression by the Russian Federation

The military aggression by the Russian Federation against Ukraine caused critical damage to the energy infrastructure of the country. Traditionally, solar and wind energy generation facilities of

1 Naftogaz Group's current and perspective projects of energy generation from alternative sources

Source: Naftogaz Group

energy infrastructure are located in the southern region of the country. As of the date of this report, up to 90% of wind energy generation capacity and significant share of solar PV energy generation capacity are located either in the temporarily occupied areas, in the areas of active military actions or very close to them. The development of the sector, which had accelerated in 2019-2020, halted as the war started. Unfortunately, because of these reasons, as of today, Naftogaz Group paused works on the above-mentioned wind energy projects.

In the environment of rising natural gas prices and risks to the natural gas production and imports prospects caused by the war and gas blackmail by the Russian Federation, the management of Naftogaz Group sees transition to alternative energy sources for heat production as one of the key elements of ensuring energy self-sufficiency of the state. Historically, heat production and supply enterprises have been one of the largest consumers of natural gas with 2021 consumption of natural gas amounting to almost 9 bcm (one third of total natural gas consumption in Ukraine). 80% of this volume, or 7 bcm, was provided by Naftogaz.

At the same time, as mentioned above, Ukraine has a significant potential for developing projects, which use biomass as the key energy source. If 50% of agricultural industry residue and waste is utilized for energy production, one can replace 8-10 bcm of natural gas per annum, which can fully cover the needs of heat generation and supply enterprises. Here we talk about projects that one can complete and achieve natural gas consumption reduction impact already in 2 years, while simultaneously protecting consumers from the increase of tariffs caused by high natural gas prices.

In 2022, to implement portfolio of pilot biomass-to-heat and power projects, Naftogaz built a team of professionals with experience of implementing similar projects in Ukraine. Implementation of the mentioned projects is carried out through the subsidiary company "Naftogaz Bioenergy", which has been reorganized to create a high-performance operating model of construction and management biomass-to-heat assets. As of today, the team has conducted evaluation of 9 bio-CHP or boiler houses in 8 regions of Ukraine, 6 of which use wood chips as raw materials. Total combined capacity of these facilities adds up to 250MW of heat capacity and 52 MW of electric capacity that will allow to substitute over 200 mcm of gas consumption. [1] In particular, some of these projects are carried out in the towns which suffered from the military aggression of the Russian Federation or military occupation in February-March 2022.

Pilot waste landfill degasification project in Lviv region

Despite full-scale war raging in the territory of Ukraine, in March-May 2022, Naftogaz Group, in partnership with Clear Energy Group of Companies, completed a pilot project of biogas power facility with capacity of 625 kW that was put into operation at municipal solid waste landfill in Lviv region. Thanks to the built biogas station, 38 hectares of waste landfill that emits millions of m³ of harmful landfill gas will become the source of energy for nearby households. The station is able to produce 2.645 thousand MWh per annum, substituting consumption of 800 tcm of natural gas. This allows to provide electricity sufficient to supply 735 households and at the same time to reduce emissions of carbon dioxide in the amount of 30 thousand tons per annum. As a result of realization of this project, 2 mcm of methane which is 30 times more harmful than carbon dioxide will not be emitted into the atmosphere, while millions of litter gas from the 38 hectares of the waste landfill will become the source of energy.

Attracting financing and other required steps to build Ukraine's green energy ecosystem

Implementation of large-scale tasks of strengthening the resilience and conducting post-war recovery and transformation of Ukraine's energy sector in accordance with goals of energy security and climate change commitments of Ukraine requires attracting significant financial resources. Naftogaz team has already started active work in this direction both with domestic banks and international financial institutions and industry partners.

To establish Naftogaz' role as the leader of green transformation and partner of Ukrainian companies interested in developing green energy projects, we are actively developing partnerships with energy and engineering companies, equipment manufacturers, biomass suppliers, which will allow to build ecosystem for quick and effective transformation of green energy supply chain in the country and bring us closer to energy independence, efficiency standards and ecological requirements of the world's advanced nations.

7 ESG

ENVIRONMENT PROTECTION

Environmental protection is one of the priorities for Naftogaz of Ukraine and its subsidiaries. The Group is focused on reducing the negative impact of its production activities on the environment and related environmental risks. The objective of Naftogaz Group's environmental policy is effective environmental management at the Group's companies, implementing good environmental standards and applying best practices.

Environmental protection management

In its environmental protection activities, Naftogaz is guided by its Environmental Safety Policy, approved in 2020. The Head of the Board of Naftogaz of Ukraine is responsible for proper implementation.

A working group has been established at Naftogaz of Ukraine to ensure consistency in policy implementation. The working group considers environmental safety issues and prepares proposals for drafting regulations, optimization of production processes and environmental activities of Naftogaz Group in general. The working group includes representatives of Naftogaz of Ukraine and the environmental services of the Group's companies.

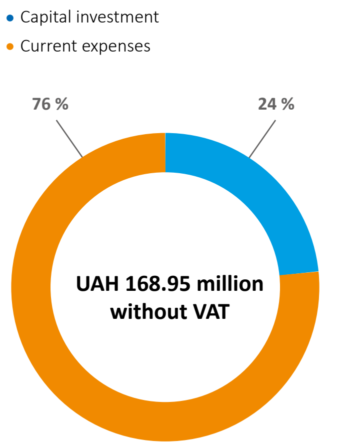
An environmental management system in accordance with the requirements of the international standard ISO 14001 has been implemented at Naftogaz of Ukraine and the Group's companies.

In 2021, Naftogaz Group successfully passed an independent external assessment (re-certification audit) and received a certificate of compliance for its management system with the requirements of ISO 14001:2015 from TÜV Austria, the international certification body. The implementation and continuous improvement of management systems aim to increase the efficiency of production and management processes (procurement, work with contractors, communication, assessment and risk management, etc.).

The second edition of SOU 71.2-20077720-079:2017 "Protection of the environment. Audit of environmental aspects of activity at Naftogaz of Ukraine" was revised. The purpose of this revision is to update the standard and bring it in line with the requirements of DSTU ISO 19001:2019 and DSTU ISO 50001:2020 in the new edition, current legislation in the field of environmental protection and radiation safety, and the requirements of the vertically integrated corporate function of environmental protection management at Naftogaz Group. This revision was also due to Group transformation and transfer of thermal power plants to its management. This required the Company to develop new more progressive provisions and standards aimed at implementing an integrated approach to regulation and control of production processes in order to ensure a high level of environmental protection at all stages of the life cycle.

There is a hotline at Naftogaz Group where complaints or suggestions regarding environmental protection, labor safety and social protection practices can be submitted. The Group has also implemented an automated process for transmitting urgent reports about incidents, including with the environmental impact, that occurred at the facilities of Naftogaz Group companies.

1 The structure of Naftogaz Group expenses for environmental protection in 2021



In 2021, the Group continued updating environmental safety data in a consolidated geospatial working environment. The process of exchanging data between the Group's divisions for the prompt identification of risks at all production stages has also begun. The use of specialized analytical data processing technologies makes it possible to significantly increase the coverage and detail of environmental risk assessment.

Representatives of Naftogaz Group are actively involved in improving existing and drafting new regulatory acts in the field of environmental protection, rational use of natural resources, and radiation safety.

Naftogaz Group measures to mitigate the negative impact on the environment are carefully developed and approved by internal documents. In particular, in 2021, the Group implemented its environment protection activities under the following programs and plans:

- Naftogaz Group environment protection comprehensive action plan for 2021;
- Environmental and social action plan required by EBRD loan agreement;
- Objectives and goals in the field of environmental protection for 2021-2023;
- Environment protection action plans (developed and approved annually by Naftogaz Group companies);
- Measures to eliminate the consequences of long-term oil and gas extraction and reduce environmental pollution in the city of Boryslav[1].

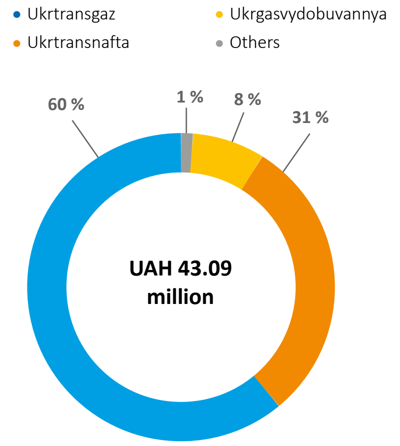
Environmental investments and environmental tax

In 2021, the expenses of Naftogaz Group for environmental protection amounted to UAH 168.95 million excluding VAT, with current expenses of UAH 128.13 million, and capital investments of UAH 40.82 million. 1

The Group spent UAH 16.32 million for environmental protection services, including UAH 6.57 million on waste water treatment, and UAH 9.74 million on waste management.

In 2021, Naftogaz Group companies paid a total of UAH 43.09 million in environmental tax. The largest portion of 92% was paid for emissions into the atmosphere from stationary sources. The amount was UAH 39.7 million. 2

2 The structure of environmental tax by Naftogaz Group commpanies in 2021



Cases of environmental pollution

59 cases of pollution were recorded at production facilities of Naftogaz Group companies in 2021, most of which had a minor impact on the environment. The main causes of such incidents were corrosion of pipelines, mechanical damage to equipment, and unauthorized "intrusions" by outsiders.

In order to reduce the number of pollution cases, the Group's companies plan to increase the scope of their research to diagnose the condition of pipelines along with more intensive implementation of electrochemical and inhibitory protection of pipelines. The Group also plans to involve specialized security structures including the police in the protection of pipelines.

Minimizing the impact on atmospheric air

In accordance with the Law of Ukraine "On Protection of Atmospheric Air", the companies of Naftogaz Group conduct an inventory of pollutant emissions into atmospheric air and develop the documents justifying the volume of pollutant emissions from stationary sources. After documents are agreed on with the authorities under the Ministry of Health of Ukraine, they are submitted to the relevant authorities for emission permits.

As part of the implementation of the Naftogaz Group Environment Protection Comprehensive Plan for 2021, the Group's companies:

- carried out an inventory of pollutant emissions from stationary sources of emissions at the production facilities whose emission permits are expiring;
- received permits for emissions of pollutants into atmospheric air and fulfillment of special permit conditions.

Compared to 2020, there was a decrease in the total amount of pollutant emissions by 11.1% (-3444.54 t). This was achieved due to a reduction in the amount of emissions of carbon monoxide by 2,023.44 tons (-14.2%), nitrogen compounds by 6,635.87 tons (-8.7%), non-methane volatile organic compounds by 571.25 tons (-6, 9%) compared to the level of the relevant emissions in 2020. 3

Ukrtransgaz, Ukrnafta and Ukrgasvydobuvannya, jointly with the National Academy of Sciences of Ukraine are engaged in the development and approval of technological standards for more than 200 gas turbines and engines of the Ukrainian oil and gas industry with a nominal thermal capacity 1 to 50 MW. These activities are carried out as part of preparations for the expected implementation of provisions of Directive 2010/75/EU on industrial emissions (integrated pollution prevention and control) and Directive EU/2015/2193 on the limitation of emissions of certain pollutants into the air from medium combustion plants, which regulates emissions of pollutants in installations with a nominal thermal capacity equal to or greater than 1 MW and less than 50 MW.

[1] Developed and implemented annually by Ukrnafta.

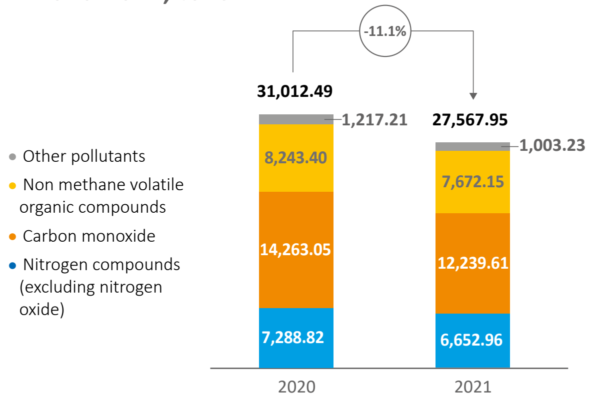
Dynamics of emissions of pollutants (without greenhouse gas emissions) into the atmosphere by Naftogaz Group in 2020-2021:

Name of the pollutant	Amount of the pollutant, t	
	2020	2021
Total amount of pollutants	**31,012.49**	**27,567.95**
Metals and their compounds	6.25	5.77
Substances in the form of suspended particles	996.39	728.66
Nitrogen compounds (excluding nitrogen oxide)	**7,288.83**	**6,652.96**
Dioxide and other sulfur compounds	181.29	244.60
Carbon monoxide	**14,263.05**	**12,239.61**
Ozone	0.01	0.01
Non methane volatile organic compounds	**8,243.40**	**7,672.15**
Fluorine and its compounds	1.59	1.23
Persistent organic pollutants	31.57	22.62
Chlorine and chlorine compounds	0.11	0.23
Cyanides	0.000	0.02
Phosphorus hydrogen	0.000	0,08
Bromine and its compounds	0.000	0.01

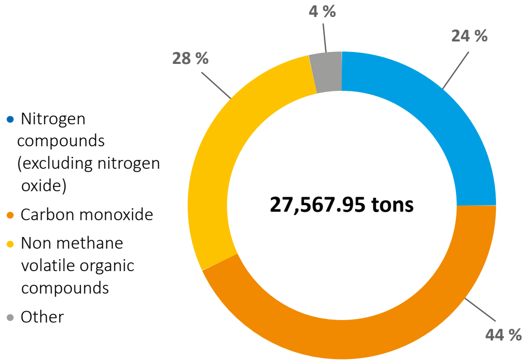
The structure of pollutant emissions into atmospheric air by Naftogaz Group companies in 2021:

Company	Emissions of pollutants, thousand tons	Including, thousand tons:			
		Carbon monoxide (CO)	Non methane volatile organic compounds	Nitrogen compounds (excluding nitrogen oxide N_2O)	Substances in the form of suspended particles
Ukrgasvydobuvannya	12.400	6.783	1.438	3.790	0.264
Ukrnafta	11.834	3.974	4.949	2.314	0.450
Ukrtransgaz	1.754	1.230	0.021	0.492	0.010
Ukrtransnafta	1.272	0.006	1.260	0.004	0.002
Other companies of the Group	0.308	0.247	0.005	0.053	0.002
Total	**27.568**	**12.240**	**7.673**	**6.653**	**0.728**

3 Dynamics of emissions of pollutants into atmospheric air by Naftogaz Group in 2020-2021, tons



4 The structure of emissions of pollutants into atmospheric air by Naftogaz Group in 2021

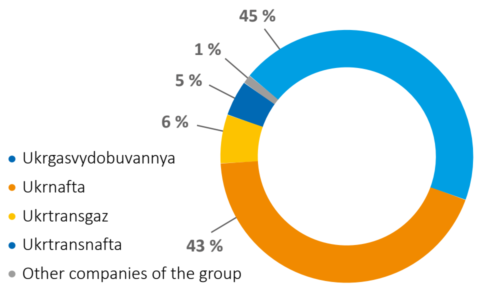


Elimination of gas pollution in Boryslav

In 2021, the implementation of measures to overcome the environmental and social impacts of long-term oil and ozokerite extraction in the city of Boryslav in Lviv region continued.

Ukrnafta monitors the level of gas contamination in the territory, production facilities and infrastructure facilities of the city. The actions include elimination of oil and gas manifestations, use of vacuum network for degassing near-surface layers, search for and liquidation of abandoned pits and wells.

5 The structure of emissions of pollutants into atmospheric air by Naftogaz Group



Financing allocated in 2021 under the program to eliminate the consequences of long-term oil and gas extraction and reduce environmental pollution in the city of Boryslav

Activities	Financing, UAH thousand
Monitoring and preventive activities	1,875.20
Repair and insulation works	11,987.50
Operation and reconstruction of objects related to the elimination of gas contamination of the site	17,222.22
Total financing	**31,084.92**

Beginning in 2018, at the invitation of the Boryslav City Council and Ukrnafta, a comprehensive city monitoring project has been implemented by LAMOR-UKRAINE and Lamor Corporation Business Association with the involvement of leading foreign and domestic scientific institutions and specialized laboratories. In 2021, the implementation of comprehensive ecological monitoring (environmental assessment) in the territory of Boryslav (stage #1) was completed. The expenses of Ukrnafta for these works amounted to UAH 5,556.00 thousand. In 2021, the implementation of stage #2 of the comprehensive environmental monitoring was launched, advance financing of works of UAH 3,010.70 thousand has been provided.

Waste management

The main goals of Naftogaz Group in the field of waste management, which were approved for 2021-2023, include the following:

- reduction of the volume of industrial waste generation;
- use of 100% generated valuable waste and materials;
- introduction of separate collection of solid household waste;
- reduction of ecological risks of environmental pollution due to the generation of hazardous class I waste (replacing 100% of fluorescent lamps with LEDs).

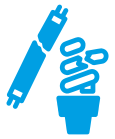
The Law of Ukraine "On Waste" is the key legislative document regulating the rights and obligations of the Group's companies in the field of waste management is.

The organization of collection, temporary storage, primary accounting, conclusion of contracts and transfer to specialized enterprises for disposal/removal of solid household and hazardous waste in the company is the responsibility of the Administrative Department. Control over the implementation of these operations, primary accounting, compliance with the requirements of current legislation, provision of methodological and advisory assistance is entrusted to the Environmental and Radiation Safety Unit. The Unit also prepares and submits state statistical reports, including the Waste Declaration. Generally, waste management is the responsibility of the economic, energy, and environmental services at Naftogaz Group companies. At some entities, the mechanical and energy service is responsible.

During 2021, the companies of the Group generated 209.45 thousand tons of waste, which is 57.6% (76.59 thousand tons) more than in 2020. This waste is mostly (203.11 thousand tons or 97.1% of the total amount) low-hazard waste (hazard class IV). The second largest category (1.96 thousand tons or 2.7% of the total amount) is moderately hazardous waste (hazard class III). The shares of extremely hazardous (hazard class I) and highly hazardous (hazard class II) waste in the total amount of generated waste were insignificant, accounting for 0.03% and 0.14%, respectively. Among the companies of the Group, Ukrgasvydobuvannya is the leader generating 206.95 thousand tons (98.8% of the total amount).

As part of the Green Office Project, the following waste was collected and transferred for environmentally safe disposal in 2021:

Spent fluorescent lamps



41 kg

Spent batteries

34 kg

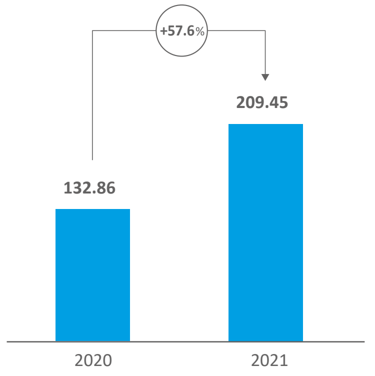
Medical waste

10 kg

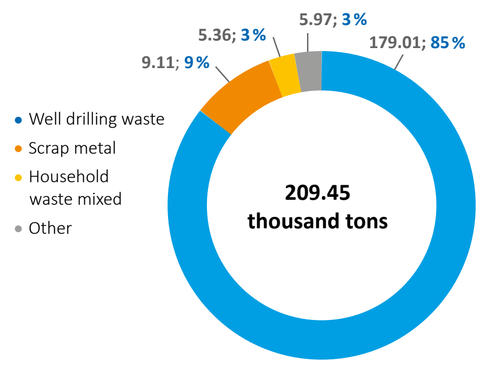
waste paper

300 kg

6 Total amount of waste generated by Naftogaz Group companies, thousand tons



7 Structure of waste generated in 2021, by type (%)



The availability of a valid license for recycling activities is the most important criterion for the selection of an organization providing recycling and waste removal services for Naftogaz Group. The Environmental and Radiation Safety Unit analyses the documentation from the winning bidders to confirm that they have taken measures to comply with the requirements for environmental protection specified in the disposal services procurement documents. In accordance with Group internal policies, a participant in the tender for the purchase of this service shall fill in the Bidder Questionnaire regarding its environmental policy and occupational health and safety policy.

The conditions of temporary storage and the volume of hazardous waste generated at the company (spent fluorescent lamps, collected power cells and medical waste) are checked on a quarterly basis. According to the results of the inspection, an act of compliance/non-compliance with the requirements of the current legislation is drawn up.

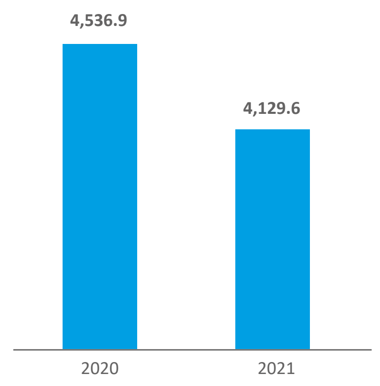
Environmental impact assessment

As part of implementation of planned production projects, the company develops environmental impact assessment (EIA) reports. In the case of successful completion of EIA[2] procedures, Naftogaz annually carries out post-implementation monitoring in the territories of production activities and reports on the environmental impact to the state authorities. In view of the importance of public opinion, the Company conducts public discussions of its EIA reports. In 2021, on the initiative of Ukrgasvydobuvannya, 26 public discussions of planned activities aimed at construction (drilling) of 55 wells on the territory of local territorial communities in Kharkiv, Poltava, Lviv and Ivano-Frankivsk regions were held.

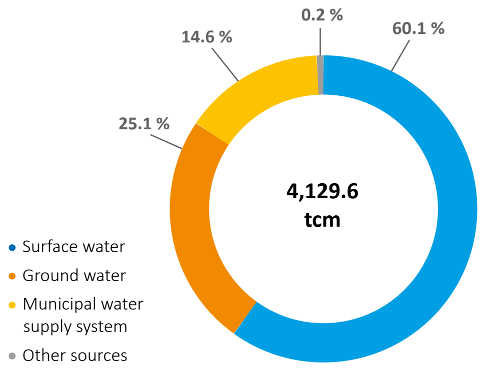
In 2021, In order to inform local communities and other stakeholders, 11 Sustainable Development Reports were prepared for the following subsoil areas:

[2] According to the Law of Ukraine "On Environmental Impact Assessment".

8 Volumes of water intake by Naftogaz Group companies in 2020-2021, tcm



9 Structure of water intake by Naftogaz Group companies by source in 2021



Preservation of biodiversity

In 2021, Naftogaz Group continued monitoring areas at the intersection of the licensed areas of its companies with objects of the Emerald Network of Ukraine[3] and other objects of the Nature Reserve Fund of Ukraine. This monitoring is performed using geographic information systems (GIS). The purpose of the works is early detection of environmental risks associated with the production activities of Naftogaz Group.

In particular, the post-implementation monitoring required by the EIA Conclusion[4] found out that the continuation of industrial extraction of hydrocarbons at the Strilkove gas field of Chornomornaftogaz did not exceed the established norm of impact on animals and plants.

In addition, in 2021, independent experts conducted monitoring studies of forest, meadow and water ecosystems on the territory of the Andriyashiv gas condensate field of Ukrnafta, which borders and intersects with the Andriyashivsko-Gudimivskyi hydrological reserve of national importance. Studies are carried out following the relevant EIAs. The results of the studies identified no negative impact on flora and fauna on the territory of the deposit in 2021.

As part of the fulfillment of the obligations stipulated in the Loan Agreement between Ukrgasvydobuvannya and the European Bank for Reconstruction and Development dated July 31, 2020, in order to take into account potential limitations, the company conducts a biological diversity screening within the territories of its activities. The Global Biodiversity Information Facility (GBIF)[5] database was chosen as the main source of information. According to the results of analysis of the available data, there were a total of 27,477 reported cases of biological species identified within the licensed areas of the company in different years and scientifically described. Of these, protected species was distinguished using the lists of protected species mentioned in the Red Book of Ukraine, the European Red List (1991), and the Berne Convention on the Conservation of European Wildlife and Natural Habitats. Based on the results of this research, lists of protected species were created according to the Red Book of Ukraine, the Berne Convention, and the European Red List.

A set of digital cartographic materials, which are used in the environmental impact assessment procedure, has been prepared for the specialized unit of the branch of UkrNDIgaz under Ukrgasvydobuvannya. A set of page-by-page atlases has been prepared showing the objects of the Emerald Network and the objects of the nature reserve fund within the contours of the licensed plots and in the adjacent territories.

Naftogaz Group plans to continue the biological diversity study for Lutnya field, Zhdenievo area, Bezlyudiv field, Maksalske field, and Pivnichno-Korobochkine field of Ukrgasvydobuvannya.

Water resources management

The approved document "Goals and tasks in the field of environmental protection and actions for their achievement and implementation for 2021-2023" provide for a reduction of water consumption by the companies of the Group by at least 4% each year. In 2021, water consumption was reduced by almost 9% (407.3 tcm).

During 2021, the companies of Naftogaz Group used 4,129.629 tcm of water, of which more than half (60.1% — 2,483.789 m^3) was surface water. 8 9

Among the Group's companies, the leaders in terms of water intake are Ukrnafta with 57.4% (2,369.9 tcm) and Ukrgasvydobuvannya with 25.3% (1,046.829 tcm) of the total volume of used water. The most significant intake of water by Ukrnafta is for the reservoir pressure maintenance system. 10

In order to reduce the amount of drinking water used by the Group's companies to ensure technological processes, water reuse is widely implemented. In 2021, the volume of water in

[3] The Emerald Network is a network of nature conservation areas created for the purpose of preservation of species and habitats that require protection at the pan-European level.

[4] EIA conclusion No 7-03/12-2019493369/1 dated 02.07.2019 "Continuation of industrial hydrocarbon extraction at Strilkove gas field by Chornomornaftogaz".

[5] GBIF (the Global Biodiversity Information Facility) is an international network and data infrastructure funded by the world's governments and aimed at providing open access to data about all types of life on Earth.

recycling and circulating water systems amounted to 147.8 million m³: 141.2 million m³ in recycling water supply and 6.6 million m³ in circulating water supply systems. More than half, namely about 70% of the total water intake, was used for production and technological needs, which is 2% more than in 2020. The rest of the water was used for drinking and sanitary (24%) and other (6%) needs. 11

In 2021, the companies of the Group achieved a reduction in water use of 9.2% (by 405.9 tcm) compared to usage in 2020. 12 This was possible due to:

- organization of proper accounting of water supply;
- reuse of water for preparation of drilling fluids and reuse of drilling fluid (reduction of water use from water wells);
- reduction of the volume of water used for hydro testing;
- quarantine restrictions (that resulted in a significant number of employees working remotely);
- supply of bottled water for drinking purposes;
- implementation of the Green Office Project;
- outreach campaigns, briefings;
- due to the suspension of operations of some production facilities.

Also, as a result of well exploitation, Naftogaz Group companies collected 9102.993 tcm of accompanying reservoir waters which are extracted together with hydrocarbons. In order to reduce the negative impact on the soil, as well as ground and surface waters, accompanying formation waters were mainly used in the formation of pressure support systems or returned to underground horizons through absorption wells.

The Group has special units responsible for water supply, its primary accounting and monitoring over the signs of polluting substances in drains. Generally in the company, the Administrative Department is responsible for this activities and the Environmental and Radiation Safety Unit monitors compliance with environmental legislation, rational use of water, and submission of statistical reports.

Waste water management

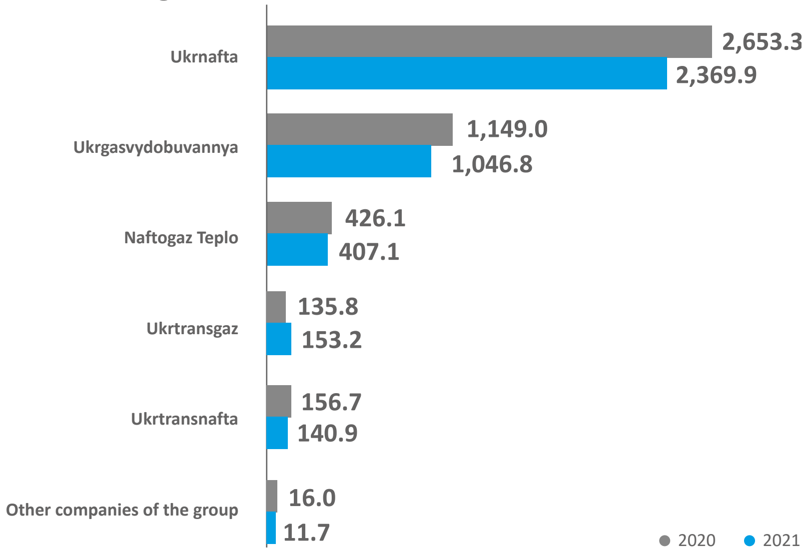
The total volume of wastewater discharged by Naftogaz Group companies during 2021 amounted to 1,060.3 tcm. 13

Wastewater quality control is carried out in accordance with current Ukrainian legislation. Discharge into water bodies is only allowed upon obtaining a permit for special water use which establishes the maximum permissible concentrations (MPC) and standards for the maximum permissible discharge (MPD) of pollutants. At least once a quarter, the Group's companies monitor the content of pollutants in waste water using instrumental and laboratory measurements. The company controls the content of pollutants in effluents at least once every two months.

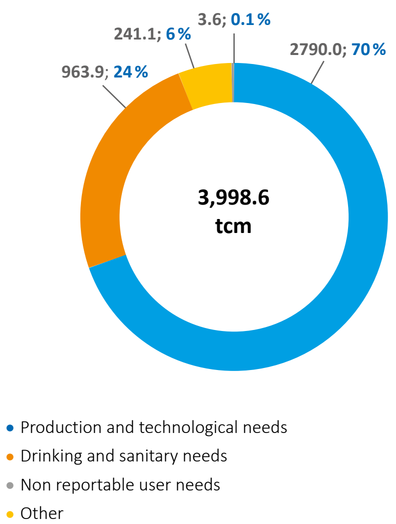
Other pollutants[6], whose concentration in return water increases compared to the water taken are also monitored for their compliance with regulated norms. Such indicators and characteristics of return water as dissolved oxygen, hydrogen index (pH) and temperature are taken into account.

[6] The substances determined by state sanitary norms and rules, water use ecological safety standards, water quality standards for water bodies.

10 Volumes of water use by Naftogaz Group companies during 2020-2021, tcm



11 Water use by purposes in 2021, tcm



In addition, depending on the specifics of the production technology, such indicators and characteristics of return water as bacteriological contamination, the level of water toxicity (based on biotesting) and water radioactivity (total radioactivity) are monitored for their compliance with standards.

In order to reduce the negative impact of sewage on the environment, most of the Group's companies clean their sewers and grease traps on a regular basis (once a quarter).

Restoration of contaminated soils

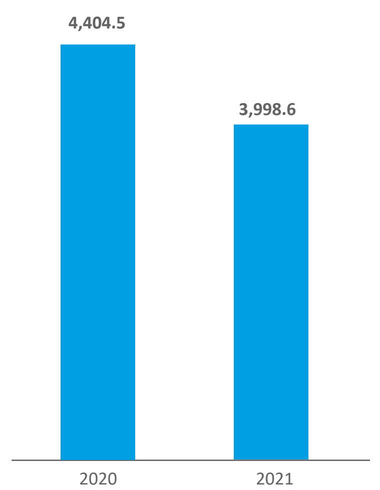
Specialists of the Group monitor, clarify the condition, and eliminate soil and groundwater contamination by oil products in the Mashiv and Andrivsky pollution halos. Practical work on the elimination of soil and water pollution by oil and oil products is carried out in accordance with the provisions of SOU 74.2-20077720-34:2018 "Environmental Protection. Removal of soil and water body contaminations with oil and oil products. Rules" approved in 2018.

Geophysical studies of the current state of the aeration zone and elements of the occurrence of bodies of lost oil products were carried out. Topographic and geodetic mapping of the observed wells of the Mashiv pollution halo is done for monitoring purposes. The received geophysical materials were interpreted, the subcontractor prepared reports on the results obtained and developed recommendations for further research and elimination of pollution halos.

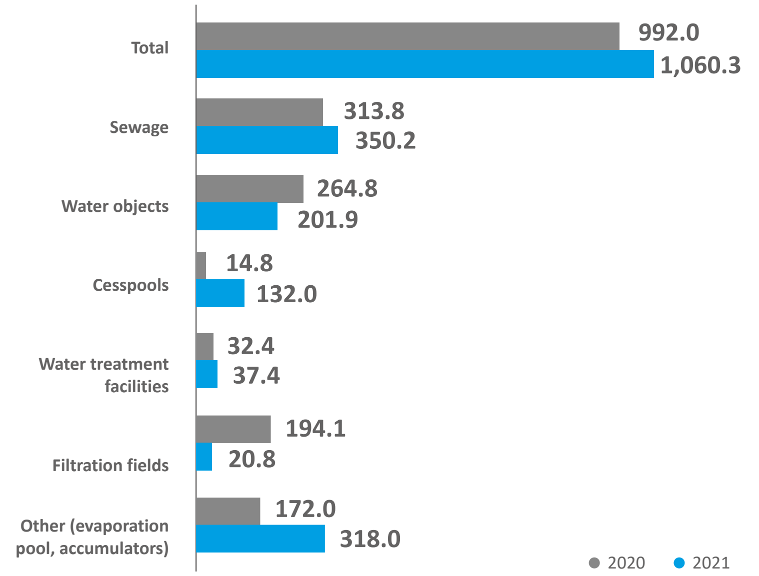
Goals and plans for 2022

1. Further implementation of the environmental management system in accordance with the requirements of international standard ISO 14001.
2. Further development of technological standards for existing and new gas turbines and engines with a nominal thermal power 1 to 50 MW.
3. Conducting audits of environmental aspects of the activities of the Naftogaz Group legal entities.
4. Development of proposals for amendments to the Ukrainian regulations and internal documents of the company in the field of environmental protection, rational use of natural resources, and radiation safety.
5. Further introduction of separate collection of solid household waste.
6. Reduction of the volume of generated waste, use of 100% of generated valued waste and materials.
7. Reduction of ecological risks of environmental pollution due to the generation of I class hazardous waste, replacement of 100% of fluorescent lamps with LEDs.
8. Continuation of research on environmentally safe disposal of drilling waste.
9. Ensuring the implementation of initiatives launched in previous years to preserve and protect the natural environment.
10. Further activities related to the reduction of environmental risks and social tension associated with gas pollution in the city of Boryslav.
11. Reduction of NOx, SO_2 emissions from stationary sources of the Naftogaz Group.

12 Volumes of water use by Naftogaz Group companies during 2020-2021, tcm



13 Wastewater volumes by discharge location in 2020-2021



CLIMATE CHANGE

Naftogaz, as a national company, is making efforts for Ukraine to fulfill its international climate obligations as well as those under the track of European integration. This includes reaching targets under the updated nationally determined contribution to the Paris Agreement, namely to reduce greenhouse gas emissions by 65% by 2030 compared to 1990.

For an oil and gas company, this means the transformation of its own operational activities through increased energy efficiency and efficient use of resources, reduction of methane emissions and leakages, gradual decrease of venting and flaring, transition to renewable energy sources (RES) for its own needs, as well as business diversification and entry into new green energy markets.

Natural gas will play a key role in the energy security of the country over the next two decades and will serve as a transition fuel for the decarbonization of the national economy. Naftogaz plans to increase natural gas extraction and at the same time develop production and supply of new green energy products and services. The Group will shift from a fossil fuel supply model to a multi-energy business model.

Inventory of greenhouse gas emissions

In 2021, the total volume of greenhouse gas emissions amounted to 2,419 thousand tons of CO_2 equivalent (14), 60% of which was from Ukrgasvydobuvannya (15). In the reporting period, the methodology for calculating greenhouse gas emissions was refined and improved to include more production processes.

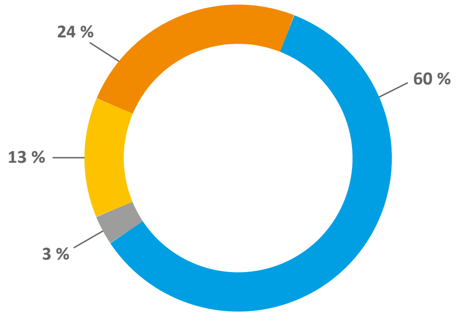
Currently, Naftogaz reports on its GHG emissions in two main directions – for taxation and statistical purposes and under the system of monitoring, reporting and verification (MRV). This was launched to lay the foundation for the establishment of an emissions trading system in the future. However, approaches under these two accounting systems differ leading to a difference in numbers of up to 7% in some cases. Training and workshops as well as online seminars were held regularly to provide theoretical knowledge and develop practical skills with the people responsible for the implementation of monitoring, reporting, and verification of greenhouse gas emissions at production facilities. It should be noted that effectively resolving this issue requires joint work with the government (Ministry of Environmental Protection and Natural Resources).

14 Structure of greenhouse gas emissions by Naftogaz Group in 2021

Emissions of greenhouse gases:	Thousand tons	Thousand tons of CO_2 equivalent
Total greenhouse gas emissions: including	1 970,06	2 418,63
CO_2 emissions	1 954,17	1 954,17
CH_4 emissions	15,82	442,99
N_2O emissions	0,07	21,47

Source: Naftogaz Group

15 Structure of greenhouse gas emissions by Naftogaz Group companies



Ukrgasvydobuvannya
Ukrnafta
Ukrtransgaz
Other companies of the group

Source: Naftogaz Group

In 2021, Naftogaz compiled a list of installations subject to MRV and registered it in the Unified Register. Installation operators have developed the relevant monitoring plans which are submitted to the Ministry of Environmental Protection and Natural Resources for approval.

Naftogaz contribution to Ukraine's climate goals

In view of the ambitious plans enshrined in the Paris Agreement, as well as with a goal of attracting investments in low-carbon business development, in 2021 Naftogaz Group set a goal of reducing greenhouse gas emissions from its operational activities to net zero by 2040.

Today, military aggression of the Russian Federation and resulting infrastructural damage and other losses for Naftogaz Group complicate the elaboration of a detailed action plan by 2030. This plan would target emissions reduction from Naftogaz operations by 2030 to deliver a transitional goal

on the path to net zero. However, we continue to work on the low-carbon development concept that will outline key approaches and principles, as well as potential projects to help Naftogaz take the right path of reducing emissions and reach climate neutrality for Scopes 1 and 2 by 2040. Adoption of this document will require stabilization of the military and economic situation in the country. A number of actions aimed at cost-effective emissions reduction will be introduced even during the martial law period. Naftogaz views GHG emissions and measures necessary for their decrease in three categories:

- Scope 1 includes direct emissions from business activity of the Group
- Scope 2 includes indirect emissions of energy producers who supply it to the Group
- Scope 3 includes all other indirect emissions mainly resulting from the use of energy products that we supply to consumers

It should be stressed that we are currently working on measures to achieve climate neutrality under Scopes 1 and 2.

Scope 1 emissions management

This category includes GHG emissions from facilities owned or managed by Naftogaz Group, such as drilling rigs and equipment for downhole operations, freight and passenger transport, ground infrastructure, wells, combined heat and power stations (CHPs) etc.

To reduce Scope 1 emissions, the Naftogaz team plans to focus on the following directions by 2030:

- Installation and improvement of methane leakage identification systems
- Equipment modernization
- Decrease of production and technological gas losses and consumption, in particular to stop flaring and venting practices
- Use of e-vehicles
- Shift from natural gas to biomass at heat generation facilities
- Carbon capture, storage and utilization

In November 2018, Naftogaz of Ukraine, the European Bank for Reconstruction and Development (EBRD), and the Ministry of Environmental Protection and Natural Resources of Ukraine signed a tripartite Memorandum of Understanding. This document provides for the implementation of a Methane Emissions Reduction Program along the entire gas supply chain (extraction, transportation, and distribution). Implementation of the Program is financed with the support of the EBRD. The company established a program implementation group which includes representatives of the Group, Ukrgasvydobuvannya, Ukrtransgaz, Kirovohradgaz, the Ministry of Environmental Protection and Natural Resources and representatives of Carbon Limits (Kingdom of Norway), which is the main consultant and technical support provider.

In 2019, the first stage of the Program was implemented. Methane leaks were identified at the facilities of Ukrgasvydobuvannya, Ukrtransgaz and Kirovohradgaz. In 2020, the second stage of the Program was implemented. This included a winter measurement campaign and search for leak sites at the facilities of Ukrgasvydobuvannya and Ukrtransgaz (underground gas storage facilities). Based on the results of the second measurement campaign, development of the Investment Program and the Equipment Replacement Roadmap was launched. The implementation of the Program will enable a significant reduction of methane leaks at Naftogaz Group companies.

In addition, Naftogaz of Ukraine prepared and submitted a report on methane emissions in 2021. This work was carried out within the framework of the first stage of the implementation of the global voluntary industrial initiative on enhancing systems of monitoring, accounting for, and reduction of methane emissions – Oil and Gas Methane Partnership 2.0 (hereinafter – OGMP 2.0). The OGMP 2.0 initiative aims to improve the accuracy and transparency of methane emissions reporting in the oil and gas sector.

Furthermore, in 2021 at the climate conference COP26 in Glasgow, Ukraine joined the Global Methane Pledge that provides for methane emissions reduction by 30% by 2030. Naftogaz supported this and coordinates its activities with the government to ensure achievement of this ambitious goal, as well as to attract investments for such projects.
In 2022, the company plans to finalize a study on methane leakages in partnership with Carbon Limits and develop the relevant investment plan. It is worth noting that Naftogaz delayed the planned reporting under level 3 of OGMP 2.0 to 2023 due to military operations in Ukraine.

As part of equipment modernization, e.g. compressor stations, systems of liquid removal from well, and operational processes optimization such as phasing out venting practices, it is planned to reduce production and technological gas losses and consumption.

In 2021, we have stepped up efforts to shift from natural gas to biomass for our heat generation facilities. Today, we are working on two projects for relevant installations in the Lviv Region. After other state heating stations are transferred to our ownership, we plan to estimate the potential of biomass and waste use for heat generation there.

In addition, we have started to develop the Group's competence in carbon capture, storage and utilization technologies. Although this technology is quite new even in advanced countries, we see significant potential in its application both at the company's facilities (production of synthetic fuels and green methanol) and for the provision of services to external players (carbon storage). The company received the first inquiry from German partners regarding the possibility of absorbed carbon dioxide storage in depleted gas fields or gas storage facilities. Naftogaz Group held negotiations with Taras Shevchenko National University of Kyiv on joint research on the use of carbon capture and storage technology in aquifers and basalt rocks.

Scope 2 emissions management

This category includes GHG emissions from the production of energy purchased by Naftogaz Group from third parties.

To reduce Scope 2 emissions, the Naftogaz team plans to focus on the following directions by 2030:

- Reducing energy consumption by implementing energy efficiency measures
- Transition to the purchase of green energy to meet own needs
- Development of renewable energy production

Increasing energy efficiency of operational activities is a priority area for Naftogaz Group, as these measures have high potential in view of their economic feasibility. In 2022, it is planned to develop and approve the Naftogaz Group Energy Efficiency Improvement Program for 2022-2025 and to improve the functioning of the Energy Management System in accordance with the requirements of the international standard ISO 50001.

More about energy efficiency on page 182.

Before the start of hostilities, the company had planned to become a leader in the domestic green electricity market and to build at least 1 GW of green power by 2030. This volume of generation could cover a significant part of Naftogaz Group needs in traditional operations, as well as for the implementation of green projects, e.g. on green hydrogen or for the development of the electric charging stations network. It would also allow the sale of green energy on the electricity market.

With electricity market development (in particular, with the creation of a mechanism of power purchase agreements), Naftogaz plans to consider the possibility of purchasing green energy to meet its own needs. In combination with the development of its own production of green energy, this will significantly reduce Scope 2 emissions.

Scope 3 emissions management

This category mainly includes our customers' emissions from the use of energy we supply to them. We see the development of low-carbon businesses as a key driver on the way to a climate-neutral future through the reduction of emissions from the use of products by end consumers.

More about the development of low-carbon businesses on page 164.

Carbon neutrality and its importance for the future Naftogaz business model

As stated above, the current carbon neutrality goal of Naftogaz covers direct emissions from business activities (Scope 1) and indirect emissions related to the production of purchased energy (Scope 2). It does not include other indirect emissions (Scope 3) that mainly arise during the use of fossil fuels and related products by end consumers. Setting goals to reduce such emissions will essentially mean a purposeful gradual reduction of the share of traditional businesses in the long run and an increase in the share of green businesses in the Group's portfolio. Priority areas for Naftogaz are the production of heat, electricity and fuels from biomass, wind energy and green gases such as biomethane, hydrogen and synthetic gases. This is due to growing demand for green energy in the EU and the possibility of receiving a green premium and preferential financing at the stage of early commercialization of technologies. Other priorities include energy efficiency services for Ukrainian consumers, as well as provision of carbon storage services for Ukrainian and international consumers. Increasing the production and supply of green energy will reduce the average carbon footprint of the energy we supply to our customers, which in turn will help them meet their own emission reduction targets.

The possible date for achieving full climate neutrality of Naftogaz Group will depend on the availability and pace of implementation of technological solutions, access to financial resources, opportunities to attract partners, and other factors. At the same time, we understand the importance of this direction for Naftogaz, for Ukraine and for the world in general. Therefore, we plan to be guided by Ukraine's national and international obligations to reduce emissions. The National Economic Strategy of Ukraine until 2030 envisages the achievement of climate neutrality by Ukraine in 2060. The EU has plans to achieve climate neutrality by 2050.

Achieving our climate goals is an important part of realizing our mission to be an engine of modernization and professionalism in the energy sector of Ukraine that is integrated with the European market, ensuring security of energy supply at competitive prices, while maximizing the value of national resources.

More about the mission and strategy of Naftogaz on page 118.

ENERGY EFFICIENCY

Naftogaz of Ukraine and Naftogaz Group companies implement measures to improve their systemic approaches to energy management processes and increase the energy efficiency of technological processes in their production units. Realizing the importance of rational use of fuel and energy resources (FER), the Company seeks to apply best practices in this area, including the introduction of energy management.

Management approach to energy efficiency

Naftogaz Group is committed to responsible consumption of fuel and energy resources.
In order to control use and to ensure the implementation of energy efficiency measures, an energy management system is in place at Group companies, namely Naftogaz of Ukraine, Ukrtransgaz and Ukrtransnafta.

The companies have established, documented, implemented and maintain an energy management system that complies with ISO 50001:2018, and works to improve its effectiveness regularly.

Naftogaz of Ukraine energy management policy states that Company top management is responsible for creating the necessary conditions for the implementation and continuous improvement of Energy Management Policy – the key document governing the Company's activities in this area. The Energy Efficiency Department implements the energy management system and ensures its operation.

Naftogaz of Ukraine conducts annual internal audits of the energy management system and assesses its compliance with the requirements of the ISO 50001 standard. Audits are conducted in Company divisions and branches, as well as at Naftogaz Group companies. Based on the results of audits, corrective action plans are drawn up and implemented. In 2021, an independent external evaluation (recertification audit) by TÜV Austria, the international certification body, confirmed that the company of the energy management system meets the requirements of the ISO 50001:2018 international standard.

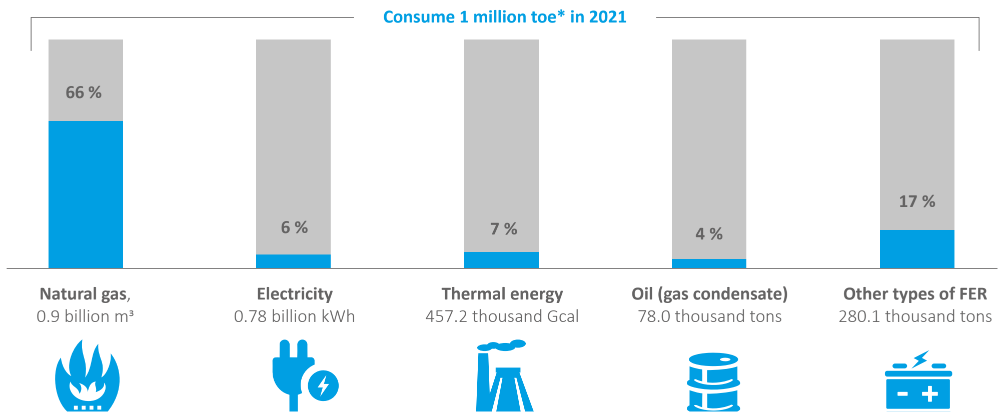
Naftogaz of Ukraine is working on implementation of the energy management system at other enterprises of Naftogaz Group.

Energy use

During 2021, Naftogaz Group companies consumed a total of 1.13 million toe* of FER to meet the technological needs of their production processes, including:

Name of FER	Consumption in units of measurement	Consumption in million toe*
Natural gas	0.9 billion m³	0.740
Electricity	0.78 billion kWh	0.067
Thermal energy	457.2 thousand Gcal	0.046
Oil (gas condensate)	78.0 thousand tons	0.078
Other types of FER	280.1 thousand tons	0.196
Total		**1.127**

1 The structure of energy resources used to meet technological needs in 2021

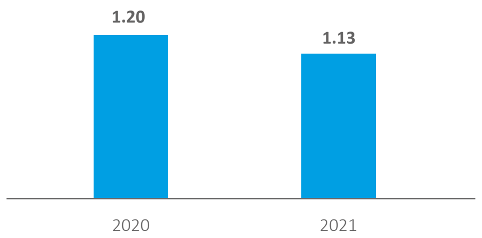


* tons of oil equivalent

Structure of energy resources used in 2021

Name of Naftogaz Group company	Total FER, thousand toe*	Inter alia			
		Natural gas, million m³	Electricity, million kWh	Thermal energy, thousand Gcal	Other types of FER, thousand toe*
Ukrgasvydobuvannya	494.94	556.3	268.76	200.87	-
Ukrnafta	526.50	234.0	481.84	212.97	279.65
Ukrtransgaz	101.03	118.4	19.10	32.66	0.0
Ukrtransnafta	1.49	0.4	0.11	7.67	0.48
Ukravtogaz	2.46	1.5	11.32	2.43	0.0
Ukrspetstransgaz	0.14	0.083	0.17	0.58	-
Chornomornaftogaz	0.05	0.056	-	-	-
Other Group companies	0.16	0.003	1.01	0.72	0.0
Total	**1126.77**	**910.7**	**782.31**	**457.90**	280.13

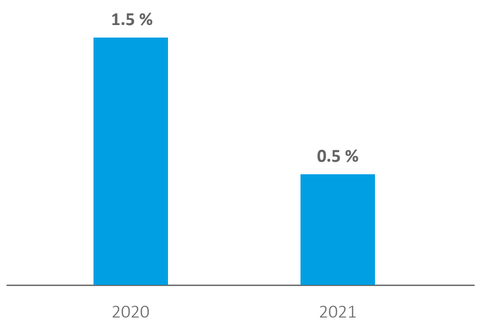
2 Use of FER in 2020-2021, million toe*



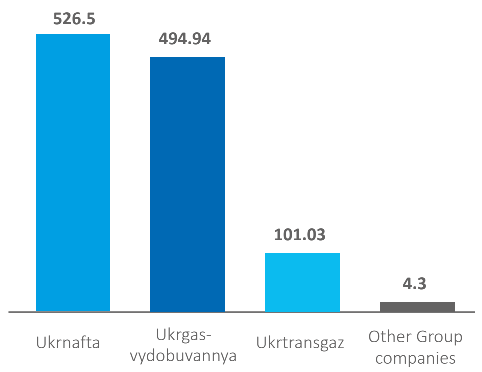
In Naftogaz Group, the largest consumers of fuel and energy resources are: 4

- Ukrnafta – 47% of the total FER consumption;
- Ukrgasvydobuvannya – 44% of the total FER consumption;
- Ukrtransgaz – 9% of the total FER consumption.

3 Share of FER saving vs total comsumption in 2020-2021, %



4 The largest FER consumers, thousand toe*



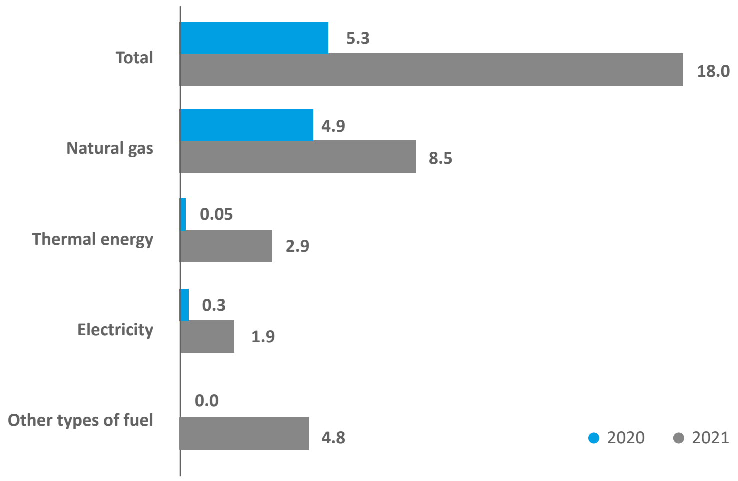
Results of energy efficiency measures

According to the results for 2021, the companies of the Naftogaz Group, through the implementation of initiatives to improve energy efficiency, have achieved a reduction in energy consumption of 5.29 thousand toe. This reduction was achieved by reducing the consumption of certain types of fuel and energy resources, namely:

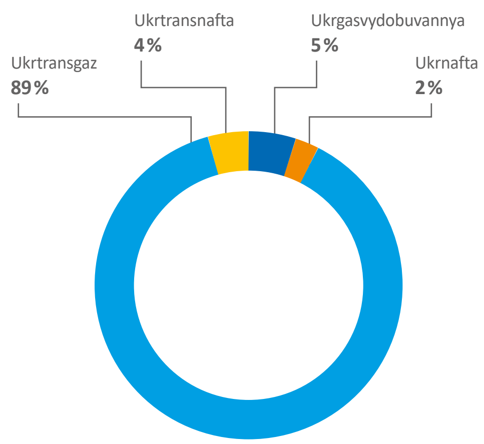
Type of FER	Decrease in consumption in units of measurement	Decrease in consumption in thousand toe*
Natural gas	6062.60 tcm	4.92
Thermal energy	0,48 thousand Gcal	0.05
Electricity	3733.19 thousand kWh	0.32
Total		**5.29**

* tons of oil equivalent

5 Naftogaz Group savings of fuel and energy resources in 2020-2021, thousand toe*



6 Share of reduction in FER consumption by Group companies in 2021, %



In terms of Group companies, Ukrtransgaz is the leader with the largest contribution to the reduction of energy consumption – 4.74 thousand toe. Ukrtransgaz is followed by Ukrgasvydobuvannya (0.27 thousand toe) and Ukrtransnafta (0.23 thousand toe*). This result was achieved through the implementation of sectoral energy saving programs by Group companies.

The implementation of sectoral programs to improve energy efficiency at subsidiaries of the Group during 2014-2021 resulted in savings in fuel and energy consumption of 347.1 thousand toe*.

Energoservice

In 2021, the Naftogaz-Energoservice subsidiary continues implementation of the Affordable Heat Project to improve energy efficiency in the household sector.

The Affordable Heat Project is implemented in three key areas:

1. Provision of services to household consumers through the Energy Efficiency Solutions Center in the city of Kropyvnytskyi and Kirovohrad region.

2. Installation of individual heating systems jointly with Kropyvnytskyi City Council.

3. Affordable Heat Program for employees and cities/towns of compact residence of Naftogaz Group employees (Donets town, Kharkiv region)

The table below contains detailed information on the results of the Affordable Heat Project from its launch:

	Installation of electric heating systems for residents	Transfer from district heating to individual heating system	Number of cost estimates designed	Number of working projects designed
Energy Efficiency Solutions Center[1]		97	297	59
Project implemented jointly with Kropyvnytskyi City Council	26	7	91	7
Employees of the Group – settlements of compact residence of employees (Donets town, Kharkiv region)		7	28	11

Naftogaz-Energoservice is also cooperating with the Kropyvnytskyi City Council to implement the city heat supply system optimization program.

Goals and plans for 2022

- Improving the Energy Management System in accordance with the requirements of ISO 50001.
- Expansion of the Energy Management System to include all Naftogaz Group companies.
- Develop and approve the Naftogaz Group Energy Efficiency Improvement Program for 2022-2025.

[1] In the city of Kropyvnytskyi and Kirovohrad region.

* tons of oil equivalent

HUMAN CAPITAL MANAGEMENT

As of December 2021, the Group employed

53,700

employees, 3% more than in 2020

Our people are the source of resilience and development of the Group. They defend the energy independence of Ukraine. We are proud of the resilience, courage and perseverance shown by the Group's employees during martial law, ensuring the continuity of Group operations and Ukraine's energy independence. The **Human Capital of Naftogaz Group** generates high returns and economic value through the knowledge, skills, competencies and experience of the company's personnel.

We strive to be a driver of modernization in our country by ensuring its energy independence and maximizing the value of national resources. Naftogaz Group is the largest employer in the Ukrainian oil and gas sector. As of December 2021, the Group employed 53,700 employees, which is 3% more than in 2020. The Group's skilled and trained employees are essential to the management of Ukraine's energy resources. This is a great responsibility and a source of inspiration for the Group.

The continued resilience of the Group as a national company responsible for Ukraine's energy independence requires large-scale changes, including changes of mindset. Naftogaz Group consists of companies that still retain a Soviet heritage, and culture where people were often perceived as a tool to achieve goals, rather than as a form of capital that should be constantly invested in to deliver business growth. This legacy impacts human capital management practices which prevent increases in the value of human capital, which in turn undermines the Group's central mission of protecting energy independence.

To overcome this challenge, we need to develop and realise the potential of existing employees, as well as attract new talent with the necessary competencies for our industry, including foreign specialists. We believe that true independence is only possible when we possess the necessary knowledge and competences. The company's management is aware of the strategic importance of changing approaches to human capital management. Further development of Naftogaz Group requires increase in labor productivity, which can be achieved under the following conditions:

- Continuous development of knowledge and skills of our employees and talented youth
- Clear employee awareness of their role in the growth of the Company and importance for fulfilling Naftogaz Group's wider vision
- Safe working conditions and fair renumeration.

At the same time, the Group determined a number of areas and risks for its human capital development, namely:

- As of 2021, we lack a **number of critical professional competencies** in areas including horizontal drilling and well completion; management of technology needed for low permeability reservoirs; drilling and production of unconventional gas and offshore resources. At the same time, the average expenses of the Naftogaz Group for the training of one employee in 2021 increased compared to 2020 and amounted to **UAH 1,150** (**UAH 1,536** for employees who completed at least one training program). In 2020, these expenses amounted to UAH 568 per employee (UAH 1,155 for employees who completed at least one training program). However, this is still **less than half the market median of training budget per employee** (UAH 3,600)[1]. Moreover, we recognize that the training and development of our employees is not sufficiently systematic. There is no clear connection between employee training and development and Naftogaz Group strategic goals and needs. We are beginning to change this process. In particular, we began development of professional and leadership competency programs. We strive to create opportunities for our employee self-development so that they can improve their knowledge and skills. For example, we have introduced opportunities for internships for employees abroad in the best global companies in the oil and gas sector. We currently attract foreign employees with valuable experience. However, we understand that the staff development system needs improvement.
- In 2021, **61%** of Naftogaz Group employees were **aged 40 to 60**. We realize that we should focus on reducing the average age of Naftogaz Group employees. This means attracting younger specialists by increasing the prestige of the oil and gas sector among young people. That is why we are engaged in training young talent through cooperation with universities (in Ukraine and abroad), and the formation of a pool of potential key managers to ensure the continuity of the company's activities and the transfer of critical competencies.
- The recruitment process in Ukraine is not sufficiently open. As of December 2021, out-of-competition selection practices were quite widespread in Naftogaz Group. The average vacancy and recruitment tender time in some legal entities of the Group is significantly longer than the market median (66 days in total), which may indicate the inefficiency of the process[2]. We are working on creating a transparent competitive selection process that will help attract the best professionals with the necessary knowledge, skills and experience, and we are strengthening our recruiting team.
- The results of a reputation audit conducted by the Federation of Oil and Gas Employers in early 2021 showed that 22% of Naftogaz Group employees considered misunderstanding of the Group's goals by employees to be one of the biggest risks, The same survey found that 25%

[1] Source of market practices: EY. Industry-wide review of wages and compensation. Personnel policies and practices – 2021

[2] Source of market practices: EY. Industry-wide review of wages and compensation. Personnel policies and practices – 2021

of employees considered employee resistance to change, inability to get rid of bureaucracy, and reluctance to make decisions and be responsible to be the biggest risks. The internal communications system needs to be developed so that employees have a better understanding of the Group's strategy.

- In 2021, Naftogaz Group **staff turnover** was **3%**, which may indicate **high employee loyalty**. However, we do realize that high loyalty can create a more passive work force and reduce innovation and positive change. According to the results of the reputation audit conducted by the Federation of Oil and Gas Employers in 2021, only 17.8% of employees believe that they will be able to quickly find a job with better working conditions.
- In terms of working conditions, Naftogaz Group is a responsible employer. The level of remuneration at Naftogaz Group corresponds to market practices. We aim to attract the best specialists available in the labor market and fairly reward valuable expertise, skills, experience and efficient work. Social security is the focus of the company's employee compensation and benefit systems. Naftogaz Group demonstrates responsibility as an employer and interacts with trade unions. However, the Group's rewards and benefits are complex and outdated. We are working on simplifying the system and increasing the transparency of our employee compensation management practices.
- We realise the importance of creating an inclusive work environment. The gender composition of the Group workforce (76% male and 24% female) can be partly explained by the difficult physical aspects of the work carried out by the Group. However, the gender structure of the management team (63% male and 37% female) might indicate an under-representation of women in key management positions and underlines the importance of our continued work to strengthen diversity and inclusion at the Group level.
- A big share of **male workers subject to military mobilization** jeopardizes the Company's operational resilience, as well as employee retention and recruitment. Female employee retention and attraction is also complicated due to internal and external migration of women and their families.
- The implementation of transformational processes at the Group level requires a change to the corporate culture. Currently, corporate culture is not keeping up with our transformation into an efficient modern business. There is still a lack of accountability among managers and parasitism among employees. According to the results of the reputation audit issued by the Federation of Oil and Gas Employers in early 2021, our culture is hierarchical and bureaucratic; employees are not ready to express their own opinion and offer ideas; the level of involvement and engagement of the Group's ownership is insufficient. The continuation of this culture is made possible due to a lack of uniform principles, policies and systems at the Group level.

in 2021, only

17.8%

of employees believe that they will be able to quickly find a job with better working conditions

The system for setting goals and key results that was in place in 2020 at the level of the company's top management was inefficient. The goals were too small with no obivious connection with the business performance or financial results of the Group and individual companies. In 2021, we implemented a number of steps to improve the performance management system.

In particular, goals for managers and employees are set according to the following four key strategic areas:

SECURITY OF SUPPLY	• Increasing the level of energy security of Ukraine by strengthening the resource base and effective production management • Ensuring a sufficient amount of natural gas for the upcoming heating season • Development of wholesale and retail supply segments and prevention of possible "market failures"
FINANCIAL RESILIENCE	• Increasing the financial resilience at all stages of the value chain in the Ukrainian oil and gas sector • Effective price risk management and mitigation of the impact of sharp price increases on household consumers
GREEN TRANSFORMATION	• Reduction of carbon dioxide emissions and other greenhouse gases at Naftogaz Group companies • Development of low-carbon businesses – production of biomethane and biofuels, conversion of thermal generation to biomass, hydrogen production, etc.
TRANSFORMATION	• Improving technical and operational efficiency to the level of comparable companies • Development of competencies in strategic areas of activity and value chain factors

Assessing achievement goals and key results for top management included a discussion at the company board meeting in a round table format as one of its steps.

Development of the human capital management function

We realize that the level of development of the human capital management function does not always correspond to our goals. In 2021, we conducted an assessment of the maturity of the HR function using common international approaches and practices. Based on the results of this assessment, we determined that all areas of Naftogaz Group's HR function need improvement. Important yet routine processes need standardization and automation. Our HR specialists are mostly engaged in personnel administration and data processing. At the same time, we have a shortage of specialists in other areas – recruitment, training and development, compensation and benefits, workforce planning and HR analysis. The HR team's performance is negatively impacted in these areas due to a lack of familiarity with the specificities of the oil and gas sector.

The Group understands the existing challenges and obstacles in this area and is taking steps to develop the human capital management function to become more strategic rather than purely supportive.

For the purposes of this transformation, in 2021 we created an updated HR operational model, launched the establishment of a competence excellence center to focus on strategic work, policy and approach development. We also developed requirements for professional competencies of HR specialists and started work on creating an HR analytics system to support development of management solutions. We strive to develop and apply new efficient approaches, methodologies and policies that will allow us to be more flexible and technologically advanced, and therefore more resilient.

Next steps

Our goal is to redesign all HR processes to reveal the potential of our employees and achieve the business goals of Naftogaz Group.

Every measure implemented in 2021 to improve human capital management contributed to increasing the resilience of the company, the energy sector, and the country. This resilience helped us to maintain operational efficiency in wartime conditions at the beginning of 2022 and brings our victory closer every day. It will soon become a solid foundation for the reconstruction of Ukraine after our victory.

For the next year, our priorities include the following:

- Upgrading the staff training and development system with a focus on the development of critical knowledge and skills in the field of exploration and production, as well as managerial competencies to support managers in improving the Naftogaz Group corporate culture
- Establishment of the succession system
- Development of the remuneration policy, which demonstrates a clear link between the achievement of individual goals based on the Group's goals and variable remuneration
- Automation of human capital management processes
- Strengthening the professional competencies of the HR team.

We believe that our approach with an emphasis on the development of human potential will maximize the value of human capital for the company and contribute to realising the company's mission.

EMPLOYEE HEALTH & SECURITY

Health and security management

The preservation of life, health and ability to work of each employee is one of the focuses of Naftogaz Group. The company seeks to minimize the impact of hazardous production factors. It is responsible for the health of its employees and ensures safe operations; applies advanced approaches to create safe and healthy working conditions; and has policies to prevent accidents and health issues.

Back in 2019, Naftogaz Group introduced "Vision Zero"– the HSE Vision according to which injuries, deaths, accidents and other negative cases from operating activities are unacceptable.

To achieve this goal, the company's efforts are aimed at improving safety culture, the introduction of zero tolerance for the concealment of accidents, the involvement of senior management and all employees, and implementation of a comprehensive set of safeguards and practices to create a safe production environment.

The company operates in accordance with the requirements of Ukrainian legislation along with international standards and internal corporate norms in the field of health and safety. Based on international practices related to occupational safety and health management, a strategic document has been developed – the Seven "Golden Rules", which helps to implement best practices and values in routine operations. 1

1 Seven "golden rules" (International Social Security Association)

Naftogaz Group makes decisions on occupational health and safety based on its Charter, the requirements of the Labor Code of Ukraine, and the Laws of Ukraine "On Labor Protection", "On Compulsory State Social Insurance", "On Facilities with increased danger". The company has built an occupational health and safety management system that meets the requirements of international standard ISO 45001:2018 "Occupational Health and Safety Management Systems", and road safety management system in accordance with ISO 39001 "Road Safety Management System".

During 2021, efforts to create safe and healthy working conditions, prevent accidents and occupational diseases at work continued. Occupational safety measures were implemented in accordance with:

- The Naftogaz Group occupational health and safety, industrial and fire safety, road safety policy, which has been effective since 2020 and applies to all employees;
- The annual goals of Naftogaz Group on occupational health and safety;
- The annual action plan to improve occupational health and safety;
- Comprehensive measures to achieve the established standards and improve existing labor protection.

The activities of Naftogaz Group were carried out in accordance with a number of documents approved in previous periods:

- Regulations for reporting on the state of Naftogaz Group labor and environmental protection, civil protection, fire and industrial safety, road safety;
- Regulations for conducting internal investigation, analysis and recording incidents/events within Naftogaz Group;
- Regulations for inspection (audit) of production acts of Naftogaz Group companies on labor protection, industrial safety and environmental protection;
- HSE (Health, Safety and Environment) audit procedure in Naftogaz Group;
- Regulations for labor protection and industrial safety hazard identification and risk assessment in Naftogaz Group.

During 2021, a number of documents have been drafted to improve the occupational health and safety management system while reducing the level of occupational injuries and ensuring proper working conditions, which were approved by the decision of the Board of Naftogaz of Ukraine, namely:

- Regulations for Naftogaz Group occupational health and safety, industrial and fire safety management;
- Naftogaz Group road safety management regulations;
- Methodological guidelines determining and applying the Lost Time Injury Frequency Rate (LTIFR) and other occupational safety and road safety rates within Naftogaz Group;
- Guidelines for conducting a behavioral audit on occupational safety in Naftogaz Group.

Most occupational safety processes at Naftogaz Group are automated. The unified labor protection, environmental and industrial safety monitoring system automatically transmits reports of incidents and deficiencies in the management system in real time. It also summarizes reports, assesses risks, analyzes data based on incident investigations and more. The system contributes to the rapid and high-quality elimination of identified inconsistencies while evaluating the effectiveness of management processes.

The company adheres to a transparent labor protection policy. The relevant information is published electronically (via the official website and internal web portal) and in paper format (line and industry journals). There is a "Trust Line" in which employees can use to anonymously report health and safety issues. During 2021, no formal complaints regarding violations of occupational safety requirements in the company's operations were received. The Naftogaz Group has received several appeals to the Trust Line, mainly concerning non-compliance with quarantine measures. Each appeal was investigated and, where necessary, adequate measures were taken.

During 2021, Naftogaz Group has achieved the HSE goals set for 2021:

- compliance of the occupational health and safety management system that meets the requirements of the international standard ISO 45001: 2018 has been confirmed. Based on the results of the supervisory audit, the relevant Certificate was received, and the safeguards currently in place in the company are recognized as effective;
- the companies of Naftogaz Group have identified common approaches to occupational health and safety, industrial and fire safety, and road safety management by approving and implementing Regulations for Occupational Health and Safety, Industrial and Fire Safety of the Naftogaz Group, Regulations for road safety management;
- based on the best international practices, occupational safety and road safety performances, as well as the mechanism for conducting an occupational safety behavioral audit in the Naftogaz Group have been implemented.

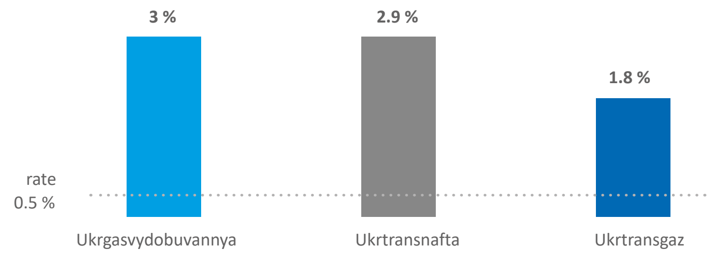
Labor protection costs

In 2021, Naftogaz Group spent a total of UAH 332.30 million on investment in labor protection.

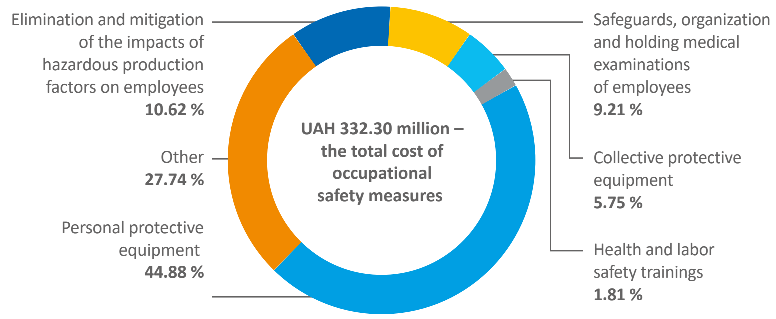
The scope of funding for occupational safety measures by the company meets and even exceeds the standard required by law of 0.5% of the payroll. In addition, the largest companies in the Group in terms of the number of employees significantly exceed the regulatory requirement: Ukrgasvydobuvannya – 3.0%, Ukrtransnafta – 2.9%, Ukrtransgaz – 1.8%. 2

In 2021, the Naftogaz Group spent UAH 149.12 million, or 44.88% of total expenditure on labor protection measures and personal protective equipment such as overalls, footwear, seat belts, helmets, goggles, respirators, noise-canceling headphones and protective gloves. 10.62% of total expenditure on labor protection measures was spent on the implementation of measures to eliminate and minimize the impact of hazardous and harmful production factors on workers. 3

2 Financing of labour protection measures by Naftogaz Group companies in 2021, % of the payroll



3 Financing of labour protection measures in 2021 by categories, %



Fire Security

The key principle of Naftogaz Group in the sphere of fire safety is an honest and responsible approach to the implementation of fire protection systems. The company strictly adheres to the provisions of the Civil Protection Code of Ukraine regulations, orders and relevant instructions on fire safety. The Group's companies have an appropriate fire safety regime in place, which is regulated by the requirements of the Fire Safety Regulations (NAPB) A.01.001-2015 "Fire Safety Rules in Ukraine" and SOU 75.2-20077720-017:2013 "Fire Safety Management System of the National Joint Stock company Naftogaz of Ukraine. Basic provisions".

Staff training is one of the company's focuses. During 2021, 24,290 employees were trained on the fire technical minimum while 1,860 officials were trained on fire safety. Fire drills are conducted at Group companies, including with the involvement of units of the State Emergency Service of Ukraine (SES). 4

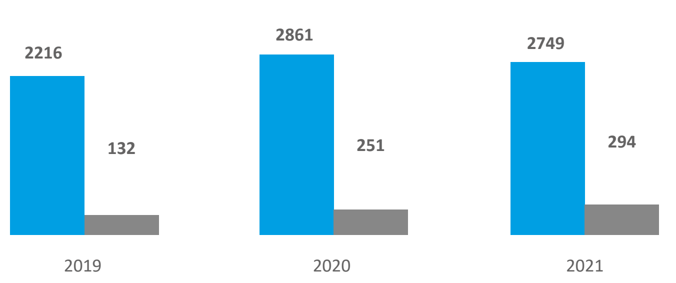
Naftogaz Group takes care of staffing and provides sufficient material support for fire safety purposes:

- As of 2021, 274 specialists were employed by Naftogaz Group to ensure fire safety. 156 fire technical commissions and 250 fire brigades were formed consisting of 963 and 1,873 people respectively;
- 50 fire engines, 455 automatic fire extinguishing systems, 2,650 automatic fire alarm systems, 887 fire reservoirs, 820 tons of foaming agent, 45,548 basic fire extinguishers and other equipment have been provided by the company;
- For firefighting purposes, 148 departmental fire trucks are involved, of which 81 are on round-the-clock duty;
- The facilities of the company are guarded by 24 fire and rescue units of the State Emergency Service of Ukraine which have 84 fire trucks at their disposal. The staff of these units includes 864 people.

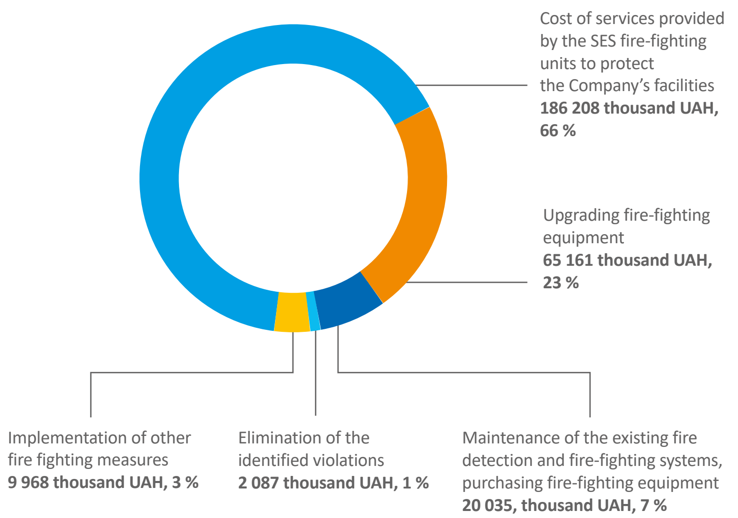
The Group's companies are subject to regular internal and external (by SES authorities) inspections and audits for compliance with fire safety requirements of current regulations. As a result of such inspections, a total of 22,140 violations were identified, of which 19,747 were eliminated. Thirty disciplinary sanctions were imposed for violating fire safety rules.

In 2021, the companies of Naftogaz Group spent a total of UAH 283,457.79 thousand on fire-fighting measures, of which the largest share – UAH 186,207 thousand – was the cost of services provided by the SES fire brigades aimed at protection of the company's facilities. 5

4 Number of fire drills



5 Fire-fighting costs of Naftogaz Group in 2021



Occupational safety training

Every year, Naftogaz Group organizes and holds staff training on occupational health and safety aimed at raising employee awareness. In the reporting year, Naftogaz Group conducted the following mandatory and optional training events designed to meet the needs of different groups of employees:

- 13,530 employees of Naftogaz companies were trained on occupational safety at training centers during the year;
- in August-September, a scientific and practical workshop "Health and safety, civil protection, environmental, radiation, fire, man-made, industrial safety, road safety and technical supervision Management Corporate function of Naftogaz Group: development, implementation and further operation" was held which brought together about 100 health and safety managers along with company specialists;
- in July 2021, 7 company employees of various profiles were trained via the course "Tools for continuous improvement in the occupational safety, civil protection, fire and man-made safety, and road safety management system" which included the following modules: "Behavioral audit", "Internal audit", "Road map", "Internal investigation in accordance with the requirements of ISO 19001, ISO 45001";
- during the year, about 60 employees of the company were trained in providing first aid to victims of accidents, the same training was held at all companies of the Group.

Naftogaz Group has an occupational safety communication system in place. In line with this commitment, an Occupational Safety and Health Working Group has been established which reviews occupational injuries and road safety at companies, summarizes the results of occupational health and safety unit operations, reviews the draft internal documents developed within the Group, and determines the key areas for improvements.

In order to exchange best practices in the field of occupational safety (educational videos, films, presentations, regulations, etc.) a joint "WORK SAFETY" site is created, a platform where professionals can exchange their experience in 29 specific areas.

Occupational injuries

The Naftogaz Group occupational safety policy is aimed at preventing injuries and occupational diseases of employees through effective risk management and implementation of safeguards; ensuring continuous improvement of the safety culture of each employee as the basis of occupational safety.

Naftogaz Group systematically and consistently implements the best occupational safety practices; however, in 2021 there was an increase in the number of injuries at work by 15.8% compared to the previous year a rise from 19 to 22 accidents.

In the reporting year, 22 accidents occurred at the Naftogaz Group enterprises: 6 7

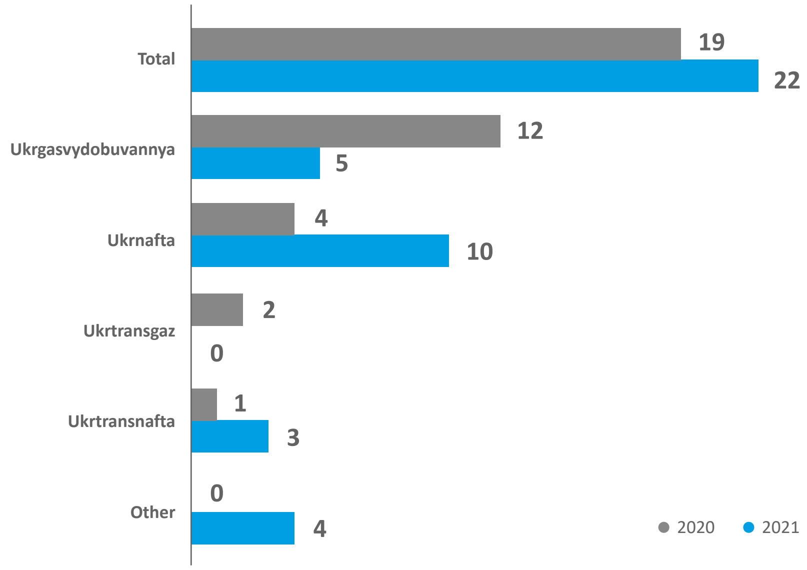
- 5 cases: 5 employees of Ukrgasvydobuvannia were injured;
- 10 cases, including 2 group cases: 12 employees of Ukrnafta were injured;
- 3 cases: 3 employees of Ukrtransnafta were injured;
- 1 case: 1 employee of Naftogazbezpeka was injured;
- 1 case: 1 employee of Kirovohradgaz was injured;
- 1 case: 1 employee of Naftogaz of Ukraine was injured;
- 1 case: 1 employee of Naftogaz Teplo was injured;
- In 2021, no accidents were recorded with the management staff of Naftogaz of Ukraine.

In 2021, as in the previous year, injuries due to organizational issues occurred – 17 cases, or 75% of the total number of injuries. 6 These were cause by:

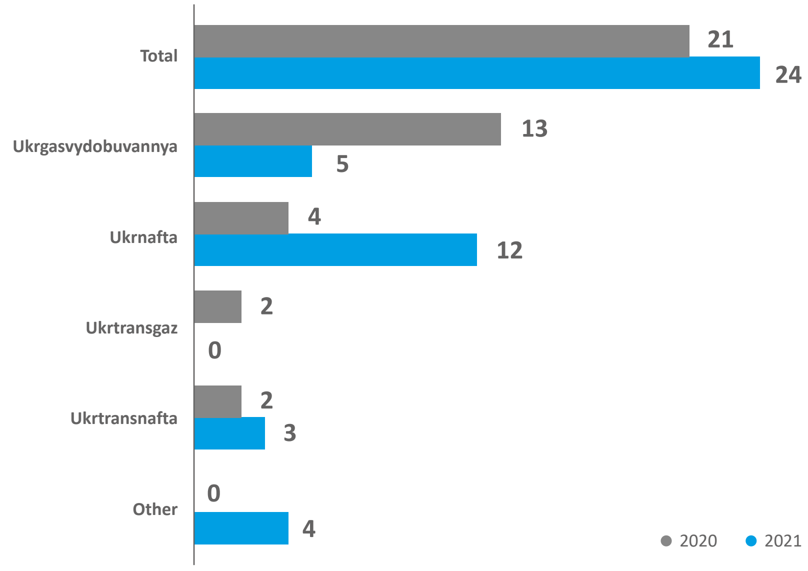
- non-compliance with the requirements of labor protection instructions (10 employees were injured);
- violation of labor and production discipline, including failure to perform official duties (4 employees were injured);
- violation of technological process (2 employees were injured);
- non-compliance with the requirements of occupational safety regulations during the performance of high-risk work (1 employee was injured);
- violation of safety requirements during the operation of public road transport (1 employee was injured) 8.

Four injuries were caused by the individual's personal negligence. Two injuries were caused by the unsatisfactory technical condition of fixed assets. 9

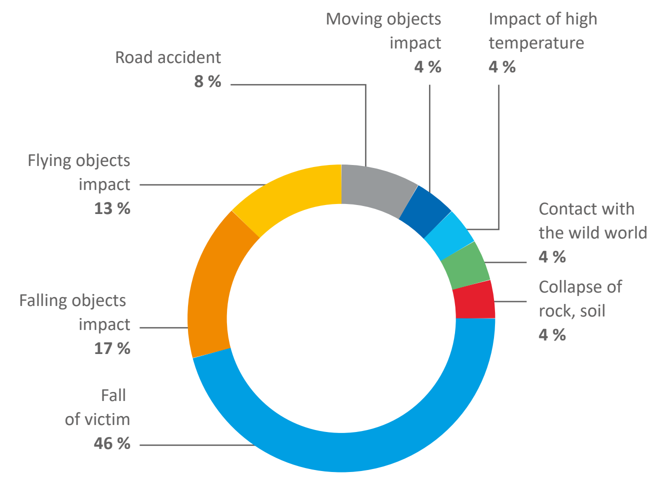
6 Number of accidents in 2020-2021



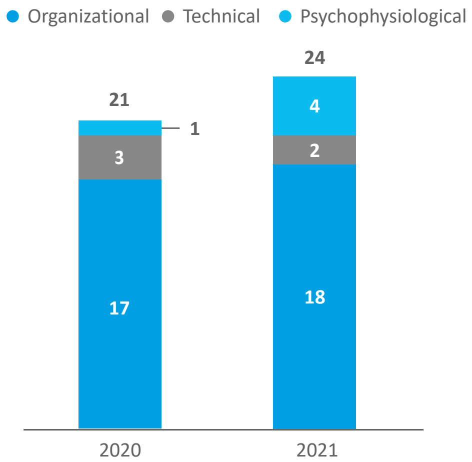
7 Number of injured workers in 2020-2021



8 Number of victims of accidents by type of event in 2021



9 Number of injuries by reason of their occurrence in 2020-2021



In 2021 there were 2 fatal accidents at Naftogaz Group companies. The incidents occurred due to non-compliance with the requirements of occupational safety instructions (Ukrnafta) and non-compliance with the requirements of the occupational safety regulations during high-risk work (Ukrgasvydobuvannia).

The Lost Time Injury Frequency Rate (LTIFR) in the reporting year was 0.47 (in 2020 – 0.41), and the injury severity rate – 62.21 (in 2020- 43.24).

In 2021, no cases of occupational diseases were detected at Naftogaz Group companies. In accordance with the requirements of the relevant regulations, examination of 32,936 employees of the companies was held in the reporting period.

The company has a Medical Care Sector. Where necessary, healthcare units with the required medical equipment and medicines operated at the companies' production facilities.

Risk assessment and incident investigation

"It is better to prevent than to correct" – this is the key principle that Naftogaz Group follows in production safety matters. With this in mind, identifying hazards and minimizing risks in the field of occupational safety, determining the root causes of incidents, and implementing effective corrective measures are crucial factors.

The hazard identification and risk assessment process at Naftogaz Group is guided by the Regulations for Hazard Identification and Risk Assessment in Occupational Safety and Industrial Safety at Naftogaz Group companies, which sets out requirements for the planning, preparation and organization of the relevant activities. This document also regulates the risk management procedure, according to which the heads of the units where health and safety risks are identified shall develop and implement safeguards minimize them. Where possible, priority is given to measures aimed at eliminating danger and then at avoiding risk.

The causes of incidents/events are internally investigated at the companies, which provide in-depth analysis. Investigations, analyses and accounting of incidents and events are regulated at the group level. Each investigation ends with the establishment of root causes and recommendations of effective safeguards to avoid the reoccurence of similar situations, along with the identification of employees whose actions or inactions led to the incident. Information about the event is communicated to the employees of the company in a newsletter which contains a brief description of the event, its analysis, corrective actions, and "lessons learned".

Safety of oil and gas transmission

In 2021, Naftogaz Group implemented a number of measures to ensure the safety of oil and gas transmission. In order to maintain the facilities of the main oil pipeline in good technical condition, the following works were carried out by Ukrtransnafta:

- in-pipe diagnostics of 1,102.6 km of main oil pipelines;
- 953 defects of the linear part of the main oil pipelines and 32 incidents of malicious damage on the linear part of the oil pipelines were repaired;
- comprehensive instrumental survey of 405 km of the linear part of the main oil pipelines was performed;
- 4 sets of anode groundings of cathodic protection stations were carried out and 32 cathodic protection stations were repaired;
- scheduled and preventive repairs of 7 pumps and 73 electric motors on oil pumping units were carried out;
- 30 tanks were decommissioned, including for repair or inspection;
- 1 tank was repaired 11 tanks are being repaired.

Industrial safety

Ensuring continuous and reliable operations of production facilities is one of the key areas of Naftogaz Group activities.

Industrial safety within Naftogaz Group is an integral part of the security systems that are managed in line with current standards and regulations.

In order to improve safety standards and ensure the implementation of the world's most advanced HSE standards, Naftogaz Group has built an Industrial Safety Management System. The system enables the planning of work aimed at improving the level of industrial safety, while evaluating and improving the activities of Naftogaz Group companies in this area.

The established management system is unique not only for the industry, but also for Ukraine as a whole. The system is designed and implemented according to the requirements of the modern international standards EN ISO 9001, ISO 45001 and ISO 14001.

Since its establishment many years ago, Naftogaz of Ukraine has proved and continues to prove its ability to perform the security functions bestowed by the State in an effective and reliable manner.

In 2021, in order to maintain the facilities of Naftogaz Group companies in a proper accident-free technical state, Naftogaz Group has carried out a set of steps to maintain the technically sound and safe condition of production equipment. In particular, it performed in-pipe diagnostics of 1,103 km of main oil pipelines, inspection of 2,965 km of linear parts of pipelines (405 km of main oil pipelines, 1,136 km of pipelines at production facilities, 1408 km of distribution gas pipelines of Kirovohradgaz and 16 km of pipelines at AGNKS facilities), 17 reservoirs on main oil pipeline systems, 3 boilers on AGNKS stations, 7 boilers on main oil pipeline systems, geophysical surveys of 245 wells on production sites and 147 wells in underground storage facilities and cleaning of 29892 km of internal pipe on main oil pipeline systems and 120.7 km of pipelines at production facilities, and 32 repairs on main oil pipeline systems. Diagnosis (identification) of 553 pressure vessels, 95 hoisting machines and mechanisms and 246 filling columns at AGNKS facilities, as well as 2 tanks on main oil pipeline systems were performed. Overhauled 24.6 km of pipelines (5.2 km of main gas pipelines at underground storage facilities, 19.2 km of industrial pipelines at production facilities and 0.2 km of gas distribution pipelines of Kirovohradgaz).

Additionally, 11 tanks and 36 cathodic protection (CP) installations on main oil pipeline systems, 65 wells, 24 gas compressors (GP) and 52 CP installations in underground storage facilities, 42 GP, 30 CP facilities, 260 wells and 198 units of power supply equipment at gas production facilities were repaired, 4 boilers at AGNKS facilities, 55 gas distribution manifold and 32 CP stations on gas distribution systems of Kirovohradgaz were replaced. Additionally, 11,759 scheduled preventive repairs were performed at the company's facilities.

Before the start of the heating season, the implementation of organizational and technical measures is constantly monitored, including on-site visits to more than 60 production facilities of the company. As a result, control and monitoring of the preparation of Naftogaz Group enterprises for operations in the autumn-winter period of 2021/2022 was organized, conducted and provided, readiness of Naftogaz Group companies for sustainable and safe operation in the autumn-winter period was certified.

Security of oil and gas facilities

Damage or destruction of main and industrial oil, gas and condensate pipelines in order to steal hydrocarbons is a significant threat to the coordinated operation of Naftogaz Group companies. In 2021, 89 cases of illegal encroachment on the property of Naftogaz Group companies were recorded, including:

- 53 unauthorized tappings from the main and industrial oil, gas and condensate pipelines (unauthorized tappings from the pipeline by destroying the protective layer of insulation, through drilling of the pipe body and installation of a device for illegal dumping of hydrocarbons);
- 36 cases of damage to technological equipment (destruction) of technological equipment (pipelines, fountain fittings of wells, crane units, etc. electrochemical protection systems).

During the reporting period, the automobile and air patrols security system was in operation, orthophotos of the protection zone of the pipelines were acquired, which are used to identify the existing tappings and places that are being prepared for tapping. Internal pipeline diagnostics made it possible to track the pressure drop and other changes in the technical characteristics of the system.

The number of encroachments on the property of the Naftogaz Group decreased compared to the previous year (121 illegal encroachments), however, it remains a significant risk despite the activities of law enforcement agencies and relevant divisions of the company to prevent, detect and stop such illegal actions.

Plans for 2022

To achieve the goal set by Naftogaz Group's Vision in the field of occupational safety, the following tasks for 2022 are set:

1. Improving the occupational health and safety management system, road safety management system due to:
- identification of hazards and risk assessment of accidents, development and implementation of safeguards to reduce them to a safe level;
- improvement of the procedure for inspecting the occupational safety and road safety management safeguards;
- investigation of accidents and traffic accidents with identification of root causes and the development of effective safeguards to prevent them in the future.

2. Building up occupational safety culture through:
- introduction of occupational safety behavioral audit on a permanent basis and with the participation of managers at all levels;
- improvement of data collection and accident reporting procedures for the events that could lead to the injury of employees, for early detection and prevention of factors that may cause an accident;
- motivation of employees to actively participate in improving health and safety at enterprises.

3. Organization, control and monitoring of preparation of Naftogaz Group companies for operation during the autumn-winter period 2022/2023, in order to prevent accidents and reduce risks of loss of human, material and financial resources and improve industrial safety standards in Naftogaz Group. This will include certification of readiness of Naftogaz Group enterprises for operation in autumn-winter of 2022/2023.

ACTIVITIES DURING THE COVID-19 PANDEMIC

In 2021, the COVID-19 pandemic continued to have a serious impact on the health and lives of people in Ukraine and around the world. It also impacted the operating activities of Naftogaz Group. The Company made great efforts to protect its employees, customers and the public. At the same time, Naftogaz Group companies worked hard in the difficult conditions of the pandemic to ensure reliable gas supply. A number of steps have been taken to build an efficient and financially sustainable company capable of adapting to the new realities in Ukraine and all over the world. A range of managerial, social, and economic challenges have been generated by COVID-19, however the Company has proven its ability to respond to them in a timely manner and move forward.

Operating mode, employee and customer safety

In 2021, a quarantine regime was introduced at Naftogaz Group companies. This was later extended to March 31, 2022. In order to protect the health and lives of employees, and to prevent the spread of COVID-19, the following measures have been taken:

- Remote performance of job functions was introduced, in particular, for workers at risk (patients with chronic, cardiovascular, oncological diseases, pregnant women, people over 60 years old) and workers with young children were provided the opportunity to work permanently remotely at their place of residence;
- A new admission mode to the premises has been established, which provides for mandatory temperature screening and prevention of employees and visitors with signs of illness to the premises of Naftogaz Group companies; from December 9, 2021, admission to the premises was only allowed via documents confirming vaccination or the right to postpone vaccination;
- Keeping distance when communicating in the workplace strongly recommended;
- Catering for employees has been changed;
- Several restrictions for mass events, including limited number of physically present participants indoors, with meetings, training, conferences held mainly online;
- Self-isolation procedure introduced which provides for mandatory self-isolation of employees showing signs of illness along with those who had contact with COVID-19 patients or returned from trips abroad;
- All employees are provided with personal protective equipment (masks and disinfectants);
- Monitoring of work performance, interconnection and alternate access to workplaces;
- Modern IT solutions that allow efficient remote interaction between employees, customers and more.

Employees have been informed about important events and changes in the organization of work due to the COVID-19 pandemic by e-mail, through the Company's internal portal, and via the official websites of Naftogaz Group companies. Established in 2020, the Rapid Response, Counteraction and Prevention of COVID-19 Pandemic Committee (the Coronavirus Committee) monitors the situation. Based on its decisions, orders and directives are created. The Coronavirus Committee informs employees on the morbidity at the Naftogaz Group companies and measures to counteract the spread of COVID-19 on a monthly basis. Currently, the functions of the Coronavirus Committee are performed by the renewed Civil Protection Committee.

In 2021, corporate activities have been transferred to a secure format – online or in the open air. For example, the Group participated in Greening of the Planet project – trees were planted in 20 settlements in 5 Ukrainian regions. The employees of Naftogaz Group together with local communities (a total of about 1,000 participants) planted 460 trees and 890 bushes, thus creating 20 full-fledged European parks. A Naftogaz alley with 15 exquisite Japanese sakura and 35 mountain yews were planted in the Grishko National Botanical Garden.

Countering COVID-19: protecting health and life

In order to increase the coverage of preventive vaccinations against COVID-19 in 2021, a campaign was initiated to increase awareness among employees of the need for vaccinations. The relevant internal documents on mandatory vaccination were issued pursuant to the Ministry of Health Order "On approval of the List of professions, industries and organizations whose employees are subject to mandatory preventive vaccinations" No 2153 dated 04.10.2021.

On November 12, 2021, an online conference "Vaccination against COVID-19. Q&A" was held.

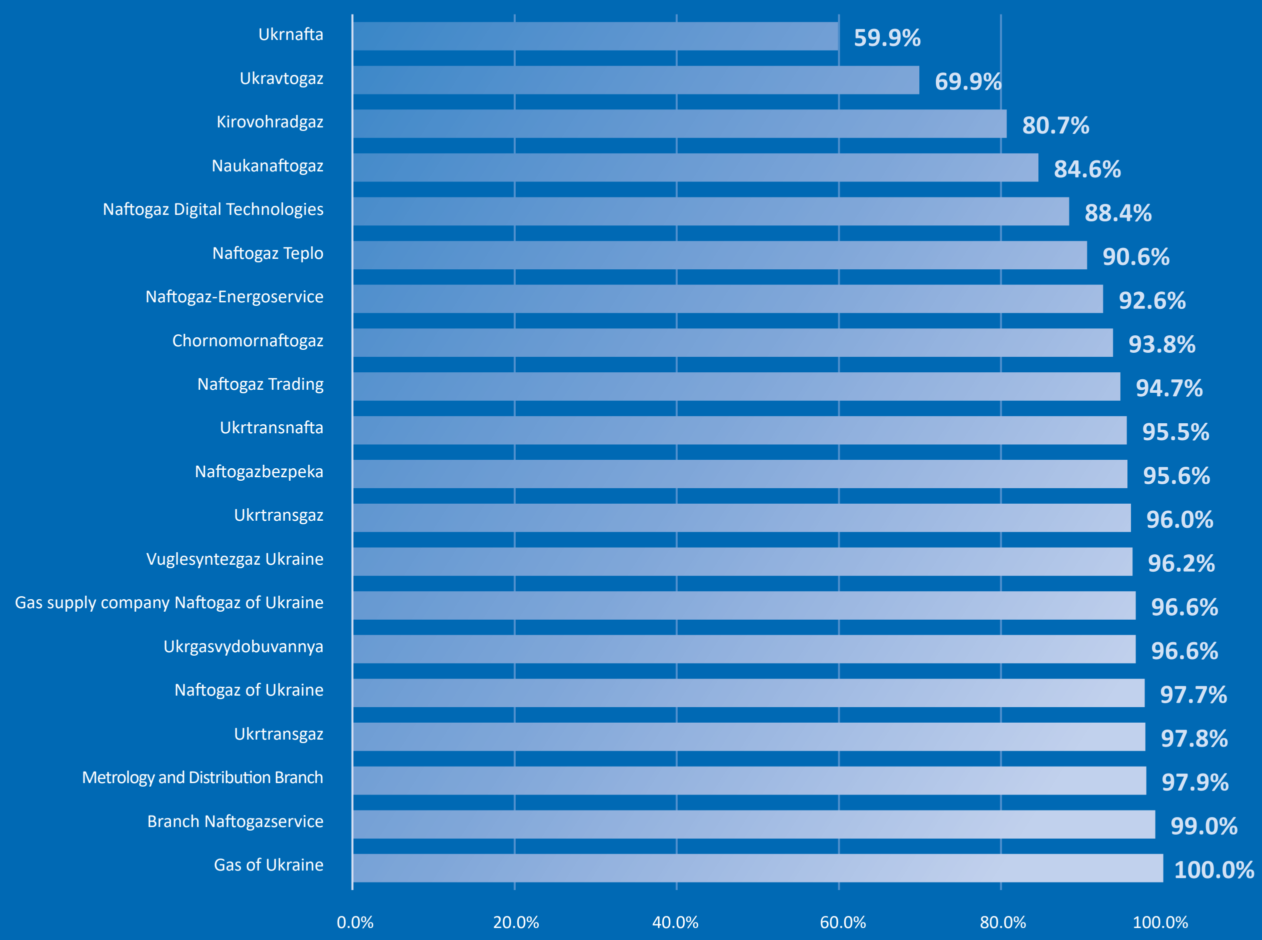
The event allowed employees to get answers to their questions about vaccination from medical experts. The recorded event is available to the general public: **https://www.youtube.com/watch?v=a2O4PYqDtsQ**

Vaccination of Naftogaz Group employees and their families in health care institutions and by visiting medical teams at production facilities and workplaces was organized in a centralized manner.

As of December 31, 2021, Naftogaz Group employee vaccination coverage was **93.5 %**

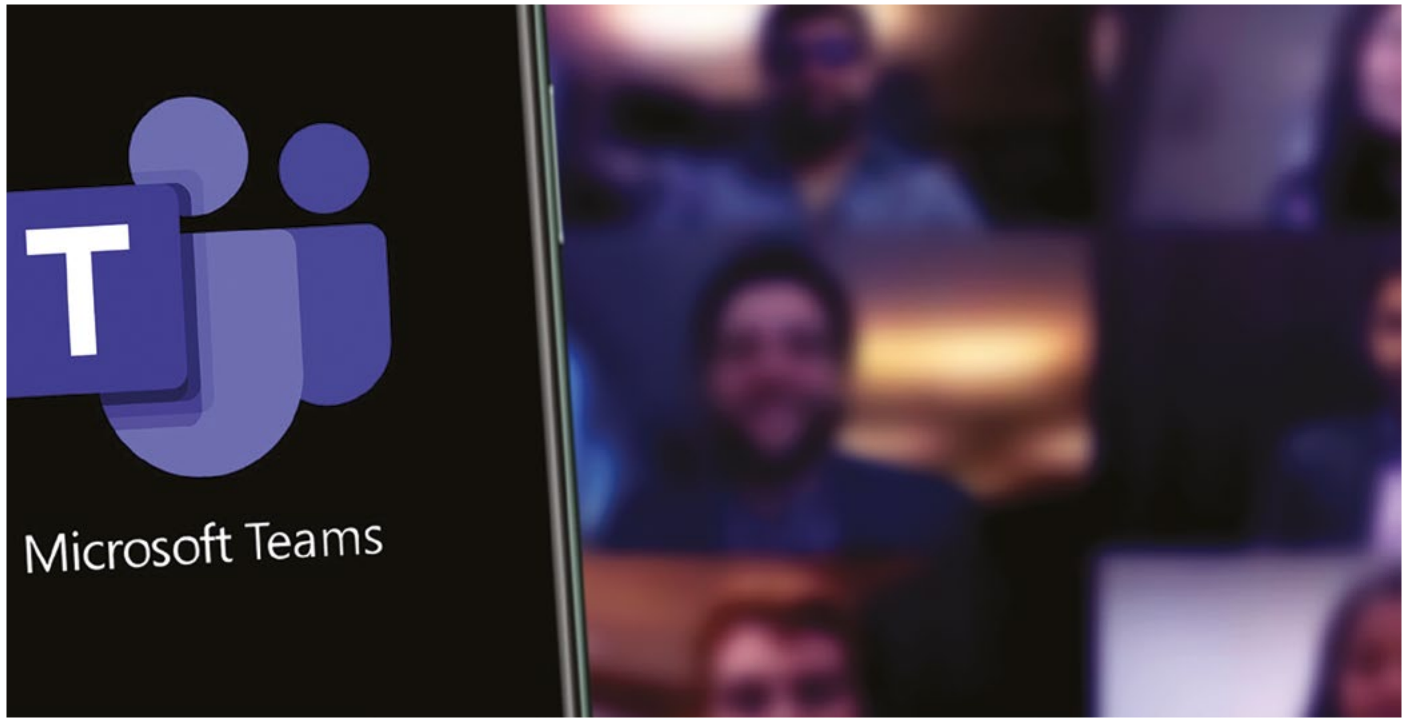
Vaccination at Naftogaz Group

vaccinated people as % of the actual staff of the company



Starting from March 2021, there is a Voluntary Health Insurance Agreement between the Primary Trade Union Organization of the Naftogaz of Ukraine and INGO Insurance company.

Naftogaz employees have the opportunity to receive medicine, healthcare services and treatment.



Digital technologies – the key to counteracting COVID-19

The pandemic accelerated the digitalization of Naftogaz and spurred the development of new IT projects. In addition to automated processes, these solutions help provide secure access to data and operational activities in a wider format, which is convenient for remote work.

As a part of activities implemented under a Memorandum of Cooperation with Microsoft, in 2021 Naftogaz further transformed its IT infrastructure and business processes. Innovative solutions in cloud and hybrid technologies, artificial intelligence, machine learning, information security, production optimization, personnel management and other areas were introduced. This has improved risk management and facilitated quality management decisions despite pandemic conditions.

The benefits of working with Microsoft 365 have become especially noticeable.

Microsoft Teams software is used to support communication and social contacts between employees during remote work/self-isolation. This software facilitates organizing and holding meetings, chats, calls, collaboration on projects and documents online.

The overall digital transformation of Naftogaz involves the implementation of IT solutions in all areas of activities of the Company and its subsidiaries. The implementation of these changes is in line with the concept of “Consumer – State – Supplier” focused on the most efficient and convenient provision of public services and products by state companies to Ukrainian citizens in digital format.

For example, household consumers of natural gas can now join the tariff packages of Gas Supply Company LLC of Naftogaz of Ukraine through the Diya application or gas.ua or Privat24 websites.

Monthly in MS Teams:

>1500 meetings

>3500 audio calls

>1300 employees use Office 365

Social responsibility

During the pandemic period, Naftogaz Group provided charitable assistance of over UAH 720 million to 287 healthcare institutions in all Ukrainian regions:

- 500 thousand protective suits,
- 700 patient monitors,
- 50 mobile digital X-ray machines,
- 50 portable ultrasound devices,
- 10 thousand oxygen cylinders,
- 9 new and 50 repaired lung ventilators
- a lot of consumables – medical masks, glasses, antiseptics.

In 2021, Naftogaz donated two lung ventilators for the patients of the Research and Practice Center for Pediatric Cardiology and Cardiac Surgery of the Ministry of Health of Ukraine. The Aeros 4600 (Germany) lung ventilators transferred by Naftogaz are among the best in their class. Their key feature is automatic air injection, which allows for the use of these devices both in hospitals and in ambulances. A further 10,000 oxygen cylinders for lung ventilation worth a total of UAH 50 million were donated to Ukrainian healthcare institutions.

The two years of COVID-19 pandemic conditions have significantly affected educational processes in Ukraine. Naftogaz Group accepted the challenge of adapting education to distance learning and presented the DEEP educational platform. The presentation took place on November 25, 2021 as a part of the 5th International Student Fuel Congress within the framework of the SPE Eastern Europe Subsurface Conference, which brought together more than 400 experts from 17 countries.

The DEEP Oil & Gas Knowledge Sharing Platform is a unique educational project for the oil and gas industry which brings together young, active, caring professionals who want to develop and change the industry.

It is an accessible expert base of knowledge from leading Ukrainian and international experts in the field. The activities are accessible and open to anyone who wants to build a successful career in the industry and contribute to Ukraine’s energy independence. Training is free and supported by Naftogaz.

The following courses and workshops are available on the DEEP platform:

- Course of practical classes on how to use the following professional software: Petrel, Reservoir Tank, Eclipse, Petex, PipeSim, Symmetry, Hysys, Gap and others;
- Practical workshops aimed at finding solutions to real industry cases;
- Course of professional lectures on the full cycle of gas production;
- Speaking club – industry English for oil and gas professionals.

UAH **720 million**

287 medical institutions

50 portable ultrasound devices

500 000 protective suits

50 mobile digital X-ray machines

700 patient monitors

59 lung ventilators

10 000 oxygen tanks for lung ventilators

DEVELOPING LOCAL COMMUNITIES

One of the key priorities of the Naftogaz Group Sustainable Development Goals is cooperation with local communities. In addition to filling local budgets with rents and taxes, the companies of the Group invest in social, infrastructural and charitable regional development projects in the communities of their industrial presence. Naftogaz Group implements its projects in close partnership with local communities. This approach helps to find new opportunities for the development of the Group's companies and create additional value by interacting with all stakeholders: communities, local governments and executive authorities, public opinion leaders, charities and NGOs, and other businesses located in the same area.

By promoting the development of production areas, Naftogaz Group supports its employees, builds up its potential personnel reserve, and contributes to forming a loyal civil society not only now but also in the long run.

Approach to interaction with local communities

Active interaction with communities in the territories of the Group's business activities is a determining factor for the development of stable production conditions and a prerequisite for sustainable development of territories. Among the Group's companies, Ukrgasvydobuvannia is the leader in focusing on communities. The broad geography of financial and business activities and current trends in the development of socially responsible business necessitate taking into account the interests of more than 450 local communities located in 11 Ukrainian regions.

Local community development issues are managed based on the Corporate Social Responsibility Standard in Relations with Communities, Charitable and Public Organizations[1]. This document contains principles and provides a unified approach to regional development in terms of communication and cooperation with local communities, local governments, charities and NGOs in regions throughout Ukraine.

In cooperation with communities, the emphasis is on the joint implementation of mostly social infrastructure and charity projects. Details of implementation of community development projects are presented at the website https://csr.ugv.com.ua/.

[1] Ukrgasvydobuvannya. Corporate social responsibility standard for relations with communities, charities and public organizations. [Online] https://ugv.com.ua/uploads/20211208_%D0%A1%D0%A2%D0%90%D0%9D%D0%94%D0%90%D0%A0%D0%A2_%D0%9A%D0%A1%D0%92.pdf.

To increase the efficiency and effectiveness of social investments, independent collegial bodies have been established – the Corporate Social Responsibility Committees of the Group Companies, which include the representatives of various functional areas of the company. The objective of the committees is to make decisions on the implementation of social infrastructure projects, providing charitable assistance by public, charitable and other non-profit organizations that are not provided for in the provisions of the Standard or require additional consideration by the Committee.

Increasing awareness, cooperation, and public control are the key components of the community-based business activities of Naftogaz Group. It is these three important components that contribute to the building up of an understanding between the company, the authorities and society.

Relations with communities are based on cooperation and constructive dialogue. Group company representatives participate in the sessions of local councils and hold regular meetings with the local and national deputies along with members of the public. This allows Naftogaz to receive feedback for further consideration and enables constructive management decisions regarding the implementation of the company's business plans with communities. In addition, during meetings, the company informs on the results and plans of its own production activities, the company's impact on the community economy, and the introduction of new technologies and environmental control. Meetings are a source of information to monitor the state of the environment and the social and economic potential of local communities.

Awareness, cooperation and public control are the core components of production activity established within communities

New learning environment for schools of Loziv territorial community

International Children's Day art workshops with the support of Kharkiv Region communities

Communication and feedback

The main channels of communication are official appeals to the General Director, official meetings with the company's authorized representatives, and its public presentations to individual communities.

Information channels include:

1) The company official page where the regional development projects are described https://csr.ugv.com.ua/;

2) The official page of the Group on the social network Facebook https://www.facebook.com/NaftogazSD;

3) Regional newspapers in communities with the Group's business presence;

4) Company booklets, posters, newsletters.

There is a 24/7 hotline to promptly respond to questions or suggestions. Contacts can be found on the official website https://ugv.com.ua/uk/page/dla-zvernen.

The social survey "Local people perception of the production activities of the company branches" became an important part of feedback analysis in 2021. The survey covered 4,029 respondents (46.4% men, 53.6% women), representing 34 communities in Poltava, Kharkiv and Sumy regions. The survey included questions on the awareness of the company's activities in the community, community representatives' perception of this activity, the main challenges faced by the communities, and the priority areas for the use of rent payments, the awareness of social projects, as well as sources of information about the company for communities.

1. AWARENESS

The level of community awareness on gas extraction in their territory

Do you know that gas is extracted in the territory of your community?

	All respondents	Poltavagaz-vydobuvannya	Shebelynkagaz-vydobuvannya
Yes	71.2%	72.5%	69.9%
I heard	14.5%	11.8%	17.4%
No	14.2%	15.7%	12.8%
Total	**4029**	**2029**	**2000**

The level of community awareness on the beneficiary of gas extraction in their territory

Do you know who exactly produces gas in the territory of your community?

	All respondents	Poltavagaz-vydobuvannya	Shebelynkagaz-vydobuvannya
Ukrgasvydobuvannya	21.6%	14.9%	36.7%
Shebelynkagazvydobuvannya	11.1%	0.0%	21.6%
Poltavagazvydobuvannya	6.5%	13.3%	0.0%
Other	5.8%	8.5%	3.2%
Difficult to answer	50.6%	63.7%	38.5%
Total	**3456**	**1711**	**1745**

The level of community awareness regarding the payment of 3% rent to the local budget

Did you know that 3% of the rent is credited to local budgets and can be used at the community's discretion?

	All respondents	Poltavagaz-vydobuvannya	Shebelynkagaz-vydobuvannya
Yes	38.6%	43.3%	34.3%
I heard	57.0%	54.5%	59.6%
No	4.1%	2.2%	6.2%
Total	**4029**	**2029**	**2000**

Do you know the amount of rent paid by Ukrgasvydobuvannya to the budget of your community?

	All respondents	Poltavagaz-vydobuvannya	Shebelynkagaz-vydobuvannya
Yes	4.5%	4.3%	4.8%
No	95.5%	95.7%	95.3%
Total	**4029**	**2029**	**2000**

2. ATTITUDE TO ACTIVITIES

The level of community awareness of gas production in their area

What is your perception of the activities of Ukrgazvydobuvannya in the territory of your community?

	All respondents	Poltavagaz-vydobuvannya	Shebelynkagaz-vydobuvannya
Positive	26.1%	29.8	22.3%
Neutral	48.3%	47.8%	48.9%
Negative	17.1%	16.3%	17.9%
Total	**3685**	**1904**	**1781**

Would you agree to the placement of gas and oil complex facilities on your land plot?

	All respondents	Poltavagaz-vydobuvannya	Shebelynkagaz-vydobuvannya
Yes	34.9%	42.4%	27.4%
No	46.9%	45.6%	48.3%
Difficult to answer	18.1%	12.0%	24.4%
Total	**4029**	**2029**	**2000**

Assessment of cooperation with Ukrgasvydobuvannya in the field of land relations

	Perfect	Good	Satisfactory
Poltavagazvydobuvannya	14.2%	47.4%	43.4%
Shebelynkagazvydobuvannya	10.5%	40.6%	48.9%

Loyal community resident profile

	All respondents	Poltavagaz-vydobuvannya	Shebelynkagaz-vydobuvannya
Men	49.2%	49.3%	49.1%
Women	50.8%	50.7%	50.9%
18-29-years old	16.4%	17.9%	14.5%
30-39-years old	25.2%	23.6%	27.3%
40-49-years old	29.2%	24.8%	34.8%
50-59-years old	**29.2%**	**33.8%**	**23.3%**

3. COMMUNITY PROBLEMS

Please, mark the main problems that exist in the territory of your community?

	All respondents	Poltavagaz-vydobuvannya	Shebelynkagaz-vydobuvannya
Low quality of health care services	17.6%	13.2%	12.1%
Low level of material and technical support for schools	4.2%	5.6%	2.9%
Low level of material and technical support	2.7%	3.7%	1.8%
Insufficient street lighting	7.6%	9.1%	6.2%
Problems with solid waste management, spontaneous landfills	9.6%	9.7%	9.6%
Total	**4029**	**2029**	**2000**

Priority areas for rental funds

In your opinion, what purposes should the rent be used for?

	All respondents	Poltavagaz-vydobuvannya	Shebelynkagaz-vydobuvannya
For the repair and construction of roads	33.1%	36.5%	29.6%
For social infrastructure (schools, hospitals, kindergartens)	23.0%	23.6%	22.5%
For measures to improve the environmental condition and cleanliness	10.2%	11.3%	9.2%
Total	**4029**	**2029**	**2000**

4. SOURCES OF INFORMATION. AWARENESS OF SOCIAL PROJECTS

Community awareness of Ukrgasvydobuvannya social initiatives and projects implemented in their territory:

Do you know about Ukrgasvydobuvannya social initiatives and projects implemented in the territory of your community?

	All respondents	Poltavagaz-vydobuvannya	Shebelynkagaz-vydobuvannya
Yes	12.6%	17.2%	7.9%
No	87.4%	82.8%	92.1%
Total	**4029**	**2029**	**2000**

Community residents receive information and news from the following sources:

	All respondents	Poltavagaz-vydobuvannya	Shebelynkagaz-vydobuvannya
Social media	26.1%	27.6%	25.0%
National TV	74.9%	71.0%	28.2%
Neighbors and loved ones	15.9%	13.2%	18.1%
Internet publication	14.4%	19.2%	10.4%
You Tube	8.8%	6.4%	10.7%
District newspaper	5.4%	7.4%	3.7%
Radio	3.2%	3.2%	3.2%
Local TV channels	1.2%	1.7%	0.7%

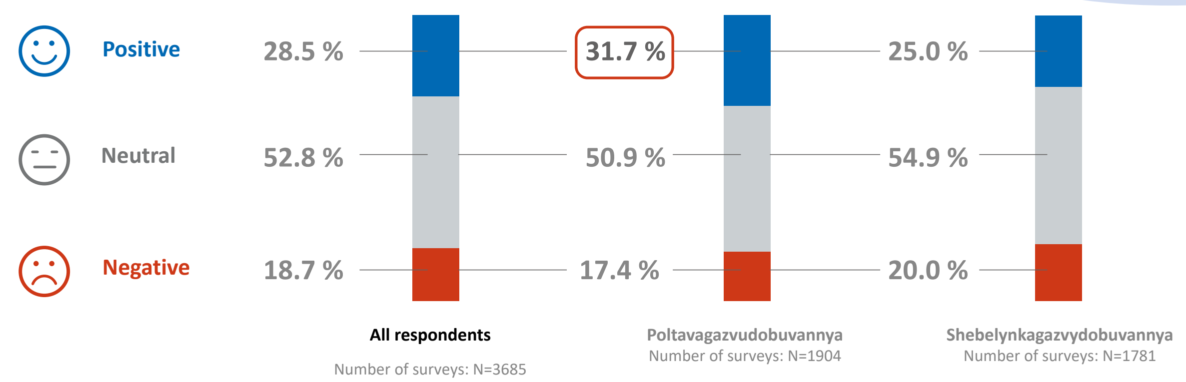
Community residents most often use:

	All respondents	Poltavagaz-vydobuvannya	Shebelynkagaz-vydobuvannya
Facebook	32.0%	32.9%	31.1%
Vaber	23.1%	21.6%	24.7%
Instagram	14.2%	15.1%	13.3%

1. AWARENESS				
The level of community awareness on gas extraction in their territory				
Do you know that gas is extracted in the territory of your community?		**All respondents**	**Poltavagazvydobuvannya**	**Shebelynkagazvydobuvannya**
	Yes	71.2%	72.5%	69.9%
	I've heard	14.5%	11.8%	17.4%
	No	14.2%	15.7%	12.8%
	Total	4029	2029	2000
The level of community awareness on the beneficiary of gas extraction in their territory				
Do you know who exactly produces gas in the territory of your community?		**All respondents**	**Poltavagazvydobuvannya**	**Shebelynkagazvydobuvannya**
	Ukrgasvydobuvannya	21.6%	14.9%	36.7%
	Shebelynkagazvydobuvannya	11.1%	0.0%	21.6%
	Poltavagazvydobuvannya	6.5%	13.3%	0.0%
	Other	5.8%	8.5%	3.2%
	Difficult to answer	50.6%	63.7%	38.5%
	Total	3456	1711	1745
The level of community awareness regarding the payment of 3% rent to the local budget				
Did you know that 3% of the rent is credited to local budgets and can be used at the community's discretion?		**All respondents**	**Poltavagazvydobuvannya**	**Shebelynkagazvydobuvannya**
	Yes	38.6%	43.3%	34.3%
	I heard	57.0%	54.5%	59.6%
	No	4.1%	2.2%	6.2%
	Total	4029	2029	2000
2. PERCEPTION OF THE ACTIVITIES				
What is your perception of the activities of Ukrgasvydobuvannya in the territory of your community?		**All respondents**	**Poltavagazvydobuvannya**	**Shebelynkagazvydobuvannya**
	Positive	26.1%	29.8	22.3%
	Neutral	48.3%	47.8%	48.9%
	Negative	17.1%	16.3%	17.9%
	Total	3685	1904	1781
Would you agree to the placement of gas and oil complex facilities on your land plot?		**All respondents**	**Poltavagazvydobuvannya**	**Shebelynkagazvydobuvannya**
	Positive	26.1%	43.3%	22.3%
	Neutral	48.3%	54.5%	48.9%
	Negative	17.1%	2.2%	17.9%
	Total	3810	2029	1781
Assessment of cooperation with Ukrgazvydobuvannya in the field of land relations		Perfect	Good	Satisfactory
	Poltavagazvydobuvannya	14.2%	47.4%	43.4%
	Shebelynkagazvydobuvannya	10.5%	40.6%	48.9%
Loyal community resident profile		**All respondents**	**Poltavagazvydobuvannya**	**Shebelynkagazvydobuvannya**
	Men	49.2%	49.3%	49.1%
	Women	50.8%	50.7%	50.9%
		All respondents	**Poltavagazvydobuvannya**	**Shebelynkagazvydobuvannya**
	18-29-years old	16.4%	17.9%	14.5%
	30-39-years old	25.2%	23.6%	27.3%
	40-49-years old	29.2%	24.8%	34.8%
	50-59-years old	29.2%	33.8%	23.3%
3. PROBLEMS OF COMMUNITIES				
Please, mark the main problems that exist in the territory of your community?		**All respondents**	**Poltavagazvydobuvannya**	**Shebelynkagazvydobuvannya**
	Low quality of health care services	17.6%	13.2%	12.1%
	Low level of material and technical support for schools	4.2%	5.6%	2.9%
	Low level of material and technical support	2.7%	3.7%	1.8%
	Insufficient street lighting	7.6%	9.1%	6.2%
	Problems with solid waste management, spontaneous landfills	9.6%	9.7%	9.6%
	Total	4029	2029	2000
Priority areas for using rental funds				
In your opinion, what purposes should the rent be used for?		**All respondents**	**Poltavagazvydobuvannya**	**Shebelynkagazvydobuvannya**
	For the repair and construction of roads	33.1%	36.5%	29.6%
	For social infrastructure (schools, hospitals, kindergartens)	23.0%	23.6%	22.5%
	For measures to improve the environmental condition and cleanliness	10.2%	11.3%	9.2%
	Total	4029	2029	2000
4. SOURCES OF INFORMATION. AWARENESS OF SOCIAL PROJECTS				
Community awareness of Ukrgasvydobuvannya social initiatives and projects implemented in their territory:				
Do you know about Ukrgasvydobuvannya social initiatives and projects implemented in the territory of your community?		**All respondents**	**Poltavagazvydobuvannya**	**Shebelynkagazvydobuvannya**
	Yes	12.6%	17.2%	7.9%
	No	87.4%	82.8%	92.1%
	Total	4029	2029	2000
Community residents receive information and news from the following sources:		**All respondents**	**Poltavagazvydobuvannya**	**Shebelynkagazvydobuvannya**
	Social media	26.1%	27.6%	25.0%
	National TV	74.9%	71.0%	28.2%
	Neighbors and loved ones	15.9%	13.2%	18.1%
	Internet publication	14.4%	19.2%	10.4%
	You Tube	8.8%	6.4%	10.7%
	District newspaper	5.4%	7.4%	3.7%
	Radio	3.2%	3.2%	3.2%
	Local TV channels	1.2%	1.7%	0.7%
Community residents most often use:		**All respondents**	**Poltavagazvydobuvannya**	**Shebelynkagazvydobuvannya**
	Facebook	32.0%	32.9%	31.1%
	Vaber	23.1%	21.6%	24.7%
	Instagram	14.2%	15.1%	13.3%

1 Loyal community member profile

Based on perception of Urkgasvydobuvannya activitites



Distribution of answers to question #12: How do you feel about the activities of Ukrgasvydobuvannya in your community?
**Among those who know companies that supply gas in the territory of the community, excluding "difficult to answer".*
Data by age are presented as the sum of the responses of all age groups where the total is 100%.

Borealis Stakeholder Engagement Management System

In 2020, Ukrgasvydobuvannya launched Borealis for Stakeholders Engagement – an electronic system for managing relations with stakeholders.

This new technological solution allows managers at different levels to make decisions based on the previous practice of relations with stakeholders recorded in the electronic system and generate information about the status of such relations, communications with them (meetings / negotiations / project launch, etc.), and results achieved.

2 Key indicators

Overall perception

86 % Believe that the state companies shall have the priority right to gas production

32 % Support gas production in their community territory

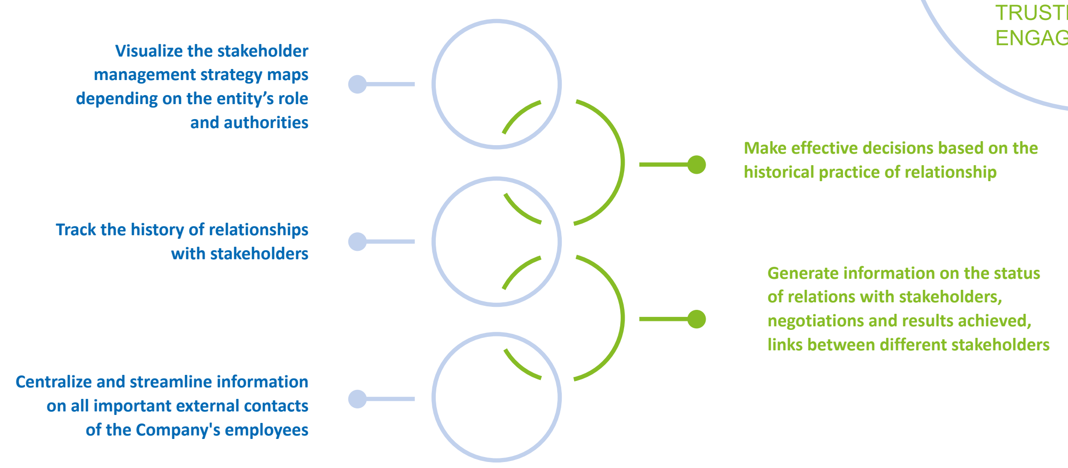
56 % Mentioned that the jobs provided by Urkgasvydobuvannya are the key benefit for the community

EXPLORATION AND PRODUCTION

Number of surveys: N=4029

3 Electronic system includes the following:

borealis TRUSTED ENGAGEMENT



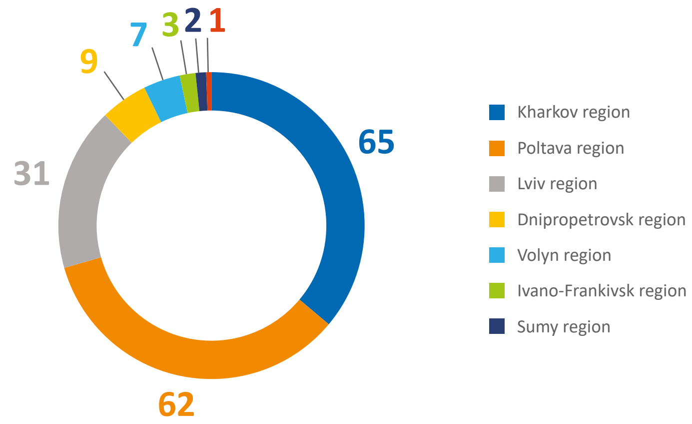
Investments in regional development projects

In 2021, Naftogaz Group invested over UAH 36 million in social and infrastructure and charitable projects.

Ukrgasvydobuvannia is the most active in this area. In 2021, the company implemented 181 projects worth over UAH 34 million, including:

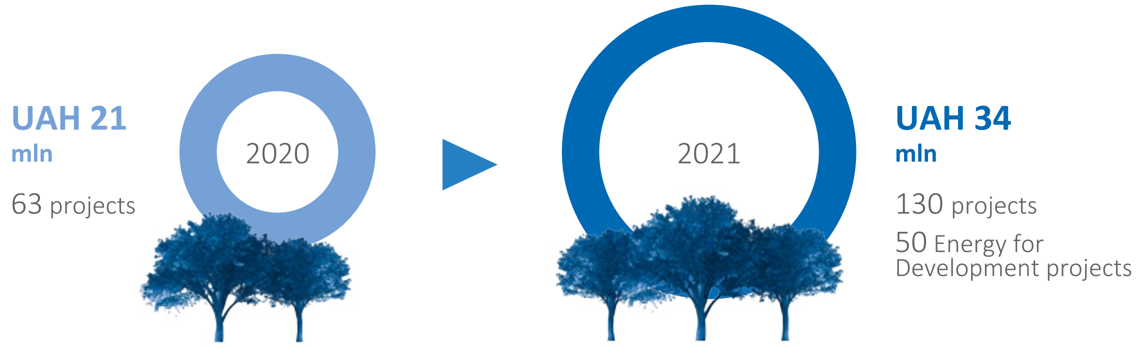
- 130 social and infrastructure projects with a total investment of UAH 29.2 million;
- 50 charitable projects participating in the Energy for Development grant initiative with a total investment of UAH 4.9 million;
- Earth Recovery Energy project with an investment of UAH 3.5 million.

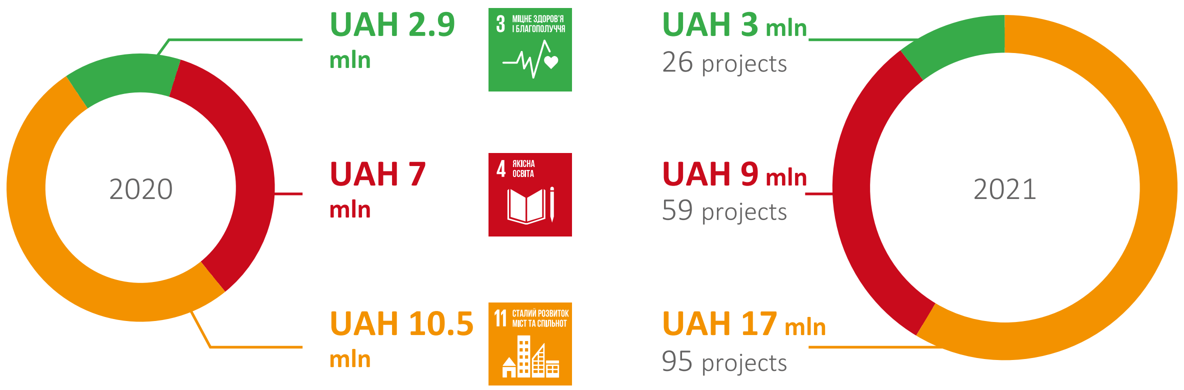
The distribution of 180 projects implemented by Ukrgasvydobuvannya by areas of its production presence is as follows:



Ukrnafta is another socially oriented company. In 2021, it spent over UAH 2 million on charitable activities. The largest recipients included administrative-territorial communities (UAH 1,362,000), orphanages, schools, boarding schools, technical schools (UAH 288,000), and healthcare facilities (UAH 75,000). In terms of investment, the leader was the local infrastructure improvement project implemented in the territorial communities in Ivano-Frankivsk region. A total of UAH 355 thousand was spent on installing street lighting, built bypasses and crossings, and rehabilitated bridges.

The Group's investments in the development of local communities contributes to creating favorable conditions for sustainable development and life, improved healthcare services, supportive educational environment in schools, and opportunities for the comprehensive, timely and diverse development of children and adults.





Major social and infrastructural projects

Strong health and wellness, UAH 3.1 million

Examples of projects:

Medical equipment for the local outpatient clinic[2]

Velyka Homilsha village,
Zmiivska TC,
Kharkiv region

Helping homeless animals together![4]

Mashivska ATC,
Poltava region

Special bicycles for social workers in the community[6]

Bilyaivska TC, Loziv district,
Kharkiv region

New medical equipment for outpatient clinic[8]

Mala Pobyvanka village,
Krasnolutsk ATC,
Poltava region

New medical equipment for the local outpatient clinic in the village of Efremivka[10]

Efremivka village,
Oleksiyivska ATC,
Kharkiv region

Quality education, UAH 9.1 million

Examples of projects:

Modern equipment for a computer class[3]

Kolontaiv village,
Krasnokutsk TC,
Kharkiv region

New sports equipment for Bilyaiv school[5]

Bilyaivska TC, Loziv district,
Kharkiv region

Modern educational environment for young people[7]

Tsarychanka town,
Dniprovskyi district
Dnipropetrovsk region

State-of-the-art classrooms for computer science and math[9]

Verbkivska ATC,
Pavlohrad district,
Dnipropetrovsk region

New ecology and forestry classroom in Tereshkivska school[11]

TTereshkivska ATC,
Poltava district,
Poltava region

[2] Naftogaz Sustainable Development. Facebook. [Online] https://www.facebook.com/NaftogazSD/posts/162164099495172
[3] Naftogaz Sustainable Development. Facebook. [Online] https://www.facebook.com/NaftogazSD/posts/162164099495172
[4] Naftogaz Sustainable Development. Facebook. [Online] https://www.facebook.com/NaftogazSD/posts/125467996498116
[5] Naftogaz Sustainable Development. Facebook. [Online] https://www.facebook.com/NaftogazSD/posts/123690183342564
[6] Naftogaz Sustainable Development. Facebook. [Online] https://www.facebook.com/NaftogazSD/posts/120160957028820
[7] Naftogaz Sustainable Development. Facebook. [Online] https://www.facebook.com/NaftogazSD/posts/115192014192381
[8] Naftogaz Sustainable Development. Facebook. [Online] https://www.facebook.com/NaftogazSD/posts/116283964083186
[9] Naftogaz Sustainable Development. Facebook. [Online] https://www.facebook.com/NaftogazSD/posts/150211980690384
[10] Naftogaz Sustainable Development. Facebook. [Online] https://www.facebook.com/NaftogazSD/posts/114791380899111
[11] Naftogaz Sustainable Development. Facebook. [Online] https://www.facebook.com/NaftogazSD/posts/135814615463454

Sustainable development of cities and communities, UAH 17.1 million

Examples of projects:

Renovated central square in the village of Kotelva[12]

Reshetylivka town, Poltava region

Modern skating area for the village of Donets[13]

Donets village, Balakliia district, Kharkiv region

Modern portable ring for boxing[14]

Reshetylivka town, Poltava region

Support of Smerichka women's ensemble[15]

Mala Pobyvanka village, Krasnolutska TC, Myrhorod district, Poltava region

Modern playground for Tsipky village[16]

Tsipky village, Krasnolutska TC, Myrhorod district, Poltava region

Playground with street simulators for the village of Abramivka[17]

Abramovka village, Mashivska TC, Poltava region

Naftogaz Group charitable projects

Energy for Development Project **UAH 4.9 million** – investments in 2021.

The aim of the project is to provide communities with knowledge and skills that will help them develop and implement social projects in their daily work.

Energy for Development is an educational competition held for 240 communities in 11 Ukrainian regions. A total of 306 applications were received with proposals to address acute local social and infrastructural issues.

Eight educational online modules were delivered in cooperation with the Partnership and Sustainable Development Institute. They aim to develop the competencies of community representatives in the implementation of important projects and proper planning of initiatives. Based on the results of competitive selection, 90 local government teams were admitted to training, 78 of them received educational certificates.

The winners were 50 regional development projects. Their implementation resulted in improvement of education, healthcare, and community infrastructure. Long-term projects were launched to further develop territorial communities with a wide coverage of the company's areas of activity. The rules, selection and evaluation criteria, and results were posted publicly on the company's open resources.

The organizers of the competition jointly with the representatives of local governments conducted surveys on the results of the project while also collecting feedback and suggestions. In particular, thanks to this dialogue, changes have already been made to the structure and methodology of the educational stage of the Energy for Development II contest.

[12] Naftogaz Sustainable Development. Facebook. [Online] https://www.facebook.com/NaftogazSD/posts/134382378940011
[13] Naftogaz Sustainable Development. Facebook. [Online] https://www.facebook.com/104603761917873posts/139638035081112/?d=n
[14] Naftogaz Sustainable Development. Facebook. [Online] https://www.facebook.com/NaftogazSD/posts/127725376272378.
[15] Naftogaz Sustainable Development. Facebook. [Online] https://www.facebook.com/NaftogazSD/posts/126484059729843
[16] Naftogaz Sustainable Development. Facebook. [Online] https://www.facebook.com/NaftogazSD/posts/117901963921386
[17] Naftogaz Sustainable Development. Facebook. [Online] https://www.facebook.com/NaftogazSD/posts/111326374578945

Examples of project competition winners:

Development of Pereschepyno Territorial Community public safety system and prevention of emergencies in Pereshchepyno town, Dnipropetrovsk region. The project is to ensure the development of security and protection of the population in case of emergencies, strengthening cooperation between local authorities, public, business and structural units of the SES in Pereschepyno town territorial community. **Project coverage: 60,000 persons**	Creating a space for medical and psychological rehabilitation of children with special needs in Rozvadivka territorial community, Lviv region. Rehabilitation is aimed at people of all ages who have lost their ability to work after serious illnesses, injuries and surgical interventions including recovery of musculoskeletal function, reduction of physical pain and suffering and return to active life, socialization. **Project coverage: 150 persons**
Establishment of sambo and judo classes for residents of Kolomatsky territorial community in Poltava region. The project meets the needs of physical, psychological and mental development and education, strengthening the health of children living in villages that are part of this territorial community. **Project coverage: 600 persons**	Conducting military competitions and training in the village of Sencha, Poltava region. Creating conditions for training in shooting and providing first aid as part of military education, arranging competitions and seminars. **Project coverage: 360 persons**
Installation of a clock in the central square and signs with the names of streets and main administrative buildings for Mahdalynivka community, Dnipropetrovsk region. Because of the lack of signs and the decommunization of street names, residents, guests, law enforcement and healthcare (ambulance) had difficulty finding the right location. A large branched pointer with a clock in the center of the village near the bus station will be helpful to all residents. **Project coverage: 21,238 persons**	Purchase of sewing equipment for a fibrous material workshop in the village of Chutove, Poltava region. The project supports the purchase of new modern sewing equipment to improve the material base of the fibrous materials workshop and create conditions for the development of creative abilities and team skills. **Project coverage: 1,500 people**
Ripyanka, go ahead! in the village of Ripyanka, Ivano-Frankivsk region. The project envisages the installment of a multifunctional sports ground at the school stadium equipped with a mini-soccer gate, a basketball hoop and a volleyball net. **Project coverage: 10,000 persons**	Skate Park in the village of Donets, Kharkiv region. The project supports building a playground for people involved in extreme sports: skateboards, street boards, roller skaters, BMX bikes, and scooters for the young people of the village. **Project coverage: 850 persons**
Creating an ecology and forestry classroom in the village of Tereshky, Poltava region. The project provided for the allocation of premises in the Tereshkiv Lyceum for the Ecology and Forestry classroom, which is now the office of young environmentalists in Tereshkiv community and a base for writing works for the Small Academy of Sciences. **Project coverage: 1,000 persons**	Children in a world of equal opportunities in the town of Zmiyiv, Kharkiv region. The project provides opportunities for quality and fully-fledged correctional and developmental assistance to children with special educational needs 2 to 18 years old. **Project coverage: 500 persons**
Tasty hub in the village of Ivanivka, Chkalovsk district, Kharkiv region. The project creates a convenient motivating space and upgrades the equipment and premises of the school canteen of Ivanovo Lyceum in accordance with modern sanitary and hygienic requirements. **Project coverage: 302 persons**	

Earth Recovery Energy Project

UAH 3.5 million – investments in 2021

The aim of the project is to change people's eco-consciousness and foster a respectful attitude toward nature.

As part of the global initiative Greening of the Planet aimed at the restoration of the Earth's ecosystem, Naftogaz Group in partnership with the Charitable Foundation Greening of Ukraine, launched the socio-environmental Earth Recovery Energy project. The project's objective is to bring people together around the collective planting of trees in communities where the Group is present.

About 1,000 people, including both community residents and company employees and members of their families, directly participated in tree planting events. A total of 460 trees up to 3.5 meters high and 890 bushes were planted, 20 full-fledged European parks were created. The planting took place simultaneously on the territory of 20 communities in Kharkiv, Poltava, Dnipropetrovsk, Lviv and Ivano-Frankivsk regions.

In addition, two online meetings with community representatives on landscaping and greening were held during the event. The agenda of the online meetings included detailed step-by-step instructions on plant management, delivery, storage, planting and care procedures, as well as preparation of all necessary documentation, transfer of plants to the community, etc. A video report is available on YouTube[18].

The Group plans to invest about UAH 7 million in the continuation of this project in 2022.

Support for the Ukrainian military by the collectives of Naftogaz of Ukraine and Ukrtransgaz

UAH 61 million – investments by Naftogaz of Ukraine during 2014-2021

UAH 1.8 million – investments by Ukrtransgaz in 2021

This project aims to help Ukrainian soldiers and support the army in the area of United Forces Operation (ATO) as well as healthcare facilities for servicemen.

Since the beginning of hostilities in the eastern part of Ukraine in 2014, Naftogaz of Ukraine employees have been providing voluntary charitable assistance to support the Ukrainian Army. They transfer their one-day earnings to help the military and their families. The employees of Ukrtransgaz joined the project in 2021. A total of UAH 62.8 million was invested at the end of 2021.

For 7 years support has been provided to:

17 Military hospitals

>2500 Military equipment

55 Military units

>200 Medical equipment of different complexity

24 Company employees and their relatives serving in the Army

500 Children of war veterans have also attended health camps

[18] Naftogaz of Ukraine. Together with the residents of 20 communities, Naftogaz joined the global planting of trees Greening of the Planet. YouTube. [Online] https://youtu.be/WSrRTaYzZZo

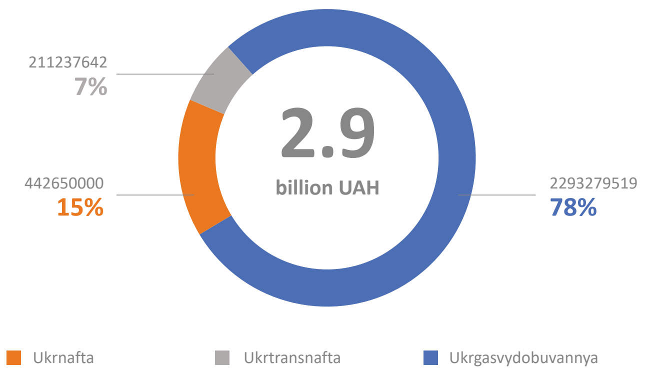
Rent payments and taxes to local budgets

According to the current law, the following taxes and rent payments (as % of the total) were paid to local budgets:

Tax / fee	Rent	PIT	Environmental tax	Land fee	Real estate tax
Regional budget	2%	15%	30%	0%	0%
Local budgets	3%	60%	25%	100%	100%

In 2021, the companies of Naftogaz Group paid UAH 2.9 billion in rent payments to local and regional budgets, based on the results of their activities:

4 Structure of rent payments by Group companies, UAH, %



Ukrgasvydobuvannya is the largest rent payer. Its 2021 rent payments structure is presented below, UAH:

Paid to local budget

Region	Rent 2021
Kharkiv	1 107 748 501.87
Poltava	990 687 490.39
Lviv	105 362 307.45
Dnipropetrovsk	42 012 412.65
Volyn	4 471 900.86
Donetsk	60 071.28
Zakarpattia	63 071.28
Ivano-Frankivsk	26 965 040.45
Luhansk	9 311 000.67
Sumy	6 382 108.87
Chernivtsi	215 572.45

Paid to regional budget

Region	Rent 2021
Kharkiv	443 099 400.75
Poltava	396 274 996.16
Lviv	42 144 922.98
Dnipropetrovsk	16 804 965.06
Volyn	1 788 760.34
Donetsk	24 044.83
Zakarpattia	25 228.51
Ivano-Frankivsk	10 786 760.34
Luhansk	3 724 400.27
Sumy	2 552 843.55
Chernivtsi	86 228.98

10 TOP territorial communities – rent beneficiaries

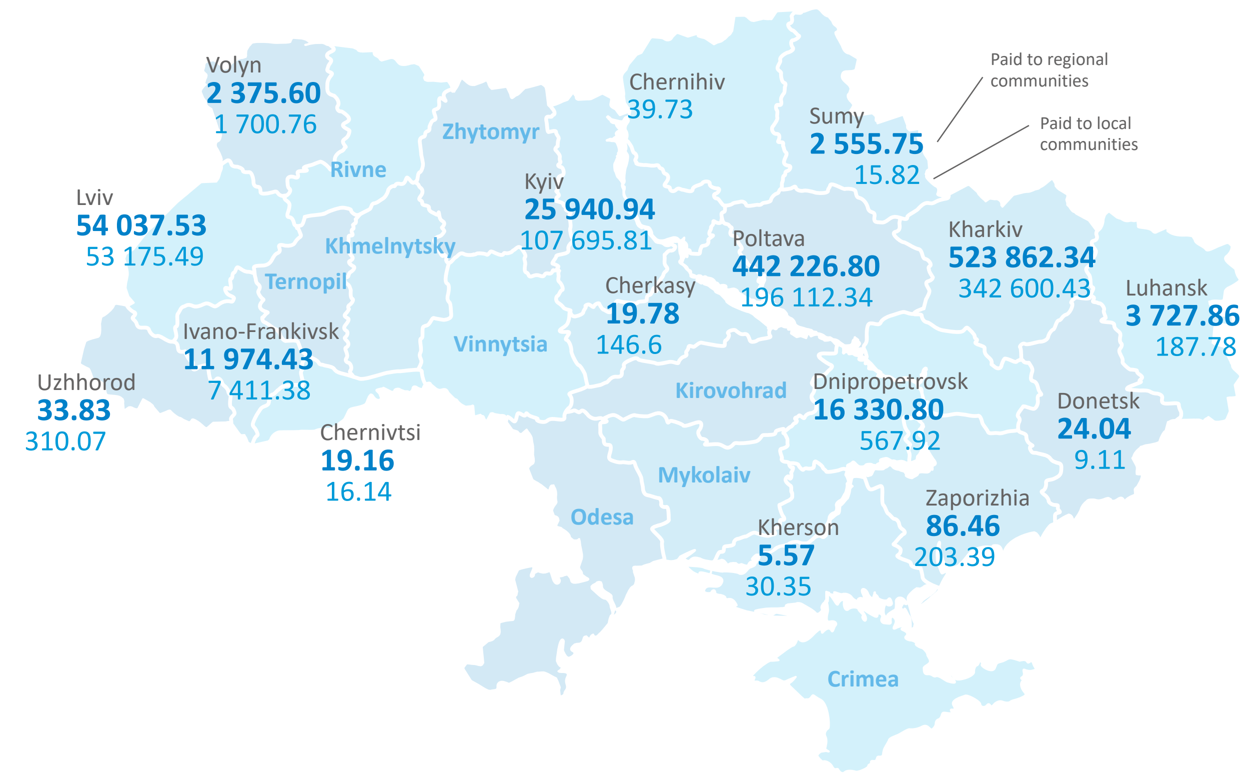
Region	Rent 2021
Kharkiv	139 763 086.45
Poltava	128 303 614.23
Lviv	127 219 665.51
Dnipropetrovsk	70 822 597.92
Volyn	69 462 416.04
Donetsk	55 773 949.84
Zakarpattia	52 234 525.64
Ivano-Frankivsk	46 054 146.80
Luhansk	42 266 696.45
Sumy	42 266 696.45
Chernivtsi	37 874 038.32

The taxes and fees paid by the Group's companies are distributed between regional and local budgets as follows:

Paid to regional budgets (by region), UAH thousand:			Paid to the budgets of territorial communities (by regions), UAH thousand:			
Region	PIT	Environmental tax	PIT	Environmental tax	Land fee	Real estate tax
Kharkiv	76 324.16	4 438.78	305 643.46	3 698.98	29 635.78	3 622.21
Poltava	44 265.08	1 686.72	177 060.76	1 405.60	15 480.04	2 165.94
Lviv	11 820.28	72.33	47 281.13	60.27	5 179.00	655.09
Kyiv	25 939.25	1.69	103 757.02	1.41	2 631.46	1 305.92
Dnipropetrovsk	0.00	125.83	0.00	104.86	184.49	278.57
Ivano-Frankivsk	1 155.80	32.61	4 623.22	27.18	2 734.38	26.60
Luhansk	0.69	2.77	2.74	0.00	164.67	20.37
Volyn	355.47	231.37	1 421.88	192.81	80.74	5.33
Sumy	0.00	2.91	0.00	2.43	13.39	0.00
Zakarpattia	0.00	8.60	0.00	7.17	302.90	0.00
Zaporizhia	0.00	0.23	75.48	0.76	22.61	104.54
Cherkasy	18.87	0.91	76.66	0.00	69.94	0.00
Chernivtsi	19.16	0.00	0.00	0.19	9.03	6.92
Donetsk	0.00	0,00	0.00	0.00	6.41	2.70
Chernihiv	0.00	0.00	0.00	0.00	37.45	2.28
Kherson	5.67	0.00	22.69	0.00	0.18	7.48
Total	159 904.44	6 604.75	639 965.02	5 501.65	56 552.46	8 203.96

A total of **UAH 108,382.1** thousand was paid to regional budgets and **UAH 659,323.09 thousand** – to the budgets of territorial communities:

5 Distribution of budgets of regional and territorial communities, UAH thousand



Plans for 2022

The plans for 2022 include the following:

- Implementation of 200 social and infrastructural and charitable projects;
- Conducting Energy for Development II, an educational grant competition among representatives of local governments and active community residents. 240 community representatives are expected to be engaged. Based on the results of the competition, 70 grants will be awarded for the implementation of community development projects;
- Organization of Energy for the Future, an educational grant competition for university students;
- Implementation of Earth Recovery Energy II, a social and environmental project to plant 25 small parks.

EFFICIENT PROCUREMENT

Procurement management

Over the last few years, procurement in Naftogaz Group changed significantly. All changes are aimed at improving the procurement process by making better selection of suppliers of goods and services, minimizing the risks associated with procurement, increasing the transparency of the process, and saving money. The unbundling the procurement control function, which began in 2020, has been successfully completed, and new Naftogaz Group procurement management corporate function has achieved significant results in 2021 in increasing the transparency of procurement. The list of changes includes the following:

1. The procurement documents preparation process has been improved. Forms of documentation have been upgraded and guidelines for bidders have been developed. Increased clarity on how to prepare bidding documents attracted more suppliers and thus helped achieve significant savings for the Group's companies (actual savings on procurement in 2021 increased by 56.38% compared to the previous year).
2. The form of organization of the procurement process has been changed – the Tender Committee has been liquidated and authorized persons responsible for conducting procurement procedures (including simplified ones) have been appointed. This approach makes it possible to speed up the decision-making process and increase the transparency of the Group's procurement activities.
3. A project designed to automate the procurement processes of Naftogaz Group has been launched, the initial analysis of potential applicable IT solutions was carried out, and the project roadmap and passport have been approved.
4. A new procurement process monitoring and supervising mechanism for Naftogaz Group companies has been developed. The newly established contracting councils will be responsible for its operations.
5. Some categorical strategies have been improved (in 2021, 12 categorical strategies of Ukrgasvydobuvannya were approved).

Due to amendments to the Law of Ukraine "On Public Procurement", the general procurement concept completely changed. New approaches, norms, deadlines, procedures, types and methods of procurement have been established, the settings of the electronic procurement system and authorized sites have been changed, and Naftogaz Group's internal regulations and administrative documents have been adjusted accordingly.

Naftogaz Group's procurement process is designed to meet the criteria of transparency and openness at all procedural stages, while achieving maximum possible savings.

Compliance with current Ukrainian legislation as well as internal regulations and policies is a key factor in efficient procurement procedures. In 2021, a new version of the Regulations on Interaction of Structural Units of Naftogaz of Ukraine in Procurement of Goods, Works and Services was issued. Regulations on the Main Contracting Council and local contracting councils were also approved. Councils have been established to ensure higher transparency of procurement activities.

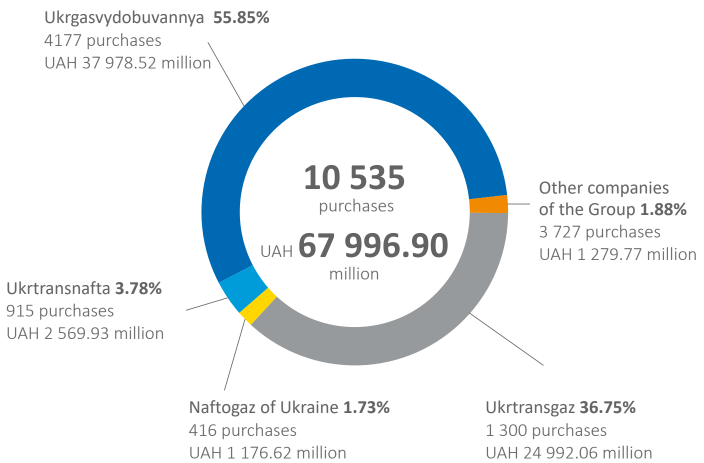
In order to manage the new procurement function efficiently and effectively, a mechanism for assessing the quality of the procurement management system has been developed where employees' individual objectives are set and key performance (OKR) assessed. Criteria for assessing the performance of employees include the achievement of a certain level of procurement success, the level of appeals to the Antimonopoly Committee of Ukraine, and the number of violations identified following inspections of the State Audit Service of Ukraine.

Communication with suppliers is an important aspect of procurement. Dialogue takes place at the various stages of market analysis, determining the expected value before the announcement of the tender, as well as after determining the winner of the tender and awarding the contract. The grievance mechanism is a separate component in the procurement system and is implemented by submitting an electronic document through the electronic procurement system.

The newly established contracting councils have carefully analyzed a significant number of complaints submitted in 2021. Based on the results of their considerations, recommendations were provided on some complaints which allowed Naftogaz Group to achieve significant cash savings. Savings were mostly obtained by reviewing the expected cost of procurement and reducing costs to a more optimal level. Also, a significant number of risks and violations during procurement were identified and recommendations were provided to mitigate their impact.

The operations of contracting councils and their practical experience allowed the Company to analyze the processes and develop recommendations for revising the algorithm for determining the expected value of goods and services as part of the project aimed at upgrading documents governing the procurement in Naftogaz Group companies, as well as conducting individual tenders based on more comprehensive assessment of bids based on TCO criteria (life cycle cost). Also, in 2021, software was created to automate the contracting councils related data, consolidate data and acquire business analytics on the procurement activities of Naftogaz Group.

1 Total number and total value of announced procurements in 2021

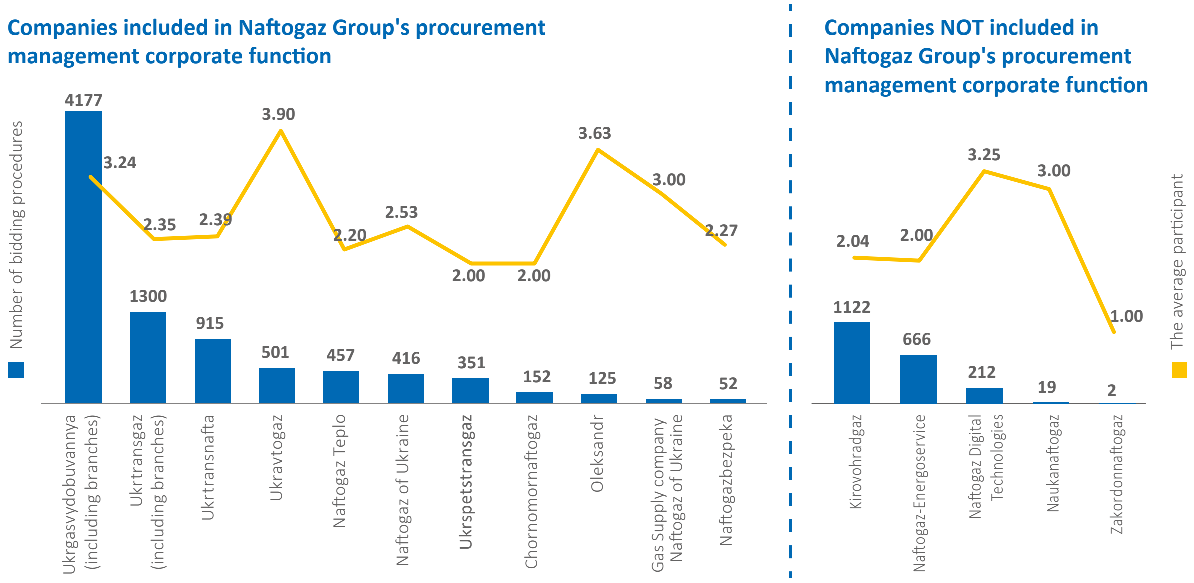


	Number of procurements	UAH million
Ukravtogaz	501	389.32
Ukrspetstransgaz	351	50.53
Chornomornaftogaz	152	16.95
Naftogaz of Ukraine	58	5.26
Naftogaz Teplo	457	44.00
Naftogazbezpeka	52	333.34
Oleksandr	125	29.08

Companies NOT included in Naftogaz Group's procurement management corporate function

Gas of Ukraine	10	0.92
Kirovohradgaz	1122	9.06
Naukanaftogaz	19	0.41
Zakordonnaftogaz	2	0.01
Vuglesyntezgaz Ukraine	0	-
Naftogaz-Energoservice	666	93.71
Naftogaz Digital Technologies	212	307.19

2 Average number of bids and number of announced procurements in 2021



Results for 2021

UAH 3,559.92 mln

amount of savings for 2021

According to the results of 2021, the companies of Naftogaz Group announced 10,535 tenders with a total expected value of UAH 67,996.90 million. More than 99% of them were carried out by companies belonging to Naftogaz Group's procurement management corporate function.

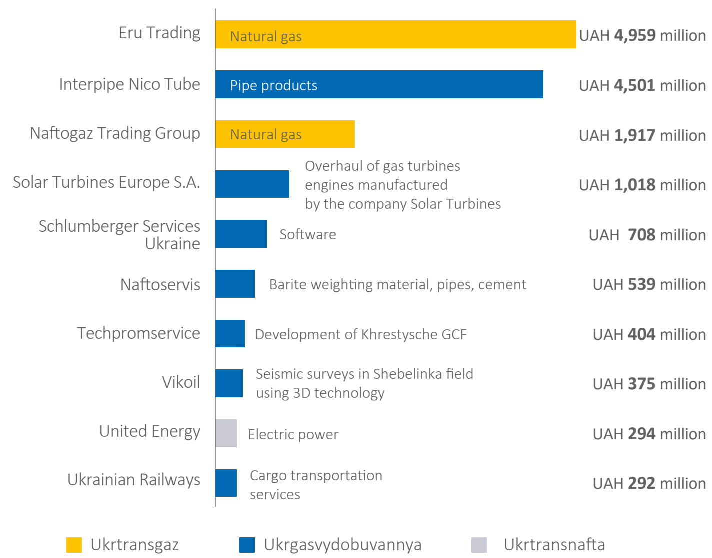
Actual savings based on the results of procurement in 2021 amounted to UAH 3,559.92 million. This significant level of savings was achieved due to the following measures:

- Negotiating with suppliers to optimize the supply chain and build up trust between the partners;
- Consolidation of procurement while identifying needs;
- Complete avoidance of discriminatory requirements in the preparation of tender documents;
- Prevention of overestimation of expected costs at the stage of inclusion in the annual procurement plan.

The total number and the total value of contracts for the procurement of goods, works and services published on the ProZorro platform in 2021 amounted to 8,195 and UAH 49,634.14 million, respectively. 99.43% of contracts were concluded with residents.

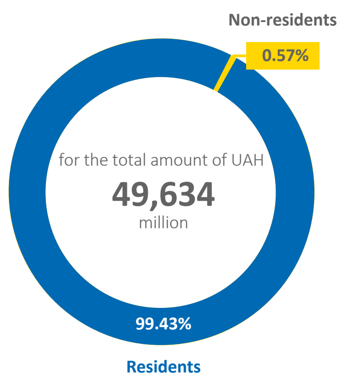
Naftogaz Group actively supports Ukrainian manufacturers – 93% of all purchases of the Group in 2021 were made from local suppliers.

3 Top 10 largest external contractors in 2021



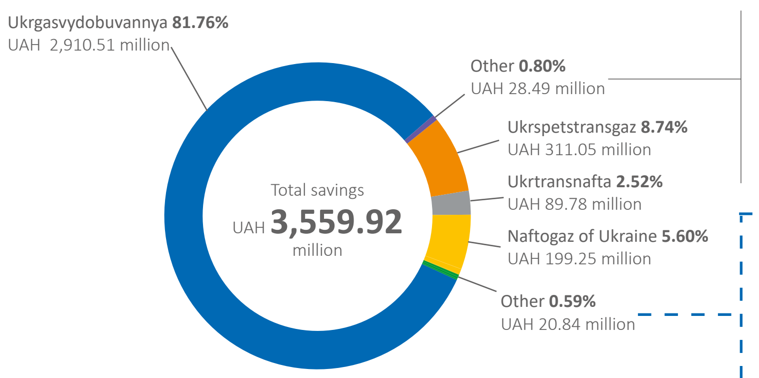
4 Total value and number of contracts concluded in the ProZorro system in 2021

Naftogaz Group published **8195** contracts through Prozorro system:



5 Savings based on the results of procurement in 2021

Companies included in Naftogaz Group's procurement management corporate function

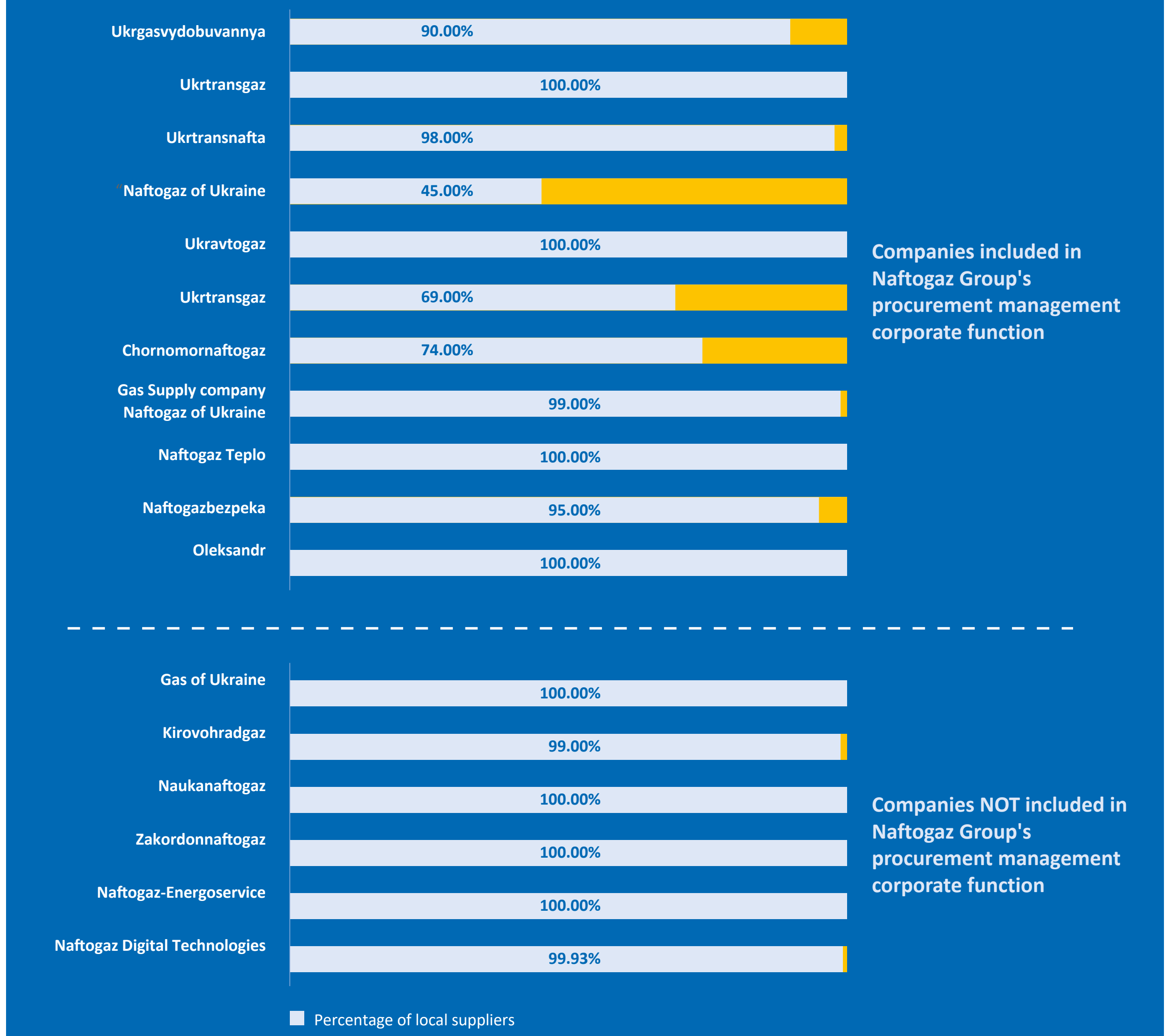


	Share	Amount of savings, UAH million
Ukravtogaz	0.14	5.15
Ukrtransgaz	0.03	0.96
Chornomornaftogaz	0.02	0.84
Gas Supply company Naftogaz of Ukraine	0.00	0.12
Naftogaz Teplo	0.11	3.90
Naftogazbezpeka	0.39	13.98
Oleksandr	0.10	3.54

Companies NOT included in Naftogaz Group's procurement management corporate function

	Share	Amount of savings, UAH million
Kirovohradgaz	0.23	8.28
Naukanaftogaz	0.00	0.005
Naftogaz-Energoservice	0.22	7.82
Naftogaz Digital Technologies	0.13	4.73

6 Percentage of goods and services purchased from local (Ukrainian) suppliers



Key procurement objectives for 2022:

In terms of improving the efficiency and effectiveness of procurement, the key objectives for the next year include the following:

- Continue digital transformation of the procurement process by implementing software systems that increase the speed and accuracy of business processes while minimizing erroneous actions and decisions that may arise due to human influence;
- Further expand the competitive environment for procurement and ensure the success of the Group's procurement procedures;
- Complete the development of categorical strategies and facilitate the procurement in accordance with developed strategies which will contribute to a positive economic effect;
- Reduce the number of contested procurement procedures of the Group in the Prozzoro system and reduce the number of requests for clarification by improving the procedure for compiling procurement documents.

CORPORATE GOVERNANCE AT NAFTOGAZ

Naftogaz continues to operate amid a disruption in its corporate governance bodies, which began in April 2021, when the Cabinet of Ministers dismissed the company's Supervisory Board. This situation has continued following the full-fledged February 24, 2022, Russian military aggression in Ukraine. The Corporate Governance Chapter in this Annual Report is not written in a traditional format, but instead describes events that led to the disruption in governance bodies and suggests remedies to get the company back on track.

Disrupting the status quo

On April 28, 2021, at the company's Annual Meeting, Ukraine's Cabinet of Ministers, the sole shareholder of the company acting in the capacity, the General Meeting, the company's supreme body disrupted the governance bodies of Naftogaz of Ukraine. Due to the financial losses and decreased production, in 2020 the General Meeting deemed the performance of the Executive Board as unsatisfactory (see sections "Financial Statements", "Exploration and Production"). It also dismissed the Supervisory Board who had evaluated the same Executive Board's performance as outstanding.

After consideration, the General Meeting decided to replace the Chairman of the Executive Board (CEO) of the company, dismissing Andriy Kobolyev and appointing Yuriy Vitrenko, who worked previously at Naftogaz as a key executive responsible for the most successful business units of the company.

The General Meeting then reappointed the old Supervisory Board to act until a new Supervisory Board is selected though an open, transparent, and merit-based process.

Timothy Ash, Bluebay Asset Management, one of the most well-informed international investors focusing on Ukraine

"One reformer replaced by another… I guess the big loss posted by Naftogaz for 2022 was the final trigger for the removal of Kobolyev. Not sure anyone would be that surprised by this move.**"**[1]

Editorial of the Kyiv Post, leading English language media in Ukraine:

"There's more, but Kobolyev is no model reformer. In our view, Vitrenko deserves credit for pursuing the arbitration cases against Gazprom's contract violations, netting the state $3 billion. He's also developed a credible plan for boosting oil and gas production, while developing renewables, curbing the dominance of the oligarchs, and establishing a more competitive market that is integrated with Europe.**"**[2]

Concerns of stakeholders

Reform of corporate governance at SOEs (state owned enterprises) for a good reason, was actively supported by Ukraine's international partners and the country's civil society as a key market and anti-corruption reform in Ukraine. Naftogaz fully shared and continues to support this view[3]. And independent Supervisory Boards at SOEs in Ukraine became synonyms with good governance, while international members of Supervisory Boards became synonyms of truly independent members. That is why when the Ukrainian government dismissed the Supervisory Board of Naftogaz with the obvious aim to overstep the board's authority with respect to CEO appointment, no matter how grounded the decision was, international partners of Ukraine expressed concerns.

[1] Source: email distribution list from timash@bloomberg.net on 29.04.2021

[2] https://www.Kyiv Post.com/article/opinion/editorial/state-burden.html

[3] Current CEO of Naftogaz, Yuriy Vitrenko, spearheaded this reform in 2014-2017 and engaged the international stakeholders to support it, such as the EBRD and others. He was assisted by Andriy Boytsun, who at the time was an advisor to Naftogaz

Editorial of the Kyiv Post, leading English language media in Ukraine:

"There was a great outcry over the supposed assault on the sanctity of corporate governance of state-owned enterprises this week when Prime Minister Denys Shmyhal's government sacked Andriy Kobolyev and replaced him as Naftogaz CEO with Yuriy Vitrenko, the acting minister.

It was overblown. Actually, the government — the shareholder of an enterprise with $7 billion in revenue in 2020 — followed the rules, such as they are, in first removing the Supervisory Board and then Kobolyev.**"**[4]

The former CEO and Supervisory Board launched an aggressive PR campaign against the government and the new CEO. They alleged that they had been dismissed because the government wanted to raid Naftogaz company funds to spend on road infrastructure projects. It was not true – new management, unlike the previous management, used available funds on gas imports need for the heating season. In fact, almost all their allegations turned out to be false[5]. They alleged that the appointment of the new CEO represented a conflict of interest, however, this was not the case.[6]

Disruption in the context of corporate governance reform

Naftogaz was a recognized champion of the corporate governance reforms of Ukrainian SEOs, that was initiated in 2014 and continued at the national level in 2015. Naftogaz became the first SOE in Ukraine to launch corporate governance practices in accordance with the OECD Guidelines on Corporate Governance of SOEs[7]. Despite this initial success, corporate governance reform has not been completed.

The OECD 2019 Report on State-Owned Enterprise Reform in the Hydrocarbons Sector in Ukraine laid out the progress made to date in Naftogaz corporate governance reforms. But several performance gaps remained. Among them, OECD wrote:

"Some observers comment that the pace of reforms has slowed and that reform appetite has waned. Unfortunately, progress in the corporate governance reform of Naftogaz has at times been offset by adverse developments… Going forward, reforms should be irreversible and result in concrete and visible changes. In order to move forward, the Government of Ukraine needs to see through the reforms that it started in 2014. In line with OECD Guidelines on Corporate Governance of SOEs, this will require particular efforts to strengthen the state-owner's ability to professionally and effectively exercise ownership rights; while continuing to improve corporate governance practices within the company. These reforms can go along way in potentially shielding the group from future political interference and potential excessive intervention.**"**

Editorial of the Kyiv Post, leading English language media in Ukraine:

"Back to Naftogaz. This company has been troubled for decades. Energy has been the source of Ukraine's biggest corruption. While Kobolyev, Vitrenko, and others deserve praise for squeezing out some corrupt schemes, others remain.

Let's temper praise for the Supervisory Board. They were not transparent and many considered the foreigners on the board to be incompetent and picked precisely for their lack of knowledge of Ukraine. They were not independent of management. They seemed more loyal to Kobolyev than anything else."

Take a look at the 2020 financials: The top 17 officials were paid $25 million in 2020, despite $674 million in losses. That is double their 2019 compensation when Naftogaz was actually profitable. To add insult to injury, the pay is not broken out individually.

Oil and gas production has been declining for years. The board let Kobolyev get away with not restructuring Naftogaz or cutting a bloated workforce. Naftogaz kept supplying natural gas, mainly to exiled Dmytro Firtash, without getting paid — costing the state billions of dollars. Kobolyev did nothing to break up Firtash's near-monopoly status in gas distribution — forcing the state to re-regulate gas prices again to prevent price-gouging.**"**

[4] https://www.Kyiv Post.com/article/opinion/editorial/state-burden.html

[5] Document "Fact checking: Independent Supervisory Board members' letter to the CMU dated 3 May 2021"

[6] Reference to Baker and McKenzie legal opinion. Ministry of Energy had no authority to control / regulate Naftogaz operations. CMU is the shareholder, Yuriy Vitrenko as Acting Minister was not a member of the CMU. Ukraine has a separate and independent regulator (NEURC). The substance of the claim is the conflict of interest. But this claim makes sense for private companies, when the regulator / legislator / official may render a service to a private company, and later that company hires him / her as a gratitude for the service. If, however, the company is fully state-owned, the claim based on conflict of interest is pointless

[7] Boytsun, Andriy (2015), Naftogaz of Ukraine: Corporate Governance Report. Kyiv, Ukraine: 31 August 2015.

Unbundling

The unbundling of the gas transmission system operator (TSO) from Naftogaz Group was one of the most sough after gas market reforms. Developed by Yuriy Vitrenko in 2015-2017, the current CEO, it was moved under direct command of the previous CEO and the previous Chairman of the Supervisory Board in 2018-2019 since the last stage required their personal accountability. Then it was delayed many times, compromised in several strategically important aspects, and in summer 2019 it was in a dead corner because of an unresolved dispute with key stakeholders (The Energy Community Secretariat and the government). The reform was saved at the last minute[8] but these problems had serious repercussions.

Independence of Supervisory Board members

As oil and gas media pointed out, most or all of the "independent" SB members of Naftogaz received all or most of their income from Naftogaz, which calls into question their financial independence. Specifically, losing their major (only) source of income may have made them complacent with the will of the government and seriously undermined their ability to act independently in the best interest of the company.[12]

Aborted Ukrnafta CEO selection in 2020

The Supervisory Board was accused of dragging its feet and shying away from this issue, although it was clear that it was in favour of oligarch Kolomoyskiy.

Janez Kopac, Director of the Energy Community Secretariat at the FLAME gas conference in May 2019[9]:

"Naftogaz was being slow to finalize the unbundling process and that the government in Ukraine "talks a lot about unbundling but is doing nothing."

Janez Kopac, Director of the Energy Community Secretariat at the 14th Gas Forum in Ljubljana on 24 September 2019[10]:

"A few days ago, the stalemate in the unbundling of the TSO from Naftogaz Group was finally overcome, but with very little time to have it certified by the end of the year."

Kyiv Post

"Kolomoisky's control over Ukrnafta appears to grow — with help from Naftogaz."[11]

Interfax

"This is a Naftogaz's issue. And I think that Naftogaz's Supervisory Board itself should see the risk that such a vote, with all the huge scope of work done on the competition, may indicate a problem in the group's corporate governance."[12]

Appointment of Supervisory Board members

Nestor Advisors Report 2021:

"In particular, the appointments of the SB and the CEO in 2017–2021 have not appeared to be consistent with the OECD SOE Guidelines or best practice, and they can be substantially improved."

In sum, the independent members of Naftogaz's current Supervisory Board were not selected via a competitive process run by the SOE Nomination Committee. Both the independents and the state representatives were directly appointed by the CMU.

The current CMU regulations still prescribe a transparent, competitive, and merit-based nomination process, which must be overseen by the SOE Nomination Committee and supported by executive search consultants. Yet, as noted, the selection of Naftogaz's SB has been exempted from these regulations since late 2017.

As a result, the SOE Nomination Committee was not involved in the 2017 selection process. No executive search firm appears to have been involved, either. We are currently not aware if any other candidates were approached. Finally, while there were interviews with all the nominees, we are currently not aware of the interview process, as it was done by the CMU in consultation with international partners.

When the selection of SB members for an SOE is launched, this is done through a public announcement, containing quite detailed qualification criteria. The criteria to be stated in the announcement are approved by the SOE Nomination Committee... No clear qualification criteria appear to have been used in the case of the current SB of Naftogaz, since the SOE Nomination Committee was not involved.

Although Naftogaz is not a public joint-stock company, according to its Regulation on the Supervisory Board, the SB shall annually review and evaluate its performance (collectively), as well as the performance of each SB member (individually). Based on the evaluation results, the SB Chair may propose actions that need to be taken to improve or remedy the situation. In addition, the Regulation on the Supervisory Board states that the RNC of Naftogaz shall engage an independent external advisor to evaluate the work of SB members. [W]e are not aware of how/whether the above rules have been used in Naftogaz's practice. The re-appointments that have occurred [did not follow these rules].

Annual Report did not disclose SB member biographies, roles on other boards, selection process, or its process for determining their independence."

[8] The previous CEO and the Chairman of the Supervisory Board had to accept a comprise solution given the critical risks a failure could have on continuation of gas transit through Ukraine. This solution was developed by Yuriy.

[9] https://bit.ly/3AGQ8Ta
https://bit.ly/3AIfEaH

[10] https://bit.ly/3RdEJBh

[11] https://bit.ly/3ek5ghW

[12] https://bit.ly/3AMnVKV

Role of the Supervisory Board

Nestor Advisors Report 2021:

"With respect to the Roles and Responsibilities of the Governance Bodies, the state's dividend policy seems both rigid and often misaligned with Naftogaz's strategic objectives and should be redefined. The SB, when previously constituted, has historically met too frequently, spending a significant amount of time approving transactions for which SB approval should not be required. At the same time, relatively little attention was dedicated to discussing strategic and governance issues, and the SB's responsibilities have not included climate considerations, a notable absence compared to industry peers. The SB does not appear to have undertaken an annual self-evaluation and there appears to have been an insufficient review of the EB's reports by the old SB. The EB and SB's internal policies lacked mutual cohesion, and the Cabinet of Ministers of Ukraine ("CMU") should amend Naftogaz's Regulations on the SB and the EB to align with the provisions of the Company's Charter."

Appointment and reappointment of the previous CEO

Nestor Advisors Report 2021:

"The former CEO, Andriy Kobolyev, was appointed for the first time Naftogaz on 25 March 2014 by the decision of the CMU, consistent with the regulations effective at the time. These regulations did not require a competitive nomination process, nor was such a process followed in 2014. On 20 March 2019, Mr Kobolyev's term was extended for the first time, until 22 March 2020 by the CMU's direct decision. On 20 March 2020, the CMU decided to "agree with the proposal of the Supervisory Board" and extended Mr Kobolyev's term for another four (4) years. Again, this decision did not follow the required competitive nomination process as envisaged by the same CMU regulations."

Compliance with international standards regarding executive remuneration

Nestor Advisors Report 2021

"...the Company's remuneration reporting was not transparent and did not make it clear how management is rewarded for their achievement, with the 2020 Annual Report not even providing a breakdown of remuneration by individual EB or management team member."

For more details see Section "Executive Remuneration".

Launching an independent corporate governance review

Following the corporate governance challenges in 2021, the Ukrainian Federation of Employers of the Oil and Gas Industry (UFEOGI) commissioned an independent corporate governance review of Naftogaz from one of the most reputable international corporate governance advisory firms, Nestor Advisors, a Morrow Sodali company.

Nestors Advisors is a London-based advisory firm specialising in corporate governance and organisational design. The firm works with the boards and management of financial institutions, companies, and not-for-profit organisations in numerous countries, helping these organisations to improve decision-making, organisational structures, controls, and incentives. Nestor Advisors has no economic or other connection to Ukraine nor an establishment here.

Nestor Advisors was founded in 2003 by Stilpon Nestor, an internationally recognised authority on corporate governance. Mr Nestor, the chairman of the firm, had previously served as the Head of the Corporate Affairs Department at the Organisation for Economic Co-operation and Development (OECD), where he led the team that developed the global corporate governance benchmarks, the OECD Principles of Corporate Governance. In recent years, among other things, he has led board reviews of the World Bank Group and the European Investment Bank.

Mr Nestor has agreed to personally lead this corporate governance review, including interviews with the Supervisory Board members.

An important advantage of Nestor Advisors is that the firm is an outsider to the Ukrainian political context, which – combined with the firm's impeccable reputation – ensured utmost objectivity and professionalism in assessing our governance and formulating recommendations.

Mr Nestor and his team emphasised that the co-operation of Supervisory Board members was essential in order to ensure the objectivity, completeness, and integrity of this exercise. Nestor Advisors' professional standards, as well as the engagement agreement with the Federation signed under English law, stipulate that the answers obtained during individual interviews will be kept confidential without any attribution to specific interviewees.

Tasks for the new CEO

With the appointment of Yuriy Vitrenko, the Cabinet of Ministers, as the main shareholder, tasked him to turnaround the company and set the following objectives: increase domestic gas exploration in the coming years moving Ukraine to energy independence; facilitate systemic market reforms over the entire value energy supply chain beginning with gas exploration to gas delivery and centralized heating supply, and also attract significant foreign direct investment in the country's oil and gas sector. In addition, the main shareholder wanted state companies to improve their management processes and pursue new business opportunities; put the company back on the corporate governance track; root out corruption; continue international activities that sustain our security of supply and protect our European partners, etc. In short, Naftogaz needed to return to business basics and governance fundamentals and once again become drivers of gas market and energy reforms.

A 2021 turnaround leads to company resilience in 2022

Under new leadership, Naftogaz company performance reversed its negative trends. Naftogaz's financial result for Q2 was in the black at UAH 8.5 billion, particularly due to new management's efforts to reform the gas market and create a financial source for regional utilities to pay off their debts to the company; it was one the first signs of a turnaround after losses in Q1 of 2021 and in 2020. By July 2021, the downward trend in gas production stopped and daily gas production began to consistently grow, which continued until Russian aggression in February 2022. Changes in the financial plan, gas sales and imports, allowed the company to ensure the security of supply in the heating season 2021/22. In October, a balancing group mechanism was implemented to remove intermediaries, particularly those controlled by a notorious oligarch Dmytro Firtash, risk-free arbitrage opportunities, created by the previous management, which saved the company up to around UAH 75.6 billion in potential losses.

Making the company stronger in 2021 allowed us to help Ukraine to be resilient in 2022.

Open, transparent, and merit-based nomination of the new Supervisory Board

The new CEO believed that an open, transparent, and merit-based nomination of all members of the Supervisory Board was critically important for the company and the state. And that a new Supervisory should then run the same process for the CEO position.

The Supervisory Board wanted to fill the vacancy of an independent member and then gradually, over years, replace the existing members. But first and foremost, the old Supervisory Board wanted to change the CEO, appointed by the General Meeting. They tried removing him almost every other week, causing ripples in the organization. Obviously, it did not help the company. Whilst attempting to remove the CEO, members of the Supervisory Board undermined his authority, obstructed his decision-making and even made false allegations in both public and internal communications. The Supervisory Board also did not permit the CEO to change the Executive Board. The intention was clear – to put the new CEO against 4 old executives.

In September 2021, after five months of negotiations with the Naftogaz Supervisory Board over a return to corporate governance reforms in line with OECD principles, the government made a final decision to launch an open, transparent, and merit-based nomination of all members of the Supervisory Board. Right after that the Supervisory Board resigned. The Cabinet of Ministers disbanded the company Supervisory Board on September 27, 2021 and announced a new competition to fill the vacant seats on the governing body.

The government's plan called for the selection and appointment of a new Supervisory Board by the end of 2021.

The role of the company was to engage an executive search company to help the Nomination Committee, and the company did it without any delays. The Nomination Committee consists of several members of the Cabinet of ministers, with representatives of the IFIs (international financial institutions) and the European Commission having a recommendation, but de-facto key voice.

Unfortunately, the Nomination Committee faced delays. But before the full-scale invasion (February, 24 2022) there was a "short-list" of candidates matching all the criteria.

Obviously, it is quite natural in time of war for the government to centralize power, including with regard to corporate governance of SOEs. But the company believes that the benefits of appointing a new Supervisory Board (from the short-listed candidates) greatly outweigh the risks, especially if combined with the necessary changes the company's Charter and adoption of an appropriate Corporate Governance code.

Corporate governance bodies

General Meeting

The General Meeting is the supreme body of the company. The powers of the General Meeting are exercised by the shareholder alone. The decisions of the sole shareholder, which is the state represented by the Cabinet of Ministers of Ukraine, are executed by the relevant decisions of the Cabinet of Ministers of Ukraine.

The powers of the Cabinet of Ministers of Ukraine at the General Meeting of the Company and the body authorized to manage corporate rights of the state in the authorized capital of the company are determined by law (Civil Code of Ukraine, Commercial Code of Ukraine, Laws of Ukraine "On Joint Stock Companies", "On Management of State Property").

The Cabinet of Ministers of Ukraine being an executive body acts on the basis and within the powers established by the Constitution of Ukraine and law (including, among others, the Law of Ukraine "On the Cabinet of Ministers of Ukraine").

Supervisory Board

According to the company's Charter, the number of Supervisory Board members shall be determined by the General Meeting and typically consists of seven members. The Supervisory Board includes independent members, the number of which shall be the majority of members of the Supervisory Board.

Members of the Supervisory Board shall be elected by the Cabinet of Ministers of Ukraine. The Chairperson of the Supervisory Board shall be elected by members of the Supervisory Board from among their number by a simple majority of votes of the elected Supervisory Board members.

As of 1 January 2021, in accordance with the resolutions of the Cabinet of Ministers of Ukraine, the Company's Supervisory Board consisted of the following members:

- **Clare Mary Joan Spottiswoode** (Chairperson of the Supervisory Board)
- **Bruno Jean Gaston Lescoeur**
- **Ludo Van Der Heyden**
- **Nataliia Boyko**
- **Yuliia Kovaliv**
- **Robert Bensh**

Robert Bensh was not allowed to exercise his powers as a member of the Supervisory Board because of the position of the Chairperson of the Supervisory Board, Clare Mary Joan Spottiswoode, and the independent members of the Supervisory Board due to Robert Bensh's alleged conflict of interest. At the same time, in the process of conducting an official investigation, it was established that such a position did not correspond to the internal documents of the Company, nor to Ukrainian legislation, nor to international standards, which stipulate that the General Meeting (Shareholder) appoints the members of the Supervisory Board, and the claims against the member of the Supervisory Board from the Chairperson of the Supervisory Board or the Corporate Secretary cannot per se be a legal basis for preventing a member of the Supervisory Board appointed by the General Meeting from performing his/her powers as a member of the Supervisory Board.

By Instruction No. 370 dated 28 April 2021, the Cabinet of Ministers of Ukraine considered the work of the Company's Supervisory Board in 2020 as unsatisfactory and prematurely terminated the powers of the following independent members of the Company's Supervisory Board: Clare Mary Joan Spottiswoode, Bruno Jean Gaston Lescoeur, Ludo Van Der Heyden, and the state representatives in the Company's Supervisory Board Nataliia Boyko, Yuliia Kovaliv, and Robert Bensh.

Also, by the above mentioned Instruction, the Cabinet of Ministers of Ukraine elected Clare Mary Joan Spottiswoode, Bruno Jean Gaston Lescoeur, Ludo Van Der Heyden, Nataliya Boyko, Yuliia Kovaliv and Robert Bensh as members of the Supervisory Board for the period until the decision on the approval of candidates for the positions of independent members of the Company's Supervisory Board and the appointment of state representatives in the Company's Supervisory Board, but no longer than six months from the date of entry into force of this Instruction.

By instruction No.494-p dated 19 May 2021 the Cabinet of Ministers of Ukraine elected as members of the Company's Supervisory Board for the period until the resolution on the approval of candidates for the independent members positions of the Company's Supervisory Board and the appointment of state representatives to the Company's Supervisory Board, but not more than one year from the date thereof, Bruno Jean Gaston Lescoeur, Ludo Van der Heyden, Clare Mary Joan Spottiswoode as independent members and Nataliia Boiko, Yuliia Kovaliv as state representatives and the authority of the member of the Supervisory Board of the company Robert Bensch as a state representative was removed before lapse of his term of office.

The instruction also announced the competitive selection of candidates for the positions of four independent members of the Supervisory Board of Naftogaz of Ukraine.

By instruction No.529-p dated 31 May 2021 the Cabinet of Ministers of Ukraine elected Yuliia Svyrydenko as a state representative for the period until the appointment of state representatives to the company's Supervisory Board, but no more than one year from the date of the instruction of the Cabinet of Ministers of Ukraine No. 494-r dated 19 May 2021.

On 7 September 2021, three independent members of the Supervisory Board, namely: Bruno Jean Gaston Lescoeur, Ludo Van der Heyden, Clare Mary Joan Spottiswoode applied for early termination of their powers. In line with the applicable laws, the powers of independent members of the company's Supervisory Board were terminated on 21 September 2021.

On 27 September 2021, by the instruction No.1153-p the Cabinet of Ministers of Ukraine terminated the powers of the following Supervisory Board members of the Company: Nataliia Boyko, Yuliia Kovaliv, and Yuliia Svyrydenko as state representatives.

Civil contracts with the members of the company's Supervisory Board are regulated by the instruction of the Cabinet of Ministers of Ukraine No. 538-p dated 02 June 2021 (as amended).

Please see Naftogaz's Annual Report 2020 for more information about the Supervisory Board members.

Naftogaz hopes that in 2022, in full compliance with the OECD Guidelines, a transparent and open competitive selection of four independent members of the Supervisory Board will be completed through a properly structured nomination process for selecting the members of a Supervisory Board based on their knowledge, experience and achievements. In particular, the company expects that the new Supervisory Board will be formed based on the important principle of maintaining a diversity of competencies, including professional experience in the oil and gas industry.

Such steps will be prerequisites for increasing the effectiveness of the Supervisory Board, creating value for customers in a financially sustainable way, improving the quality of decision-making, attracting investments, expanding partnerships, transferring knowledge about the modern technologies now present in the industry, facilitating the "green transition", engaging key stakeholders on the global and Ukrainian market, while insulating the company from political meddling and graft. In addition, in view of the increased workload of the Government, especially during wartime, the appointment of a Supervisory Board of the company will contribute to the effective management of the company.

Executive Board

2021 saw a change of CEOs and Executive Board members at the National Joint-Stock Company "Naftogaz of Ukraine".

As of 1 January 2021, according to the resolutions of the General Meeting and the Supervisory Board of National Joint-Stock Company "Naftogaz of Ukraine", the Executive Board of National Joint-Stock Company "Naftogaz of Ukraine" consisted of the followings persons:

- **Andriy Kobolyev, CEO,** 25.03.14 – 28.04.21
- **Sergiy Pereloma, First Deputy Chairman of the Board**, 13.08.14 – 27.09.21
- **Otto Arnold Waterlander, EB member,** 21.01.20 – 22.09.21
- **Petrus Stephanus van Driel, EB member,** 21.01.20 – 27.09.21
- **Yaroslav Teklyuk, EB member,** 21.01.20 – 27.09.21

Pursuant to clause 1 of Order of the Cabinet of Ministers of Ukraine No.370-p dated 28 April 2021, the powers of the CEO of National Joint-Stock Company "Naftogaz of Ukraine" Andriy Kobolyev's term as CEO was terminated early and he was dismissed from his position on 28 April 2021 in line with clause 5, part 1, Article 41 of the Labour Code of Ukraine. Pursuant to clause 8 of the above Order, Yuriy Vitrenko was chosen and appointed as the CEO of National Joint-Stock Company "Naftogaz of Ukraine" from 29 April 2021 for a period of twelve months.

At the meeting held in September 2021, the Supervisory Board of National Joint-Stock Company "Naftogaz of Ukraine" resolved to terminate the powers of the Executive Board members of National Joint-Stock Company "Naftogaz of Ukraine" – Otto Arnold Waterlander and Petrus Stephanus van Driel – effective from 22 September 2021. The order of the Cabinet of Ministers of Ukraine No.1154-p dated 27 September 2021 terminated the powers of the Executive Board members of National Joint-Stock Company "Naftogaz of Ukraine" Sergiy Pereloma and Yaroslav Teklyuk.

By Order of the Cabinet of Ministers of Ukraine No. 1155-p dated September 28, 2021, temporarily, for the period until a new composition of the Supervisory Board of Naftogaz resolves on the formation of its Executive Board, but no later than December 28, 2021, the following persons were elected and appointed as members of the Executive Board of Naftogaz:

- **Mavriky Kalugin**
- **Roman Chumak**
- **Vladyslav Volovyk**
- **Olena Boichenko**

By Order of the Cabinet of Ministers of Ukraine No. 1718 p dated December 23, 2021, the powers of temporary members of the Executive Board of Naftogaz were extended until April 29, 2022.

With such members of the Company's Executive Board as Mavriky Kalugin, Olena Boichenko, Roman Chumak and Vladyslav Volovyk, who were elected and appointed temporarily in September 2021, employment relations were regulated by individual employment contracts concluded with them for such positions as Chief Operating Director of Naftogaz Group, Director of Human Resources and Social Policy of Naftogaz Group, Head of Treasury Operations Of Naftogaz Group – Head of Treasury Department, Head of Security of Naftogaz Group of the Company, respectively. Since, in accordance with Order of the Cabinet of Ministers of Ukraine No. 1155 dated September 28, 2021, the specified members of the Company are elected and appointed on a temporary basis (for the period until a new composition of the Supervisory Board of Joint Stock Company "National Joint-Stock Company "Naftogaz of Ukraine" decides on the formation of its new Executive Board), the relevant contracts were not concluded with them and they do not receive remuneration for holding the position of a EB member. The Company is waiting for appointment of the Supervisory Board for further election of the Executive Board members and conclusion of relevant contracts.

It is worth noting that for the first time since the launch of Naftogaz's corporate governance reform, a world-class specialist in the field of hydrocarbon production was appointed as an Executive Board member. In addition, a woman joined the Executive Board for the first time in fourteen years, which is an important step in observing the OECD diversity principles in the formation of governance bodies.

MEMBERS OF THE EXECUTIVE BOARD

Yuriy Vitrenko

Chief Executive Officer – Chairman of the Executive Board

Yuriy Vitrenko is the first Naftogaz CEO with international education and management experience.

From December 2020 to April 2021, Yuriy Vitrenko served as Ukraine's Acting Minister of Energy.

Before his appointment to the Ministry, Yuriy spent six years at Naftogaz, holding key management positions, including Executive Director, Chief Operating Officer, and Chief Commercial Officer. During his tenure he particularly focused on reforming the energy sector and ensuring Ukraine's energy security.

Among Yuriy's most important accomplishments at Naftogaz[13] are the successful arbitration cases against Gazprom, which were resolved in accordance with the rules of the Arbitration Institute of the Stockholm Chamber of Commerce, as well as diversifying sources of natural gas and allowing Ukraine to eliminate its critical dependence on Gazprom gas imports. He initiated and successfully led the implementation of projects on developing a competitive wholesale gas market in Ukraine and its integration into the EU market.

Previously, Yuriy was CEO at the investment company AYA Capital (2010-2014) and COO at private equity fund Amstar Europe, a subsidiary of the US-based investment management company Amstar (2008-2010). In 2005-2006, Yuriy was an Associate at the London office of investment bank Merrill Lynch.

Yuriy started his career at PricewaterhouseCoopers (1998-2002) as a Senior Consultant in the Management Consulting Services Department after graduating from Kyiv National University of Economics.

Yuriy holds an MBA from the INSEAD international business school (France, Singapore).

[13] For details see "Looking Putin into Eyes", https://www.vitrenkolibrary.com/en/longread/ and "Naftogaz vs Gazprom" https://www.vitrenkolibrary.com/en/naftogaz-vs-gazprom/

Roman Chumak

Chief Financial Officer of Naftogaz Group

Roman Chumak is responsible for establishing relations of Naftogaz Group companies with banks and financial institutions, attracting financing in domestic and international financial markets, short-term planning and balancing of the Group's liquidity, transactions with securities, and other treasury operations of the Group.

Roman is one of the most experienced employees of Naftogaz of Ukraine. He has been working for the Company for more than nineteen years, holding positions from chief specialist to department head. Prior to that, he worked in large banking institutions and private business.

He graduated from the Kyiv State University of Trade and Economics with a degree in economics. He holds a Ph.D. in Economics and MBA.

Vladyslav Volovyk

Chief Legal and Security Officer of Naftogaz Group

Prior to his appointment as a member of the Executive Board, Vladyslav Volovyk was head of branch at the Centre of Metrology and Natural Gas Distribution Systems of Public Joint Stock Company National joint-stock company "Naftogaz of Ukraine", and worked as the Deputy Director of Affiliated Company "Gas of Ukraine" of National Joint Stock Company "Naftogaz of Ukraine".

Prior to that, he practiced civil, corporate, commercial and tax law. He has been practicing law since 2001. He was also engaged in academic and teaching activities.

Vladyslav Volovyk holds a PhD in Law. He has some 20 scientific publications to his name, including in scientific and practical commentary on the Civil Code of Ukraine in the Encyclopedia of Civil Law.

Olena Boichenko

Chief Human Capital Officer of Naftogaz Group

Olena Boichenko has 17 years experience in human resources management.

While working at "Big Four" companies, she implemented a number of large-scale HR transformations.

Prior to joining Joint Stock Company "National Joint Stock Company Naftogaz of Ukraine", June 2021, she worked in the consultancy area as Director of Human Capital Advisory Services at Deloitte Ukraine, and advised international and Ukrainian companies in various fields.

She obtained a Master's degree in economic theory at National University of Kyiv-Mohyla Academy.

On September 28, 2021, she was appointed a member of the Board of Naftogaz of Ukraine.

Mavriky Kalugin

Chief Operating Officer (COO) of Naftogaz Group

Mavriky Kalugin was born in Nikolayevsk (Alaska, USA). He has 25 years of experience in the oil and gas industry around the world, and has a range of professional experience in managing the production and service companies, greenfield development, and the optimization of oil and gas brownfield production.

Before joining Naftogaz, Mavriky Kalugin worked for Ukrnafta for five years as an advisor to the Chairman of the Executive Board, Deputy Chairman of the Executive Board, and Executive Vice President for Production and Processing. The new approaches suggested by Mavriky Kalugin have helped Ukrnafta stabilize hydrocarbon production despite a smaller investment program scope.

Mavriky Kalugin previously held senior positions at companies such as Petrofac, Cairn India, BP, TNK-BP, Occidental Petroleum, ConocoPhillips and ARCO. He graduated from the University of Idaho (USA).

What is corporate governance?

In a nutshell, it is a system of corporate bodies and rules aimed at making sure that company management works efficiently in the interest of the company. Why can this become a problem? It is because, as humans, management have their own interests, which may not always coincide with the interests of the company. And, in the context of SOEs, state representatives, who directly or indirectly appoint the management, also as humans, have their own interests, which may not always coincide with the interests of the people, who are the ultimate beneficiary owners of an SOE. This is why management must be accountable for its efficiency in the interest of the company. There must also be governing bodies who can hold management accountable for that.

These principles may sound easy to implement, but corporate governance is tricky, especially in the case of SOEs. Different stakeholders may want management to act in their interest, not in the interest of the company. It is especially challenging to explain to shareholders that there are other company stakeholders (creditors, employees, customers, communities etc) and that it is both illegal and just wrong when management acts in the interests of shareholders, but not in the interest of the company. Holding management accountable in real life is not easy at all – it requires expertise, independence, access to information, and, ultimately, stakeholders should trust those who are empowered to hold management accountable.

In 2015, Naftogaz began its corporate governance reform in order to implement rules and procedures in line with the best global practices, primarily the OECD Guidelines for Corporate Governance at State-Owned Enterprises (OECD Guidelines) and the OECD Corporate Governance Principles. Naftogaz became the first state-owned company to start introducing best corporate governance practices.

In 2016, the Gas Sector Reform Action Plan, including the company's corporate governance reform plan, became part of Ukraine's obligations under credit agreements with the European Bank for Reconstruction and Development (EBRD). The reform road map was developed by the experts and legal advisors to the Corporate Governance Action Plan (CGAP)[14]. The external stakeholders recognized the implementation of this plan as a necessary step for the integration of Ukraine into the European Union, and the success of the corporate governance reform is an important guarantee for the security of gas supply in Ukraine and Europe.

In October 2020, the Government approved the Naftogaz of Ukraine Ownership Policy.

This policy is one of the key documents required by the OECD Guidelines. It should clearly explain a rationale of state ownership of a particular company (e.g. market failures, national security considerations, risks of moving strategic functions abroad). Such an approach is based on a presumption that if it cannot be explained, or if the explanation is not accepted, the company should be privatized since a more efficient owner exists. In the case of Ukraine, the Cabinet of Ministers must explain each case to Parliament, so that the company is not included in the Privatization List. Notably, rationales for state ownership do not preclude the status of SOEs as commercial entities, requirements for their financial sustainability, and, as discussed above, the fundamental principle that management should act in the interest of the company, not the state as a shareholder.[15]

Unfortunately, an ownership policy is often misused in Ukraine – instead of being used as an element of accountability to Cabinet and to Parliament (and hence the public), it is used to mandate tasks to the management. Even more unfortunate, it is often a part of a bigger problem, in which SOEs are confused with government agencies. This is manifested through statements that SOEs are not commercial (for-profit) entities; or that they are public, not private law entities (although it indeed sounds confusing); or that management of SOEs should simply take instructions from the government).

In September 2021, the Government approved the Main Directions of the Company's activities for 2021.[16]

OECD Guidelines say that states should be "active shareholders" of SOE. It is therefore perfectly acceptable if the Ukrainian government uses its exclusive power of the General Meeting (defined in the Law on Joint Stock Companies) to set the Main Directions on a regular basis, what key activities the company should be engaged in, with what purposes, and what performance targets are.

The document, adopted by the government, does not fully fit these guidelines, but it does help transparency and accountability of both the government and the company management, it is a step in the right direction, especially compared with a previous practice.

In June 2022, changes were made to the Ownership Policy[17], which established certain requirements for the achievement of certain target indicators for 2022 (the amount of natural gas in UGS). If the company management were to be consulted, we would provide arguments why an ownership policy is not the best place for expressing requirements of this kind.

[14] https://bit.ly/3CThSGW

[15] Resolution of the Cabinet of Ministers of Ukraine dated October 21, 2020 No. 982 "Some Issues of the Activities of Naftogaz of Ukraine".

[16] Company's statute may define specific mission and interests of the company. Shareholders approve the Statute and hence have a right to transparently define interests of a company, subject to a legal procedure and limitations.

[17] Resolution of the Cabinet of Ministers of Ukraine dated September 27, 2021 No. 1011 "Some Issues of the Activities of Naftogaz of Ukraine".

[18] Resolution of the Cabinet of Ministers of Ukraine dated June 17, 2022 No. 691 "On Amendments to Clause 2 of the Ownership Policy of Naftogaz of Ukraine.

[19] Read more about it in the book "The Public Wealth of Nations" by Dag Detter and Stefan Fölster.

Selected deviations from norms that create risks for company performance

General Meeting. Currently, the Cabinet of Ministers of Ukraine, as the formal and sole shareholder of Naftogaz on behalf of the state of Ukraine, has the powers of a formal shareholder of Naftogaz at the General Meeting. Typically in Ukraine and in many EU countries, a ministry would be the formal owner of an SOE, meaning faster decision-making. Leading international practices[18] include centralization of the state ownership function and its professionalization in the form of a public wealth fund. Besides being a shareholder, the role the Cabinet of Ministers of Ukraine plays is rather different from best practices[19]. The legacy of the Soviet central planning system and traumas from the post-Soviet chaotic (and corrupt) privatizations means that the state has powers as the General Meeting that normally the executive body of a company might have. Obviously, having such an authority and having the institutional capacity to exercise this authority properly are two separate matters. Notably, best practice is when a state confines its role at the General Meeting mainly to setting the "rules of the game" in the Corporate Charter and Corporate Governance Code; regularly providing strategic guidance[20]; deciding on profit distribution; appointing Supervisory Board members to hold the management accountable; approving transactions that go beyond "current activity" and remuneration of the Supervisory and Executive boards.

Supervisory Board. Currently, the Cabinet of Ministers of Ukraine acts also as the Supervisory Board of Naftogaz. As mentioned numerous times in this Annual Report, it is not normal. But what was also not normal was the role of the Supervisory Board of Naftogaz. It was swamped with a responsibility to approve hundreds, if not thousands, of management decisions well inside the "current activity" of the company. It lacked a real mandate (and transparent strategic guidance that should come with that) from the state, as well as, objectively, a necessary set of skills, level of independence and reputation to perform a "best practice" role, particularly to set strategy[21]; approve key parameters of company's financial plans[22]; drive[23] ESG, audit, executive remuneration and nomination; and make recommendations to the shareholder regarding transactions that go beyond "current activity".

Executive Board. Deviations from the best practices at the level of the shareholder and the Supervisory Board, mentioned in this section, greatly complicate the "normal" role of the Executive Board of Naftogaz. Its role should be mainly to approve plans (business, financial, investment etc), company reports, policies, material transactions; and to act as a General Meeting for key subsidiaries. Executive Board members should have enough time and energy (left after fighting political meddling and its consequences), dedicated staff, and an appropriate framework agreed with the state and the Supervisory Board to perform this function efficiently.

Subsidiaries. Key subsidiaries of Naftogaz are large joint-stock companies. Naftogaz's corporate model is not a purely financial holding, since this would not meet the expectations of our stakeholders, particularly regarding security of supply. And it is not a fully integrated (vertically and horizontally) operator since our businesses are rather diverse and the company's systems are not best suited to this. Our model is situated inbetween, in what is often called the role of "strategic architect" or "strategic controller". Under these circumstances, it is the international norm for fully owned subsidiaries to have their own Supervisory Boards with a majority of those board members representing the corporate center. This would allow streamlining of decision-making while greatly improving accountability. Currently there are no Supervisory Boards at Naftogaz subsidiaries.

Corporate Charter. The current Charter, approved by the Cabinet of Ministers, stipulates only one purpose for Naftogaz – to make profits. It is consistent neither with the formal shareholder policy, adopted by the same Cabinet, nor with public statements of the government. It is normal when, in our context, the Charter contains a clear definition of actual and specific interests of the company, as set by the state, beyond general interests such as profit. Obviously, this should fully reflect the rationale of the state ownership of Naftogaz and the mission of Naftogaz (including the reason for its existence). Second, should the government intend to make the roles of the governance bodies (General Meeting, Supervisory Board, Executive Board) compliant with the best standards or at least applicable norms, these changes should be made in the Charter.

Corporate Governance Code. Naftogaz currently does not have a Corporate Governance Code. A Code is normally developed by the management and approved by the shareholder in consultation with the Supervisory Board, with the aim to agree a comprehensive set of rules (in addition to applicable legislation, standards and norms) that should guide the governance bodies of the company in their roles (i.e. "rules of the game").

"Main Directions". The government currently sets objectives and even provides instructions for Naftogaz in different documents, not exactly foreseen by the Ukrainian legislation for joint stock companies, like Naftogaz. Equally, the government is not using its power at the General Meeting to define "Main Directions" on a regular basis, including setting which activities Naftogaz should be undetaking, for what purpose, and against which KPIs.

Consolidated dividends, reporting, taxation. The state requires that some key fully owned

[20] Ukrainian legislation foresees a form for that called "Main Directions".

[21] Setting strategy in this context means that management develops strategy, and a Supervisory Board approves it or requests changes; strategy and requests from the Supervisory Board should be compliant with a company mission defined in a corporate charter and "main directions" set by the shareholder.

[22] Key parameters in this context serve as "red lines" for the management – profitability, leverage etc. These parameters should be compliant with the "main directions" set by the shareholder.

[23] In line with best practices to the extent possible.

subsidiaries of Naftogaz pay dividends directly to the state budget but do not set the dividend payout ration on a consolidated basis. In addition, separate financial reporting and taxation are required for a group of companies despite all operating in the same jurisdiction (Ukraine).

State vs corporate property. Unfortunately, the status of Naftogaz property is frequently challenged by the government, even though this state property has already been transferred into the statutory fund of Naftogaz in exchange for shares, which would under typical circumstances mean that these assets have clearly become the property of Naftogaz.[24]

State vs International Audit. In addition to an internal audit, subordinated to the Supervisory Board, Naftogaz has two external auditors – the State Audit Service and the (international) independent auditors. This is unusual. A significant issue is that the State Audit Service, subordinated to the Ministry of Finance, follows standards set by the Ministry of Finance, which are not always consistent with the global standards, followed by international audit firms.

What it will take

The above improvements will require profound changes to current practices and, in some cases, legislative changes. There are also political[25] challenges and a need to educate stakeholders about corporate governance. The company has addressed the government with their proposal about the relevant changes. We also expect that these changes will be a part of a package of reforms within the framework of Ukraine's EU candidate status.

Correlation with other market reforms

Corporate governance reform is intertwined with other market reforms – it cannot be successful in isolation. This does not mean a full and immediate market liberalization. Although it does require transparency, integrity, and the rule of law. As an example, the government has decided that Naftogaz must sell gas at below import prices, providing hidden subsidies to consumers via Naftogaz. A Supervisory Board could be comfortable with that provided that it is a transparent decision, and the government compensate the difference as stipulated by the gas market law.

The issue of trust

There is a potential lack of trust that the government indeed wants to treat SOEs as real companies, not government agencies, and that is committed to full corporate governance reform to insulate SOEs from political meddling and graft. Related to this, there is potentially a lack of trust that international stakeholders are truly committed to help the Ukrainian government to become stronger, and that developing the civil society's capacity to control the government serves this purpose.[26]

How to build trust? Through developing a consensus that clear and authoritative corporate governance standards, such as OECD guidelines, and practices from EU countries[27] are necessary; that progress should be checked by authoritative third parties (based on agreed criteria); and that focus should he on substantive and tangible results (efficiency, investments[28] etc.).

Beginning today, we need an honest and substantive discussion among stakeholders. We must avoid phoney corporate governance reform as this will degrade trust and discredit the reform program. By the way, corporate governance reform of Naftogaz can provide good examples of what Ukraine needs and what it does not need, what is a real reform and what is a hollow measure. This Annual Report contains examples of both.

The impact of war

Of course, in time of war, corporate governance has peculiar requirements. And it depends on circumstances that are difficult to predict and often even to analyze and discuss. But the benefits of good corporate governance, both in terms of efficiency gains at the company level and additional trust from international partners at the level of the state, can be felt here and now, even as the war goes on. That is why we believe that what we are writing here can and should be done now, and not left until after the war ends.

[24] It is often a part of a more general confusion, when there is lack of understanding that Naftogaz is a private law entity.

[25] As authors of famous book "Why Nations Fail" could say, request for changes coming from "inclusive" institutions should prevail over opposition from "extractive" institutions.

[26] Read more about it in the book "The Narrow Corridor. How Nations Struggle for Liberty" by Daron Acemoglu and James A. Robinson.

[27] "Do what we do", not "do what we tell you to do".

[28] Loans from IFIs, export guarantees. Low interest rates. After war: equity (IPO, private placement through privatization auction) of the group or key subsidiaries; project finance etc.

REMUNERATION

1. Executive summary

This chapter seeks to provide greater transparency about the remuneration of members of the Executive and Supervisory Boards at the company. We consider it in the public interest to also provide detailed information about the remuneration of the former members of the Executive Board.

All data on the remuneration of the Executive and Supervisory Boards in this report are remunerations before taxes and without taking into account the single contribution to the mandatory state social insurance fund, which shall be paid by the employer in accordance with the procedure established by the law of Ukraine.

	2021	2020
Basic remuneration and performance bonuses paid to Supervisory Board members, UAH million	**81.9**	**207.2**
For Executive Board members dismissed in 2021, portion of their basic remuneration and performance bonuses relative to total board compensation	99.5%	100%

2021 ▲ **Net PROFIT 12,023 UAH mln**

0 UAH — **Annual performance bonuses paid to Executive Board members based on the results of the year**

2020 ▼ **Net LOSS 19,002 UAH mln**

139.3 UAH mln — Annual performance bonuses paid to Executive Board members

	2021	2020
Total Executive Board members basic remuneration expenses[1], UAH million	**81.9**	**67.9**
Including in the position of the company board member, UAH million	70.6	37.1
Including in other key positions of Naftogaz Group, UAH million	11.3	30.8

Additional payments in 2021 to the Executive Board members dismissed in 2021 for termination of the contract and employment contracts, determined by the previous members of the Company's supervisory board, UAH million	412.2
Including payments to Andriy Kobolev, the previous chairman of the company's Executive Board[2], UAH million	**342.8**

[1] Excludes information on Executive Board members appointed on a temporary basis, as they did not receive additional remuneration as Executive Board members, and their salary was determined in the employment contracts that are not related to the authorities of the Executive Board members.

[2] Including payments in the amount of UAH 338.6 million, which were made by the bank through the bank guarantee mechanism; the relevant contract with the bank was signed by Serhii Pereloma; the Company's funds to cover this bank guarantee were transferred under the leadership of the company by Andriy Kobolev.

2. General comments

Remuneration period

Information on Executive Board members' basic remuneration expenses is prepared on an accrual basis. The expenses incurred in the reporting period but paid in the period following the reporting period are presented as expenses of the reporting period. Executive Board member bonus expenses are presented in a similar way – the bonuses accrued in the reporting period but paid in the period following the reporting period are presented as remuneration for the reporting period.

Please note that in the previous annual reports, a different approach was used – bonuses accrued in the reporting period but paid in the period following the reporting period were presented as remuneration in the following period[3]. For example, 2019 performance bonuses paid in 2020 were recognized as 2020 compensation.

In our opinion, the approach used in the 2021 annual report is more convenient for readers of this report as it allows comparison of the results of the reporting period with bonuses paid to board members for the reporting period.

For complete information disclosure, we provide data on bonuses paid in the reporting period but accrued in the previous period.

2021 — payments for 2020 — **139.3 UAH mln**

2020 — payments for 2019 — **99 UAH mln**

Please note that all these payments were made based on the decisions of the previous composition of the company Supervisory Board.

Officials whose remuneration is presented

We also draw your attention to the fact that in this section of the annual report, unlike the previous annual reports of the company, we only provide information about the remuneration of members of the board, rather than the total "leading management personnel" of the Company[4]. In our opinion, this enables readers to analyze the remuneration of officials who are vested with the powers of a member of the executive body of the company, as clearly determined by the laws of Ukraine and the Company Charter, and who play a specific role in the corporate governance system (which differs from the management system). This approach also avoids subjectivity regarding the classification of individual managers of the company as "leading management personnel". Additional information on the remuneration of the "leading management personnel" for comparison with previous periods is presented in the Financial Reporting section.

It should be noted that from 2018 onwards, Ukrainian laws and regulations have contained direct requirements regarding the report on the remuneration of the Executive Board itself, rather than the "leading management personnel". At the same time, Ukrainian laws and regulations determine that such remuneration shall comply with the internal Regulation on the Remuneration of Executive Board members to be approved by the company's Supervisory Board, as prescribed by law.

How remuneration is determined

According to the Articles of the Company Charter, the exclusive competence of the company Supervisory Board includes approving the terms of contracts to be concluded with the Chairman and other members of the board, determining the amount of their remuneration, and electing an authorized person to sign such contracts.

In 2021, labor relations with Andriy Kobolev, the former head of the board of the company, and Serhii Pereloma, first deputy head of the board, were regulated by contracts concluded with each respectively, the terms of which were approved by the Supervisory Board.

Labor relations with board members Yaroslav Teklyuk, chief legal officer, Otto Arnold Vaterlander, chief transformation officer of Naftogaz Group and concurrently holding a second position as chief operating officer of Naftogaz Group, and Petrus Stephanus van Driel, chief financial officer of Naftogaz Group, were regulated by individual employment contracts concluded with each respectively. The terms of the individual employment contracts with the specified employees, in view of the fact that they are selected as Executive Board members and appointed for an indefinite term of office, were agreed by the Supervisory Board from the moment of their selection and appointment as members of the company's board.

Overall, the remuneration of the board members includes the following components:

[3] Such approach delayed the publication of significant (compared to other public sector companies) bonuses when the company shifted to determining executive remuneration in reference to the level of remuneration in the private sector in 2016.

[4] Providing information on the remuneration of senior managers along with information on the remuneration of the board members is not a common practice, and it diverts attention from board members remuneration, as a body of the company that plays one of the key roles in the corporate governance.

- basic remuneration, including mandatory guarantees and compensation established by the labor legislation of Ukraine;
- remuneration for performing work in other key positions in Naftogaz Group (see below);
- a variable component including an annual bonus, a bonus for the achievement of goals in medium-term projects (one to three years), a bonus for special achievements, the achievement of important goals, and the implementation of important strategic projects;
- other incentive and compensation payments;
- compensation paid to former members of the company's board upon the termination of their activities (severance pay).

Please also note that the structure of the remuneration of Andriy Kobolev, Chairman of the Executive Board, and Serhiy Pereloma, the First Deputy Chairman of the Executive Board, from January to September 2021 was formulated in accordance with the Remuneration policy for the board members of the National Joint Stock Company Naftogaz of Ukraine, heads of business companies whose sole shareholder is the National Joint Stock Company Naftogaz of Ukraine (hereinafter also referred to as the Remuneration Policy) and the standard terms of contracts with the head and board members of the company, approved by the Supervisory Board of the company.

Decision No. 659 of the National Securities and Stock Market Commission dated September 25, 2018 approved the Requirements for the Remuneration Regulations and Report on the Remuneration of the Members of the Supervisory Board and the Executive Body of the Joint-Stock Company (hereinafter – the Requirements).

The Remuneration Policy in effect for the company in 2021 did not meet the Requirements in terms of:

- determination of efficiency assessment criteria for the variable part of remuneration;
- determination of the conditions for early payment of the variable part of remuneration;
- inclusion in contracts with members of the board of provisions, which enable the company to demand the return of the variable part of the remuneration that was paid on the basis of information that later turned out to be false (unreliable), as well as the term for such return, etc.

In accordance with paragraph 5, section 1 of the Requirements, the Regulation on remuneration of members of the company's executive body shall be approved by the Supervisory Board of the company after it has been reviewed by the Nomination and Remuneration Committee.

In order to bring the Remuneration Policy in compliance with requirements after Yuriy Vitrenko was appointed as the CEO, a new version of the Regulation on the remuneration of members of the executive body of the National Joint Stock Company Naftogaz of Ukraine for 2022 was drafted and will be submitted for approval to the company's Supervisory Board, whose appointment is expected soon.

Unimplemented remuneration decisions

Regardless the absence of the performance evaluation goals and results approved in accordance with the Company's policies, in June 2021 the Supervisory Board evaluated the executive board members' results for H1 2021 positively and thereby determined annual bonus amounts as well as bonuses for participation in medium-term projects, and take decision to ensure bonus payments by using an irrevocable bank guarantee mechanism. The total amount of the aforementioned bonuses was estimated at about UAH 126 million (or 17 monthly salaries of board members who held a number of positions in Naftogaz Group).

Member of the Executive Board	Bonus, UAH million
Serhiy Pereloma	34
Otto Arnold Waterlander	39.1
Petrus Stephanus van Driel	26.4
Yaroslav Teklyuk	26.4
Total:	**125.9**

Since the decision obviously did not meet the terms of the labor contracts concluded with the members of the Executive Board of the company and the requirements of the company's internal regulations, it was not implemented.

Compliance with international standards

The approach to remuneration of the executive board members, applied by the Supervisory Board, did not correspond to widespread international practices and were not aligned with the requirements of the Ukrainian law in view of the necessary adoption of the Regulation on the remuneration of the members of the executive body of the company. Bonuses for executive board members were generally determined without proper link with the general performance results of Naftogaz Group. Relevant performance measures would normally be publicly communicated in advance as criteria for executive board-level bonuses, in order to meet international standards[5].

Formally, the goals of the company's board members were established in accordance with the approaches used in Naftogaz Group. Since 2019, Naftogaz Group has implemented a performance management system which includes setting objectives and key results and tracking their achievement (hereinafter – the OKR (Objectives and Key Results)). The purpose of the OKR system is to align the individual objectives of employees with the general goals of the company; to determine key results that employees are expected to demonstrate; to target these results to achieve the objectives; and to stimulate the motivation and performance of personnel.

At the same time, analysis of the objectives set for members of the company Executive Board for 2020[6] showed that determined objectives often did not correspond to the best practice of setting and evaluating the OKR. Too many operational objectives were set, shifting focus and dispersing efforts. Objectives were overly generalized in their wording, and measuring the level of achievement was difficult. There was also a lack of higher level unifying business goals that would direct the leadership team toward effective joint work and results.

Currently, the company is waiting for the appointment of a new Supervisory Board which shall approve Regulation on Executive Board remuneration in accordance with Ukrainian law and international standards. Decisions regarding the performance evaluation and the expediency of paying bonuses based on the 2021 results to individual members of the Executive Board whose powers were terminated during 2021, in accordance with the terms of the individual employment contracts, is also within the competence of the company's Supervisory Board.

With the change of the head of the Executive Board in 2021, the company started improving the approaches and practices of establishing and evaluating the OKR, which would facilitate the achievement of ambitious goals, clearly monitor business results, and fully implement the principle of meritocracy (these details are presented in the Human Capital Section of this report).

More details can be found in the Transformation section of this report.

The OKR were not determined for the Executive Board, which were temporarily selected and appointed on Septemer 28 2021, as they were not properly contracted as members of the Executive Board. At the same time, objectives were determined for them within the job responsibilities for the positions they held in 2021, according to the logic outlined in the Human Capital Section.

Current company view on remuneration

We believe that monetary remuneration is in general not a key motivator for company managers. However, if remuneration is systematically lower than the salary a manager can earn at another job, this significantly limits the possibility of attracting competent and non-corrupt managers. In turn, the company's losses from the incompetence and/or corruption of managers significantly exceeds the costs of market level salaries.

On the other hand, the data available to us indicates that there is a significant difference between the average level of remuneration on the market and level of remuneration of top managers of Ukraine's largest corporations. As a result, the public may associate high salaries with corruption and create complex social and political issues. The issue is further complicated when the heads of state corporations appoint candidates who would hardly be appointed to similar positions in the private sector, especially in international companies.

In view of the above, we believe that the level of remuneration of the company's Executive Board members should correspond to the market level, but should also be adjusted for both the level of responsibility and the competencies of individual board members. It is best when the remuneration is determined by a competent, independent, authoritative Supervisory Board based on objective information, while the variable component of remuneration is determined in relation to personal performance and the widespread indicators for the whole company.

It should also be noted that the current members of the Executive Board do not believe that the present approaches to remuneration for their own work as the head and members of the board of the company are in line with such principles, but treat it as a temporary situation that should change after the appointment of the Supervisory Board.

[5] As for the basic remuneration, it was, in principle, determined in accordance with the standard market level of remuneration for a certain position. It should be noted that, in contrast to the market practice, compliance with market standards regarding the level of competence and experience of board members was not ensured when they were appointed to the positions. For example, Andriy Kobolev, the head of the board, did not have the relevant managerial experience and achievements when he was appointed to the position; Otto Arnold Vaterlander, the chief operating officer, had no professional education and production experience in the oil and gas complex in which the Company operates; Petrus Stephanus van Driel, the chief financial officer, had no certification of international financial reporting standards, which is usually a requirement for the position of a chief financial officer in developed countries.

[6] The report of the Nomination and Remuneration Committee for 2020 regarding the members of the board of Naftogaz of Ukraine, prepared by the Company's management and submitted for consideration by the Company's supervisory board (letter No. 17-1669/1-21 dated 01.07.2021), which however was not properly considered and approved in the prescribed manner.

3. Members of the Executive Board

	 **Yuriy Vitrenko,** head of the board since April 29, 2021	 **Andriy Kobolev,** head of the board until April 28, 2021	 **Serhiy Pereloma,** first deputy head of the board until September 27, 2021	 **Otto Arnold Vaterlander,** member of the board until September 22, 2021	 **Petrus Stephanus van Driel,** member of the board until September 22, 2021	 **Yaroslav Teklyuk,** member of the board until September 27, 2021
TOTAL REMUNERATION, UAH MILLION, ACCRUED IN 2021	**0.4**	**347.4**	**62.8**	**24.5**	**36.5**	**40.8**
Basic remuneration for main position for the year, UAH million	0.4	3.4	20.0	17.4	14.8	14.6
Remuneration for the performance of work in other key positions in Naftogaz Group for the year, UAH million	-	-	4.6	6.0	3.7	0.4
including basic remuneration, UAH million	-	-	4.4	6.0	0.4	0.4
Total basic remuneration for the year, UAH million	0.4	3.4	24.4	23.4	15.2	15.0
Annual[7] basic remuneration as of the end of the reporting period	0.6	8.3	22.5	26.0	17.5	17.5
Annual basic remuneration as of the end of the previous period	-	8.5	12.7	21.4	16.5	11.5
Increase in annual basic remuneration in 2021	-	-2%	77%	22%	6%	52%
Bonus based on the results of 2020, paid in 2021, UAH million	-	-	37.7	38.3	25.9	37.4
Change (in %) in relation to the 2019 bonus paid in 2020	-	-	6%	-	-	-41%
For reference: the change (in %) in financial result (net profit/loss) of the Company for the relevant period[8]	-130%					
Second part of the bonus for the achievement of important goals, the implementation of important strategic projects, which was paid in 2021 and is related to the results of previous years (positive decision of the tribunal of the Arbitration Institute of the Stockholm Chamber of Commerce in arbitration proceedings V 2014/129 regarding contract No. TKGU for natural gas transit), UAH million	-	**338.6** paid in May 2021 through the bank guarantee mechanism[9]	**2.1** paid in April and July 2021	**0**	**0**	**9.3** paid in April and July 2021
Other incentive and compensation payments, UAH million	-	1.2		1.1	1.1	
Compensation paid to former members of the board of the Company upon termination of their activities (severance)	-	4.2	36.0		16.9	16.4
Single social contribution paid by the employer, UAH million	0.1	0.1	0.2	0.2	0.2	0.2

4. Comments on remuneration of Andriy Kobolev

To understand the specifics of the remuneration of Andriy Kobolev, who served as the company's CEO until April 28 2021, we will briefly recall the facts regarding the bonus for winning the Stockholm arbitration. Please note that this is the first time some details regarding the bonus for winning the Stockholm arbitration are presented. They are important for understanding the logic of events.

In April 2018, the Supervisory Board of the company approved the payment of bonuses to the company's employees for the achievement of significant goals, the implementation of important strategic projects (positive decisions of the tribunal at the Arbitration Institute of the Stockholm Chamber of Commerce), the total amount of which was 1% of the amount of the arbitration award (USD 4.6 billion). The specified bonus to Andriy Kobolev amounted to USD 10 million (the first part of the bonus, which was paid in Q2 2018) and USD 12.4 million (the second part of the bonus).

In July 2018, the Supervisory Board of the company amended its decision of April 2018 regarding the approval of payment of bonuses to the company's employees for positive decisions of the tribunal at the Arbitration Institute of the Stockholm Chamber of Commerce. The amendment requested the company's board to present its recommendations regarding the personal distribution of specified bonuses and present them to the Nomination and Remuneration committee of the Supervisory Board for review and appropriate recommendations. By this decision, the Supervisory Board also suspended the payment of any further bonuses for the ruling of the tribunal at the Arbitration Institute of the Stockholm Chamber of Commerce pending consideration of the issue by the Nomination and Remuneration committee of the Supervisory Board and the adoption of further decisions by the Supervisory Board on bonuses.

In October 2020, the Supervisory Board of the company canceled its decision to suspend payment of any amount of bonuses to the company's employees for the achievement of significant goals, the implementation of important strategic projects (positive ruling of the tribunal at the Arbitration Institute of the Stockholm Chamber of Commerce) in terms of payments in favor of persons who are employees of the company as of the date of such decision of the Supervisory Board. At the same time, the payment of said bonus to Andriy Kobolev was to be made in the manner and within the terms stipulated by the terms of his contract.

Terms of the contract

The contract with former head of the board Andriy Kobolev was concluded on August 7, 2014. On August 9, 2018, changes were made to the contract by drafting a new version of the contract. The changes were agreed on and approved by the Supervisory Board. Subsequently, the changes and amendments were made to the contract by decision of the Supervisory Board.

The version of the contract with the head of the board, effective in 2021, stipulated the following components of remuneration: basic remuneration in the form of an official salary equivalent to USD 25,000 per month, the right to a bonus "for winning the Stockholm arbitration", representative expenses, life insurance, voluntary health insurance, liability insurance, guarantees of legal protection etc. The annual bonus for the head of the board of the company was not stipulated by the terms of the contract.

It is important to note that, according to the terms of the contract with the former CEO Andriy Kobolev, which were entered in his contract when he was reappointed as the head of the Executive Board in March 2020, the basic remuneration which was paid monthly reduced the balance of the unpaid bonus for winning the Stockholm arbitration. This was probably the reason for Andriy Kobolev to claim in the media that he had worked at Naftogaz without taking a salary.

This statement would be correct if Andriy Kobolev had a real opportunity to receive a bonus for winning without signing a contract. However, at the time of Kobolyev's reappointment in March 2020, payment of the second part of the award for "winning the Stockholm arbitration" to all employees of the company who were supposed to receive it was already overdue (also in violation of Kobolyev's contract). In this context, it is also necessary to mention Andriy Kobolev's statements that payment of the second part of the bonus was blocked due to "political pressure"[10], as well as the decision of the Supervisory Board made at the time which, contrary to expectations for the company to be protected from political interference, actually blocked the execution of the contracts and the payment of bonuses until a separate decision of the Supervisory Board. In light of these facts, it becomes clear that Andriy Kobolev, after his re-appointment as CEO in March 2020, received funds that he could not have received before and it is not obvious that he could have received them in any other way. In March 2020, the contract of Mr Kobolev was amended, upon the approval of the Supervisory Board, to include the company's obligation to guarantee (through an unconditional and irrevocable bank guarantee) that after the contract expired (March 22, 2024) or in the event that the contract were to be terminated not at the initiative of Andriy Kobolev, payment of the unpaid balance of the bonus, the total amount of which as of the time of approval of this bonus by the Supervisory Board in July 2018 was USD 12,367,150. The bank guarantee agreement was signed by Serhiy Pereloma. Company funds to cover the bank guarantee were transferred while the company was still headed by Andriy Kobolev.

[7] The basic salary for the last full month multiplied by 12.

[8] (Net loss in 2020 – Net profit in 2019)/Net profit in 2019.

[9] The payments were made by the bank through the bank guarantee mechanism; the relevant contract with the bank was signed by Serhiy Pereloma; the company's funds to cover the bank guarantee were transferred when Andriy Kobolev was still the CEO of the company.

[10] https://biz.nv.ua/ukr/markets/kobolyev-ne-otrimav-premiyu-za-stokgolmskiy-arbitrazh-novini-ukrajini-50167122.html.

Payments upon dismissal

Naftogaz head of the board Andriy Kobolev was dismissed on April 28, 2021. Upon dismissal, the former manager received compensation for unused vacation and severance pay in the amount specified by law. At the same time, on his last working day, Andriy Kobolev did not take the necessary stepsregarding the fulfillment of his employment contract in terms of payment of the bonus for winning the Stockholm arbitration. Namely, he did not issue an order to pay the specified bonus. Accordingly, the company did not accrue and pay the bonus. In accordance with the terms of the bank guarantee agreement to ensure payment of the bonus, the banking institution paid the corresponding amount to Andriy Kobolev less the funds that the former head of the board had regularly received in the form of basic monthly remuneration (i.e. an official salary), as previously described above. The banking institution, in accordance with the terms of the bank guarantee agreement, also withheld company funds that were reserved for the payment of the bonus for victory in the Stockholm arbitration.

Please note that even after receiving the funds, Andriy Kobolev's public communication created a misleading impression that he had never received the funds[11].

Guaranteed bonus

The decision to guarantee the payment of the bonus for victory in the Stockholm arbitration through a bank guarantee was adopted by the Supervisory Board and included into the terms of the contract by concluding an additional agreement dealing exclusively with the head of the board Andriy Kobolev. This approach to guaranteeing the payment of the bonus was not applied to other members of the Executive Board (Serhiy Pereloma and Yaroslav Teklyuk) and other employees directly involved in activities related to the Stockholm arbitration and who, according to the decision of the Supervisory Board, were to receive a bonus. Moreover, for other employees of the company, payment of parts of the bonuses for the victory in the Stockholm arbitration were suspended and deferred (contrary to their contracts) following a decision by the Supervisory Board adopted in July 2018. As mentioned above, Andriy Kobolev, the head of the board at the time, explained the blocked payments as "political pressure", however the role of the Supervisory Board, at least according to international standards, is precisely to protect the company from political interference.

The Supervisory Board did not provide justifications for the reasons they applied a special approach to structuring the payment of the bonus to the former head of the board when agreeing to the terms of the additional agreement to the contract. An individualized approach regarding guarantees of payment of a significant bonus to the head of the board cannot be considered as sufficiently transparent and fair, nor one that ensures the absence of a conflict of interests of the Board and members of the Supervisory Board in the issue related to payment of remuneration to the top management of the company.

Decision on the bonus

The Supervisory Board provided no justifications for the bonus to Andriy Kobolev specifically for the winning the Stockholm arbitration. There is no doubt that winning the Stockholm arbitration was a significant goal for the company and the aforementioned arbitration was an important strategic project. At the same time, Andriy Kobolev did not manage the project personally and directly. Yuriy Vitrenko[12] was the project manager from the company side. It was Yuriy Vitrenko, rather than Andriy Kobolev, who was the official representative of the company in the arbitration.

Gazprom was the formal applicant in the Stockholm arbitration on the gas purchase contract. A counterclaim (i.e., from the company's side) in the Stockholm arbitration regarding the gas purchase contract was initiated by then Prime Minister (Arseniy Yatsenyuk). The specific claims the Prime Minister initiated were not satisfied by the arbitration tribunal, while the claims initiated by Yuriy Vitrenko or international lawyers were satisfied. Yuriy Vitrenko also initiated and personally led the arbitration on the transit contact (where the company won about USD 5 billion).

Andriy Kobolev was one of the witnesses in the arbitration, as he was responsible for the most problematic issues for the company in this arbitration at the time (in 2009).

In particular, as an adviser to the head of the board of Naftogaz at the time, Andriy Kobolev participated in negotiations with Gazprom. It was his role in the negotiations that included checking the specific wording of the "take-or-pay" clause proposed by Gazprom in the 2009 contract for compliance with European standards. As the tribunal later found, the take-or-pay clause, which is a standard one for long-term contracts in Europe, was phrased in such a way that its wording in the 2009 contract did not comply with European norms. Accordingly, the aforementioned provision of the contract was recognized as "unconscionable", or unreasonably excessive. It should be noted that the published decision of the arbitration tribunal[13] included evidence that Andriy Kobolev did not inform the Ukrainian side during the negotiations that Gazprom proposed a wording of the "take-or-pay" provision that did not meet European standards. These unfair and restrictive terms and conditions gave Gazprom the opportunity to demand from the company to pay for gas that the company could not withdraw. The total value of such gas by the end of the contract exceeded USD 100 billion. The company managed to defend itself against Gazprom's take-or-pay claims using the general rules of the Swedish consumer protection law.

Andriy Kobolev was also responsible for the preparation of the company's request for revision of the transit tariff sent to Gazprom in 2009. According to the terms of the transit contract, the request should have mentioned changes in the conditions for the formation of transit tariffs in Europe and show that the tariff for transit through Ukraine was not in line with the level of tariffs in Europe. As the tribunal later found, this was not done. The company provided the relevant arguments only in support of the relevant claims in arbitration for the transit contract. The arbitration tribunal did not satisfy the claims (amounting to more than USD 16 billion) precisely because of the non-compliance of the request with the formal requirements of the contract. The company still won the arbitration on the transit contract, but for a smaller amount (USD 5 billion), and on claims for damages (loss of revenue due to the fact that Gazprom supplied smaller volumes for transit than the contact stipulated).

The details of the arbitration process, including the published decisions of the tribunal, are important because they could be taken into account by the Supervisory Board in determining the contribution of employees involved in activities related to the Stockholm arbitration, including Andriy Kobolev's role as a participant and witness to the events of 2009. We have no information that the contribution of each member of the team that was engaged in the activities related to the Stockholm Arbitration was examined by the Supervisory Board based on the official arbitration documents.

At the same time, the company demonstrated strong financial results as a result of winning the Stockholm arbitration.[14] Accordingly, Andriy Kobolev, as CEO, who was responsible for the overall results of the entire Naftogaz Group, could claim a bonus specifically for the achievements of the company as a whole in the respective years. Both Ukrainian law and common international practice clearly indicate that the CEO shall receive bonuses, on the whole, based on the overall results of the performance of the whole company. We have no information why the Supervisory Board preferred to reward the head of the board for his participation in the Stockholm arbitration project as a witness and participant in the events, and not as the CEO of the company, which had good financial results in the relevant periods. At the same time, the Supervisory Board had the opportunity to read and digest the published decisions of the arbitration tribunal and the role of Andriy Kobolev in making its decision.

In view of the significant value of the bonus for the victory in the Stockholm arbitration, the lack of proper and public justification of the decision of the Supervisory Board regarding its award should be noted. Likewise, the lack of consistent communications regarding the justification of the decisions of the Supervisory Board to postpone the payment of bonuses to the company's employees also led to a negative response in society at large regarding the payment of such a bonus to the company's employees and questions regarding the merits of the company's team. At the same time, the victory in the Stockholm arbitration was an unprecedentedly significant and important achievement not only for the company but for Ukraine as a country.

Violations in bonus and salary setting for Andriy Kobolev

In 2021, consideration of the legal dispute regarding the company's appeal of the requirement of the State Audit Service of Ukraine to eliminate violations in the payment of a bonus to the head of the board Andriy Kobolev in 2018 was completed. The court confirmed the fact of violation of the requirements of the CMU Resolution No. 858 dated May 19, 1999 in terms of accrual and payment of the bonus to the head of the board Andriy Kobolev for an amount that significantly exceeded the maximum amount of bonuses established by the CMU in the Resolution. In 2022, in order to fulfill the requirement of the State Audit Service of Ukraine to identify the persons responsible for internal violations, an official investigation was conducted. In the course of the official investigation, members of the commission identified that the members of the Supervisory Board agreed to the proposals of the CEO on the amounts of bonuses to be paid to him, other members of the Executive Board and the employees of the company instead of identifying the structure and amount of remuneration.

[11] https://biz.nv.ua/ukr/markets/kobolyev-ne-otrimav-premiyu-za-stokgolmskiy-arbitrazh-novini-ukrajini-50167122.html.

[12] In accordance with the orders on the division of responsibilities between the company's management in 2016-2019 (order No.466 dated November16, 2016, order No. 374 dated November 13, 2018, order No. 425 dated December 21, 2018).

[13] The company managed to protect itself from Gazprom's take-or-pay claims using the general rules of Swedish consumer protection law. The company lost the lawsuit for revision of the transit tariff (in the amount of more than USD 16 billion) precisely because of the non-compliance of the request for revision of the tariff with the formal requirements of the contract. The decision of the arbitration tribunal is published at the link: https://www.naftogaz.com/news/naftogaz-publikue-oryginaly-rishen-stokgolmskogo-arbitrazhu.

[14]

5. Remuneration of other board members

The contract concluded with Serhiy Pereloma and the individual employment contracts concluded with other members of the board of the Company provide for the setting of annual OKR and, accordingly, the payment of bonuses based on the results of the year following assessment of the achievement of the established annual OKR.

The Supervisory Board of the company also set targets for medium-term projects (1-3 years) to Yaroslav Teklyuk, a member of the board; the assessment of the results achieved and the determination of the amount of the bonus is within the competence of the Supervisory Board of the company.

Basic remuneration
Basic remuneration includes the amount of basic and additional salary, payment of temporary absence (vacation, sick leave), etc.

In accordance with Remuneration Policy, the salaries of the company's board members shall be set according to a position scoring system (graded pay system) in place at the company.

From January 01, 2021, the salaries of the members of the company's board Yaroslav Teklyuk, chief legal officer, Otto Arnold Vaterlander, executive officer for transformation of Naftogaz Group and concurrently holding a second position of chief operating officer of Naftogaz Group, and Petrus Stephanus van Driel, chief financial officer of Naftogaz Group were revised upward by an average of 44% (in UAH equivalent).

According to the Resolution of the Cabinet of Ministers of Ukraine dated April 29, 2020 No. 334 "Issues of remuneration of managers, members of executive bodies, and remuneration of members of Supervisory Boards of public sector entities" and Resolution No. 996 dated October 26 2021, "Some issues of remuneration of managers, members of executive bodies and remuneration of members of Supervisory Boards of public sector entities", the monthly salary of the members of the company's board from April to September 2020 was limited to 10 minimum wages or UAH 47,230.

However, in June 2020, the Supervisory Board of the company approved the performance by the members of the company's board, in addition to their main work at the company, and of other work at the legal entities of the Naftogaz Group on different position basis, which would actually be a circumvention of the restriction. At the same time, after the termination of the above-mentioned restriction from October 1 2020, the salaries of the members of the company's board in other positions at legal entities of the Naftogaz Group on a part-time basis were only adjusted downwards (at UAH 50,000, except for Serhiy Pereloma, who was assigned other conditions of the employment contract for a second position) and continued to be accrued and paid to them during 2021.

The former members of the board of the company received a slightly higher remuneration than they had before the above restrictions were established.[15]

Variable component of remuneration

- **Bonus based on the results of the year to be paid to other members of the board**

The maximum annual bonus to former members of the board of the company was limited to 150% of annual salary according to the terms of the contract/individual employment contract. The size of the bonus depended on the results of the assessment of the achievement of objectives and key results.

The contract with Serhiy Pereloma, the first deputy head of the board, determined the conditions under which the annual bonus shall not be accrued and paid for the corresponding period.

The terms of the individual employment contracts with Yaroslav Teklyuk, chief legal officer, Otto Arnold Vaterlander, executive officer for transformation of Naftogaz Group and as a second position of chief operating officer of Naftogaz Group, Petrus Stephanus van Driel, chief financial officer of Naftogaz Group, provided for payment of annual bonuses based on the assessment of the achievement of the OKRs and contained no special provisions that would restrict payment of the annual bonus.

The terms and conditions of the individual employment contract with Yaroslav Teklyuk, chief legal officer, provided for the possibility of receiving an annual bonus in the event of a lack of established objectives and key results.

There was no threshold for the variable component of remuneration applicable to the members of the board of the company in case of low financial results of the company and/or a critical situation.

As already mentioned, the OKR for 2021 for the members of the board, whose powers were terminated during 2021, was never established. The decision regarding the assessment of their performances and the expediency of paying a bonus based on the results of 2021 to individual members of the board, in accordance with the terms of the individual employment contracts concluded with them, is within the competence of the company Supervisory Board, which is expected to be appointed in the near future. On May 21 2022, Petrus Stephanus van Driel applied to the company for the payment of a bonus based on the results of 2021 and provided a self-assessment of his work results in 2021. He was informed that determination of his bonus is the competence of the Supervisory Board.

[15] In turn, it is fair to point out that such government intervention in market salaries ineffective, especially without explaining the logic of such decisions and calculating the risks of losing managers who would not agree to non-market conditions, precisely because they push companies to manipulation.

- **Bonuses for significant goals and important strategic projects**

The amount of the bonus for winning the Stockholm arbitration, which was paid in 2021 to Serhiy Pereloma and Yaroslav Teklyuk, is equal to the amount of payments specified in the additional agreements to the contract/employment contract with these members of the company's board signed in 2018.

- **Bonus for achievement of goals in medium-term projects (1-3 years)**

The terms of the contract with Serhiy Pereloma, individual employment contracts with Yaroslav Teklyuk, Otto Arnold Waterlander, and Petrus Stephanus van Driel provided for the payment of a bonus for the achievement of goals in medium-term projects (1 to 3 years), with a maximum amount of 150% of the annual salary.

The decision of the supervisory board of the company adopted in June 2019 set the goals for Yaroslav Teklyuk in medium-term projects (for 2020 and 2021).

The goals for medium-term projects were not set for other members of the board.

- **Other incentives & compensation payments**

The terms and conditions of the contract with Serhiy Pereloma, individual employment contracts with Yaroslav Teklyuk, Otto Arnold Waterlander, and Petrus Stephanus van Driel provided for life insurance, voluntary health insurance, liability insurance, guarantees of legal protection etc.

- **Severance compensation**

The terms and conditions of the contract with Serhiy Pereloma, individual employment contracts with Yaroslav Teklyuk, Otto Arnold Waterlander, and Petrus Stephanus van Driel provided for the right to receive severance pay upon dismissal. Serhiy Pereloma was entitled to severance pay of 12 average monthly payments. Yaroslav Teklyuk, Otto Arnold Vaterlander, and Petrus Stephanus van Driel were entitled to severance pay of 12 monthly salaries.

The right to severance pay is realized on the condition that members of the board of the company have not committed any gross violations and other significant violations of their duties. As a result of the truancy dismissal of Otto Arnold Vaterlander, the former board member was disqualified from receiving severance pay.

6. Supervisory Board of the company

The terms of payment for services and compensation of expenses for members of the company's Supervisory Board are determined in accordance with the procedure for determining the terms of payment for services and compensation of expenses for the members of Supervisory Board of state unitary enterprises and business entities with more than 50 percent of shares in their authorized capital owned by the state, which was approved by the resolution of the Cabinet of Ministers of Ukraine dated July 4, 2017 No. 668 (hereinafter referred to as the Procedure). According to paragraph 6 of the Procedure, for each calendar year when a member of the Supervisory Board performs his/her functions, a member of the Supervisory Board has the right to payment for services in the form of annual and additional remuneration.

Members of the Supervisory Board shall get a fixed remuneration, which is paid in accordance with the terms of the individual civil law contracts concluded by the company with the members of the Supervisory Board. The company shall reimburse the members of the Supervisory Board for reasonable and documented expenses incurred by them in connection with the performance of supervisory functions (travel, accommodation, telephone communication, etc.), based on the principles of prudence, adequacy and timeliness. Such expenses shall be compensated after withholding the relevant mandatory taxes and fees on the basis of supporting documents that meet the requirements of Ukrainian law and the terms of the concluded contracts.

The actual accruals and payments to the members of the company's Supervisory Board in 2021 amounted to:

Members of the company's Supervisory Board	Payment for services provided by the members of the company's Supervisory Board, including expenses related to performance of the responsibilities of the Supervisory Board members, UAH million[16]	
	2021	2020
Spottiswoode Clare Mary Joan	6.2	4.5
Lescoeur Bruno Jean Gaston	5.5	3.9
Ludo Van der Heyden	5.5	3.9
Boyko Natalia Andriivna	4.0	2.9
Kovaliv Yulia Ihorivna	2.9	-
Hochstein Amos	-	4.4
Svyrydenko Yulia Anatoliivna	0.1	-
Total:	**24.2**	**19.6**

Read information about the Supervisory Board and the Executive Board of the company in the section "Corporate governance".

[16] The amount of payment for services actually accrued and paid for the corresponding period differs from the amount of similar expenses indicated in the Company's consolidated financial statements for 2021, due to the fact that the consolidated financial statements reflect expenses that are formed according to the reservation method.

RISK MANAGEMENT

Naftogaz Group has implemented a modern system of regular assessment, monitoring and implementation of risk management measures aimed at ensuring the continuity of Naftogaz Group's activities. In 2021, employees of the risk management unit received certification according to ISO 31000, ISO 31010 standards as part of their professional development.

Key aspects in focus

STRUCTURAL PROBLEMS OF THE DOMESTIC NATURAL GAS MARKET

- opposition of oligarchs to demonopolization of markets
- imperfect legal regulation
- preserving the mechanism of indirect subsidies for household consumers instead of using market instruments
- opposition of the populists in power to the reform of corporate governance, violation of the management system

FINANCE

- low payment capacity and discipline of key counterparties – buyers of natural gas
- significant increase in prices for energy resources
- dependence on the implementation of state financing programs, including through the provision of international financial assistance

GEOPOLITICAL SPHERE

- the global energy crisis and the energy war unleashed by Russia
- military aggression of the Russian Federation against Ukraine:
  – difficulties with ensuring the sustainable execution of business processes in the conditions of military operations and related restriction
  – disruption of supply and sales chains and limited availability of critical materials for production
  – limited opportunities to involve international partners in the implementation of hydrocarbon exploration and production projects

Strategic and geopolitical risks

Energy crisis

During 2021, the Russian Federation resorted to blackmailing the EU in order to force the European Union to quickly certify the Nord Stream 2 gas pipeline on anti-competitive terms. Gazprom systematically reduced supplies to the European market, which led to a shortage of natural gas, a significant increase in price (TTF: the average price for August 2022 exceeds the price in March by more than 70%) and an increase in the company's costs for the purchase of imported resources.

Naftogaz Group continues cooperation with international partners and also optimizes operational and capital costs while increasing the efficiency of operational activities and capital management. The company is conducting analysis of the legal mechanisms to protect its interests from the actions of Gazprom.

Military aggression

In the event of further expansion of Russian military aggression, **up to 94% of daily** UGV production is at risk of being stopped (a possible loss of 33.7 million m³ per day) due to the location of deposits in the eastern part of Ukraine near to the war zone. In the conditions of military operations and the corresponding restrictions, HSE (health, safety and environment) risks increase significantly as a result of the limited possibility of operational rotation of personnel and the fulfillment of regulatory requirements for labor protection and industrial safety at production facilities, road transport, and workplaces.

In order to minimize the consequences of the invasion of the Russian Federation and avoid further deterioration, the Group's management is taking urgent measures that ensure optimal performance and the continuity of critical business processes:

- protection and defense of particularly important objects
- evacuation of personnel, warehouses of commodity values
- diversification of supply of goods, works and services critically necessary for production.

Since the beginning of hostilities, the personnel of Naftogaz Group has been making significant efforts to eliminate the consequences of enemy shelling and bombing and to ensure the restoration of operations.

Economic and Information Security

In the current martial law conditions, the activities of the Group's enterprises, primarily in the economic sphere, will have a high level of fraud risk associated with non-fulfillment of contract terms by counterparties (fictitious force majeure), abuse of authority by employees, and manifestations of corruption.

The Group uses the monitoring services and information security event responses of the Group's cyber security center – Naftogazbezpeka, which helps detect information security events in real time.

Regulatory documents have been introduced that correspond to the international standard ISO 27001 and regulate the algorithm of actions during the use, processing, and storage of information. At the time of martial law, a decision was made to deploy and back up information outside of Ukraine using Microsoft cloud technologies, which is currently being carried out by IT department.

Structural problems of the domestic natural gas market

Rapid growth of accounts receivable

Naftogaz Group plays a key role in the Ukrainian natural gas market. Balancing the negative impact on the Group's financial condition related to the provision of natural gas to domestic consumers (the accumulated debt of the population, gas and heat supply enterprises to Group by the end of 2021 was about UAH 100 bn) is carried out through the implementation of state financing programs. During 2021, UAH 22 bn was received for the implementation of the Law "On measures aimed at overcoming crisis phenomena and ensuring financial stability in the natural gas market" (Anti-Crisis Law).

Further implementation of the Anti-Crisis Law will make it possible to settle the debt of natural gas market participants to the Group and compensate for the costs associated with the performance of special duties totalling about UAH 200 bn.

The probability of receiving specified compensation depends significantly on Ukraine's ability to continue receiving international financial assistance.

Illegal inclusion of gas distribution stations (GDS) and heating companies in the register of SLR consumers

OGTSU appealed to the court with a lawsuit against Naftogaz of Ukraine GSC to collect debts for negative imbalances that arose after the inclusion of GDS, heating companies in the register of SLR consumers in 2021.

As of today, the size of OGTSU's claims against Naftogaz of Ukraine GSC is UAH 4.8 bn. It is expected that the amount of claims will increase in the event of non-settlement of the debt in accordance with the procedure established by law.

Naftogaz Group does not agree with the decisions of the NEURC which OGTSU refers to in its lawsuit. Naftogaz of Ukraine GSC contested the relevant resolutions of the Regulator in court and sent its objections to the requirements of OGTSU.

Risks related to corporate governance

During the absence of the company's Supervisory Board, some of its functions are performed by the Cabinet of Ministers of Ukraine. International partners of Ukraine emphasized the importance of appointing the Supervisory Board as soon as possible, in particular representatives of the G7 countries, which provide Ukraine with much of the country's military and financial aid.

Naftogaz expects that in 2022 the Government will complete a transparent and open competitive selection of independent members of the Supervisory Board in full compliance with OECD Guidelines. Such steps will be prerequisites towards creating value for the company's customers in a financially sustainable manner, improving the quality of decision-making, attracting investments and expanding partnerships, facilitating a "green transition," and at the same time, protecting the company from political interference and corruption. In addition, given the increased burden on the Government during wartime, the appointment of the company's Supervisory Board will contribute to the more efficient management of Naftogaz.

Finances

Liquidity

In 2021, the Group's liquidity was influenced by the following key factors:

- accumulation of bad debt from heating companies and regional suppliers for natural gas;
- seasonal nature of expenses and income;
- a significant increase in import prices for natural gas and the need to purchase an imported resource for further sale to counterparty groups that provide gas and thermal energy supply to the population, budgetary and religious organizations, etc., given the key role of the Group in ensuring the security of gas supply in Ukraine, determined by the CMU;
- fixed repayment dates for debts owed to banks and other creditors;
- deterioration of macroeconomic indicators, devaluation of the hryvnia, acceleration of inflation, increase in the cost of new loans.

A potential liquidity deficit is compensated by the receipt of funds for gas and oil transit organization services, as well as by compensating for lost income for gas transportation and a weighted approach to the forecast balance of natural gas: the purchase of additional volumes of natural gas (in particular, imported resources) is carried out based on the financial capabilities of the company that, in turn, depend on state financing of the housing and communal services sector (implementation of the Anti-Crisis Law, compensation of PSO, etc.)

Default on Eurobonds in 2022

Pursuant to the order of the CMU, the company addressed requests to Eurobond holders regarding the postponement of deadlines for the fulfillment of obligations under the credit documentation with Kondor Finance plc. Eurobond holders did not support the respective requests.

According to the terms of the documentation for the Eurobonds and due to the lack of approval of the CMU regarding fulfillment of the company's Eurobonds obligations, the company is in default from 07.26.2022 and at the time of publication of this report.

The company's management is conducting consultations with the CMU regarding further actions, including agreeing on the terms of possible new appeals to Eurobond holders.

8 FINANCIAL STATEMENTS

Joint Stock Company “National Joint Stock Company “NAFTOGAZ OF UKRAINE”

Consolidated Financial Statements
as at and for the Year Ended

31 December 2021

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INDEPENDENT AUDITOR'S REPORT

To the shareholder of Joint Stock Company "National Joint Stock Company "Naftogaz of Ukraine"

Report on the audit of the consolidated financial statements

OUR OPINION

In our opinion, the consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Joint Stock Company "National Joint Stock Company "Naftogaz of Ukraine" (the "Company") and its subsidiaries (together – the "Group") as at 31 December 2021, and the Group's consolidated financial performance and consolidated cash flows for the year then ended in accordance with International Financial Reporting Standards (IFRS) and comply, in all material respects, with financial reporting requirements of the Law on Accounting and Financial Reporting in Ukraine.

Our auditor's report is consistent with our additional report to the shareholder dated 17 May 2022.

What we have audited
The Group's consolidated financial statements comprise:

- the consolidated statement of financial position as at 31 December 2021;
- the consolidated statement of profit or loss for the year then ended;
- the consolidated statement of comprehensive income for the year then ended;
- the consolidated statement of changes in equity for the year then ended;
- the consolidated statement of cash flows for the year then ended; and
- the notes to the consolidated financial statements, which include significant accounting policies and other explanatory information

BASIS FOR OPINION

We conducted our audit in accordance with International Standards on Auditing (ISAs). Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the consolidated financial statements section of our report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence
We are independent of the Group in accordance with the International Code of Ethics for Professional Accountants (including International Independence Standards) issued by the International Ethics Standards Board for Accountants (IESBA Code) and the ethical requirements of the Law on Audit of Financial Statements and Auditing that are relevant to our audit of the consolidated financial statements in Ukraine. We have fulfilled our other ethical responsibilities in accordance with these requirements and the IESBA Code. To the best of our knowledge and belief, we declare that we have not provided non-audit services that are prohibited under Article 6 part 4 of the Law on Audit of Financial Statements and Auditing.

The services, other than the mandatory audit, that we have provided to the Group in the period from 1 January 2021 to 31 December 2021 include our review of the interim condensed consolidated financial statements of the Group for the 6 month period ended 30 June 2021.

MATERIAL UNCERTAINTY RELATING TO GOING CONCERN

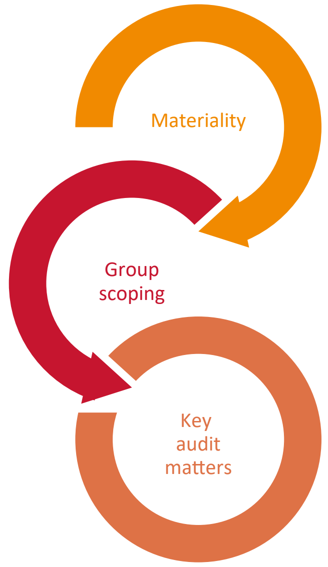
We draw attention to Note 2 in the consolidated financial statements, which indicates that the Group is exposed to significant risks related to developments of the ongoing full scale military invasion of Ukraine by the Russian Federation. The magnitude or timing of further developments or timing of when those actions will cease are uncertain. As stated in the Note 2, these events or conditions, along with other matters as set forth in this note, indicate that a material uncertainty exists that may cast significant doubt on the Group's ability to continue as a going concern. Our opinion is not modified in respect of this matter.

EMPHASIS OF MATTER - IXBRL REPORTING

In accordance with the legislation in force as at the date of this audit report, the IFRS consolidated financial statements of the Group should be prepared in a single electronic format (iXBRL). As described in Note 29 to the consolidated financial statements, as of the date of this audit report management of the Group has not yet prepared the iXBRL report due to the circumstances described in Note 29 and plans to prepare and submit the iXBRL report during 2022. Our opinion is not modified in respect of this matter.

OUR AUDIT APPROACH

Overview



- Overall Group materiality: UAH 2,692 million, which represents 0.75% of net assets.

- We conducted audit work over seven components all located in Ukraine. Because of the structure of the Group four components of the Group were audited by the group engagement team, while another three components were audited by the components auditors.
- Site visits were conducted in Ukraine.
- Our audit scope addressed 99% of the Group's revenues, 99% of the Group`s total assets and 98% of the Group's absolute value of underlying profit before tax.

- Valuation of Property, plant and equipment.
- Accounting for rearrangement of receivable under the SPA and the agreement on compensation of underrecovered revenues from gas transportation services.
- Valuation of receivables for natural gas.
- Compliance with certain covenants of the loan agreements and the Eurobonds prospectuses that could affect classification of the Group's debt.

As part of designing our audit, we determined materiality and assessed the risks of material misstatement in the consolidated financial statements. In particular, we considered where management made subjective judgements; for example, in respect of significant accounting estimates that involved making assumptions and considering future events that are inherently uncertain. As in all of our audits, we also addressed the risk of management override of internal controls, including among other matters, consideration of whether there was evidence of bias that represented a risk of material misstatement due to fraud.

Materiality
The scope of our audit was influenced by our application of materiality. An audit is designed to obtain reasonable assurance as to whether the consolidated financial statements are free from material misstatement. Misstatements may arise due to fraud or error. They are considered material if individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the consolidated financial statements.

Based on our professional judgement, we determined certain quantitative thresholds for materiality, including the overall Group materiality for the consolidated financial statements as a whole as set out in the table below. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures and to evaluate the effect of misstatements, if any, both individually and in aggregate on the consolidated financial statements as a whole.

Overall Group materiality	UAH 2,692 million
How we determined it	0.75% of net assets
Rationale for the materiality benchmark applied	The Group is a state-owned business which operates on the highly regulated gas market, where existing legislation and market culture imposes certain limitations on the ability of the Group to influence prices and select customers. Most of the customers of the Group also operate on markets with regulated tariffs and their ability to pay to the Group is highly dependent on the state tariff regulation and compensation mechanisms. During recent years certain fundamental changes occurred on the Ukrainian gas market aimed to make it more liberal. However, the liberalisation process takes time therefore both profits and revenues of the Group are distorted by these regulatory factors and are also affected by other market factors (such as volatility of gas price). As such neither profit before tax nor revenues were considered to be an appropriate benchmark for materiality estimation. Instead, we chose net assets as the benchmark because, in our view, it represents a more appropriate measure of the size of the business. We chose 0.75% which is in the range of acceptable quantitative materiality thresholds.

Key audit matters

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters. In addition to the matter described in the Material uncertainty relating to going concern section, we have determined the matters described below to be the key audit matters to be communicated in our report.

Key audit matter	How our audit addressed the key audit matter
Valuation of Property, plant and equipment *Refer to Notes 5, 27, 30 to the consolidated financial statements*	
The Group applies the revaluation model for subsequent measurement of property, plant and equipment ('PPE') used in the core activities of the Group. As at 31 December 2021 the carrying value of these assets amounted to UAH 266,266 million representing 91% of total PPE of the Group. The Group recognised UAH 84,593 million of revaluation uplift and UAH 2,048 million of impairment charge. Fair value was determined by reference to the valuation reports of independent licensed appraisers. Determining the fair value is a key audit matter since it requires application of subjective unobservable inputs and assumptions. In addition, the fair value model is sensitive to the assumptions used to determine economic impairment, such as price forecast for gas, oil and petroleum products, foreign currency exchange rates, mineral reserves; regulatory asset based tariffs for the Gas storage segment, discount rates for all segments.	As part of our audit procedures we performed the following: – engaged our internal valuation experts to assess the appropriateness of methodology used by the independent appraiser for PPE revaluation including calculation of WACC; – evaluated the competency of the independent licenced appraisers engaged in the process of PPE revaluation; – tested input data used by the independent appraisers for completeness and accuracy; – compared volumes of hydrocarbon reserves for the Exploration and production and Ukrnafta segments to the estimates of independent engineering firms; – made enquiries at different levels of the Group management, including technical specialists, to corroborate evidence obtained with testing of input data and verification of assumptions; – considered management's judgement in determining cash generating units and assumptions underlying the Group's cash flow forecast; – compared management estimates with the available short-term and mid-term budgets of the Group; – checked mathematical accuracy of economic models and whether the results are accurately compared and allocated to the carrying value of individual items of property, plant and equipment and relevant segments. We also assessed the adequacy of relevant disclosures related to properties measured at fair value in the notes to the consolidated financial statements.

Key audit matter	How our audit addressed the key audit matter
Accounting for rearrangement of receivable under the SPA and the agreement on compensation of under recovered revenues from gas transportation services *Refer to Notes 8, 27, 30 to the consolidated financial statements*	
As described in Note 8 to the consolidated financial statements on 1 January 2020 the Group transferred its share in the subsidiary managing the gas transmission segment ("OGTSU") to an entity under common control of the shareholder under a sale-purchase agreement ("SPA"). The SPA presumed a fixed and dynamic component of the consideration payable which was recognised as a financial asset measured at fair value through profit or loss in the amount of UAH 81,058 million as at 31 December 2020. During 2021 additional information became available which highlighted that the structure of the deal as determined by the SPA agreement did not allow the parties to fulfil their obligation as originally planned. Therefore, following the instructions of the shareholder of the Group the parties rearranged the SPA agreement and the Group additionally entered a new related agreement directly with OGTSU related to compensation for under recovered revenues from gas transportation services. This new contract presumes certain fixed compensations for the period 2020-2024 and variable components for 2025-2034. The Group recognised a financial asset related to the contract and the net effect of UAH 31,131 million from rearrangement of the initial transaction was recognised directly in equity. As at 31 December 2021 the receivable for compensation of under recovered revenues from gas transportation services was revalued to UAH 16,567 million. Because of complex and non-routing nature of the transaction and significant management judgement involved as to its accounting treatment, we considered the matter as key audit matter.	As part of our audit procedures we performed the following: – obtained and analysed relevant agreements, regulatory framework and government decisions related to the rearrangement of receivable under the SPA and the agreement on compensation of under recovered revenues from gas transportation services; – assessed appropriateness of accounting for the net effect of the restructured arrangement directly in equity; – assessed appropriateness of classification of the financial receivable arising from the agreement on compensation of under recovered revenues and appropriateness of a methodology used by the management for the determination of the fair value of the receivable balance; – tested input data used by management for determination of the fair value of the receivable balance; – made enquiries at different levels of the Group management to corroborate evidence obtained within testing of input data and verification of assumptions; – checked mathematical accuracy of the models used to determine the fair value of the receivable. We also assessed the adequacy of relevant disclosures related to the receivable balance, including fair value disclosure and disclosure of relevant accounting judgements and estimates in the notes to the consolidated financial statements.
Valuation of receivables for natural gas *Refer to Notes 11, 30 to the consolidated financial statements*	
During the year the management of the Group reassessed its approach for determination of the level of expected credit losses ("ECL") for receivables from sales of gas to all customers except for direct sales to households. The Group switched from the simplified matrix of migration to a more comprehensive methodology which is based on the assessment of the Probability of Default (PD) for each customer and Loss Given Default (LGD) for different groups of customers. The new ECL model was developed by the Group based on statistical information which is adjusted for forward looking information. Given the Group operates on a market which is currently in the process of de-regulation, there are still plenty of legislative and market-specific factors which disrupt stability of cash inflows from customers and make the process of estimation of the expected credit losses subjective. Because of the significance of the receivable for gas balance and related ECL to these consolidated financial statements and involvement of significant accounting estimates and management judgements in the assessment process, we considered the matter as a key audit matter.	As part of our audit procedures we performed the following: – assessed appropriateness of methodology used by the management for the determination of ECL, including calculation of PD, LGD and incorporation of forward looking information; – tested input data used and analysed assumptions applied by management in the ECL model and classification of customers by group; – made enquiries at different levels of the Group management to corroborate evidence obtained within verification of assumptions. We also assessed the adequacy of relevant disclosures related to the receivables balance, including disclosure of relevant accounting judgements and estimates with the sensitivity analysis in the notes to the consolidated financial statements.

Key audit matter	How our audit addressed the key audit matter
Compliance with certain covenants of the loan agreements and the Eurobonds prospectuses that could affect classification of the Group's debt *Refer to Note 14 to the consolidated financial statements* Borrowings are disclosed in Note 14 to the financial statements. Under the terms and conditions of the credit agreements and the prospectuses for the bond issues, the Group should comply with certain financial and non-financial covenants, the breach of which may result in the requirement of early repayment of borrowings. The statement of financial position as at the reporting date includes bank borrowings in the amount of UAH 19,052 million, including long-term bank borrowings of UAH 11,033 million and short-term bank borrowings of UAH 8,019 million. In addition, it includes Eurobonds borrowings in the amount of UAH 41,331 million, including long-term Eurobonds of UAH 32,193 million and short-term Eurobonds of UAH 9,138 million. The Group's management reviewed compliance with the covenants during the reporting period and as at the reporting date and concluded that no breach of covenants occurred. We included this issue in the key audit matters, as the amount of borrowings is material and because the possibility of early settlement of liabilities may result in a significant cash outflow and, as a result, in liquidity issues.	As part of our audit procedures we performed the following: – read the credit agreements and the prospectuses for the Eurobond issues in terms of certain covenants included therein the breach of which may result in the requirement of early repayment of the borrowings; – considered compliance with the certain financial covenants by recalculating and comparing the values to thresholds set by the credit agreements and the prospectuses; – verified compliance with the certain non-financial covenants by inspection of documents confirming the compliance with these conditions and obtained and examined the Group's correspondence with a state-owned bank where the Group requested and received clarification of terms of the covenant as part of their assessment of compliance with the covenants. Also as part of our audit procedures we assessed the adequacy of the relevant disclosures related to the compliance with the covenants in the notes to the consolidated financial statements.

How we tailored our group audit scope

We tailored the scope of our audit in order to perform sufficient work to enable us to provide an opinion on the consolidated financial statements as a whole, taking into account the legal and management structure of the Group, the accounting processes and controls, and the industry in which the Group operates. We also considered the nature of operations of its components and the markets in which the components of the Group operate.

The Joint Stock Company "National Joint Stock Company "Naftogaz of Ukraine" is a state-owned company and is the parent of a group of entities operating predominantly in Ukraine. The Group is engaged in exploring for natural gas and oil, the development of new natural gas supplies, the transportation and storage of oil and gas and the sale of natural gas and liquefied petroleum gas to its customers. The detailed Group structure is included in the Note 1 to the consolidated financial statements.

In establishing the overall group audit strategy and plan, we determined the type of work required to be performed at a component level.

The group audit included seven components in Ukraine, which were subjected to audits of their complete financial information, as those components are individually financially significant to the Group. Audit of the four significant components was performed by the group engagement team, while one of the significant components was audited by another PwC-network component team and two of the significant components were audited by other non-PwC-network component teams. We remain solely responsible for the opinion.

Additionally, we selected one component for specified audit procedures to achieve appropriate coverage on financial line items in the consolidated financial statements. In total, in performing these procedures, we achieved the following coverage on the financial line items:

Line	Coverage
Revenues	99%
Profit before tax	98%
Total assets	99%
Net assets	99%

None of the remaining components represented more than 1% of total Group revenue or 1% of total Group assets. For those remaining components we performed, among other things, analytical procedures to corroborate our assessment that there were no significant risks of material misstatements within those components.

By performing the procedures above, we have been able to obtain sufficient and appropriate audit evidence on the Group's financial information, as a whole, to provide a basis for our opinion on the consolidated financial statements.

OTHER INFORMATION INCLUDING THE MANAGEMENT REPORT

Management is responsible for the other information. The other information comprises the consolidated management report (but does not include the consolidated financial statements and our auditor's report thereon), which we obtained prior to the date of this auditor's report, and the Annual report and the Annual information of the issuer of securities, which are expected to be made available to us after that date.

Our opinion on the consolidated financial statements does not cover the other information, including the consolidated management report.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated.

Based on the work undertaken in the course of our audit, in our opinion, the information given in the consolidated management report for the financial year for which the consolidated financial statements are prepared is consistent with the consolidated financial statements.

In addition, in light of the knowledge and understanding of the entity and its environment obtained in the course of the audit, we are required to report if we have identified material misstatements in the consolidated management report and other information that we obtained prior to the date of this auditor's report. We have nothing to report in this regard.

When we read the Annual report and the Annual information of the issuer of securities, if we conclude that there is a material misstatement therein, we are required to communicate the matter to those charged with governance.

RESPONSIBILITIES OF MANAGEMENT AND THOSE CHARGED WITH GOVERNANCE FOR THE CONSOLIDATED FINANCIAL STATEMENTS

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with IFRS and financial reporting requirements of the Law on Accounting and Financial Reporting in Ukraine, and for such internal control as management determines is necessary to enable the preparation of the consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group's financial reporting process.

AUDITOR'S RESPONSIBILITIES FOR THE AUDIT OF THE CONSOLIDATED FINANCIAL STATEMENTS

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with ISAs, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the Group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, actions taken to eliminate threats or safeguards applied.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Report on other legal and regulatory requirements

ADDITIONAL INFORMATION PROVIDED IN ACCORDANCE WITH THE NATIONAL SECURITIES AND STOCK MARKET COMMISSION'S RESOLUTION N555 DATED 22 JULY 2021

The audit of the consolidated financial statements of Joint Stock Company "National Joint Stock Company "Naftogaz of Ukraine" was performed in accordance with agreement #14/76/21 dated 26 February 2021 and related additional agreements in the period from 1 September 2021 to the date of this report. The Company is a public interest entity in accordance with the Law on Accounting and Financial Reporting in Ukraine. The Company is neither a controller nor a member of a non-banking financial group.

Information on ultimate beneficial owner and ownership structure

In our opinion, information disclosed in the Note 1 in the consolidated financial statements is consistent with the information on the Company's ultimate beneficial owners and ownership structure disclosed in the Unified State Register of Legal Entities, Individual Entrepreneurs and Public Associations.

Information on Company's parents and subsidiaries

The Company is controlled by the Government of Ukraine. The Company's subsidiaries are:

Company	Country
Kirovogradgaz, OJSC	Ukraine
Gas supply company Naftogaz Trading, LLC	Ukraine
Gas supply company Naftogaz of Ukraine, LLC	Ukraine
Gaz Ukrainy, SE	Ukraine
Naftogaz Trading Europe AG	Switzerland
Ukravtogaz, SE	Ukraine
Zakordonnaftogaz, SE	Ukraine
Chornomornafotgaz, SSE	Ukraine
Ukrgasvydobuvannya, JSC	Ukraine
Oleksandr, LLC	Ukraine
Naftogaz Drilling, LLC	Ukraine
Ukrnafta, PJSC	Ukraine
Ukrtransgaz, JSC	Ukraine
Ukrtransnafta, JSC	Ukraine
Naftogaz Oil Trading, LLC	Ukraine
Ukrtransnafta Service, LLC	Ukraine
UTN Bezpeka, LLC	Ukraine
IC Transmahystral, PrJSC	Ukraine
CF Ukrtransnafta, LLC	Ukraine
Ukrspectransgaz, JSC	Ukraine
Naftogaz Digital Technologies, LLC	Ukraine
Naftogaz Teplo, LLC	Ukraine
Vuglesyntezgaz Ukraiiny, LLC	Ukraine
Naukanaftogaz, SE	Ukraine
Naftogaz-Energoservice, SE	Ukraine
Naftogazbezpeka, SE	Ukraine
Nadra Uzivska, LLC	Ukraine
Donetskoblgaz, JSC	Ukraine

Reporting on consolidated management report

As stated in the Other information including the consolidated management report section of our auditor's report, based on the work undertaken in the course of our audit, in our opinion, the information given in the consolidated management report for the financial year for which the consolidated financial statements are prepared is consistent with the consolidated financial statements and we have nothing to report regarding identification of material misstatements.

Results of the revision commission's inspection

Results of the revision commission's inspection are not presented as the Company has no revision commission.

APPOINTMENT

We were first appointed as auditors of the Group for the mandatory audit for the year ended 31 December 2021. Our appointment was approved by the Cabinet of Ministers of Ukraine Resolution on 14 April 2021. This is the first year of our appointment.

The key audit partner on the audit resulting in this independent auditor's report is Julia Paranich.

LLC AF "PricewaterhouseCoopers (Audit)"
Identification number 21603903
Registration number in the Register of Auditors and Auditing Entities 0152

Kyiv, Ukraine
17 May 2022

Julia Paranich
Registration number in the Register of Auditors and Auditing Entities 101809

CONSOLIDATED STATEMENT OF FINANCIAL POSITION AS AT 31 DECEMBER 2021

In millions of Ukrainian hryvnias	Note	31 December 2021	31 December 2020
ASSETS			
Non-current assets			
Property, plant and equipment	5	294 042	211 134
Intangible assets	6	4 367	3 147
Investments in associates and joint ventures	7	722	772
Deferred tax assets	24	5 668	7 685
Compensation of underrecovered gas transmission revenues	8	1 898	-
Consideration receivable under the SPA	8	-	63 432
Prepaid corporate income tax		3 269	9 375
Other non-current assets	9	5 787	6 038
Total non-current assets		**315 753**	**298 437**
Current assets			
Inventories	10	69 010	40 691
Trade accounts receivable	11	49 494	28 129
Prepayments made and other current assets	12	23 558	22 641
Compensation of underrecovered gas transmission revenues	8	14 669	-
Consideration receivable under the SPA	8	-	17 626
Prepaid corporate income tax		4 135	702
Cash and bank balances	26	30 540	37 106
Restricted cash	26	4 293	659
Total current assets		**195 699**	**147 554**
TOTAL ASSETS		**511 452**	**445 991**
EQUITY			
Share capital	13	194 307	194 307
Revaluation reserve		206 306	140 171
Foreign currency translation reserve		3 871	4 069
Accumulated deficit		(51 565)	(27 801)
Equity attributable to owners of the Parent		**352 919**	**310 746**
Non-controlling interest in equity	**13**	**6 075**	**3 535**
TOTAL EQUITY		**358 994**	**314 281**
LIABILITIES			
Non-current liabilities			
Borrowings	14	40 154	56 547
Provisions	15	8 015	9 853
Deferred tax liabilities	24	23 701	12 910
Other long-term liabilities	16	3 245	3 354
Total non-current liabilities		**75 115**	**82 664**
Current liabilities			
Borrowings	14	21 431	9 795
Provisions	15	15 077	13 576
Trade accounts payable	17	10 857	3 585
Advances received and other current liabilities	18	27 789	20 277
Corporate income tax payable		2 189	1 813
Total current liabilities		**77 343**	**49 046**
TOTAL LIABILITIES		**152 458**	**131 710**
TOTAL LIABILITIES AND EQUITY		**511 452**	**445 991**

Yuriy Vitrenko /s/
Chairman of the Executive Board

Roman Chumak /s/
Member of the Executive Board

CONSOLIDATED STATEMENT OF PROFIT OR LOSS FOR THE FOR THE YEAR ENDED 31 DECEMBER 2021

In millions of Ukrainian hryvnias	Note	2021	2020
Revenue	3, 19	217 384	159 234
Compensation for performing public service obligations	2	-	32 205
Interest and other income		1 595	1 578
Total revenue and other income		**218 979**	**193 017**
Production and manufacturing expenses	20	(82 021)	(48 222)
Purchases	21	(63 235)	(64 558)
Depreciation, depletion and amortisation		(13 755)	(16 548)
Research, development and exploration costs		(1 060)	(588)
Impairment losses of non-financial assets		(2 777)	(7 950)
Selling, general and administrative expenses	22	(22 181)	(21 340)
Finance costs	23	(5 614)	(6 738)
Net movement in provision for financial assets	9,11,12	(10 514)	(42 595)
Total expenditure		**(201 157)**	**(208 539)**
Foreign exchange gain		1 529	1 545
Share of after-tax results of associates and joint ventures	7	(37)	(65)
Profit/(loss) before income tax		**19 314**	**(14 042)**
Income tax expense	24	(7 291)	(4 960)
Net profit/(loss)		**12 023**	**(19 002)**
Net profit/(loss) is attributable to:			
Owners of the Company		11 300	(20 851)
Non-controlling interest		723	1 849
Net profit/(loss)		**12 023**	**(19 002)**

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME FOR THE YEAR ENDED 31 DECEMBER 2021

In millions of Ukrainian hryvnias	Note	2021	2020
Net profit/(loss)		**12 023**	**(19 002)**
Other comprehensive income/(loss)			
Items that will not be reclassified subsequently to profit or loss, net of income tax:			
Gain/(loss) on revaluation of property, plant and equipment, net of income tax effect of UAH 15,227 million (2020: UAH 3,572 million)		69 366	(15 889)
Remeasurement of defined benefit obligation, net of income tax effect of UAH 106 million (2020: UAH 125 million)	15	1 123	592
Remeasurement of decommissioning liability (net of income tax effect of UAH 202 million (2020: UAH 82 million)	15	921	371
Items that may be reclassified subsequently to profit or loss, net of income tax:			
Foreign currency translation reserve		(198)	729
Other comprehensive income/(loss)		71 212	(14 197)
Total comprehensive income/(loss)		**83 235**	**(33 199)**
Total comprehensive income/(loss) is attributable to:			
Owners of the Company		78 581	(34 279)
Non-controlling interests		4 654	1 080
Total comprehensive income/(loss)		**83 235**	**(33 199)**

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY FOR THE YEAR ENDED 31 DECEMBER 2021

In millions of Ukrainian hryvnias	Equity attributable to owners of the Parent						
	Share capital	Revaluation reserve	Foreign currency translation reserve	Accumulated deficit	Total	Non-controlling interest	Total equity
Balance at 31 December 2019	**194 307**	**316 264**	**3 340**	**(123 234)**	**390 677**	**1 897**	**392 574**
(Loss)/Profit for the year	-	-	-	(20 851)	(20 851)	1 849	(19 002)
Other comprehensive (loss)/income for the year	-	(14 686)	729	529	(13 428)	(769)	(14 197)
Total comprehensive (loss)/income for the year	**-**	**(14 686)**	**729**	**(20 322)**	**(34 279)**	**1 080**	**(33 199)**
Transfer of revaluation reserve (Note 8)	-	(161 407)	-	161 407	-	-	-
Provision for dividends payable to the State Budget and to other equity holders (Note 13)		-		(1 921)	(1 921)	(1 921)	(3 842)
Profit share paid to the State Budget (Note 13)	-	-	-	(32 928)	(32 928)	-	(32 928)
Loss on disposal of subsidiary (Note 8)	-	-	-	(8 336)	(8 336)	-	(8 336)
Part of non-controlling interest of transaction between Group companies		-		(2 473)	(2 473)	2 473	-
Other changes	-	-	-	6	6	6	12
Balance at 31 December 2020	**194 307**	**140 171**	**4 069**	**(27 801)**	**310 746**	**3 535**	**314 281**
Profit for the period	-	-	-	11 300	11 300	723	12 023
Other comprehensive income/(loss) for the period	-	66 526	(198)	953	67 281	3 931	71 212
Total comprehensive income/(loss)	**-**	**66 526**	**(198)**	**12 253**	**78 581**	**4 654**	**83 235**
Change in consideration receivable under the SPA and compensation for underrecovered gas transmission revenue (Note 8)	-	-	-	(31 131)	(31 131)	-	(31 131)
Loss due to acquisition of the subsidiary (Note 13)	-	-	-	(37)	(37)	(1 144)	(1 181)
Transfer of revaluation reserve	-	(391)	-	391	-	-	-
Dividends payable to the State Budget and to other equity holders (Note 13)	-	-	-	(1 331)	(1 331)	(966)	(2 297)
Profit share paid to the State Budget (Note 13)	-	-	-	(3 915)	(3 915)	-	(3 915)
Other changes	-	-	-	6	6	(4)	2
Balance at 31 December 2021	**194 307**	**206 306**	**3 871**	**(51 565)**	**352 919**	**6 075**	**358 994**

CONSOLIDATED STATEMENT OF CASH FLOWS FOR THE YEAR ENDED 31 DECEMBER 2021

In millions of Ukrainian hryvnias	Note	2021	2020
CASH FLOWS FROM OPERATING ACTIVITIESI			
Profit/(Loss) before income tax		**19 314**	**(14 042)**
Adjustments for:			
Depreciation and depletion of property, plant and equipment and amortisation of intangible assets		13 755	16 548
Loss on disposal of property, plant and equipment		783	505
Impairment losses of non-financial assets		2 777	7 950
Write down of inventories	10	753	96
Net movement in provision for financial assets, prepayments made and other assets	9,11,12	10 514	42 697
Fair value remeasurement of financial assets		609	321
Loss on disposal of investment		3	-
Change in provisions		7 421	3 232
Write-off of accounts payable and other current liabilities		(11)	(41)
Share of after-tax results of associates and joint-ventures	7	37	65
Net foreign exchange gain		(1 529)	(1 545)
Finance costs (net of Interest and other income)		4 019	5 160
Operating cash flows before working capital changes		**58 445**	**60 946**
(Increase)/decrease in other non-current assets		(1 391)	88
(Increase)/decrease in inventories		(28 685)	17 415
Increase in trade accounts receivable		(34 673)	(7 105)
(Increase)/decrease in prepayments made and other current assets		(13 420)	3 003
(Decrease)/increase in other long-term liabilities		(217)	21
Provisions paid or used	15	(2 610)	(32 982)
Increase/(decrease) in trade accounts payable		6 814	(1 473)
(Decrease)/increase in advances received and other current liabilities		(1 384)	2 822
Cash (used in)/generated from operations		**(17 121)**	**42 735**
Income taxes paid		(7 248)	(23 245)
Net cash (used)/generated by operating activities		**(24 369)**	**19 490**

In millions of Ukrainian hryvnias	Note	2021	2020
CASH FLOWS FROM INVESTING ACTIVITIES			
Purchase of property, plant and equipment and intangible assets		(15 568)	(15 044)
Proceeds from sale of property, plant and equipment		41	9
Placement of restricted cash		(3 634)	(223)
Proceeds from sale of the State treasury bonds	4	11 423	22 563
Acquisition of the State treasury bonds	12	-	(34 832)
Proceeds from consideration receivable under the SPA	8	3 200	-
Compensation of underrecovered gas transmission revenues	8	30 278	-
(Purchase)/Proceeds of subsidiary (net of subsidiary's cash)	1,8 13	(348)	3 851
Prepayment for lease		(241)	-
Interest received		775	846
Net cash generated from / (used in) investing activities		**25 926**	**(22 830)**
CASH FLOWS FROM FINANCING ACTIVITIES			
Proceeds from borrowings	14	7 607	6 136
Repayment of borrowings	14	(8 720)	(10 826)
Interest paid	14	(4 725)	(6 190)
Lease paid		(98)	(40)
Profit share and dividends paid	13,15	(9)	(39 625)
Net cash used in financing activities		**(5 945)**	**(50 545)**
Net decrease in cash and cash equivalents		**(4 388)**	**(53 885)**
CASH AND CASH EQUIVALENTS AT THE BEGINNING OF THE YEAR		**37 106**	**77 593**
Effect of exchange rates change on cash and cash equivalents		(2 178)	13 398
CASH AND CASH EQUIVALENTS AT THE END OF THE PERIOD		**30 540**	**37 106**

1. THE ORGANISATION AND ITS OPERATIONS

Joint Stock Company "National Joint Stock Company "Naftogaz of Ukraine" ("Naftogaz", the "Parent" or the "Company") was founded in 1998 in accordance with the Resolution of the Cabinet of Ministers of Ukraine No.747 dated 25 May 1998.

Naftogaz is owned by the State of Ukraine. The Cabinet of Ministers of Ukraine executes the State corporate rights and the shareholders' meetings and appoints the Supervisory Board that controls and regulates the Executive Board activities.

Naftogaz and its subsidiaries (hereinafter collectively referred to as the "Group") is a vertically integrated oil and gas group of companies allowing optimisations across its portfolio. The Group is engaged in exploring for natural gas and oil, the development of new natural gas supplies, the transportation and storage of oil and gas and the sale of natural gas and liquefied petroleum gas to its customers. The Company holds stakes in various entities that form the national system of production, refinery, distribution, transportation, and storage of natural gas, gas condensate and oil.

On 28 April 2021, the Cabinet of Ministers of Ukraine announced the dismissal of Andriy Kobolyev, Chairman of the Executive Board, and appointed Yuriy Vitrenko to this position for one year. Prior to it, the Cabinet of Ministers of Ukraine terminated the powers of independent members and representatives of the State in the Supervisory Board with their subsequent re-election in full, from 30 April 2021. However, on 30 April 2021, the Supervisory Board notified the Cabinet of Ministers of Ukraine on the early termination of its powers from 14 May 2021.

On 19 May 2021, the Cabinet of Ministers of Ukraine reappointed Clare Spottiswoode, Bruno Lescoeur, Ludo Van der Heyden, Yuliya Kovaliv, and Nataliya Boyko as Naftogaz Supervisory Board members. Independent members and State representatives of the Supervisory Board will continue to exercise their powers until election and appointment of new Supervisory Board members, but no longer than one year. Further on 31 May 2021, the Cabinet of Ministers of Ukraine has appointed Yulia Svyrydenko as a State representative of the Supervisory Board member until election and appointment of new Supervisory Board members, but no longer than one year. On 7 September 2021, independent members of the Supervisory Board had notified the Cabinet of Ministers of Ukraine on the early termination of their powers from 22 September 2021. On 27 September 2021, the powers of State representatives in the Supervisory Board were also terminated. Given that the powers of all Supervisory Board members were terminated, the Cabinet of Ministers of Ukraine executes rights of the Supervisory Board within its rights as General Meetings starting from 28 September 2021.

On 22 September 2021, the Supervisory Board terminated the powers of Otto Waterlander and Peter Van Driel as Executive Board members. The powers of Sergiy Pereloma and Yaroslav Teklyuk as the Executive Board members were terminated by the Cabinet of Ministers of Ukraine, acting as the Supervisory Board. On 28 September 2021, the Cabinet of Ministers of Ukraine temporarily appointed Mavriky Kalugin, Olena Boichenko, Roman Chumak, and Vladyslav Volovyk as members to the Executive Board of Naftogaz. On 26 April 2022, the Cabinet of Ministers of Ukraine appointed Yuriy Vitrenko as a Chairman of the Executive Board and re-appointed Mavriky Kalugin, Olena Boichenko, Roman Chumak, and Vladyslav Volovyk as members to the Executive Board of Naftogaz till 30 April 2023.

The Company is registered at 6 B. Khmelnytskoho Street, Kyiv, Ukraine.

These consolidated financial statements were authorised for issue by the Executive Board on 17 May 2022.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2021

The Group conducts its business and holds its production facilities mainly in Ukraine.

The principal subsidiaries and joint operations are:

Name/ business units	% Interest held as at 31 December 2021	% Interest held as at 31 December 2020	Subsidiary/ Joint operations	Country of registration
Exploration and Production				
Ukrgasvydobuvannya, JSC	100.00	100.00	Subsidiary	Ukraine
Natural Gas Storage				
Ukrtransgaz, JSC	100.00	100.00	Subsidiary	Ukraine
Oil Transit and Transportation				
Ukrtransnafta, JSC	100.00	100.00	Subsidiary	Ukraine
Ukrspectransgaz, JSC	100.00	100.00	Subsidiary	Ukraine
Ukravtogaz, SE	100.00	100.00	Subsidiary	Ukraine
Trading				
Gas supply company Naftogaz Trading, LLC	100.00	100.00	Subsidiary	Ukraine
Naftogaz Trading Europe AG	100.00	100.00	Subsidiary	Switzerland
Retail Business				
Gas supply company Naftogaz of Ukraine, LLC	100.00	100.00	Subsidiary	Ukraine
Gaz Ukraiiny, SE	100.00	100.00	Subsidiary	Ukraine
Kirovogradgaz, OJSC	51.00	51.00	Subsidiary	Ukraine
Heat Energy				
Others	100.00	100.00	Subsidiary	Ukraine
Others				
Ukrnafta, PJSC	50.00 + 1 share	50.00 + 1 share	Subsidiary	Ukraine
Petrosannan Company, Joint operations with the Arab Republic of Egypt and Egyptian General Petroleum Corporation ("EGPC")	50.00	50.00	Joint	Egypt
Zakordonnaftogaz, SE	100.00	100.00	Subsidiary	Ukraine
Donteskoblgaz, JSC	88.18	-	Subsidiary	Ukraine
Nadra Yuzivska, LLC	100.00	-	Subsidiary	Ukraine

Acquisition of "Nadra Yuzivska" LLC

In January 2021, the Group acquired 100% of the corporate rights in the share capital of "Nadra Yuzivska LLC", which has the right to explore and extract hydrocarbons in the Yuzivka site located in Donetsk and Kharkiv regions. The amount of consideration paid amounts to UAH 432 million. The amount of subsidiary's cash at the date of acquisition was UAH 20 million.

"Donetskoblgaz" JSC management

On 1 October 2021, the Company signed an agreement with the Asset Recovery and Management Agency to operate "Donetskoblgaz" JSC for 5 years. The entity distributes natural gas to circa 370 thousand customers in Donetsk region (Note 13).

2. OPERATING ENVIRONMENT

On 24 February 2022 the Russian Federation launched a full-scale military invasion of Ukraine. The broad security concerns became challenging for the further stable development of economical and finance segments in Ukraine, and the operating environment remains risky and with high level of uncertainties since then.

Given the fast-moving nature of the situation and the unpredictability of the war, it will likely take time to assess the economic fallout. For now, the Government has prioritised defence and social spending and remain current on its foreign debt obligations. Companies are still paying taxes and money is still flowing through its financial system. Since the initial full-scale military attack, fighting continues causing thousands of civilian casualties. Russian attacks are targeted for destroying civilian infrastructure all over Ukraine, including hospitals and residential complexes. At the same time, logistics routes in some parts of Ukraine were damaged and there is no access to them. Other railway and car logistic routes are available for usage as Ukraine has extensive road and railway network. As of the date of approval of these consolidated financial statements, the Group's assets were not destroyed materially based on available information.

The Ukrainian government received financing and donations from international organisations and different countries to support financial stability and financing social related payments and military needs (International Monetary Fund, European Union, and directly from numerous countries).

The National Bank of Ukraine has postponed its key policy rate decision, and the key policy rate will therefore stay unchanged at 10% since the forced administrative restrictions are in place and till the events in Ukraine will come back to normal.

The National Bank of Ukraine ('NBU') has imposed restrictions on cash withdrawals, purchase of currency and transfers abroad. The official exchange rate was fixed at UAH 29.25 for 1 USD to ensure the sound and stable operation of the country's financial system while under martial law. Despite the current situation, the banking system remains resilient.

In March 2022, the Board of Directors of the European Bank for Reconstruction and Development ("EBRD") has announced an initial EUR 2 billion resilience package of measures to help citizens, companies and countries affected by the war on Ukraine. The EBRD has also pledged to do all it can to help with the country's reconstruction once conditions allow. The EBRD funding will be available to support Ukrainian companies with deferred loans, liquidity support and trade finance. In addition, the EBRD's Resilience and Livelihoods Framework will help in countries directly affected by inflows of Ukrainian refugees.

Once conditions permit, the EBRD will also be prepared to take part in a reconstruction programme for Ukraine, to rebuild livelihoods and businesses; restore vital infrastructure; support good governance; and enable access to services.

Impact of COVID-19

The ultimate impact of COVID-19 will depend on future developments, including, among others, the ultimate geographic spread and severity of new strains of the virus, the consequences of governmental and other measures designed to prevent the spread of the virus, the development of effective treatments, the duration of the outbreak, actions taken by governmental authorities, customers, suppliers and other third parties, workforce availability, and the timing and extent to which normal economic and operating conditions resume. Management continues to make efforts to identify, manage and mitigate the economic disruption impacts of the COVID-19 pandemic to the Group; however, there are factors beyond its knowledge or control, including the duration and severity of this outbreak, any such similar outbreak, as well as further governmental and regulatory actions taken.

Gas market in Ukraine

In 2021 European market experienced severe energy crisis with soaring gas prices far surpassing previous level, which have had and continue to have significant negative effects both on the European energy markets, the European economy, and the economy of European end users.

The average price at the Dutch Gas hub TTF in 2021 was 47.1 Euro/MWh, which is almost 4 times higher than the same price in the previous year. This European upward trend contributed to the rise of Ukrainian VTP gas prices. The average market price during 2021 was about 18,325 UAH/tcm including VAT, which is 4.1 times higher than the same price of the previous year.

Starting from 1 August 2020, "Gas supply company Naftogaz of Ukraine" LLC was defined by the Government of Ukraine as a supplier of "last resort» for 3 years.

The Company's public service obligations ("PSO") were terminated starting from 1 August 2020 in respect of gas sales for the needs of households and religious organisations and starting from 20 May 2021 in respect of heat generating entities. These changes have led to new contract terms with these groups of customers.

In December 2020, the Ministry of Energy of Ukraine paid the Company compensation for imported gas supplied for the needs of the PSO customers during 2015-2019. The compensation received amounts to UAH 32,204 million.

In March-April 2021, the Group concluded one-year agreements for natural gas supply for the needs of households with gas trading and supply companies with a fixed price of UAH 7.42 per m³ for the biggest part of the contract volume.

In May 2021, the Group concluded 3-year agreements for natural gas supply for heat generating entities with the same (since it became a benchmark wholesale price for household needs) fixed price for the household needs for the first year of supply of UAH 7.42 per m³ including VAT.

In October-November 2021, in order not to allow resale of the gas, provided for the households needs, to industrial consumers for much higher prices, while the Group would still be obliged to provide gas for the household needs as a "supplier of the last resort", the above mentioned agreements with gas trading and supply companies were transformed, and "Gas supply company Naftogaz Trading" LLC has concluded agreements with regional gas supply companies on creating the balancing group as a party, responsible for the daily imbalance of this balancing group.

Subject to joining the balancing group and settling overdue debts for natural gas, the Executive Board approved the conclusion of the framework and individual sale contracts with gas supply companies by "Gas supply company Naftogaz Trading" LLC at the same fixed price of UAH 7.42 per m³ for the period from 1 October 2021 to 30 April 2022. Since 1 May 2022 to 30 September 2022, the PSO obligations were imposed on market participants for supplies for the needs of households. Gas supply companies can join the balancing group where "Gas supply company Naftogaz Trading" LLC will be the balancing agent after complying with credit and technical requirements. Natural gas will then be supplied to gas supply companies at UAH 0.6 per m³ discount on their published annual price.

Given the military aggression of the Russian Federation, the Cabinet of Ministers of Ukraine has issued Resolution #222 dated 6 March 2022, imposing public service obligations on the Company ("PSO"), particularly in respect of a purchase of gas of domestic production from "Ukrgasvydobyvannia" PJSC and "Chornomornaftogaz" JSC at a price of 7,240 UAH/tcm including VAT to create gas resource for the needs of households and heat and electricity producers. Under the PSO the Company also sells gas to 12 heat and electricity producing entities starting from the date of the contract until 30 April 2022 at a price of UAH 7.08 per m³ including VAT.

According to the PSO, the Group as the supplier of "last resort", is also obliged to sell natural gas to consumers that do not belong to the household consumers and to perform vital functions to ensure the State's defence capabilities, according to a list approved by central executive bodies in accordance with their powers until 30 September 2022 at the price of UAH 32.0 per m³ including VAT.

Under the PSO, the supplier of "last resort" is also obliged to buy natural gas from OGTSU from 1 March to 30 April 2022 and to sell it to OGTSU for gas transmission system physical balancing at the price of the last sale of natural gas by private Ukrainian producing companies at "Ukrainian Energy Exchange" commodity exchange, amounting to UAH 15.19 per m³ including VAT.

In addition, "Gas supply company Naftogaz of Ukraine" LLC concluded sale agreements with gas distribution network operators under the PSO conditions for the period from 1 March to 30 September 2022 to cover their production and technological needs and losses caused by military actions.

Anti-Crisis Law

In July 2021, the Parliament adopted a Law "On measures on crisis overcoming and ensuring financial stability in the natural gas market" ("Anti-Crisis Law") No.1639 aiming to settle certain debts among natural gas market participants. The Anti-Crisis Law anticipated, inter alia, receiving compensation of negative difference between actual heat tariffs and their cost to the heat generating entities, and further settlement of their outstanding debts to Naftogaz. In December 2021 UAH 22 billion was received by the Company under the Anti-Crisis Law.

The Anti-Crisis Law also assumes a similar mechanism of settlements for regional gas supply and distribution entities and further settlement of their outstanding debts to Naftogaz. The execution of the Anti-crisis Law for these entities is expected in 2022 (Note 30).

Product sharing agreements

In late 2020 the Group concluded several product sharing agreements to increase its portfolio of exploration and production assets. Additionally, in December 2020 "Ukrgasvydobuvannya" JSC concluded product sharing agreements with the State of Ukraine on development of four areas located in Kharkiv and Dnipropetrovsk regions of Ukraine. The State of Ukraine transfers rights for exploration, extraction and production on these areas to "Ukrgasvydobuvannya" JSC, and the latter is obliged to perform such works at its own expense and receive compensation and profit share of produced oil and gas. During the first five years of these agreements, "Ukrgasvydobuvannya" JSC will be focused on 3D-seismic works and drilling exploration wells.

Oil product pipeline management

On 30 June 2021, the Group's subsidiary "Ukrtransnafta" JSC signed an agreement with the Asset Recovery and Management Agency (ARMA) to operate the Ukrainian part of the Samara- Western direction oil product pipeline. According to the terms of the agreement, the Group has the rights and obligations regarding the implementation of economic activities for the transportation, storage, transshipment of oil products to road and rail transport. The company also undertakes to provide at least UAH 1.1 million of monthly income to the State from the management of the oil product pipeline within 5 years. The transfer of assets was completed in July 2021.

Going concern

On 24 February 2022, the Russian Federation launched a full-scale military invasion of Ukraine. None of the Group's critical facilities or infrastructure has suffered any significant damage.

More than 4.3 million Ukrainians (circa 10% of the Ukraine's population) were forced to move to European countries and until coming back, they will no longer be consumers of gas and heat in Ukraine. In addition, the number of internally displaced persons who left their cities equals 6.5 million (27% of the population) according to the International Organisation for Migration. This is expected to lead to a decline in consumption of gas by households and heat generating entities by approximately 13% this year compared to pre-war forecasts.

The Group's key priority is safety and security of its employees and their families. The Group coordinates, to the extent possible, the evacuation of its employees from the regions engaged in active military activities, covers associated relocation costs and provides additional assistance needed. The business processes have been reorganised to adjust to the existing challenges and to provide continuity to the Group's activities. Approximately 1,300 employees of the Group joined the Ukrainian Armed Forces and Territorial Defence.

In consequence of the above events, the Group's assets carried at UAH 400 million were damaged and the refining operations at one of "Ukrgasvydobuvannia" PJSC branches located in Kharkiv region were temporarily shut down due to proximity to military activities. None of the Group's critical facilities or infrastructure has suffered any significant damage. The Group continues to steadily produce natural gas at all its sites, except for those located close to the conflict line. According to the latest forecasts, the optimistic scenario assumes that the Group will produce 12.1 billion m³ of gas in 2022. Under the pessimistic scenario which assumes the prolonged military conflict, the production output amounts to 11.25 billion m³ of gas. Gas production wells may be suspended for a certain period in case of emergency and can continue to operate once the security of production is restored.

The production of liquids may suffer more seriously due to an inability to store and transport the inventory caused by suspension of refining operations, however, these events will not have a material impact on the Group's performance. Currently, the Group has capacities to store liquids or can sell the produced output to other entities with operating refining facilities. The Group intends to initiate removal of the administrative restrictions on oil exports to maintain its profitable operations in this segment if it is unable to sell the produced oil volumes to third parties. Oil production wells may also be suspended and can continue to operate once conditions allow.

The Group continues to provide gas transit organisation services, to receive the compensation of underrecovered gas transmission revenues in accordance with the schedule, to maintain oil transit and to perform its key operations as usual. (dot)

Given high prices of natural gas sustained in the global markets, customer settlement-related issues and real difficulties in covering the full cost of the natural gas consumed by customers, gas suppliers including the Group are likely to be unable to secure gas reserves needed for safe completion of the 2022-2023 heating season in Ukraine using their own financial resources.

In its turn, the Group liquidity forecast expectations are based on the following assumptions:

– a collectability of accounts receivable for natural gas in 2 and 3 quarters 2022 is expected at the level of March 2022 with gradual improvement of the situation in 4 quarter 2022;
– the upside potential of the price for gas sold to heat generating entities starting from June 2022, as envisaged by the three-year agreements signed in 2021;
– continued cash inflows from the gas and oil transit organization services;
– continued cash inflows from the compensation of underrecovered gas transmission revenues.

Management of the Group directs efforts to ensure sustainable and predictable cash flows from operating and financing activities focusing on collection of accumulated accounts receivable as a top priority. As such, during 2021, the Group collected UAH 22 billion in repayment of accounts receivable from heat generating entities under the mechanism provided for by the Law No.1730.

During 2022, the Group expects to receive UAH 76 billion, specifically:

– a repayment of accounts receivable from regional gas supply and gas distribution entities under the mechanism provided for by the Anti-Crisis Law No.1639, as presently in effect, in the amount of UAH 43 billion, which were originated due the state regulation of tariffs in the natural gas market as of 31 December 2020;
– introduction of amendments to the Anti-Crisis Law No.1639, that will enable to collect additional UAH 33 billion of accounts receivable from regional gas supply and gas distribution entities, which were originated during 2021-early 2022 under the mechanism indicated above.

In connection with imposition of the martial law, the Group is imposed with public service obligations for natural gas supplies to certain groups of consumers until the end of 2022 according to the CMU Resolution dated 6 March 2022 No.222. An important factor also represents the compensation to be received from the State for performance of public service obligations, as defined in Article 11 of the Law of Ukraine on the Natural Gas Market.

The Group continues to settle its financial liabilities in good faith.

Furthermore, new credit facilities were received from Ukrainian state-owned banks in 2022. The Group received UAH 7.5 billion of borrowings and UAH 4.5 of new credit line facilities. At present, terms and conditions of the EBRD loan arrangement to be used for natural gas purchases are negotiated.

Therefore, the Group management makes forecasts of the natural gas balance and the subsequent cash flow projection applying stage-based approach. It involves purchases of additional natural gas volumes based on the Company's financial capacity, which, in its turn, depends on the state regulation and financing of the housing and public utility services sector (i.e. execution and implementation of the Anti-Crisis Law, PSO compensation, etc.).

Thus, even in view of the negative trends in the natural gas market, it is the ability to accumulate significant natural gas volumes (when necessary) required for sustainable completion of the heating season in Ukraine, which is exposed to a risk. It is actually the risk exposure for the State and end consumers. The Group's ability to continue as a going concern does not depend directly on the ability to accumulate the natural gas volume required to meet the domestic demand in full.

Material uncertainty which may cast significant doubts on the Group's ability to continue as a going concern, and therefore to realize its assets and to settle its liabilities in the normal course of business exists and is associated with the potential impact of the military invasion on:

– the Group's extraction assets a significant portion of which is located in Kharkiv and Poltava regions, specifically in close proximity to military activities;
– a possibility of receiving revenues under the natural gas transit agreement.

At present, it is more likely than not that these risks, particularly taken all together, will not arise. The following circumstances should also be considered:

– The Group has significant hydrocarbon reserves and ensures an extraction of approximately 12 billion m³ of natural gas annually, which, in view of extremely high gas and oil prices, means high value of the Group for the owner;
– the agreement on the natural gas transit organization services sets forth the ship-or-pay principle. Consequently, cash inflows from this area over two years are maintained even in the event of refusal of the transmission services (directly under the agreement or by reference to the court);
– the State, as the Group owner, also considers, in addition to the above factors, the importance of the Group for ensuring security of supplies to consumers in Ukraine and, therefore, the State is directly interested in supporting its operations.

Given all discussed above, management believes that application of a going concern assumption in preparing these consolidated financial statements is appropriate.

3. SEGMENT INFORMATION

The Executive Board is the Group's chief operating decision maker. As at 31 December 2021, the Group has changed presentation of segment information in line with performance management approach to its subsidiaries. As a result, Oil midstream and downstream segment was transformed into Oil transit and Domestic oil transmission segments. Also, management re-introduced segment performance measurement indicator- adjusted operating result, net of income taxes (NOPLAT) which was applied before 2019. EBITDA remained a secondary performance measurement indicator. Comparative information for the year ended 31 December 2020 and 31 December 2019 was restated to reflect the changes in presentation.

Gas exploration and production. This segment includes natural gas, oil and gas condensate exploration and production, performed by "Ukrgasvydobyvannya" JSC where oil and condensate production is considered to be by-products of natural gas production. The Group controls about 70% of all natural gas production in Ukraine. The segment also includes petroleum products produced by "Ukrgasvydobuvannya" JSC. Domestic refinery of petroleum products is performed at oil and gas refineries controlled by the Group.

Gas imports, trading and supply. This segment includes purchasing domestically produced natural gas, gas imports, trading and supply to different groups of customers.

Gas storage. Ukrainian gas transportation system includes 12 underground natural gas storage facilities located in mainland Ukraine. The total capacity of the underground gas storage system located in Ukraine is 31 billion m³ of gas.

Oil transit. This segment is presented by the transmission oil pipelines operated by the Group performing oil transit through the territory of Ukraine.

Domestic oil transmission. This segment is presented by the transmission oil pipelines performing oil transmission between production sites, sea import terminals and refineries in Ukraine, operated by the Group. Total length of oil transmission pipelines in Ukraine is 4.7 thousand km.

Gas transit. At the end of 2019 the Company and "Gazprom" JSC signed an agreement on organising gas transit through the territory of Ukraine until 2024. In turn, Naftogaz receives gas transmission services from "Gas Transmission System Operator of Ukraine" LLC) and renders gas transit organisation service to "Gazprom" JSC.

"Ukrnafta" PJSC. "Ukrnafta" PJSC is the biggest oil producing company in Ukraine. "Ukrnafta" PJSC is composed of several production and maintenance units, which are currently in the process of corporate restructuring, including six oil and gas production units, one well drilling division and three gas processing plants.

"Ukrnafta" PJSC also owns one of the largest filling station networks in Ukraine located in different regions of Ukraine.

Other. Other segments include results of joint operations under the concession agreement for exploration and development with the Arab Republic of Egypt, corporate administrative functions, "new energy" and other activities.

Segment assets are allocated based on the operations of the segment and the physical location of the asset.

Management uses net operating profit less adjusted taxes (NOPLAT) as is the earnings measure for the purposes of making decisions about allocating resources and assessing performance. Income taxes at nominal tax rate are deducted from net operating profit to arrive to NOPLAT. Net operating loss is not corrected for income taxes.

Management uses EBITDA as an additional measure of operational efficiency. This measure is not defined by IFRS, and other companies can define it differently.

EBITDA represents net profit/(loss) for the year after excluding the following income statement items: income tax (expense)/benefit, finance costs, finance income, share of after-tax results of associates, impairment of property, plant and equipment, amortisation, loss on disposal of assets, depreciation and depletion of property, plant and equipment and amortisation of intangible assets.

Management uses capital expenditures a measure of a segment's contribution to the Group's development. Capital expenditures are presented on a cash basis for these purposes. Respective reconciliations to the closest IFRS measure are presented in this note.

The accounting policies of the reportable segments are the same as the Group's accounting policies described in Note 29.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2021

Segment information for the reportable business segments of the Group for the year ended 31 December 2021 is as follows:

	Gas domestic exploration and production	Gas imports, trading and supply	Gas storage	Oil transit	Domestic oil transmission	Gas transit	Ukrnafta	Other	Elimination	Total
Segment revenue	8 268	133 901	2 555	3 583	364	32 720	33 700	2 293	-	217 384
Inter-segment revenue	82 041	2 850	2 209	-	47	-	3 244	872	(91 263)	-
Total revenue	**90 309**	**136 751**	**4 764**	**3 583**	**411**	**32 720**	**36 944**	**3 165**	**(91 263)**	**217 384**
Production and manufacturing expenses	(40 287)	(13 094)	(2 089)	(1 055)	(604)	-	(23 631)	(1 261)		(82 021)
Purchases	(405)	(27 723)	-	-	-	(31 980)	(1 811)	(1 316)		(63 235)
Depreciation, depletion and amortization	(7 891)	(2 284)	(537)	(586)	(301)	-	(1 990)	(166)		(13 755)
Research, development and exploration costs	(185)	(807)	(68)	-	-	-	-	-		(1 060)
Net impairment losses	(1 506)	(251)	(89)	-	-	-	(877)	(54)		(2 777)
Selling, general and administrative expenses	(2 581)	(4 593)	(9 052)	(500)	(280)	(29)	(3 590)	(1 556)		(22 181)
Net movement in provision for financial assets	20	(15 065)	(341)	1	-	-	(422)	5 293		(10 514)
Inter-segment expenses	(15 528)	(73 417)	(1 800)	(62)	(48)	-	(77)	(331)	91 263	-
Nominal income tax	*(3 950)*	-	-	*(249)*	-	*(128)*	*(818)*	*(679)*		*(5 824)*
NOPLAT	**17 996**	**(483)**	**(9 212)**	**1 132**	**(822)**	**583**	**3 728**	**3 095**	**-**	**16 017**
add back Nominal income tax	*3 950*	-	-	*249*	-	*128*	*818*	*679*		*5 824*
Interest and other income										1 595
Finance costs										(5 614)
Net foreign exchange (loss)/gain										1 529
Share of after-tax results of associates and joint-ventures										(37)
Profit before income tax										**19 314**
Income tax expense										(7 291)
Net profit for the year										**12 023**
Capital expenditure	12 564	-	564	410	274	-	1 082	674	-	15 568
PPE	183 192	1 672	75 941	6 176	4 117	-	21 316	1 628		294 042
Intangible assets	2 537	566	109	116	65	-	281	693		4 367
Inventories	3 654	57 439	2 092	72	1 877	-	3 700	176		69 010
Trade accounts receivable	36	40 087	4 629	-	-	238	4 517	53		49 560
Prepayments made and other current assets	5 957	10 809	633	44	25	2 815	1 422	336		22 041
Other segment assets	1	2 812	522	15	9	-	2 394	34		5 787
Cash and bank balances										30 540
Restricted cash										4 293
Deferred tax assets										5 668
Consideration of underrecovered gas transmission revenues										16 567
Prepaid corporate income tax										7 404
Unallocated assets										2 173
Total assets	**195 377**	**113 385**	**83 926**	**6 423**	**6 093**	**3 053**	**33 630**	**2 920**		**511 452**
Trade accounts payable	468	4 193	1 324	36	20	-	617	4 199		10 857
Advances received and other current liabilities	6 079	3 216	447	296	166	2 455	10 499	351		23 509
Provisions	7 463	313	7 655	22	12	-	5 028	238		20 731
Borrowings										61 585
Deferred tax liabilities										23 701
Unallocated liabilities										22 380
Total liabilities	**14 010**	**7 722**	**9 426**	**354**	**198**	**2 455**	**16 144**	**4 788**		**162 763**

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2021

Segment information for the reportable business segments of the Group for the year ended 31 December 2020 is as follows:

	Gas domestic exploration and production	Gas imports, trading and supply	Gas storage	Oil transit	Domestic oil transmission	Gas transit	Ukrnafta	Other	Elimination	Total
Segment revenue	5 019	75 090	3 742	3 466	237	46 724	22 973	1 983		159 234
Inter-segment revenue	56 453	731	2 304	-	38	-	12 562	793	(72 881)	-
Total revenue	**61 472**	**75 821**	**6 046**	**3 466**	**275**	**46 724**	**35 535**	**2 776**	**(72 881)**	**159 234**
Compensation for performing public service	-	32 204	-	-	-	-	-	-	-	32 204
Production and manufacturing expenses	(24 028)	(1 854)	(1 697)	(764)	(469)	-	(18 789)	(621)	-	(48 222)
Purchases	(23)	(16 683)	-	-	-	(44 858)	(1 610)	(1 384)	-	(64 558)
Depreciation, depletion and amortization	(12 549)	(150)	(609)	(418)	(212)	-	(2 498)	(112)	-	(16 548)
Research, development and exploration costs	(548)	-	(19)	-	-	-	(17)	(4)	-	(588)
Net impairment losses	(5 960)	(166)	(584)	-	-	-	(806)	(434)	-	(7 950)
Selling, general and administrative expenses	(3 187)	(3 255)	(8 212)	(388)	(238)	(145)	(2 069)	(3 846)	-	(21 340)
Net movement in provision for financial assets	(12)	(36 471)	64	-	-	-	(3 341)	(2 835)	-	(42 595)
Inter-segment expenses	(6 001)	(69 041)	2 554	(146)	(64)	-	(81)	(102)	72 881	-
Nominal income tax	*(1 650)*	-	-	*(315)*	-	*(310)*	*(1 138)*	-	-	*(3 413)*
NOPLAT	**7 514**	**(19 595)**	**(2 457)**	**1 435**	**(708)**	**1 411**	**5 186**	**(6 562)**	**-**	**(13 776)**
add back Nominal income tax	*1 650*	-	-	*315*	-	*310*	*1 138*	-		*3 413*
Interest and other income										1 578
Finance costs										(6 738)
Net foreign exchange (loss)/gain										1 546
Share of after-tax results of associates and joint-ventures										(65)
Profit before income tax										**(14 042)**
Income tax expense										(4 960)
Net loss for the year										**(19 002)**
Capital expenditure	12 023	141	110	435	290	-	1 113	932		15 044
PPE	115 965	1 482	68 166	6 505	4 337	-	13 233	1 446		211 134
Intangible assets	1 928	57	109	68	38	-	331	549		3 080
Inventories	2 312	30 491	1 189	162	2 341	-	4 130	66		40 691
Trade accounts receivable	12	20 881	199	14	-	841	6 150	32		28 129
Prepayments made and other current assets	434	14 957	1 159	38	22	3 614	2 156	261		22 641
Other segment assets	2	2 117	656	20	11	-	122	32		2 960
Cash and bank balances	-	-	-	-	-	-	-	-		37 106
Restricted cash	-	-	-	-	-	-	-	-		659
Deferred tax assets	-	-	-	-	-	-	-	-		7 685
Consideration receivable under the SPA	-	-	-	-	-	-	-	-		81 058
Prepaid corporate income tax	-	-	-	-	-	-	-	-		10 077
Unallocated assets	-	-	-	-	-	-	-	-		771
Total assets	**120 653**	**69 985**	**71 478**	**6 807**	**6 749**	**4 455**	**26 122**	**2 386**		**445 991**
Trade accounts payable	616	1 822	446	19	11	-	599	72		3 585
Advances received and other current liabilities	6 338	4 089	2 933	463	260	2 517	3 222	455		20 277
Provisions	8 479	2 045	2 728	63	35	-	6 148	88		19 586
Borrowings	-	-	-	-	-	-	-	-		66 342
Deferred tax liabilities	-	-	-	-	-	-	-	-		12 910
Unallocated liabilities	-	-	-	-	-	-	-	-		9 010
Total liabilities	**15 433**	**7 956**	**6 107**	**545**	**306**	**2 517**	**9 969**	**615**		**131 710**

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2021

Segment information for the reportable business segments of the Group for the year ended 31 December 2019 (not audited) is as follows::

	Gas domestic exploration and production	**Gas imports, trading and supply**	**Gas storage**	**Oil transit**	**Domestic oil transmission**	**Gas transit**	**Domestic gas transmission**	**Ukrnafta**	**Other**	**Elimination**	**Total**
Segment revenue	7 722	90 664	730	3 381	164	70 207	18 223	28 074	687	-	219 852
Inter-segment revenue	78 786	18 735	2 548	-	32	-	5 524	136	202	(105 963)	-
Total revenueue	**86 508**	**109 399**	**3 278**	**3 381**	**196**	**70 207**	**23 747**	**28 210**	**889**	**(105 963)**	**219 852**
Income recognised per results of Gas Transit Arbitration	-	-	-	-	-	67 958	-	-	-		67 958
Production and manufacturing expenses	(30 491)	(1 371)	(1 124)	(987)	(622)	(19 146)	(8 069)	(15 641)	(436)		(77 887)
Purchases	(789)	(36 211)	-	-	-	(5)	-	(4 562)	(22)		(41 589)
Depreciation, depletion and amortization	(11 011)	(91)	(886)	(419)	(224)	(17 975)	(2 246)	(1,551)	(35)		(34 438)
Research, development and exploration	(767)	(4)	(14)	-	-	-		(16)	(3)		(804)
Net impairment losses	(8 056)	114	(386)	-	(205)	(806)	-	(678)	(213)		(10 230)
Selling, general and administrative expenses	(3 380)	(5 619)	(117)	(71)	(55)	12	(26)	(5 796)	(651)		(15 703)
Net movement in provision for financial	51	(3 241)	(20)	(7)	(4)	30	(15 230)	(3 251)	-		(21 672)
Inter-segment expenses	(8 788)	(75 786)	(494)	26	12	(12 247)	(8 023)	(199)	(464)	105 963	-
Nominal income tax	*(4 190)*	-	*(43)*	*(346)*	-	*(15 845)*	-	-	-		*(20 424)*
NOPLAT	**19 087**	**(12 810)**	**194**	**1 577**	**(902)**	**72 183**	**(9 847)**	**(3 484)**	**(935)**		**65 063**
Add back Nominal income tax	*4 190*	-	*43*	*346*	-	*15 845*	-	-	-		*20 424*
Interest and other income											2 052
Finance costs											(6 581)
Net foreign exchange (loss)/gain											1 414
Share of after-tax results of associates and joint-ventures											(121)
Profit before income tax											**82 251**
Income tax expense											(18 957)
Net profit for the year											**63 294**
Capital expenditure	23 384	21	412	1 017	678	-	-	1 401	11		26 924
PPE	130 332	1 140	80 118	6 133	4 088	-	-	17 756	939		240 506
Intangible assets	1 963	56	6	57	35	51	65	348	200		2 781
Inventories	2 623	45 794	251	1 539	349	844	115	6 121	69		57 705
Trade accounts receivable	131	42 961	18	-	-	5 673	3 325	6 896	52		59 056
Prepayments made and other current assets	928	5 948	322	57	34	101 733	14 123	1 997	100		125 242
Other segment assets	60	4 267	159	5	3	703	96	123	308		5 724
Cash and bank balances											77 593
Restricted cash											436
Deferred tax assets											10 439
Prepaid corporate income tax											263
Unallocated assets											835
Total assets	**136 037**	**100 166**	**80 874**	**7 791**	**4 509**	**109 004**	**17 724**	**33 241**	**1 668**		**491 014**
Trade accounts payable	892	1 796	1 395	9	5	-	262	652	50		5 061
Advances received and other current liabilities	3 983	2 433	(442)	257	223	(106)	1 210	11 660	26		19 244
Provisions	8 307	13 352	1 953	61	36	63	80	23 891	21		47 764
Borrowings											60 662
Deferred tax liabilities											18 858
Unallocated liabilities											36 417
Total liabilities	**13 182**	**17 581**	**2 906**	**327**	**264**	**(43)**	**1 552**	**36 203**	**97**		**72 069**

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2021

Reconciliations

The following tables include reconciliations of NOPLAT to EBITDA:

In millions of Ukrainian hryvnias	2021	2020	2019 (not audited)
NOPLAT	**16 017**	**(13 776)**	**65 063**
Depreciation, depletion and amortization	13 755	16 548	34 438
Net impairment losses	2 777	7 950	10 230
Net movement in provision for financial assets	(5 339)	2 830	-
Loss on disposal of assets	783	442	861
Non-refundable VAT	-	3 205	-
Loss from the sale of inventories and other current assets	-	1 818	-
Charity and social infrastructure	-	681	-
Nominal income tax	5 824	3 413	20 424
Other (income)/expense	(119)	445	-
EBITDA	**33 698**	**23 556**	**131 016**

Geographical concentration of sales:

In millions of Ukrainian hryvnias	2021	2020
Ukraine	175 709	104 266
Russian Federation	36 071	49 910
Europe	4 457	4 837
Asia	802	-
Egypt	342	209
USA	3	12
Total revenue (Note 19)	**217 384**	**159 234**

Allocation of sales in the table above is made based on the country of residence of the Group's customers.

External customers concentration, exceeding 10% of total revenues

During the years ended 31 December 2021 and 2020, the only external customer with concentration of revenue exceeding 10% of total revenues was Gazprom. Revenue from Gazprom related to gas transit organisation services in 2021 amounted to UAH 32,720 million (2020: revenue related to gas transit in the amount of UAH 46,724 million).

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2021

4. BALANCES AND TRANSACTIONS WITH RELATED PARTIES

Parties are generally considered to be related if one party has the ability to control the other party, is under common control, or can exercise significant influence or joint control over the other party in making financial and operational decisions. In considering each possible related party relationship, attention is directed to the substance of the relationship, not merely the legal form.

As described in the Note 1, the Group is ultimately controlled by the Government of Ukraine, and therefore, all state-controlled entities and institutions are considered as related parties under common control.

Transactions with related parties may be performed on terms that would not necessarily be available to unrelated parties.

Transactions with state-controlled entities and institutions. The Group performs significant transactions with entities and institutions controlled, jointly controlled or significantly influenced by the Government of Ukraine. These entities and institutions include State Savings Bank of Ukraine, Ukreximbank, Ukrgazbank, OGTSU, tax authorities, heating entities and other entities. In 2021, the Group signed an agreement for compensation of underrecovered gas transmission revenues with OGTSU (Note 8).

In 2020, the Group purchased and sold the state treasury bonds of Ukraine amounting to UAH 34,832 million and UAH 22,563 million, respectively. In 2021, the Group sold the state treasury bonds of Ukraine amounting to UAH 11,423 million.

Percentage of balances of the respective financial statements line items with related parties were as follows:

	31 December 2021	31 December 2020
Compensation of underrecovered gas transmission revenues	100%	-
Consideration receivable under the SPA	100%	100%
Prepaid corporate income tax	100%	100%
Other non-current assets	51%	64%
Trade accounts receivable	29%	32%
Prepayments made and other current assets	99%	96%
Cash and bank balances	87%	98%
Restricted cash	100%	98%
Borrowings	30%	29%
Provisions	11%	16%
Advances received and other current liabilities	44%	38%

Percentage of transactions of the respective financial statements line items with related parties for the period were as follows:

	2021	2020
Revenue	18%	26%
Interest and other income	61%	99%
Purchases	51%	69%
Interest expense	21%	37%

The percentage of purchases is calculated from Financial Statement line item- Purchases (including change in inventory). There were no significant purchases of property, plant and equipment from related parties.

As discussed in Note 1, in January 2021, the Group acquired 100% of the corporate rights in the share capital of "Nadra Yuzivska" LLC pursuant to an acquisition agreement between the Company, and subsidiary of "National Joint Stock Company "Nadra of Ukraine" PJSC, "Ukrainian Geological Science and Production Center". Also as discussed in Note 1, in October 2021, the Company signed an agreement with the Asset Recovery and Management Agency to operate "Donetskoblgaz" JSC for 5 years (Note 13).

Information on transactions with related parties is further disclosed in Note 1, Note 2, Note 7, Note 8 and Note 13.

Pledges. As at 31 December and 31 December 2020, borrowings from related parties (State-owned banks) were secured by property, plant and equipment, inventories and proceeds from future sales (Note 14). As at 31 December 2021 83% pledges related to the borrowings from State-owned banks (31 December 2020: 91%).

Guarantees. Guarantees provided to the Group by the Government of Ukraine as at 31 December 2021 and 31 December 2020 amounted to UAH 2,461 million and UAH 2,783 million, respectively (Note 14).

Key management remuneration. During 2021 key management personnel consisted on average of 5 Executive Board members and 15 directors (2020: 5 Executive Board members and 12 directors). Compensation to the key management personnel included in selling, general and administrative expenses consists of salary and additional current bonuses paid and amounted to UAH 911 million in 2021 (2020: UAH 672 million).

During 2021 the Company also incurred UAH 23 million of expenses on operations of the Supervisory Board (2020: UAH 20 million). This amount includes UAH 19 million in service fees accrued (2020: UAH 18 million), and UAH 4 million in compensation of expenses incurred by the Board members during performance of their duties (2020: UAH 2 million), as well as directors and officers' liability insurance procured and paid by the Company to insure the liability of these officers after their appointment. Fixed service fees of the Supervisory Board members are set in the individual contracts. In addition to the fixed fees the Supervisory Board members are compensated for certain justifiable expenses incurred by the Supervisory Board members during performance of their duties (travel expenses, accommodation, communication etc.) based on principles of prudence, adequacy and timeliness. Compensations are made net of taxes and are based on documents confirming such payments as prescribed by the Ukrainian legislation and provisions of the individual contracts.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2021

5. PROPERTY, PLANT AND EQUIPMENT

Movements in the carrying amount of property, plant and equipment were as follows:

In millions of Ukrainian hryvnias	Drilling assets	Gas and oil - upstream	Underground gas storages	Cushion gas	Oil transmission system	Gas and oil - refinery	Filling stations	Gas distribution assets	- LNG transportation	Other fixed assets	Construction in progress	Total
Net book value at 31 December 2019	**9 066**	**103 486**	**6 769**	**69 240**	**8 181**	**4 390**	**3 912**	**155**	**505**	**5 462**	**29 340**	**240 506**
Cost or valuation	9 411	106 843	6 785	69 240	8 330	4 514	3 974	198	518	9 978	34 666	254 457
Accumulated depreciation and impairment	(345)	(3 357)	(16)	-	(149)	(124)	(62)	(43)	(13)	(4 516)	(5 326)	(13 951)
Additions and transfers	1 921	15 256	218	-	116	227	133	9	26	(429)	(221)	17 256
Disposals	(36)	(128)	-	-	-	(3)	(2)	-	-	(35)	(1 384)	(1 588)
Depreciation charge	(1 412)	(14 751)	(436)	-	(568)	(446)	(239)	(63)	(33)	(477)	-	(18 425)
Impairment	(81)	(11 909)	-	(9 739)	590	(46)	(783)	533	-	(1 421)	(3 759)	(26 615)
Net book value at 31 December 2020	**9 458**	**91 954**	**6 551**	**59 501**	**8 319**	**4 122**	**3 021**	**634**	**498**	**3 100**	**23 976**	**211 134**
Cost or valuation	11 190	122 885	7 284	59 501	8 389	4 735	4 104	697	542	8 763	32 862	260 952
Accumulated depreciation and impairment	(1 732)	(30 931)	(733)	-	(70)	(613)	(1 083)	(63)	(44)	(5 663)	(8 886)	(49 818)
Additions and transfers	686	13 984	384	-	127	263	191	204	21	1 115	783	17 758
Disposals	(45)	(100)	-	-	-	(2)	(4)	(1)	-	(90)	(1 023)	(1 265)
Depreciation charge	(1 427)	(12 320)	(445)	-	(842)	(375)	(229)	(59)	(18)	(415)	-	(16 130)
Revaluation/impairment	3 755	70 135	7 540	221	(194)	587	171	-	-	71	259	82 545
Net book value at 31 December 2021	**12 427**	**163 653**	**14 030**	**59 722**	**7 410**	**4 595**	**3 150**	**778**	**501**	**3 781**	**23 995**	**294 042**
Cost or valuation	12 463	164 579	14 054	59 722	7 479	4 642	3 246	949	562	9 746	32 185	309 627
Accumulated depreciation and impairment	(36)	(926)	(24)	-	(69)	(47)	(96)	(171)	(61)	(5 965)	(8 190)	(15 585)

The Group engaged independent appraisers to determine the fair value of its major groups of property, plant and equipment as at 1 October 2021, as at 1 December 2021, and as at 31 December 2021. The fair value was determined in accordance with International Valuation Standards.

Taking into account the nature of the Group's property, plant and equipment, fair value was determined using depreciated replacement cost for specialised assets and using market-based evidence for non-specialised assets. The fair value of main producing properties and equipment was primarily determined using depreciated replacement cost. This method considers the cost to reproduce or replace the property, plant and equipment, adjusted for physical, functional and economic depreciation, and obsolescence. The depreciated replacement cost was estimated based on internal sources and analysis of available market information for similar property, plant and equipment (published information, catalogues, statistical data etc), and information from industry experts and suppliers (Note 30). The economic impairment test was done using discounted cash flows method. As a result of the economic impairment test, the fair value of property, plant and equipment was significantly adjusted (Note 27).

As a result of this assessment, valuation increase in the amount of UAH 84,593 million in other comprehensive income (2020: valuation decrease in other comprehensive loss UAH 19,461 million) and valuation decrease in value of property, plant and equipment in the amount of UAH 2,048 million in net impairment losses (2020: UAH 7,154 million) as a result of the management came to the conclusion that the recoverable amount of certain cash generating units was different to their carrying amount.

In 2021, the depreciation and depletion expenses of UAH 13,401 million (2020: UAH 16,132 million) were presented in a separate line of the consolidated statement of profit or loss, UAH 2,025 million (2020: UAH 1,929 million) were capitalised in the cost of property, plant and equipment, and UAH 704 million were capitalised in cost of inventories (2020: UAH 364 million).

In 2021, interest accrued of UAH 321 million (2020: UAH 350 million) was capitalised in the cost of property, plant and equipment.

As at 31 December 2021 and 2020, the Group pledged its property, plant and equipment with the carrying amount of UAH 4,430 million and UAH 3,134 million, respectively, to secure its borrowings (Note 14).

6. INTANGIBLE ASSETS

The Group's intangible assets were as follows::

	31 December 2021		31 December2020	
In millions of Ukrainian hryvnias	Cost or valuation	Accumulated depreciation and impairment	Cost or valuation	Accumulated depreciation and impairment
Licences for exploration and extraction of oil and natural gas	3 120	(757)	2 399	(597)
Capital investment in intangible assets	546	(135)	502	(115)
Computer software	1 106	(511)	839	(369)
Other licences and special permits	323	(50)	271	(31)
Copyright	215	(73)	174	(46)
Total	775	(192)	268	(147)
Total	**6 085**	**(1 718)**	**4 453**	**(1 305)**
Net book value	**4 367**		**3 147**	

7. INVESTMENTS IN ASSOCIATES AND JOINT VENTURES

The Group's investments in associates and joint ventures were as follows:

In millions of Ukrainian hryvnias	**31 December 2021**	**31 December 2020**
Investments in associates	722	767
Investments in joint ventures	-	5
Total	**722**	**772**

Details of each of the Group's associates and joint ventures as at 31 December 2021 are as follows:

Name of associate/ joint ventures	Principal activity	Place of incorporation and principal place of business	Proportion of ownership interest	Additional interest acquired	Share of loss	Net foreign exchange income	Disposal	Carrying amount
"Gaztransit" PJSC	Construction works	Ukraine	40.2%	-	(53)	-	-	714
Other	Miscellaneous	Ukraine	Miscellaneous	4	16	-	(17)	8
				4	**(37)**	**-**	**(17)**	**722**

Details of each of the Group's associates and joint ventures as at 31 December 2020 are as follows

Name of associate/ joint ventures	Principal activity	Place of incorporation and principal place of business	Proportion of ownership interest	Additional interest acquired	Share of loss	Net foreign exchange income	Disposal	Carrying amount
"Gaztransit" PJSC	Construction works	Ukraine	40.2%	-	(53)	-	-	767
Other	Miscellaneous	Ukraine	Miscellaneous	-	(12)	2	-	5
				-	**(65)**	**2**	**-**	**772**

All of the above associates are accounted for using the equity method in these consolidated financial statements.

8. CONSIDERATION RECEIVABLE UNDER THE SPA AND COMPENSATION OF UNDERRECOVERED GAS TRANSMISSION REVENUE

On 1 January 2020, the current mandate of "Ukrtransgaz" JSC to operate state-owned gas transmission infrastructure was terminated. All of 100% of the participatory rights of "Gas Transmission System Operator of Ukraine" LLC ("GTSOU") were transferred to "Mahistralny gasoprovody Ukrainy" JSC ("MGU") under a sale and purchase agreement ("SPA"). As specified in the SPA, the Group was entitled to receive an initial fixed payment in the amount of UAH 3,871 million and regular variable payments for 15 years based on a dynamic component of the SPA's price calculated in accordance with the formula agreed by the parties. The Group received the initial fixed payment in the amount of UAH 3,851 million in late 2020.

Details of the sale of the subsidiary:

In millions of Ukrainian hryvnias	**2020**
Total consideration receivable	89 707
Net assets associated with disposal group	(98 015)
Loss on disposal of subsidiary	(8 308)

Results from the sale of the subsidiary were recognised through equity, as this transaction is considered as a transaction between entities under common control of the State. Revaluation reserve in the amount of UAH 161,056 related to property, plant and equipment transferred was reclassified from revaluation reserve to retained earnings, that is also reflected in the consolidated statement of changes in equity.

As at 1 January 2020, the remaining consideration receivable under the SPA was recognised as a financial asset at fair value through profit or loss. As at 31 December 2020 the fair value of consideration receivable under the SPA was determined in the amount of UAH 81,058 million. As at 31 December 2020, the Group determined this fair value of future expected cash flows with inputs based on management projections, analyst expectations and industry forecasts. Key inputs that impact the fair value calculation, inter alia, the period and volume of gas transit revenues and Regulated Asset Base tariffs of GTSOU, are unobservable and could be highly subjective.

During preparation of these consolidated financial statements as at 31 December 2021, management reflected on inputs which might reasonably have been expected to have been taken into account in the fair value assessment as at 31 December 2020, namely:

- The ability or otherwise of MGU to fulfill its obligations under the SPA because of the following facts:

  (a)no neutrality principle on gas balancing services was introduced in 2021 as was expected before, resulting in significant losses for GTSOU because of unsettled imbalances and unauthorised off-takes from the gas transmission system;

  (b)under the SPA, if GTSOU experiences a liquidity shortage, the dynamic component of the SPA due could be directed to cover gas transmission system capital expenditures. Such amounts would generate an interest charge calculated at the weighted average cost of capital (WACC) rate. While, in terms of time value of money alone, it might be indifferent whether to get the dynamic component of SPA's price now or later with interest, given the substantial capital investments needed for modernisation of gas transmission system according to the 10-year development plan approved by the National Commission for Regulation of Energy and Utilities ("NCREU" or "the Regulator") in 2020, there was a risk that GTSOU would not be able to generate sufficient cash flows to remit dividends to MGU in order to meet the obligation of the latter to repay the dynamic component of the SPA when it becomes due;

  (c)the estimate of any gas transit beyond 2024 is highly subjective and is not evidenced by any documents, that also supports the risk of insufficient cash flows to meet MGU's obligations under the SPA;

  (d)regulatory restrictions for GTSOU to its profit distribution could affect the amount, timing and certainty of dividend flow from GTSOU to MGU that are the main source for the latter to meet its obligations under the SPA. According to the Regulation of NCREU dated 30 September 2015 No. 2517 and Commission Regulation (EU) 2017/460 of 16 March 2017 establishing a network code on harmonised transmission tariff structures for gas, the records of differences between actually obtained revenues related to the provision of gas transmission services and allowed revenues for the transmission system operator (over- and underrecovery of gas transmission revenues in case of positive or negative difference, respectively), shall be aggregated on the regulatory account during the tariff period and hence cannot be remitted as dividend on demand;

  (e)lack of evidence of the level and timing of compensation of underrecovered gas transmission revenues incorporated in the future expected cash flows for the period 2020-2024 and ability to recover it under the SPA agreement.

The above-stated information was available and should have been considered in the fair value calculation as at 31 December 2020, however, based on the current management's assessment, may not have been appropriately incorporated into the calculation which might have resulted in overstatement of the fair value as at that date.

In January 2021, MGU publicly contested its ability to fulfil the SPA and stated that GTSOU could not make the necessary capital investments according to its 10-year development plan. The same month the Supervisory Board of MGU officially addressed the Cabinet of Ministers of Ukraine (the "CMU") with a request to revise the SPA. This event, while occurring in 2021, was driven by the factors above which existed already in 2020 and thus provided further evidence that MGU might not have been able to fulfil its obligations under the SPA in full as at 31 December 2020.

In April 2021, GTSOU declared a distribution of UAH 3,625 million as dividends to MGU, which was significantly lower compared to its net profit of UAH 20,354 million for 2020 due to regulatory and legal constraints described above. This significantly limited the ability of MGU to meet its obligations under the SPA.

In May 2021, the CMU issued a resolution which instructed the parties to the SPA to limit the consideration under the SPA to its fixed component which was already settled in December 2020 and to develop a revised arrangement. As a result, the dynamic component of the consideration receivable under the SPA was effectively cancelled by the CMU. Therefore, the fair value of the consideration receivable under the SPA was limited to the amount of UAH 3,200 million based on the amount of GTSOU dividends receivable by MGU and potentially available for payment to the Group. As the cancellation of the dynamic component of the consideration receivable under the SPA was approved by the CMU acting in the capacity of the ultimate owner of the Group and MGU, the respective impact is recognised directly in the consolidated statement of changes in equity.

Management consider that the events and conditions described above support the stance that the fair value amount previously determined as at 31 December 2020 was not recoverable in full. At the same time, management considers that it is impracticable to distinguish information that would have been available when the financial statements as at and for the year ended 31 December 2020 were authorised for issue and which provides additional evidence of circumstances that existed as at 31 December 2020 and information that relates to changes in circumstance after that date and corresponding subsequent changes in fair value. Therefore, the management concluded that it should not make any retrospective adjustments to the fair value of the consideration receivable under the SPA as at 31 December 2020 and instead should recognise any correction of the consideration receivable under the SPA in the consolidated statement of changes in equity for the year ended 31 December 2021. Accordingly, together with the write down of the dynamic component of the consideration receivable under the SPA based on the CMU resolution described above, this resulted in the net change of consideration receivable under the SPA of UAH 77,858 million recognised directly in the consolidated statement of changes in equity.

Since May 2021, management of the Group has been negotiating to recover the amount of consideration receivable or substitute it with some new instrument. As a result, in September 2021 the following agreement was reached and approved by the Resolution of the CMU:

- addenda to the SPA were developed providing that MGU should pay UAH 3,200 million as a single and final instalment within the SPA. The Group received the payment in full in late 2021;

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- "Ukrtransgaz" JSC entered into an agreement with GTSOU on compensation of underrecovered gas transmission revenue, obliging the latter to compensate underrecovered gas transmission revenue for the 2020-2024 regulatory period in the amount of UAH 47,943 million, receivable in instalments, of which UAH 27,000 million were received in October 2021, and the remaining part is receivable in monthly instalments comprising 50% of GTSOU's proceeds from gas transit starting from December 2021. According to this agreement, "Ukrtransgaz" JSC preserves its rights for the compensation of underrecovered gas transmission revenue, which was previously factored into the initial fair value of the compensation receivable under the SPA, if any such compensation is approved for GTSOU for the regulatory periods of 2025-2034.

The receivable was initially recognised as a financial asset at fair value though profit or loss (FVTPL) based on discount rate of 8.77% in the amount of UAH 46,726 million. The increase in the fair value as at 31 December 2021 relates to the change in the discount rate and is presented in the consolidated statement of profit and loss as selling, general and administrative expenses in the amount of UAH 119 million. As at the date of these consolidated financial statements the Group received four monthly installments in the total amount of UAH 3,278 million in 2021 and UAH 4,657 million in 2022.

Management believes that significant support in establishing the agreement between "Ukrtransgaz" JSC and GTSOU on the compensation of underrecovered gas transmission revenue was contributed by the Government of Ukraine, the ultimate owner of both entities, and this support was provided to the Group alongside new strategic directives, issued in September 2021, which specify a key role for the Group in providing security of gas supply in Ukraine, in particular addressing apparent market failures amidst the global gas crisis.

On this basis the Group recognises the compensation of under recovered gas transmission revenue under the agreement between "Ukrtransgaz" JSC and GTSOU on its initial recognition directly in equity as a contribution from the owner.

9. OTHER NON-CURRENT ASSETS

The Group's other non-current assets were as follows:

In millions of Ukrainian hryvnias	31 December 2021	31 December 2020
Financial assets:		
Accounts receivable for petroleum products	6 729	-
Accounts receivable on product sharing agreement	5 151	5 250
Restructured accounts receivable of gas consumers	1 964	2 146
Other financial assets	238	88
Less: provision for impairment of financial assets	(9 810)	(5 406)
Total financial assets	**4 272**	**2 078**
Non-financial assets:		
Other non-financial assets	3 228	2 283
Less: provision for impairment of non-financial assets	(1 713)	(1 469)
Total non-financial assets	**1 515**	**814**
Total	**5 787**	**2 892**

Accounts receivable for petroleum products. During 2021 the Group signed an agreement with two customers as a result of which the schedule of repayment of the receivable was amendment and prolonged until 2024. As a result the financial asset was modified and respective long term portion of the receivable for petroleum products in the amount of UAH 6,729 million and related provision in the amount of UAH 4,437 million were reclassified from trade accounts receivable to other non-current assets (Note 11).

Accounts receivable on product sharing agreement. The Company entered into a concession agreement for hydrocarbon exploration and development with the Arab Republic of Egypt and Egyptian General Petroleum Corporation ("EGPC") on 13 December 2006. Under the terms of the concession agreement the Company has the right to recover all exploration and development costs incurred in connection with the concession agreement (Note 29). The amount presented in the table above represents such costs claimed by the Group for recovery, and which are expected to be refunded after one year since the reporting date.

Restructured accounts receivable of gas consumers. In May 2011, the Law of Ukraine "On certain matters on indebtedness for natural gas and electricity consumed" #3319-VI was approved. According to this Law, accounts receivable due from entities supplying natural gas under the regulated tariff that were originated in 2010, were restructured for the period from 1 to 20 years and are stated at amortised cost using effective interest rate which, at the restructuring dates, varied from 14% to 15% per annum.

In November 2016 the Law of Ukraine "On measures to settle the debts for the natural gas consumed by municipal heat generating entities and distribution and water supplying companies" #1730 was adopted. According to this Law, accounts receivable due from municipal heat generating entities and distribution were restructured for 5 years and are stated at amortised cost using effective interest rate which at the restructuring dates varied from 8% to 16% per annum.

During the year ended 31 December 2021, the Company signed amicable agreements with municipal heat generating entities in respect of the restructuring of accounts receivable for gas. These accounts receivable were restructured for the period from 3 to 4 years and recognised at amortised cost using the effective interest rate method which, at the restructuring date, equalled from 6.45% to 8.03%. Loss on initial recognition of these restructured accounts receivable amounted to UAH 428 million and was included in selling, general and administrative expenses (Note 22).

As at 31 December 2021, the carrying value outstanding amount per gas debt restructuring agreements according to this Law included in other non-current assets was UAH 338 million (31 December 2020: UAH 579 million). Fulfilment of gas debt restructuring agreements is guaranteed by municipal executive government bodies representing the particular territorial community as set by the separate guarantee agreement.

Other non-financial assets. As at 31 December 2021 and 2020, included in other non-current assets are research and development expenditures amounting to UAH 1,324 million and UAH 1,080 million, respectively, that were incurred within the concession agreement for oil exploration and development with the EGPC on 13 December 2006, but not yet claimed for recovery (Note 29).

Movements in provision for impairment of non-current assets were as follows:

In millions of Ukrainian hryvnias	2021 financial assets	2021 non-financial assets	2020 financial assets	2020 non-financial assets
Balance at 1 January	**5 406**	**1 469**	**3 268**	**1 439**
Provision for impairment recognised during the period	952	244	2 158	582
Reversal of provision for impairment	(1 057)	-	-	-
Other movements	4 509	-	(20)	(552)
Balance at 31 December	**9 810**	**1 713**	**5 406**	**1 469**

As at 31 December 2021, the amount of UAH 5,151 million (2020: UAH 5,250 million) of provision for impairment of financial assets related to accounts receivable on product sharing agreement, UAH 4,643 million (2020: UAH nil) related to accounts receivable for petroleum products. As at 31 December 2021 and 31 December 2020 provision relates to impaired financial assets.

Other movements in provision for impairment of non-current accounts receivable relate to reclassification of provision between current and non-current accounts receivable.

10. INVENTORIES

The Group's inventories were as follows:

In millions of Ukrainian hryvnias	31 December 2021	31 December 2020
Natural gas	57 929	30 521
Crude oil	2 885	3 639
Petroleum products	2 466	2 243
Spare parts	1 905	1 964
Raw materials	2 332	1 169
Other	1 493	1 155
Total	**69 010**	**40 691**

Management estimates the necessity of write-down of inventories to their net realisable value taking into consideration indicators of economical and physical obsolescence. In 2021, a write-down adjustment amounting to UAH 652 million was included in purchases, UAH 753 million in selling, general and administrative expenses (Note 22) (2020: UAH 96 million included in selling, general and administrative expenses).

As at 31 December 2021 and 2020, inventories with carrying amount of UAH 24,677 million and UAH 17,323 million, respectively, were pledged as collateral for borrowings (Note 14).

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11. TRADE ACCOUNTS RECEIVABLE

The Group's trade accounts receivable were as follows:

In millions of Ukrainian hryvnias	31 December 2021	31 December 2020
Accounts receivable for natural gas	118 285	86 202
Accounts receivable for gas balancing services	35 793	43 622
Accounts receivable for petroleum products	9 213	12 909
Accounts receivable for crude oil	5 102	6 251
Accounts receivable for gas transportation services	2 480	3 347
Other accounts receivable	2 786	3 244
Less: provision for impairment	(124 165)	(127 446)
Total	**49 494**	**28 129**

As at 31 December 2021, The Group adopted the new methodology for estimation of the expected credit losses ("ECL") of trade accounts receivable for gas. The Group assesses the credit quality of the customer and related probability of default ("PD"), considering its financial position, past experience of payments and other factors (Note 30).

The expected credit losses for receivables for gas (other than direct sales for households) as at 31 December 2021 were measured using the individual approach and as at 31 December 2020- using the portfolio approach as described in Note 30.

The following table provides information about the exposure to credit risk and expected credit losses for trade accounts receivable as at 31 December 2021 and 31 December 2020.

The expected credit losses are estimated using an individual approach:

			31 December 2021		31 December 2020	
In millions of Ukrainian hryvnias		PD	Gross carrying amount	Provision for impairment	Gross carrying amount	Provision for impairment
Accounts receivable from regional gas distribution entities for natural gas	Stage_2	50%- 99%	3 967	(3 172)	-	-
	Stage_3	50%- 100%	46 080	(29 478)	-	-
Accounts receivable from municipal's heating companies for natural gas	Stage_2	0%- 30%	317	(7)	-	-
	Stage_2	30%- 50%	171	(16)	-	-
	Stage_2	50%- 99%	14 994	(1 585)	-	-
	Stage_3	50%- 100%	36 094	(35 036)	-	-
Accounts receivable from other consumers for natural gas	Stage_2	0%- 30%	226	(92)	3 273	(47)
	Stage_2	30%- 50%	3 407	(415)	-	-
	Stage_2	50%- 100%	2 219	(442)	-	-
	Stage_3	30%- 50%	-	-	250	(120)
	Stage_3	50%- 100%	8 129	(7 834)	389	(378)
Accounts receivable for petroleum products	Stage_2	0%- 30%	1 495	(116)	2 904	(749)
	Stage_2	30%- 50%	2 601	(1 219)	-	-
	Stage_2	50%- 99%	12	(9)	11	(8)
	Stage_3	0%- 30%	966	(288)	1	-
	Stage_3	50%- 100%	3 937	(3 632)	9 789	(6 847)
Accounts receivable for crude oil	Stage_2	0%- 30%	60	-	24	-
	Stage_3	50%- 100%	5 042	(5 042)	6 124	(6 124)
Accounts receivable for gas transportation services	Stage_2	0%- 30%	44	(2)	7	-
	Stage_2	50%- 99%	1	(1)	-	-
	Stage_3	0%- 30%	2	-	2	(1)
	Stage_3	50%- 100%	1	(1)	75	(41)
Other accounts receivable	Stage_2	0%- 30%	675	(24)	210	(22)
	Stage_2	30%- 50%	12	(6)	113	(56)
	Stage_2	50%- 99%	-	-	11	(6)
	Stage_3	0%- 30%	248	(87)	189	(51)
	Stage_3	30%- 50%	25	(12)	509	(249)
	Stage_3	50%- 99%	798	(794)	519	(401)
Total			**131 523**	**(89 310)**	**24 400**	**(15 100)**

The expected credit losses are estimated using a migration matrix:

		31 December 2021			31 December 2020		
In millions of Ukrainian hryvnias	**Days past due**	**Expected loss rate**	**Gross carrying amount**	**Provision for impairment**	**Expected loss rate**	**Gross carrying amount**	**Provision for impairment**
Accounts receivable from regional gas distribution entities for natural gas	Not past due	0%	-	-	15%	46	(7)
	1 – 90	0%	-	-	50%	2	(1)
	91 – 180	0%	-	-	100%	913	(912)
	181 – 270	0%	-	-	100%	3 712	(3 711)
	271 – 365	0%	-	-	100%	10 971	(10 970)
	>365	0%	-	-	100%	7 862	(7 862)
Accounts receivable from municipal's heating companies for natural gas	Not past due	0%	-	-	17%	10 658	(1 801)
	1 – 90	0%	-	-	33%	6 582	(2 203)
	91 – 180	0%	-	-	62%	879	(547)
	181 – 270	0%	-	-	72%	2 277	(1 630)
	271 – 365	0%	-	-	89%	5 146	(4 587)
	>365	0%	-	-	100%	20 337	(20 337)
Accounts receivable from other consumers for natural gas	Not past due	2%	1 778	(36)	11%	3 029	(333)
	1 – 90	10%	571	(57)	56%	9	(5)
	91 – 180	27%	75	(20)	69%	32	(22)
	181 – 270	45%	133	(60)	60%	10	(6)
	271 – 365	65%	78	(51)	75%	8	(6)
	>365	100%	46	(46)	100%	9 817	(9 801)
Accounts receivable for gas balancing services	>365	88%	35 793	(31 408)	100%	43 622	(43 576)
Accounts receivable for petroleum products	Not past due	0%	18	-	0%	13	-
	>365	100%	184	(184)	100%	191	(191)
Accounts receivable for crude oil	Not past due	0%	-	-	0%	46	-
	1 – 90	0%	-	-	0%	42	-
	91 – 180	0%	-	-	0%	15	-
Accounts receivable for gas transportation services	Not past due	4%	25	(1)	0%	597	-
	1 – 90	4%	135	(6)	5%	293	(15)
	91- 180	18%	40	(7)	0%	-	-
	181- 270	28%	40	(11)	0%	-	-
	271- 365	54%	13	(7)	0%	-	-
	>365	99%	2 179	(2 162)	100%	2 373	(2 373)
Other accounts receivable	Not past due	0%	197	-	0%	190	-
	1 – 90	0%	10	-	4%	49	(2)
	91- 180	0%	3	-	67%	3	(2)
	181 – 270	0%	9	-	0%	-	-
	271 – 365	62%	26	(16)	95%	22	(21)
	>365	100%	783	(783)	100%	1 429	(1 425)
Total			**42 136**	**(34 855)**		**131 175**	**(112 346)**

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As at 31 December 2021, trade accounts receivable for natural gas in the amount of UAH 2,130 million were secured by bank guarantees (2020: UAH nil). As at 31 December 2021 trade accounts receivable in the amount of UAH 15,574 million were secured by the direct debit transfer agreement (2020: UAH nil).Movements in the provision for impairment of trade accounts receivable for the year ended 31 December 2021 were as follows:

Movements in the provision for impairment of trade accounts receivable for the year ended 31 December 2021 were as follows:

In millions of Ukrainian hryvnias	Stage	**Balance at 1 January**	Provision for impairment recognised during the period	Reversal of provision for impairment	Amounts written off during the year as uncollectible	Settlement on acquisition of the subsidiary	Other movements	Transfers between stages	**Balance at 31 December**
Accounts receivable for gas balancing services	Stage_3	43 576	-	(5,031)	(971)	(5 825)	(341)	-	31 408
Accounts receivable from heating entities for natural gas	Stage_2	4 004	1 608	-	-	-	-	(4 004)	1 608
	Stage_3	27 101	33 931	(30 071)	-	-	71	4 004	35 036
Accounts receivable from regional gas supply entities for natural gas	Stage_2	8	3 172	-	-	-	-	(8)	3 172
	Stage_3	23 455	10 579	(1 931)	-	(2 635)	2	8	29 478
Accounts receivable from other consumers for natural gas	Stage_2	385	1 042	-	-	-	-	(385)	1 042
	Stage_3	10 333	-	(2 714)	-	-	7	385	8 011
Accounts receivable for petroleum products	Stage_2	757	1 344	-	-	-	-	(757)	1 344
	Stage_3	7 038	1 031	(285)	-	-	(4 437)	757	4 104
Accounts receivable for crude oil	Stage_3	6 124	-	(1 082)	-	-	-	-	5 042
Accounts receivable for gas transportation services	Stage_2	15	10	-	-	-	-	(15)	10
	Stage_3	2 415	36	(211)	-	(47)	(20)	15	2 188
Other accounts receivable	Stage_2	86	30	-	-	-	-	(86)	30
	Stage_3	2 149	28	(570)	(25)	-	24	86	1 692
Total		**127 446**	**52 811**	**(41 895)**	**(996)**	**(8 507)**	**(4 694)**	**-**	**124 165**

Other movements in provision for impairment of trade accounts receivable relate to reclassification of provision between current and non-current accounts receivable (Note 9).

Movements in provision for impairment of trade accounts receivable for the year ended 31 December 2020 were as follows:

In millions of Ukrainian hryvnias	Stage	**Balance at 1 January**	Provision for impairment recognised during the period	Reversal of provision for impairment	Amounts written off during the year as uncollectible	Other movements	Transfers between stages	**Balance at 31 December**
Accounts receivable for gas balancing services	Stage_2	2 449	-	-	-	-	(2 449)	-
	Stage_3	38 801	2 897	(265)	(306)	-	2 449	43 576
Accounts receivable from heating companies for natural gas	Stage_2	1 438	4 004	-	-	-	(1 438)	4 004
	Stage_3	18 757	15 032	(8 137)	-	11	1 438	27 101
Accounts receivable from regional gas distribution entities for natural gas	Stage_2	6	8	-	-	-	(6)	8
	Stage_3	340	26 637	(3 528)	-	-	6	23 455
Accounts receivable from other consumers for natural gas	Stage_2	36	385	-	-	-	(36)	385
	Stage_3	10 253	496	(335)	-	(117)	36	10 333
Accounts receivable for petroleum products	Stage_2	3 839	757	-	-	-	(3 839)	757
	Stage_3	951	4 321	(2 379)	-	306	3 839	7 038
Accounts receivable for crude oil	Stage_3	7 212	-	(1 089)	-	1	-	6 124
Accounts receivable for gas transportation services	Stage_2	63	15	-	-	-	(63)	15
	Stage_3	2 175	359	(132)	-	(50)	63	2 415
Other accounts receivable	Stage_2	56	86	-	-	-	(56)	86
	Stage_3	1 902	323	(472)	-	340	56	2 149
Total		**88 278**	**55 320**	**(16 337)**	**(306)**	**491**	**-**	**127 446**

12. PREPAYMENTS MADE AND OTHER CURRENT ASSETS

The Group's prepayments made and other current assets were as follows:

In millions of Ukrainian hryvnias	**31 December 2021**	**31 December 2020**
Financial assets:		
Promissory notes receivable	1 427	1 427
Receivables under assignation agreements in respect of natural gas sales	1 220	1 518
State treasury bonds of Ukraine	-	11 483
Other financial assets	5 621	5 804
Less: Provision for impairment of financial assets	(6 648)	(6 870)
Total financial assets	**1 620**	**13 362**
Non-financial assets:		
VAT recoverable	9 933	3 279
Prepayments to suppliers for materials, works and services	9 226	8 166
Taxes prepaid, other than income tax	5 521	201
Prepayment for gas transit services	2 815	3 614
Prepayments for pipelines construction	1 340	1 342
Prepayments to suppliers for natural gas	164	158
Other non-financial assets	4 379	4 163
Less: Provision for impairment of non-financial assets	(11 440)	(11 644)
Total non-financial assets	**21 938**	**9 279**
Total	**23 558**	**22 641**

As at 31 December 2021 other financial assets included assets in the amount of UAH 1,703 million (2020: UAH 1,681 million) that related to receivables under the joint operation agreements in respect of the exploration and development of oil and gas fields in Ukraine and are fully reserved; UAH 427 million (2020: UAH 219 million) related to short-term financial aid; remaining balances related to the other financial assets.

As at 31 December 2021 other non-financial assets included receivables in the amount of UAH 975 million (2020: UAH 1,187 million) related to VAT on inventory transferred to the principal for further sale under commission agreements.

As at 31 December 2021, taxes prepaid, other than income tax, included UAH 5,279 million of extraction gas royalty prepayments (31 December 2020: UAH nil million).

Movements in the provision for impairment were as follows:

In millions of Ukrainian hryvnias	2021		2020	
	financial assets	**non-financial assets**	**financial assets**	**non-financial assets**
Balance at 1 January	**6 870**	**11 644**	**9 467**	**8 166**
Provision for impairment recognised during the period	381	487	1 946	74
Reversal of provision for impairment	(678)	(44)	(492)	(73)
Amounts written off as uncollectible	(108)	-	(276)	(28)
Other movements	183	(647)	(3 775)	3 505
Balance at 31 December	**6 648**	**11 440**	**6 870**	**11 644**

As at 31 December 2021, UAH 1,703 million (2020: UAH 1,681 million) of the provision for impairment of financial assets related to receivables under the joint operation agreements in respect of the exploration and development of oil and gas fields in Ukraine; UAH 1,427 million (2020: UAH 1,427 million) related to the promissory notes receivable; UAH 881 million (2020: UAH 1,518 million) of the provision for impairment of financial assets related to the receivables under assignation agreements in respect of natural gas sales; remaining balances related to the other financial assets.

As at 31 December 2021, UAH 6,769 million (2020: UAH 6,766 million) of the provision for impairment of non-financial assets related to prepayments to suppliers for materials, works and services; UAH 1,340 million (2020: UAH 1,342 million) related to prepayments for pipelines construction; UAH 481 million (2020: UAH nil) related to VAT on inventory transferred to the principal for further sale under commission agreements; remaining balances related to the other financial assets.

Other movements in the provision for impairment relate to reclassification of the provision between current and non-current accounts receivable.

13. EQUITY

As at 31 December 2021 and 2020, the nominal amount of the Company's registered, issued and fully paid share capital was UAH 190,150 million, comprising 190,150,481 ordinary shares, with a par value of UAH 1,000 per share.

Also, as at 31 December 2021 and 2020, the share capital of the Company was adjusted for the effect of hyperinflation in accordance with IAS 29 "Financial Reporting in Hyperinflationary Economies" by UAH 4,157 million. Therefore, the total amount of the Company's share capital as at 31 December 2021 and 2020 was UAH 194,307 million.

Distribution of profits

Profit available for distribution to the shareholders for each reporting period is determined by reference to the Company's standalone financial statements prepared in accordance with International Financial Reporting Standards.

For the year ended 31 December 2020, the obligatory profit amount accrued in current provisions in respect of the portion of net profit of "Ukrnafta" PJSC attributable to the State Budget amounted to UAH 1,921 million, and to other equity holders – UAH 1,921 million.

In 2021, "Ukrnafta" PJSC additionally accrued dividends in respect of net profit for the year ended 31 December 2018 in amount of UAH 966 million attributable to the State Budget and UAH 966 million attributable to other equity holders.

For the year ended 31 December 2021, the obligatory profit amount accrued in advances received and other current liabilities in respect of the portion of net profit of "Ukrnafta" PJSC attributable to the State Budget amounted to UAH 365 million.

As at 31 December 2021, the Company accrued UAH 3,915 million in respect of the obligatory portion of net profit attributable to the State Budget of Ukraine in advances received and other current liabilities. According to the Resolutions of the Cabinet of Ministers of Ukraine #244-r dated 25 March 2022, the basic distribution rate was set at 95% of the Company's net profit for 2021. In March 2022, the Company paid UAH 2,313 million of dividends for 2021 as an advance payment.

"Donetskoblgaz" JSC management

On 1 October 2021, the Company signed an agreement with the Asset Recovery and Management Agency to operate "Donetskoblgaz" JSC for 5 years. The entity distributes natural gas to circa 370 thousand customers in Donetsk region. As a result, the Group received a quorum of 88.18% of the total ordinary voting shares and respective economic interest. The transaction was accounted using the predecessor accounting method.

The assets and liabilities of "Donetskoblgaz" JSC recognised as of 1 October 2021 as a result of obtained control were follows:

	1 October 2021
Property, plant and equipment	204
Intangible assets	1
Inventories	35
Trade accounts receivable	188
Prepayments made and other current assets	16
Cash and bank balances	64
Provisions	(15)
Trade accounts payable	(9 052)
Advances received and other current liabilities	(1 119)
Total carrying amount of net liabilities	**(9 678)**
Total carrying amount of net liabilities attributable to owners of the Parent	**(8 534)**
Non-controlling interest	(1 144)
Purchase of subsidiary	-
Net liabilities of owners that became as an intragroup balance	**8 497**
Loss due to acquisition of the subsidiary	**(1 181)**

Non-controlling interest

Subsidiaries with non-controlling interest that is material to the Group have been determined by management based on combination of the following factors: (i) the percentage of shares held by non-controlling shareholders; (ii) the accumulated amount of non-controlling interest in the subsidiary; and (iii) total assets, revenues, profit or loss and other comprehensive income of the respective subsidiaries.

The Group has one subsidiary with non-controlling interest that is material to the Group, which is "Ukrnafta" PJSC. The summarised financial information of "Ukrnafta" PJSC (including the impact of consolidation adjustments, but before inter-company eliminations) was as follows as at 31 December 2021 and 31 December 2020.

In millions of Ukrainian hryvnias	"Ukrnafta" PJSC	
	31 December 2021	31 December 2020
Non-current assets	31 860	23 507
Current assets	13 337	12 164
Non-current liabilities	(12 210)	(23 864)
Current liabilities	(19 493)	(4 352)
Net assets	**13 494**	**7 455**
Non-controlling interest	**6 747**	**3 727**

In millions of Ukrainian hryvnias	"Ukrnafta" PJSC	
	2021	2020
Profit for the period	2 491	(24 487)
Other comprehensive income/(loss) for the period	7 854	(2 129)
Total comprehensive income	**10 345**	**(26 616)**
Net profit is attributable to non-controlling interest	**5 173**	**(13 308)**
Dividends payable to non-controlling interest	**(966)**	**(1 921)**

In millions of Ukrainian hryvnias	"Ukrnafta" PJSC	
	2021	2020
Net cash generated by operating activities	4 413	1 002
Net cash used in investing activities	(960)	(994)
Net cash used in financing activities	(7)	(1)
Net increase in cash and cash equivalents	**3 446**	**7**

14. BORROWINGS

The Group's borrowings were as follows:

In millions of Ukrainian hryvnias	31 December 2021	31 December 2020
Non-current		
Eurobonds	32 193	44 453
Bank borrowings	8 019	12 220
Unamortised discount	(58)	(126)
Total non-current portion	*40 154*	*56 547*
Currenttion		
Eurobonds	9 138	-
Bank borrowings	11 033	8 427
Interest accrued	1 265	1 368
Unamortised discount	(5)	-
Total current portion	*21 431*	*9 795*
Total	**61 585**	**66 342**

Eurobonds disclosed in the above table were issued by Kondor Finance plc (a public company with limited liability incorporated in England and Wales) for the purpose of funding a loan to the Company. The Group does not control or exercise significant influence over Kondor Finance plc.

The coupon rate and carrying amount of Eurobonds issued were as follows:

In millions of Ukrainian hryvnias	Coupon rate, %	Date of maturity	Nominal value in millions	Currency	Carrying amount 31 December 2021	Carrying amount 31 December 2020
Issue of July 2019 (Tranche A)	7.125	July 2024	600	Euro	18 524	20 802
Issue of July 2019 (Tranche B)	7.375	July 2022	335	US dollars	9 133	9 457
Issue of November 2019	7.625	November 2026	500	US dollars	13 628	14 124
					41 285	**44 383**

The average effective interest rates and currency denomination of borrowings were as follows:

In millions of Ukrainian hryvnias	31 December 2021		31 December 2020	
	Balance	**% per annum**	**Balance**	**% per annum**
USD	30 381	7.6	32 640	7.6
EUR	20 341	7.5	24 405	7.3
UAH	10 863	11.3	9 297	12.1
Total	**61 585**		**66 342**	

Pledges. The Group's borrowings were secured by the following pledges:

In millions of Ukrainian hryvnias	31 December 2021	31 December 2020
Inventories (Note 8)	24 677	17 323
Proceeds from future sales	10 999	14 412
Property, plant and equipment (Note 5)	4 430	3 134
Total	**40 106**	**34 869**

Guarantees. As at 31 December 2021, the Group's borrowings in the amount of UAH 2,461 million were guaranteed by the State (31 December 2020: UAH 2,783 million).

Reconciliation of financial liabilities from financing activities

In millions of Ukrainian hryvnias	31 December 2020	Cash flows from financing activities	Foreign exchange differences	Other	Interest expense (Note 23)	31 December 2021
Bank borrowings	20 751	(2 585)	(558)	432	1 146	19 186
Eurobonds	45 591	(3 253)	(3 224)	25	3 260	42 399
Total	**66 342**	**(5 838)**	**(3 782)**	**457**	**4 406**	**61 585**

In millions of Ukrainian hryvnias	31 December 2019	Cash flows from financing activitiesi	Foreign exchange differences	Other	Interest expense (Note 23)	31 December 2020
Bank borrowings	24 169	(7 706)	1 403	444	2 441	20 751
Eurobonds	36 493	(3 174)	9 077	22	3 173	45 591
Total	**60 662**	**(10 880)**	**10 480**	**466**	**5 614**	**66 342**

Compliance with borrowing terms. Under the terms and conditions of the credit agreements with the banks and the loan agreements for the bond issues, the Group should comply with certain financial and non-financial covenants, the breach of which may result in the requirement of early repayment of borrowings. The Group's management reviewed compliance with these covenants during the reporting period and as at the reporting date and concluded that no breach of covenants occurred. Assessment of some of the covenants' terms required judgement. Where additional clarification was felt necessary the Group also obtained the bank's confirmation that there was no non-compliance as of 31 December 2021.

To eliminate inconsistencies and provide additional clarification in April 2022 the Company signed an addendum to a loan agreement with a state-owned bank that aligned debt/EBITDA ratio with that in the eurobond loan agreement.

15. PROVISIONS

Movements in provisions for the years ended 31 December 2021 and 2020 were as follows:

In millions of Ukrainian hryvnias	Provisions for litigations	Employee benefit obligations	Decommissio-ning provision	Provision for fines and penalties	Portion of net profit attributable to the State Budget of Ukraine and other equity holders (Note 13)	Other provisions	Total
Balance at 31 December 2019	**12 604**	**7 965**	**5 440**	**19 253**	**6 697**	**1 470**	**53 429**
Provision for dividends payable to the State Budget and other equity holders (Note 13)	-	-	-	-	3 842	-	3 842
(Reversed)/Charged during the year	3 419	2 747	(1)	(791)	-	779	6 153
Unwinding of discount	-	492	362	-	-	-	854
Used or paid during the year	(13 433)	(2 438)	(106)	(16 820)	(6 697)	(185)	(39 679)
Remeasurements	-	(717)	(453)	-	-	-	(1 170)
Balance at 31 December 2020	**2 590**	**8 049**	**5 242**	**1 642**	**3 842**	**2 064**	**23 429**
Non-current	-	4 671	5 182	-	-	-	9 853
Current	2 590	3 378	60	1 642	3 842	2 064	13 576
Provision for dividends payable to the State Budget and other equity holders (Note 13)	-	-	-	-	(3 842)	-	(3 842)
Charged/(reversed) during the year	212	2 155	-	(305)	-	5 579	7 641
Unwinding of discount	-	520	306	-	-	-	826
Used or paid during the year	(272)	(2 194)	(2)	-	-	(142)	(2 610)
Remeasurements	-	(1 229)	(1 123)	-	-	-	(2 352)
Balance at 31 December 2021	**2 530**	**7 301**	**4 423**	**1 337**	**-**	**7 501**	**23 092**
Non-current	-	3 675	4 340	-	-	-	8 015
Current	2 530	3 626	83	1 337	-	7 501	15 077

Provisions for litigations

The Group is involved in a number of litigations both as a plaintiff and as a defendant. Provision for litigations represents management assessment of the probable outflow of the Group's resources arising from an adverse outcome of the court and arbitration procedures.

In 2020 several court decisions resulted in final approval of the Settlement Agreement between Misen Enterprises AB, "Karpatygaz" LLC and the Group. As a result, in 2020 the Group accrued and used the respective provision of UAH 1,337 million (Note 25).

Employee benefit obligations

The Group companies have certain obligations to its employees according to the collective agreements.

Current provisions for employee benefits include provision for performance bonus in the amount of UAH 2,987 million as at 31 December 2021 (31 December 2020: UAH 2,794 million).

Non-current and partially current provisions for employee benefits include lump sum benefits payable upon retirement and post-retirement benefit programmes totalling to UAH 4,314 million as at 31 December 2021 (31 December 2020: UAH 5,255 million). These benefit plans are not funded, and there are no plan assets.

The amounts recognised in the income statement and in other comprehensive income were as follows:

In millions of Ukrainian hryvnias	2021	2020
Current service cost	203	322
Past service cost	22	125
Interest expense	520	492
Remeasurement of the defined benefit obligation (for long-term benefits only)	(4)	8
Total amount recognised in profit or loss	**741**	**947**
Remeasurements of the defined benefit obligation recognised in other comprehensive income	(1 229)	(717)
Total amount recognised in other comprehensive income	**(1 229)**	**(717)**

Changes in the present value of the defined benefit obligation were as follows:

In millions of Ukrainian hryvnias	2021	2020
As at 1 January	**5 255**	**5 495**
Current service cost	203	322
Past service cost	22	125
Interest expense	520	492
Benefit payments	(453)	(470)
Remeasurements of the defined benefit obligation resulting from:		
- changes in financial assumptions	(1 344)	(460)
- experience adjustments	156	(240)
- changes in demographic assumptions	(45)	(9)
As at 31 December	**4 314**	**5 255**

The principal actuarial assumptions used were as follows:

	2021	2020
Nominal discount rate, %	14.8-14.9	9.6-10.0
Long-term inflation, %	4.8-7.6	4.8
Nominal salary increase rate, %	4.8-33.0	4.8-15.0
Staff turnover ratio, %	2.0-8.8	1.5-10.0

The sensitivity of the non-current employee benefit obligations to changes in the principal assumptions is as follows:

	2021	2020
Nominal discount rate increase/decrease by 1%, %	(5.99)/6.74	(7.81)/9.04
Nominal salary increase/decrease by 1%, %	4.13/(3.78)	5.29/(4.73)
Staff turnover increase/decrease by 1%, %	(1.73)/1.93	(1.97)/2.53

The sensitivity analysis presented above may not be representative of the actual change in the non-current employee benefit obligations as it is unlikely that the change in assumptions would occur in isolation of one another as some of the assumptions may be correlated.

Furthermore, in presenting the above sensitivity analysis, the present value of the employee benefit obligations was calculated using the projected unit credit method at the end of the reporting period, which is the same as that applied in calculating the obligation recognised in the consolidated statement of financial position.

There were no changes in the methods and assumptions used in preparing the sensitivity analysis from prior years.

Decommissioning provision

In accordance with the legislation requirements, the Group is obliged to restore land that underwent changes in the relief structure, environmental state of soils and parent rocks, as well as hydrological regime due to drilling, geological survey, constructing and other works. The decommissioning provision represents the present value of decommissioning costs relating to oil and gas properties.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2021

The principal assumptions used for determining the amount of the provision for decommissioning of non-current assets were as follows:

	2021	2020
Discount rate before tax, %	14.9	9.7-9.8
Long-term inflation rate, %	4.8-5.5	4.8-5.4

As at 31 December 2021 and 2020, the Group revised calculation of provisions for decommissioning of non-current assets to reflect its current best estimate. As a result, there was a decrease in the amount of the provision, which is mainly related to the increase of the discount rate.

Provision for fines and penalties

As at 31 December 2020, the provision includes fines and penalties accrued a result of non-payment and late payment of subsoil royalty, income tax and VAT by "Ukrnafta" PJSC. The Group accrued the provision for fines, penalties and late payment interest in respect of such tax liabilities.

In 2020, the Group used the provision of UAH 16,820 million and settled its fines and penalties to the State Budget (Note 2). As at 31 December 2021 the provision balance of UAH 1,337 million (2020: UAH 1,642 million) relates to fines and penalties accrued by "Ukrnafta" PJSC.

Provision for net profit attributable to the State Budget of Ukraine and other equity holders

In June 2021 the profit share of "Ukrnafta" PJSC for the year ended 31 December 2020 was approved and the Group reclassified the provision in amount of UAH 3,842 million to the advances received and other current liabilities. 50% of the amount attributable to Group was recognised as the profit share payable to the State Budget, the other 50% of the amount was recognised as the profit share payable to non-controlling shareholders of "Ukrnafta" PJSC (Note 13).

Other provisions

In 2021 the movement in other provisions includes the revaluation of the provision for commercial gas of third parties held in the custody of the Group that remained on temporarily occupied territories of Ukraine in 2014, in the amount of UAH 5,732 million, which is due to rising market prices for gas.

16. OTHER NON-CURRENT LIABILITIES

In millions of Ukrainian hryvnias	2021	2020
Liabilities for purchase of property, plant and equipment	2 556	3 237
Long-term lease liability	689	117
Total	**3 245**	**3 354**

For the year ended 31 December 2021, the average discount rates of the lease liability are 18,2% (2020: 17,9%) for UAH denominated lease agreements and 4.9% for USD-denominated lease agreements.

17. TRADE ACCOUNTS PAYABLE

In millions of Ukrainian hryvnias	2021	2020
Accounts payable for gas balancing services	6 019	44
Accounts payable for natural gas	2 143	865
Accounts payable for petroleum products	234	72
Accounts payable for gas transportation services	145	286
Accounts payable for crude oil		109
Accounts payable for oil transportation services	-	169
Other accounts payable	2 316	2 040
Total	**10 857**	**3 585**

As at 31 December 2021 other accounts payable included accounts payable under the joint activity agreement with EGPC in the amount of UAH 814 million (2020: UAH 652 million); accounts payable for construction and repair of fixed assets to third parties in the amount of UAH 292 million (2020: UAH 207 million); remaining balances related to accounts payable for other materials, works and services rendered.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2021

18. ADVANCES RECEIVED AND OTHER CURRENT LIABILITIES

The Group's advances received and other current liabilities were as follows:

In millions of Ukrainian hryvnias	31 December 2021	31 December 2020
Financial liabilities:		
Profit share and dividends payable to non-controlling shareholders of "Ukrnafta" PJSC	3 305	427
Profit share and dividends payable to the State Budget	7 167	-
Liabilities for purchase of property, plant and equipment	2 604	2 286
Lease liability	123	31
Other current financial liabilities	1 782	1 813
Total financial liabilities	*14 981*	*4 557*
Non-financial liabilities:		
VAT payable	2 060	3 826
Taxes payable other than income tax	1 900	2 552
Recognised liabilities for unused vacations	1 299	747
Wages, salaries and related social charges payable	466	514
Recognised liabilities for litigations	157	177
Other non-financial current liabilities	990	61
Advances for gas transit organisation services	2 603	2 673
Advances for natural gas	2 029	3 324
Advances for petroleum products	556	173
Advances for oil transportation	347	284
Advances received for geophysical surveys	176	177
Other advances received	225	1 212
Total non-financial liabilities	*12 808*	*15 720*
Total	**27 789**	**20 277**

As at 31 December 2021, liabilities for purchase of property, plant and equipment included current portion of long term liabilities for purchase of property, plant and equipment in the amount of UAH 795 million (2020: UAH 5 million).

As at 31 December 2021, taxes payable other than income tax included UAH 1,600 million of subsoil royalty payable (31 December 2020: UAH 2,387 million).

19. REVENUE

In millions of Ukrainian hryvnias	2021	2020
Gas	136 889	75 171
Petroleum products	35 919	25 900
Gas transit organisation services	32 720	46 724
Oil transit and transportation	3 951	3 753
Gas storage	1 580	2 864
Oil and gas condensate	1 506	876
Repair and construction services	920	777
Gas distribution services	717	352
Other	3 182	2 817
Total	**217 384**	**159 234**

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2021

20. PRODUCTION AND MANUFACTURING EXPENSES

In millions of Ukrainian hryvnias	2021	2020
Subsoil royalty and other taxes other than on income	57 272	25 924
Staff costs and related social charges	8 502	7 596
Transportation of oil and natural gas	3 139	3 130
Materials	3 440	2 007
Crude oil processing services	2 550	3 022
Repair and maintenance costs	1 911	2 605
Utilities	1 763	1 541
Other	3 444	2 397
Total	**82 021**	**48 222**

During the year ended 31 December 2021, Subsoil royalty and other taxes other than on income included UAH 51,270 million of subsoil royalty (31 December 2020: UAH 20,543 million). Subsoil royalty and rent tax are calculated with reference to the volume of crude oil, gas condensate or natural gas produced, and the volume of crude oil transportation. Subsoil royalty on gas produced is calculated with reference to gas import prices.

21. PURCHASES

In millions of Ukrainian hryvnias	2021	2020
Gas	28 128	16 706
Gas transit organisation services	31 980	44 858
Oil and petroleum products	2 849	2 813
Other	278	181
Total	**63 235**	**64 558**

Purchases of gas, oil and petroleum products reflect the costs related to the acquisition of inventories and the effects of the changes therein, and include associated costs incurred in conversion into finished or intermediate products.

22. SELLING, GENERAL AND ADMINISTRATIVE EXPENSES

In millions of Ukrainian hryvnias	2021	2020
Staff costs and related social charges	8 491	8 149
Change in provisions for litigations and other provisions	5 887	624
Non-refundable VAT	2 432	4 747
Loss on disposal of assets	783	442
Write-off of inventories to net realisable value	753	96
Professional fees	712	948
Fines and penalties paid	658	775
Change in the fair value of financial instruments	609	321
Loss on initial recognition of financial instruments at amortised cost	502	9
Contributions to trade unions	471	281
Transportation costs	464	509
Legal costs	337	400
Charity and social infrastructure	257	788
Fines and penalties received	(958)	(566)
(Income)/loss from the sale of inventories and other current assets	(90)	1 821
Other income	(1 627)	(1 128)
Other expenses	2 500	3 124
Total	**22 181**	**21 340**

In addition to the audit fees related to the compulsory audit as included in the professional fees are fees for other services performed by the Group's auditor in 2021 amounting to UAH 14 million (2020: UAH 10 million).

23. FINANCE COSTS

In millions of Ukrainian hryvnias	2021	2020
Interest expense	4 406	5 614
Unwinding of discount	1 064	1 011
Other	144	113
Total	**5 614**	**6 738**

24. INCOME TAX

The components of income tax expense from continuing operations for the years ended 31 December were as follows:

In millions of Ukrainian hryvnias	2021	2020
Current tax expense	10 018	4 789
Deferred tax (benefit)/expense	(2 727)	171
Income tax expenses	**7 291**	**4 960**

The Group is subject to taxation in Ukraine. In 2021 and 2020, Ukrainian corporate income tax was levied on taxable income less allowable expenses at the rate of 18%.

Reconciliation between the expected and the actual taxation charge is provided below:

In millions of Ukrainian hryvnias	2021	2020
Profit/(loss) before income tax	**19 314**	**(14 042)**
Income tax expense/(benefit) at statutory rate of 18%	**3 477**	**(2 528)**
Effect of changes in tax legislation	-	344
Tax effect of items not deductible or taxable for taxation purposes:		
- Non-deductible expenses	1 302	3 892
- Non-taxable income	(553)	(933)
Change in unrecognised deferred tax asset	3 065	4 185
Income tax expenses	**7 291**	**4 960**

The Parent and its subsidiaries are separate taxpayers and, therefore, their deferred tax assets and liabilities are presented on an individual basis. The deferred tax liabilities and assets reflected in the consolidated statement of financial position after appropriate set off are as follows:

In millions of Ukrainian hryvnias	31 December 2021	31 December 2020
Deferred tax assets	5 668	7 685
Deferred tax liabilities	(23 701)	(12 910)
Net deferred tax liability	**(18 033)**	**(5 225)**

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2021

Net deferred tax liabilities as at 31 December 2021 related to the following:

In millions of Ukrainian hryvnias	31 December 2020	Recognised in profit or loss	Recognised in other comprehensive income	31 December 2021
Property, plant and equipment	(12 219)	1 577	(15 227)	(25 869)
Trade accounts receivable	2 242	165	-	2 407
Advances received and other current liabilities	64	92	-	156
Provisions	1 907	1 231	(308)	2 830
Inventories	715	819	-	1 534
Prepayments made and other current assets	166	84	-	250
Other non-current assets	82	(63)	-	19
Unused tax losses	1 818	(1 178)	-	640
Net deferred tax liability	**(5 225)**	**2 727**	**(15 535)**	**(18 033)**

Net deferred tax liabilities as at 31 December 2020 related to the following:

In millions of Ukrainian hryvnias	31 December 2019	Recognised in profit or loss	Recognised in other comprehensive income	31 December 2020
Property, plant and equipment	(18 932)	3 141	3 572	(12 219)
Trade accounts receivable	916	1 326	-	2 242
Advances received and other current liabilities	58	6	-	64
Provisions	7 403	(5 289)	(207)	1 907
Inventories	1 452	(737)	-	715
Prepayments made and other current assets	659	(493)	-	166
Other non-current assets	18	64	-	82
Unused tax losses	7	1 811	-	1 818
Net deferred tax liability	**(8 419)**	**(171)**	**3 365**	**(5 225)**

As at 31 December 2021 and 2020, unrecognised deductible temporary differences and unused tax losses are as follows:

In millions of Ukrainian hryvnias	31 December 2021	31 December 2020
Provisions	1 045	1 027
Trade accounts receivable, prepayments made, other non-current and current assets	114 722	99 792
Inventories	7 423	7 423
Tax losses carried forward	3 414	1 334
Total	**126 604**	**109 576**

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2021

25. CONTINGENCIES, COMMITMENTS AND OPERATING RISKS

Tax legislation. Ukraine's tax environment is characterised by complexity in tax administration and arbitrary interpretation of tax laws and regulations by tax authorities, which, inter alia, can increase fiscal pressure on taxpayers. Inconsistent application, interpretation, and enforcement of tax laws may lead to litigation which, as a consequence, may result in the imposition of additional taxes, penalties, and interest, and these amounts could be material.

Management believes that the Group was in compliance with all requirements of the effective tax legislation. In the ordinary course of business, the Group is engaged in transactions that may be interpreted differently by the Group and tax authorities. Where the risk of outflow of financial resources associated with this is deemed to be probable and the amount can be measured with sufficient reliability, the Group provides for those liabilities. Where management of the Group estimates the risk of financial resources outflow as possible, the Group makes a disclosure of these contingent liabilities.

As at 31 December 2021, management estimated possible tax exposures in the total amount of UAH 9,563 million (31 December 2010: UAH 15,472 million).

Management believes that it is not likely that any significant settlement will arise from the above cases and, therefore, the Group's consolidated financial statements do not include any amount of provision in this respect.

The Group conducts transactions with its subsidiaries. It is possible with evolution of the interpretation of tax law in Ukraine and changes in the approach of tax authorities under the Tax Code, that such transactions could be challenged in the future. The impact of any such challenge cannot be estimated, however, management believes that it should not be significant.

The Group exports refinery products and transportation services, performs intercompany transactions and is involved in transactions with related parties, which may potentially be in the scope of the new Ukrainian transfer pricing ("TP") regulations. The Group's companies submitted the controlled transaction report for the year ended 31 December 2020 to the required deadline. The report on controlled transactions for the year ended 31 December 2021 will be prepared by the Group's companies by 1 October 2022.

Management believes that the Group is in compliance with TP requirements. As the practice of implementation of the new transfer pricing rules has not yet developed and wording of some clauses of the rules may be subject to various interpretations, the impact of challenge of the Group's companies transfer pricing positions by the tax authorities cannot be reliably estimated.

Claim against the Russian Federation regarding assets in Crimea. In October 2016, the Group initiated arbitration proceedings against the Russian Federation seeking compensation for the losses caused by unlawful expropriation of the Group's assets in Crimea by the Russian Federation. These arbitration proceedings were initiated under the Agreement between the Cabinet of Ministers of Ukraine and the Government of the Russian Federation on mutual encouragement and protection of investments.

On 15 September 2017, the Group submitted the Statement of Claim to the Tribunal under the auspices of the Permanent Court of Arbitration in The Hague. The claim amount will be estimated following the Tribunals' Partial Final Award.

On 22 February 2019, the Tribunal issued the Partial Final Award on jurisdiction and responsibility in favour of the Group. The Tribunal acknowledged its jurisdiction over the claims and ruled that the Russian Federation is responsible for violation of the particular articles of the Agreement between the Cabinet of Ministers of Ukraine and the Government of the Russian Federation on mutual encouragement and protection of investments, including the article on prohibition of expropriation.

On 27 June 2019, Naftogaz submitted its Memorial on Quantum to the Tribunal under the auspices of the Permanent Court of Arbitration in The Hague regarding the amount of compensation for the assets that were unlawfully expropriated by the Russian Federation in Crimea. Russia submitted its Counter-Memorial on Quantum in December 2019.

On 14 February 2020, the Group submitted its Reply Memorial on Quantum, responding to Russia's Counter-Memorial on Quantum. In its Reply Memorial, Naftogaz further substantiates its claim for compensation for its assets unlawfully expropriated by the Russian Federation in Crimea in March 2014 – valued at approximately USD 5 billion, plus interest (for a total of more than USD 9 billion).

An arbitration award on the amount of appropriate compensation is expected no earlier than the late 2022.

Legal proceedings. In the normal course of business, the Group is subject to claims. Where the risk of outflow of financial resources associated with such claims is assumed as probable, a respective liability is recognised as a component of provision for litigations (Note 15). Where management estimates the risk of outflow of financial resources associated with such claims as possible, or the amount of outflow cannot be measured reliably, no provision is recognised, and the respective amount is disclosed in the consolidated financial statements.

Management believes that it has provided for all material losses in these consolidated financial statements.

In March 2021, the Antimonopoly Committee of Ukraine claimed "Ukrnafta" PJSC for fines in the amount of UAH 2,368 million for the violation of the Law of Ukraine "On Protection of Economic Competition" during previous years. "Ukrnafta" PJSC claimed the decision of the Antimonopoly Committee in July 2021. There were no court decisions on this case by the date of these consolidated financial statements.

Legal proceedings with "Ukrnafta" PJSC. The Company is involved in disputes with "Ukrnafta" PJSC, a subsidiary of the Group, in respect of recovering the volumes of gas and revenue from sales of this gas, in respect of the commitment to sign natural gas supply contracts, in respect of finding the natural gas storage contracts appropriately concluded and in respect of the obligation to refrain from hindering disposal of property.

The Resolution of the Cabinet of Ministers of Ukraine No.1729 "On providing the natural gas to consumers", effective in the periods before 2016, envisaged that natural gas produced in Ukraine would be sold to Naftogaz in order to enable the latter to meet the needs of households. The Company suggested signing contracts with "Ukrnafta" PJSC for sales and purchase of gas at regulated prices approved at the time by the NCREU, however "Ukrnafta" PJSC declined as it believed that regulation of the gas price for such sales of gas was not justified. In addition, "Ukrnafta" PJSC did not sign a gas storage contract with "Ukrtransgaz" JSC during this period.

As a result of the use of gas held in the Unified Gas Transportation System and the lack of formal business contracts for storage and sales of this natural gas during 2007-2013, each of Naftogaz, "Ukrnafta" PJSC, "Ukrtransgaz" PJSC and non-controlling shareholders of "Ukrnafta" PJSC have initiated a large number of court proceedings in the Ukrainian courts and international arbitration proceedings, some of which remain pending to date. At the same time, "Ukrnafta" PJSC makes claims of a similar nature to different jurisdictions that may lead to duplicating its requests to return assets.

In March 2018, "Ukrnafta" PJSC filed a claim before the Commercial court against Naftogaz seeking recovery of gas in the total volume of 8.039 bcm. The case was postponed during 2018 and renewed upon request of "Ukrnafta" PJSC in April 2021 claiming 8.039 bcm of gas from Naftogaz with an estimated value of UAH 71.4 billion.

In June 2021, "Ukrnafta" PJSC increased its claim to 10.1 bcm of natural gas and in August 2021 "Ukrnafta" PJSC reduced its claim to recovery of about 9.067 bcm of natural gas produced during 2007-2013. In addition, "Ukrnafta" PJSC claims recovery of revenues that have been or potentially could have been received from sales of 10.1 bcm of natural gas. In December 2021, the Commercial Court in Kyiv City closed the preparatory proceedings and assigned the case for trial. On 15 February 2022, the last hearing on the merits took place where the court began examining the evidence.

There is a wide range of possible outcomes with inherent high uncertainty and therefore the possible amount of the outflows of resources cannot be estimated accurately as at the date of these consolidated financial statements at 31 December 2021 and 31 December 2020. This dispute would have no impact on the Group's performance other than allocation of profit and net assets between non-controlling interests and owners of the Parent. The amount of non-controlling interest in "Ukrnafta" PJSC in these consolidated financial statements is based on the value of its assets related to this dispute at historical cost of gas production of "Ukrnafta" PJSC, which was previously incorporated in "Ukrnafta" PJSC financial statements in the amount of UAH 3.2 billion unadjusted for any possible impact of this dispute.

Possible re-arrangement of interest in "Ukrnafta" PJSC

In 2021, the parties were contemplating a re-arrangement of their interest in "Ukrnafta" PJSC. As part of the re-arrangement parties would have to come to an agreement on mutual claims. The re-arrangement would not only include the agreement on the claims but also a split of the assets, and settlement of prepayments made by Naftogaz for future deliveries of gas, and certain other assets and liabilities of "Ukrnafta" PJSC. However, since the beginning of military aggression against Ukraine, the parties were prompted to suspend the re-arrangement.

The arbitration proceedings commenced before the Stockholm Chamber of Commerce Arbitration

These proceedings were initiated by three Cyprus companies that are non-controlling shareholders of "Ukrnafta" PJSC against the State of Ukraine, claiming that Ukraine allegedly breached its obligations to protect non-controlling shareholders' investments by causing or allowing the Group to appropriate gas without making payment for it. The Request for Arbitration was submitted in June 2015. In February 2021 the Tribunal ruled that it did not have jurisdiction to hear the substantive claims of the non-controlling shareholders of "Ukrnafta" PJSC.

The arbitration proceedings commenced before the London Court of International Arbitration

These proceedings were initiated by the non-controlling shareholders of the "Ukrnafta" PJSC against Naftogaz in respect of (i) a declaratory award holding that the non-controlling shareholders' rights under the shareholders' agreement ("SHA") are valid and subsisting, (ii) a final injunction restraining Naftogaz from breaching its obligations pursuant to the SHA, and (iii) damages in relation to the alleged misappropriation by Naftogaz and Ukrtransgaz JSC in breach of the SHA and of a number of provisions of the Civil Code of Ukraine. Claims were initiated in 2015. The Tribunal issued its Partial Final Award on 26 April 2018, recognising its jurisdiction over the dispute, considering certain provisions of SHA as contradicting the applicable Ukrainian legislation, and declaring that the SHA is valid and subsisting. Naftogaz has recently made an application to file a counterclaim.

The Group and a party of the terminated joint operations agreement have disputes in respect of volumes of natural gas and liquids produced under this agreement. Management assesses its contingent liabilities under such disputes at the level of UAH 1,154 million (2020: UAH 606 million). Management cannot reliably estimate an amount of actual losses in respect of this obligation, if any.

Management believes that it has provided for all material losses in these consolidated financial statements.

Possible transfer of the Company's equity interest in the subsidiaries to the State. In 1998, upon creation of the Company, the Government of Ukraine contributed shares of joint stock companies to the share capital of the Company, including "Long-Distance Pipelines "Druzhba" JSC and "Prydniprovskyi Long-Distance Pipeline" JSC (that were subsequently contributed to "Ukrtransnafta" JSC share capital), "Ukrspetstransgaz" SE, "Chornomornaftogaz" SE, "Ukrnafta" OJSC, and fifty four regional gas distribution entities. The Government of Ukraine may decide to transfer shares (stakes) or ownership or control over all or part of the Company's equity interest in those joint stock companies and/or companies, and those actions could have a material adverse effect on the Company's operations.

State property not subject to privatisation. In 1998, the Company entered into an agreement "On use of the State owned property not subject to privatisation" ("Agreement") with the State Property Fund of Ukraine, and assumed operational control over oil and gas transportation and storage systems. The Agreement was signed for one year, and its term is prolonged automatically for one year, unless terminated by notice from either party, and is binding on the legal successor of each party. Historically, the agreement has been prolonged automatically, as neither party initiated its termination. As the State property not subject to privatisation forms an essential part of the Group's business, the future operations and financial performance of the Group depends on the prolongation of the Agreement. The Group's management believes that the Group will continue to operate this property in the foreseeable future.

Pursuant to the Agreement, the Company is required, inter alia, to handle oil and gas transmission and distribution pipelines owned by the State of Ukraine, keep the state property in proper operational condition, and transfer 50% share of profits received from using those assets to the State. The amount of such transfer could be reduced by the amount of capital investments in those assets. The Agreement does not define a mechanism of such calculations, and historically there were no payments from the Company to the State in respect of using such assets. The Company believes that had the mechanism for calculating the state share in profits from using the assets been determined by the State, the capital investments performed by the Company would be greater, and no payment in favour of the State would occur. Accordingly, no liability for such payment was recognised in these consolidated financial statements.

As described in Note 8, on 1 January 2020 current obligations of the Group to operate state-owned gas transmission infrastructure were terminated. On 1 January 2020, the Ministry of Finance of Ukraine transferred state-owned assets related to the gas transmission system to the new transmission system operator under the long-term economic management agreement.

Capital commitments. Capital commitments for purchase of property, plant and equipment, and exploration and development of oil and gas fields comprise UAH 4,866 million as at 31 December 2021 (31 December 2020: UAH 3,868 million).

26. FINANCIAL RISK MANAGEMENT

The Group is exposed to a variety of financial risks: market risk (including currency risk, interest rate risk and other price risk), concentration risk (Note 3), credit risk and liquidity risk. According to its risk management policy the Group identifies, assesses and develops actions to minimise the potential adverse effects on the Group's financial performance for those risks.

Major categories of financial instruments were as follows:

Financial assets at amortised cost:

In millions of Ukrainian hryvnias	Note	31 December 2021	31 December 2020
Other non-current assets	9	4 272	2 078
Trade accounts receivable	11	49 494	28 129
Other current financial assets	12	1 620	1 879
Cash and bank balances		30 540	37 106
Restricted cash		4 293	659
Total financial assets at amortised cost		**90 219**	**69 851**

Financial assets at fair value:

In millions of Ukrainian hryvnias	Note	31 December 2021	31 December 2020
Compensation of underrecovered gas transmission revenues	8	16 567	-
Consideration receivable under the SPA	8	-	81 058
State treasury bonds of Ukraine	12	-	11 483
Total financial assets at fair value		**16 567**	**92 541**

Financial liabilities at amortised cost:

In millions of Ukrainian hryvnias	Note	31 December 2021	31 December 2020
Borrowings	14	(61 585)	(66 342)
Trade accounts payable		(10 857)	(3 585)
Advances received and other current liabilities	18	(14 981)	(4 557)
Other long-term liabilities		(3 245)	(3 354)
Total financial liabilities		**(90 668)**	**(77 838)**

Market risk. The Group is exposed to market risks. Market risks arise from open positions in (a) foreign currencies, (b) interest bearing assets and liabilities, and (c) assets and liabilities that are exposed to other price risk.

Currency risk. The Group operates within Ukraine and its exposure to foreign currency risk is determined mainly by purchases of natural gas from foreign suppliers, which are denominated in USD and EUR. The Group also receives borrowings in foreign currencies. The Group does not hedge its foreign currency positions.

The Group's exposure to foreign currency risk is as follows, based on carrying amounts of respective currency assets and liabilities:

	31 December 2021			31 December 2020		
In millions of Ukrainian hryvnias	USD	EUR	Other	USD	EUR	Other
Restricted cash	3 885	-	-	584	50	-
Cash and bank balances	3 269	9 932	11	21 770	7 687	28
Trade accounts receivable	347	-	-	967	243	-
Prepayments made and other current assets	68	27	-	8 501	-	-
	-	-	-	-	-	-
Borrowings	(30 381)	(20 341)	-	(32 640)	(24 405)	-
Trade accounts payable	(87)	(29)	-	(640)	(52)	-
Advances received and other current liabilities	(1 033)	(154)	-	(370)	(181)	-
Other long-term liabilities	(2 550)	-	-	(3 235)	-	-
Net (short)/long currency position	**(26 482)**	**(10 565)**	**11**	**(5 063)**	**(16 658)**	**28**

The following table presents sensitivities of profit or loss and equity to reasonably possible changes in exchange rates applied at the reporting date, with all other variables held constant.

The exposure was calculated only for monetary balances denominated in currencies other than the functional currency of the Group's entities.

	At 31 December 2021		At 31 December 2020	
In millions of Ukrainian hryvnias	Impact on profit or loss before income tax	Impact on equity net income tax	Impact on profit or loss before income tax	Impact on equity net income tax
USD strengthening by 10%	(2 648)	(2 171)	(506)	(415)
USD weakening by 10%	2 648	2 171	506	415
EUR strengthening by 10%	(1 056)	(866)	(1 666)	(1 366)
EUR weakening by 10%	1 056	866	1 666	1 366

Interest rate risk. The Group normally has no significant interest bearing assets, and its income and operating cash flows are substantially independent of changes in market interest rate. The Group's interest rate risk exposure arises from borrowings at variable interest rates. Borrowings at fixed rate expose the Group to the fair value interest rate risk.

The Group attracts borrowings at both fixed and floating interest rates. As at 31 December 2021 around 1% of the Group's borrowings were provided at floating rates (31 December 2020: 1%). The risk of increase in market interest rates is monitored by the Treasury Department of the Company. The key objective of managing interest rate risk is to get financing at a minimum cost, and match the liquidity needs with the proceeds from borrowings.

The borrowing activities are reviewed on an annual basis. Long-term investing activities and associated funding are considered separately and are subject to the Government of Ukraine approval. The maturity dates of financial liabilities are further disclosed in this Note.

Other price risk. The Group determines other price risk as the risk of possible future losses as a result of the price volatility in purchase and sale transactions. Both volatility in gas prices at the European gas hubs that impacts gas purchase prices, and gas sale and supply to customers at prices under the fixed price contracts (Note 2), expose the Group to the price risk. To manage this risk and offset its negative impact on the Group's financial position, the Group limits the volumes sold at the fixed price and purchases natural gas to fulfil these contracts from the Group's own gas producer at the fixed price. In gas supply for groups of customers at floating prices, the price risk is not considered to be significant. As at 31 December 2021 and 2020, the Group does not have significant financial instruments exposed to the price risk.

Credit risk. The Group is exposed to credit risk, which is the risk that one party to a financial instrument will cause a financial loss for the other party by failing to discharge an obligation. Exposure to credit risk arises as a result of the Group's sales of products on credit terms and other transactions with counterparties giving rise to financial assets.

The Group's policy is that the customers that wish to pay on credit terms are subject to the solvency check and provision of security for future payments. Significant outstanding balances are also reviewed on an ongoing basis. The Group makes a provision for impairment that represents its estimate of expected losses in respect of trade accounts receivable. The main component of this provision relates to specific individually significant exposures.

During 2021, the Cabinet of Ministers of Ukraine issued a Resolution approving amendments to the SPA (Note 8), which resulted in a decrease in receivable under the SPA by UAH 77,858 million and recognition of receivables under the agreement on the compensation of underrecovered gas transmission revenue with the fair value of UAH 16,567 million as at 31 December 2021.

The maximum exposure to credit risk as at 31 December 2021, which consists of financial assets at amortized cost and financial assets at fair value, is UAH 106,786 million (31 December 2020: UAH 162,392 million).

The following table presents credit quality analysis for cash and cash equivalents and cash collateral for participation in the State procurement procedures as at 31 December based on Fitch ratings:

	31 December 2021		31 December 2020	
In millions of Ukrainian hryvnias	**Cash and bank balances**	**Restricted cash**	**Cash and bank balances**	**Restricted cash**
A+ rating	41	-	-	-
A rating	-	-	58	
B+ rating	-	-	1	-
B rating	26 532	4 289	36 421	645
B- rating	10	-	37	-
No rating	3957	4	589	14
Total	**30 540**	**4 293**	**37 106**	**659**

Cash and cash equivalents are represented by bank balances on current accounts placed with Ukrainian and other foreign banks. The restricted cash is cash placed for bank guarantees issued for purchase of gas.

As at 31 December 2020, the Group's financial assets included State treasury bonds of Ukraine in the amount of UAH 11,483 million with Fitch's B credit rating, applicable to Ukraine.

The Group does not hold any collateral as a security for its credit risks related to financial assets, except for guarantees received in respect of restructured accounts receivable of gas consumers within the scope of the Law of Ukraine "On measures to settle the debts for the natural gas consumed by municipal heat generating entities and distribution and water supplying companies" #1730 (Note 2). Such collateral as at 31 December 2021 amounted to UAH 815 million (31 December 2020: UAH 986 million).

Liquidity risk. Prudent liquidity management implies maintaining sufficient cash and the availability of funding to meet existing obligations as they fall due. The Group's objective is to maintain a balance between the continuity of funding and the use of flexible credit terms provided by suppliers and banks. Prepayments are commonly used to manage both liquidity and credit risks. The Group analyses ageing of its assets and maturity of its liabilities and plans liquidity depending on their expected repayment. The Group has capital construction programmes which are funded both through the cash flows generated from the operations and borrowed funds. Borrowed funds are also used to finance the Group's working capital needs.

The following table analyses the Group's financial liabilities by relevant maturity grouping based on the remaining period at the reporting date to the contractual maturity date. The amounts disclosed in the table are undiscounted cash flows of principal and interest payments.

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The maturity analysis of financial liabilities as at 31 December 2021 was as follows:

In millions of Ukrainian hryvnias	**Up to 6 months**	**6-12 months**	**1-2 years**	**2-5 years**	**Over 5 years**	**Total**
Borrowings	7 725	18 032	5 401	44 106	-	75 264
Trade accounts payable	10 857	-	-	-	-	10 857
Advances received and other current liabilities	14 981	-	-	-	-	14 981
Other long-term liabilities	-	-	1 604	1 924	100	3 628
Total	**33 563**	**18 032**	**7 005**	**46 030**	**100**	**104 730**

The maturity analysis of financial liabilities as at 31 December 2020 was as follows:

In millions of Ukrainian hryvnias	**Up to 6 months**	**6-12 months**	**1-2 years**	**2-5 years**	**Over 5 years**	**Total**
Borrowings	7 147	6 478	17 653	37 282	15 295	83 855
Trade accounts payable	3 585	-	-	-	-	3 585
Advances received and other current liabilities	4 557	-	-	-	-	4 557
Other long-term liabilities	-	-	871	3 035	-	3 906
Total	**15 289**	**6 478**	**18 524**	**40 317**	**15 295**	**95 903**

Gearing ratio. Consistent with others in the industry, the Group monitors capital on the basis of gearing ratio. This ratio is calculated as net debt divided by total capital plus net debt under management. Net debt is calculated as total borrowings (current and non-current as shown in the consolidated statement of financial position) less cash and cash equivalents. Total capital under management equals total equity as shown in the consolidated statement of financial position.

The gearing ratio at the end of the reporting period was as following:

In millions of Ukrainian hryvnias	**31 December 2021**	**31 December 2020**
Total borrowings (Note 14)	61 585	66 342
Less: cash and cash equivalents	(30 540)	(37 106)
Total Net Debt	**31 045**	**29 236**
Total Equity	**358 994**	**314 281**
Gearing ratio, %	**8.0**	**8.5**

The Group has certain external capital requirements imposed by the borrowing arrangements. As at 31 December 2021 and 31 December 2020 the Group complied with these requirements.

27. FAIR VALUE

International Financial Reporting Standards defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

The estimated fair values have been determined by the Group using available market information, where it exists, and appropriate valuation methodologies. However, judgement is necessarily required to interpret market data to determine the estimated fair value. Management used all available market information in estimating the fair value. The estimates presented herein are not necessarily indicative of the amounts the Group could realise in a market exchange from the sale of its full holdings of a particular instrument or pay in the transfer of liabilities.

Fair value of property, plant and equipment

Property, plant and equipment are measured at fair value at the end of each reporting period. The following table provides information about how the fair values of these assets are determined (in particular, the valuation techniques and inputs used):

Assets	Fair value hierarchy	Valuation techniques and key inputs
Property, plant and equipment	3	The Group engages professional independent appraisers to determine the fair value of its property, plant and equipment by using a replacement cost method for the majority of groups. The fair value is determined as the cost of construction of these items at current prices less the economic obsolescence and physical tear and wear to date. The main parameter used in this valuation technique are current prices on construction. For items for which there are market comparables (mainly buildings), the sales comparison method is used, the prices of market-based sales of comparable properties in the immediate proximity are adjusted with reference to differences in main parameters (such as floor space of the property). The main parameter used in this valuation technique is the price per square meter of a property.
	2	For the items for which there are market comparables (mainly buildings), the sales comparison method is used, the prices of market-based sales of comparable properties in the immediate proximity are adjusted with reference to differences in main parameters (such as floor space of the property). The main parameter used in this valuation technique is the price per square meter of a property.

The following table summarises property, plant and equipment recognised at fair value after initial recognition using a fair value hierarchy:

31 December 2021

In millions of Ukrainian hryvnias	Level 2	Level 3	Total
Property, plant and equipment	4 384	261 882	266 266
Total	**4 384**	**261 882**	**266 266**

31 December 2020

In millions of Ukrainian hryvnias	Level 2	Level 3	Total
Property, plant and equipment	4 219	179 839	184 058
Total	**4 219**	**179 839**	**184 058**

The valuation technique, inputs used in the fair value measurement for level 3 measurements and related sensitivity to reasonably possible changes in those inputs are as follows at 31 December 2021:

Des-cription	Group of assets	Valuation technique	Unobservable inputs	Range of unobservable inputs	Interrelationship between key unobservable inputs and fair value measurement
Gas storages	Under-ground gas storages equipment Cushion gas	Depreciated replacement cost method using the income approach for economic obsolescence determination	Date of implementing incentive tariffs	Tariffs are expected to be set based on "costs+" methodology taking into account the necessary operating costs and capital expenditure in accordance with the effective Methodology for Determination and Estimation of Tariffs for the Services of Storing (Pumping in, Withdrawing) Natural Gas for Gas Storage Facilities with Regulated Access. RAB (Regulatory Asset Base) tariff become effective in 2032 for storage services	The later incentive tariffs are implemented, the lower is fair value
			Optimisation coefficient which represents the effectiveness of utilisation of gas underground storages	An optimisation coefficient is used to estimate the regulated asset base for adoption of incentive pricing. As at 31 December 2020, it approximated 72%.	The higher is coefficient, the higher is fair value.
			Rate of return under RAB for storage services	The required rate of return on the regulated asset base is equal to the Company's weighted average cost of capital at 14.77%	The higher is the rate of return, the higher is fair value
			Nominal weighted average cost of capital for cash flows	The weighted average cost of capital for cash flows is 14.77%	The higher is the weighted average cost of capital , the lower is fair value
			Forecasted gas price at the incentive tariffs transition date	To determine the regulated asset base for cushion gas at the incentive tariffs adoption date, management uses the forecasted price of UAH 13,569 for 1 tcm.	The higher is the price, the higher is fair value
Gas extraction assets	Gas and oil upstream	Depreciated replacement cost method using the income approach for economic obsolescence determination	Natural gas selling price	The sale price of natural gas until 31 May 2022 is UAH 6,034 per tcm. The forecast price for natural gas from 1 June 2022 - consensus forecasts of analysts and appraiser in a range from UAH 14,131 per tcm to UAH 10,769 per tcm during 2022 - 2027. Starting from 2028, the forecast price for natural gas is growing steadily by 5% annually.	The higher is the selling price, the higher is the fair value
			Long-term forecast of royalty rates (estimated for selling price)	Natural gas and crude oil deposits at depths up to 5,000 m – 29%, over 5,000 m – 14% Oil and gas condensate deposits at depths up to 5,000 m – 31%, over 5,000 m – 16%	The higher is the rate, the lower is the fair value
			Nominal weighted average cost of capital for UAH denominated cash flows	16.97%-21.10%	The higher is the weighted average cost of capital, the lower is the fair value
			Proved developed reserves as assessed by the independent appraiser	1 – 68.386 mcm (remaining gas reserves depending on the field)	The higher is the volume, the higher is the fair value

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Des-cription	Group of assets	Valuation technique	Unobservable inputs	Range of unobservable inputs	Interrelationship between key unobservable inputs and fair value measurement
Oil extrac-tion assets	Gas and oil upstream Gas and oil refinery Filling stations	Depreciated replacement cost method using the income approach for economic obsolescence determination	Crude oil selling price	The forecast price for crude oil - consensus forecasts of analysts and appraiser in a range from UAH 1,886 per barrel to UAH 1,986 per barrel during 2022 - 2026. Starting from 2027 the forecast price crude oil is growing steadily by 5% annually to UAH 3,770 per barrel in 2039.	The higher is the market price, the higher is the fair value
			Long-term forecast of royalty rates (estimated for selling price)	Natural gas and crude oil deposits at depths up to 5000 m – 29%, over 5000 m – 14%. Oil and gas condensate deposits at depths up to 5000 m – 31%, over 5000 m – 16%	The higher is the rate, the lower is the fair valueь
			Oil processing discount (tolling)	31.6%	The higher is the processing discount, the lower is the fair value
			Nominal weighted average cost of capital for UAH denominated cash flows	17.5%	The higher is the weighted average cost of capital, the lower is the fair value
			Proved developed reserves as assessed by the independent appraiser	1 – 2 558.7 thousand of ton (remaining oil reserves depending on the field)	The higher is the volume, the higher is the fair value
Oil trans-mission system and storages	Oil trans-mission system	Depreciated replacement cost method using the income approach for economic obsolescence determination	Transit volumes	12,7-13,0 million tons	The higher is the volumes, the higher is the fair value
			Applicable tariffs	8.6-9.98 euro per ton	The higher is the tariff, the higher is the fair value
			Nominal WACC for UAH-denominated cash flows	18.56%	The higher is the weighted average cost of capital, the lower is the fair value

Unlike the assumptions used in appraisals of property, plant and equipment performed in prior periods, as at 31 December 2021, management has no plans for business optimisation and related closure of certain underground storage facilities in 5 years starting from 2025. As such the discounted cash flow model includes the proceeds from potential disposal of cushion gas withdrawn from the storage facilities only upon winding up the operations.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2021

The valuation technique, inputs used in the fair value measurement for level 3 measurements and related sensitivity to reasonably possible changes in those inputs are as follows at 31 December 2020:

Des-cription	Group of assets	Valuation technique	Unobservable inputs	Range of unobservable inputs	Interrelationship between key unobservable inputs and fair value measurement
Gas storages	Under-ground gas storages equipment Cushion gas	Depreciated replacement cost method using the income approach for economic obsolescence determination	Average profitability of gas pumping	77%	The higher is the average profitability of gas pumping, the higher is the fair value
			Natural gas selling price	Market price forecast is based on forward price for TTF hub gas prices. Forecast Hub + prices are calculated as follows: TTF gas hub forecast plus spread between TTF and VTP hub (Slovakia) gas prices plus entry fee to the GTS of Ukraine.	The higher is the selling price, the higher is the fair value
			Nominal WACC for cash flows	14.35	The higher is the weighted average cost of capital, the lower is the fair value
			Date of introduction of the system of stimulating tariff formation	The RAB-based tariff for storage services is expected from 2030	The later the incentive pricing is introduced, the lower is the fair value
			Estimated average period of cushion gas withdrawal	5 years starting from 2025	The longer is the period, the lower is the fair value
Gas extrac-tion assets	Gas and oil upstream	Depreciated replacement cost method using the income approach for economic obsolescence determination	Natural gas selling price	Market price forecast is based on regression analysis of historical NBP and TTF hub gas prices. The results were applied to the consensus forecast of the NBP hub price and applied to the TTF hub price forecast. Forecast Hub + prices are calculated as follows: TTF gas hub forecast plus spread between TTF and VTP hub (Slovakia) gas prices plus entry fee to the GTS of Ukraine.	The higher is the selling price, the higher is the fair value
			Long-term forecast of royalty rates (estimated for selling price)	Natural gas and crude oil deposits at depths up to 5,000 m – 29%, over 5,000 m – 14% Oil and gas condensate deposits at depths up to 5,000 m – 31%, over 5,000 m – 16%	The higher is the rate, the lower is the fair value
			Nominal weighted average cost of capital for UAH denominated cash flows	15.96%-17.93%	The higher is the weighted average cost of capital, the lower is the fair value
			Proved developed reserves as assessed by the independent appraiser	1 – 47.681 mcm (remaining gas reserves depending on the field)	The higher is the volume, the higher is the fair value
Oil trans-mission system and storages	Oil trans-mission system	Depreciated replacement cost method using the income approach for economic obsolescence determination	Cumulative factor of physical and functional depreciations	0.28-0.80	The higher is the factor, the lower is the fair value
			Transit volumes	12.0-13.4 million tonnes	The higher is the volumes, the higher is the fair value
			Applicable tariffs	EUR 8.6-11.6 per tonne	The higher is the tariff, the higher is the fair value
			Nominal WACC for UAH-denominated cash flows	12.54%	The higher is the weighted average cost of capital, the lower is the fair value

Fair value of financial assets and financial liabilities that are not measured at fair value on a recurring basis (but fair value disclosures are required).

Management believes that carrying amounts of financial assets and liabilities do not differ significantly from their fair values as at 31 December 2021 and 2020 except as disclosed below:

	31 December 2021		31 December 2020	
In millions of Ukrainian hryvnias	**Carrying value**	**Fair value**	**Carrying value**	**Fair value**
Eurobonds (net of unamortised discount)	41 285	40 491	44 383	48 456

The following table provides information about how the fair value of financial assets and financial liabilities was determined (in particular, the valuation techniques and inputs used):

Financial liabilities	Fair value hierarchy	Valuation techniques and key inputs
Eurobonds	1	Fair value of Eurobonds is measured at quoted prices in active markets with implied yields of 10.8%-11.6% p.a

Fair value of consideration receivable under the SPA

As described in Note 8, on 1 January 2020 100% of the participatory rights of "Gas Transmission System Operator of Ukraine" LLC were transferred to "Mahistralny gasoprovody Ukrainy" JSC under the SPA and on terms of the initial payment and regular payments for 15 years and establishment of a dynamic price calculated in accordance with the formula agreed by the parties. The fair value of variable consideration was recognised as a financial asset at fair value though profit or loss (FVTPL).

The following tables provides information about how the fair value of variable consideration is determined (in particular, the valuation techniques and inputs used):

Assets	Fair value hierarchy	Valuation techniques and key inputs
Consideration receivable	3	The Group determines the fair value of the future expected cash flows. The inputs are based on management projections, analyst expectations, and industry forecasts. The estimates are based on a discount rate of 11.74%

Inputs used for determination of variable consideration fair value as at 31 December 2020 were as follows:

Valuation technique	Unobservable inputs	Range of unobservable inputs	Interrelationship between key unobservable inputs and fair value measurement
Discounted cash flow model	Period when transit revenues are received	2020-2034	The longer the period of income generation from transit, the higher the fair value
	Applicable transit volumes	65 bcm p.a in 2020 and 40 bcm p.a in the next four years (based on a Transportation Organisation Agreement between Naftogaz and Gazprom). From 2024 – 40 bcm p.a (based on management expectations).	The higher the volumes, the higher the fair value
	Regulated Asset Base tariffs	The RAB-based (Regulatory Asset Base) tariffs for gas transportation services were used for the regulatory period 2020-2024. From 2024 and onwards RAB tariffs for transportation services were calculated based on the long-term incentive tariffs and management expectations on key parameters.	The lower the RAB, the lower the fair value
	Nominal WACC for USD-denominated cash flows	11.74%	The higher the weighted average cost of capital, the lower the fair value

There were no changes in valuation techniques during the period. There were no transfers between Level 2 and Level 3 during the period.

Fair value of the compensation of underrecovered gas transmission revenue

The following tables provides information about how the fair value of compensation of underrecovered gas transmission revenue is determined (in particular, the valuation techniques and inputs used):

Assets	Fair value hierarchy	Valuation techniques and key inputs
Compensation of underrecovered gas transmission revenues	3	The Group determines the fair value of the future expected cash flows. The inputs are based on management projections, analyst expectations, and industry forecasts. The estimates are based on a discount rate of 8.77%

As described in Note 8, the fair value of underrecovered gas transmission revenue was recognised as a financial asset at fair value though profit or loss (FVTPL) based on the discount rate of 8.77%. The change in the fair value as at 31 December 2021 in the amount of UAH 119 million relates to the change in the interest rate of 12.15%. As at 31 December 2021, the fair value of receivables under the Agreement amounted to UAH 16,567 million.

Information used for determining the fair value of receivables under the agreement on the compensation of underrecovered gas transmission revenue as at 31 December 2021 was as follows:

Valuation technique	Unobservable inputs	Range of unobservable inputs	Interrelationship between key unobservable inputs and fair value measurement
Model of discounted cash flows	Discount rate	8.77% at the date of initial recognition and 12.15% at the reporting date	The higher is the discount rate, the lower is the fair value

28. SUBSEQUENT EVENTS

As discussed in Note 2, on 24 February 2022, the Russian Federation launched a full-scale military invasion of Ukraine. The broad security concerns became challenging for the further stable development of economical and finance segments in Ukraine, and the operating environment remains risky and with high level of uncertainties since then.

PSO obligations. As discussed in Note 2, consequently to the military aggression of the Russian Federation, in March 2022 the Cabinet of Ministers of Ukraine issued its Resolution imposing public service obligations on the Group.

Dividends paid. As discussed in Note 13, in March 2022, the Company has made an advance transfer of dividends amounting to UAH 2,313 million to the State Budget. According to the Resolution of the Cabinet of Ministers of Ukraine #244-r dated 25 March 2022, the basic distribution rate was set at 95% of the Company's net profit for 2021.

Compensation of underrecovered gas transmission revenues. In 2022, the Group received a payment of UAH 4,657 million from OGTSU (Note 8) in accordance with the agreement on compensation of the underrecovered gas transmission revenues.

Loan repayment and borrowing. Subsequent to 31 December 2021 and up to the date of these consolidated financial statements, the Group obtained borrowings in the amount of UAH 13,368 million and repaid loans amounting to UAH 268 million.

Other subsequent events are also disclosed in Note 2.

29. BASIS OF PREPARATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Statement of compliance. These consolidated financial statements have been prepared in accordance with the International Financial Reporting Standards ("IFRS").

Basis of preparation of consolidated financial statements. These consolidated financial statements have been prepared on the historical cost basis except for property, plant and equipment that are measured at revalued amounts at the end of each reporting period and certain financial instruments measured at fair value as explained in the accounting policies below.

Historical cost is generally based on the fair value of the consideration given in exchange for goods and services.

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date, regardless of whether that price is directly observable or estimated using another valuation technique.

These policies have been consistently applied to all periods presented, unless otherwise stated.

In accordance with p.5 Article 12-1 of the Law of Ukraine on Accounting and Reporting in Ukraine, all mandatory IFRS reporters should prepare and submit their financial statements based on the taxonomy of financial statements under IFRS in a single electronic format (referred to as "iXBRL"). As of the date of issuing these consolidated financial statements, the 2021 UA XBRL IFRS taxonomy has not been published yet and the process for submitting 2021 financial statements in the single electronic format has not been initiated yet by the National Securities and Stock Market Commission. Management of the Group is planning to prepare the iXBRL report and submit it during 2022.

Functional and presentation currency. Items included in the financial statements of each of the Group's entities are measured using the currency of the primary economic environment in which the Group operates ("the functional currency"). The consolidated financial statements are presented in Ukrainian hryvnia ("UAH"), which is the Company's functional currency and the Group's presentation currency. All amounts presented in the consolidated financial statements are presented in UAH, rounded to the nearest million, unless otherwise stated.

Transactions denominated in currencies other than the relevant functional currency are translated into the functional currency, using the exchange rate prevailing at the date of the transaction. Foreign exchange gains and losses, resulting from settlement of such transactions and from the translation of foreign currency denominated monetary assets and liabilities at year end, are recognised in the consolidated statement of profit or loss. Translation at year end does not apply to non-monetary items including equity investments.

As at 31 December, the exchange rates used for translating foreign currency balances were:

In Ukrainian hryvnias	**2021**	**2020**
USD 1.00	28.28	28.27
EUR 1.00	30.92	34.74

The average exchange rates for the year ended 31 December were:

In Ukrainian hryvnias	**2021**	**2020**
USD 1.00	27.28	26.96
EUR 1.00	32.30	30.79

During 2021 and 2020 in Ukraine there were certain restriction in respect of transactions with foreign currency, imposed by the National Bank of Ukraine. Foreign currency can be easily converted at a rate close to the National Bank of Ukraine rate. At present, UAH is not freely convertible outside Ukraine.

Basis for consolidation. Subsidiaries are those companies over which the Group has control. The Group controls an entity when the Group has power over the investee; is exposed to, or has rights to, variable returns from its involvement with the investee and has the ability to use its power to affect its returns. Subsidiaries are consolidated from the date on which control is transferred to the Group (acquisition date) and are deconsolidated from the date that control ceases.

Intercompany transactions, balances and unrealised gains or losses on transactions between the Group companies are eliminated. Accounting policies of subsidiaries have been changed where necessary to ensure consistency with the policies adopted by the Group.

The Company reassesses whether or not it controls an investee if facts and circumstances indicate that there are changes to one or more elements of control listed above.

When the Group has a majority of the voting rights of an investee, it still considers whether the voting rights are sufficient to give it the practical ability to direct the relevant activities of the investee unilaterally and, thus, has the power over the investee.

The Group considers all relevant facts and circumstances in assessing whether or not the Group's voting rights in an investee are sufficient to give it power, including:

- The size of the Group's holding of voting rights relative to the size and dispersion of holdings of the other vote holders;
- Potential voting rights held by the Group, other vote holders or other parties;
- Rights arising from other contractual arrangements; and
- Any additional facts and circumstances that indicate that the Group has, or does not have, the current ability to direct the relevant activities at the time that decisions need to be made, including voting patterns at previous shareholders' meetings.

Business combinations. Acquisitions of businesses are accounted for using the acquisition method. The consideration transferred in a business combination is measured at fair value, which is calculated as the sum of the acquisition-date fair values of the assets transferred by the Group, liabilities incurred by the Group to the former owners of the acquiree and the equity interests issued by the Group in exchange for control of the acquiree. Acquisition-related costs are generally recognised in profit or loss as incurred.

At the acquisition date, the identifiable assets acquired and the liabilities assumed are recognised at their fair values, except that:

- Deferred tax assets or liabilities, and assets or liabilities related to employee benefit arrangements are recognised and measured in accordance with IAS 12 "Income Taxes" and IAS 19 "Employee Benefits", respectively;
- Liabilities or equity instruments related to share-based payment arrangements of the acquiree or share-based payment arrangements of the Group entered to replace share-based payment arrangements of the acquiree are measured in accordance with IFRS 2 "Share-based Payments" at the acquisition date; and
- Assets (or disposal groups) that are classified as held for sale in accordance with IFRS 5 "Non-current Assets Held for Sale and Discontinued Operations" are measured in accordance with that Standard.

Goodwill is measured as the excess of the sum of the consideration transferred, the amount of any non-controlling interests in the acquiree, and the fair value of the acquirer's previously held equity interest in the acquiree (if any) over the net of the acquisition-date amounts of the identifiable assets acquired and the liabilities assumed. If, after reassessment, the net of the acquisition-date amounts of the identifiable assets acquired and liabilities assumed exceeds the sum of the consideration transferred, the amount of any non-controlling interests in the acquiree and the fair value of the acquirer's previously held interest in the acquiree (if any), the excess is recognised immediately in profit or loss as a bargain purchase gain.

Non-controlling interests that are present ownership interests and entitle their holders to a proportionate share of the entity's net assets in the event of liquidation can be initially measured either at fair value or at the non-controlling interests' proportionate share of the recognised amounts of the acquiree's identifiable net assets. The choice of measurement basis is made on a transaction-by-transaction basis. Other types of non-controlling interests are measured at fair value or, when applicable, on the basis specified in another IFRS.

When the consideration transferred by the Group in a business combination includes assets or liabilities resulting from a contingent consideration arrangement, the contingent consideration is measured at its acquisition-date fair value and included as part of the consideration transferred in a business combination. Changes in the fair value of the contingent consideration that qualify as measurement period adjustments are adjusted retrospectively, with corresponding adjustments against goodwill. Measurement period adjustments are adjustments that arise from additional information obtained during the 'measurement period' (which cannot exceed one year from the acquisition date) about facts and circumstances that existed at the acquisition date.

The subsequent accounting for changes in the fair value of the contingent consideration that do not qualify as measurement period adjustments depends on how the contingent consideration is classified. Contingent consideration that is classified as equity is not remeasured at subsequent reporting dates and its subsequent settlement is accounted for within equity. Contingent consideration that is classified as an asset or a liability is remeasured at subsequent reporting dates in accordance with IFRS 9 "Financial Instruments", or IAS 37 "Provisions, Contingent Liabilities and Contingent Assets", as appropriate, with the corresponding gain or loss being recognised in profit or loss.

When a business combination is achieved in stages, the Group's previously held equity interest in the acquiree is remeasured to its acquisition-date fair value and the resulting gain or loss, if any, is recognised in profit or loss. Amounts arising from interests in the acquiree prior to the acquisition date that have previously been recognised in other comprehensive income are reclassified to profit or loss where such treatment would be appropriate if that interest were disposed of.

If the initial accounting for a business combination is incomplete by the end of the reporting period in which the combination occurs, the Group reports provisional amounts for the items for which the accounting is incomplete. Those provisional amounts are adjusted during the measurement period (see above), or additional assets or liabilities are recognised, to reflect new information obtained about facts and circumstances that existed at the acquisition date that, if known, would have affected the amounts recognised at that date.

Business combination with the entities under common control are accounted under the acquisition method as described above or under the predecessor accounting method.

Goodwill. Goodwill arising on an acquisition of a business is carried at cost as established at the date of acquisition of the business less accumulated impairment losses, if any.

For the purposes of impairment testing, goodwill is allocated to each of the Group's cash-generating units (or groups of cash-generating units) that is expected to benefit from the synergies of the combination.

A cash-generating unit to which goodwill has been allocated is tested for impairment annually, or more frequently when there is an indication that the unit may be impaired. If the recoverable amount of the cash-generating unit is less than its carrying amount, the impairment loss is allocated first to reduce the carrying amount of any goodwill allocated to the unit and then to the other assets of the unit pro rata based on the carrying amount of each asset in the unit. Any impairment loss for goodwill is recognised directly in profit or loss. An impairment loss recognised for goodwill is not reversed in subsequent periods.

On disposal of the relevant cash-generating unit, the attributable amount of goodwill is included in the determination of the profit or loss on disposal.

Transactions with non-controlling interests. The Group treats transactions with non-controlling interests as transactions with equity owners of the Group. For purchases from non-controlling interests, the difference between any consideration paid and the relevant share acquired of the carrying amount of net assets of the subsidiary is recorded in equity. Gains or losses on disposals to non-controlling interests are also recorded in equity.

When the Group ceases to have control or significant influence, the retained interest in the entity is remeasured to its fair value, with the change in the carrying amount recognised in profit or loss. The fair value is the initial carrying amount for the purposes of subsequent accounting for the retained interest in an associate, joint venture or financial asset. In addition, any amounts previously recognised in other comprehensive income in respect of that entity are accounted for as if the Group had directly disposed of the related assets or liabilities. This may mean that amounts previously recognised in other comprehensive income are reclassified to profit or loss.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2021

If the ownership interest in an associate is reduced but significant influence is retained, only a proportionate share of the amounts previously recognised in other comprehensive income are reclassified to profit or loss where appropriate.

Investments in associates. Associates are entities over which the Group has significant influence but not control. Investments in associates are accounted for using the equity method of accounting. The Group's investment in associate includes goodwill identified on acquisition, net of any accumulated impairment loss.

The Group's share of its associates' post-acquisition profits or losses is recognised in the consolidated statement of profit or loss, and its share of post-acquisition movements in other comprehensive income is recognised in other comprehensive income. The cumulative post-acquisition movements are adjusted against the carrying amount of the investment. When the Group's share of losses in an associate equals or exceeds its interest in the associate, including any other unsecured receivables, the Group does not recognise further losses, unless it has incurred obligations or made payments on behalf of the associate. Unrealised gains on transactions between the Group and its associates are eliminated.

Accounting policies of associates have been changed where necessary to ensure consistency with the policies adopted by the Group.

Dilution of gains and losses arising on investments in associates is recognised in the consolidated statement of profit or loss.

Interest in joint ventures. A joint venture is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the joint arrangement. Joint control is the contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require unanimous consent of the parties sharing control.

The Group recognises its interest in the joint venture using the equity method applied as described above in the paragraph Investments in associates.

Interests in joint operations. A joint operation is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the assets, and obligations for the liabilities, relating to the arrangement. Joint control is the contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require unanimous consent of the parties sharing control.

When a group entity undertakes its activities under joint operations, the Group as a joint operator recognises in relation to its interest in a joint operation:

- Its assets, including its share of any assets held jointly;
- Its liabilities, including its share of any liabilities incurred jointly;
- Its share of the revenue from the sale of the output by the joint operation; and
- Its expenses, including its share of any expenses incurred jointly.

The Group accounts for the assets, liabilities, revenues and expenses relating to its interest in a joint operation in accordance with the IFRS applicable to the particular assets, liabilities, revenues and expenses.

When a group entity transacts with a joint operation in which a group entity is a joint operator (such as a sale or contribution of assets), the Group is considered to be conducting the transaction with the other parties to the joint operation, and gains and losses resulting from the transactions are recognised in the Group's consolidated financial statements only to the extent of other parties' interests in the joint operation.

When a group entity transacts with a joint operation in which a group entity is a joint operator (such as a purchase of assets), the Group does not recognise its share of the gains and losses until it resells those assets to a third party.

Concession agreement (product sharing agreement). The Company entered into a concession agreement for oil exploration and development ("Concession Agreement") with the Arab Republic of Egypt and the Egyptian General Petroleum Corporation ("EGPC") on 13 December 2006.

The Concession Agreement includes the following conditions:

- Subject to the auditing provisions under the Concession Agreement, the Company shall recover on a quarterly basis all exploration and development costs to the extent and out of 25% of all petroleum produced and saved from all production areas and not used in petroleum operations ("Cost Recovery"). Petroleum products under the Concession Agreement include crude oil or gas and liquefied petroleum gas ("LPG").
- Remaining 75% of the petroleum produced are shared by the Company and EGPC depending on the volume of production and the product type (crude oil or gas and LPG). The Company's share varies from 15% to 19%.
- EGPC shall become the owner of all the Company's assets acquired and owned within the Concession Agreement, which were charged to Cost Recovery by the Company in connection with the operations carried out by the Company: land shall become the property of EGPC as soon as it is purchased; title to fixed and movable assets shall be transferred automatically and gradually from the Company to EGPC as they become subject to the Cost Recovery.

The development period under the Concession Agreement is limited to maximum 25 years from the date of commercial oil discovery or from the date of first gas deliveries, started in 2010.

Segment reporting. Operating segments are reported in a manner consistent with the internal reporting provided to the Group's chief operating decision maker. Segments whose revenue, results or assets are ten percent or more of all the segments are reported separately. Segments falling below this threshold can be reported separately at management decision.

Property, plant and equipment. The Group uses the revaluation model to measure property, plant and equipment, except for other fixed assets and construction in progress which is carried at cost. Fair value was based on valuations made by external independent appraisers. The frequence of revaluation depends on the movements in the fair values of the assets being revalued. There Group uses the "net" approach of adjusting the carrying amount of an asset upon revaluation and eliminates accumulated depreciation against the carrying amount of the asset and then revalues the net carrying amount. Subsequent additions to property, plant and equipment are recorded at cost. Cost includes expenditure directly attributable to acquisition of the items.

The cost of self-constructed assets includes the cost of materials, direct labour and an appropriate proportion of production overheads. Cost of acquired and self-constructed qualifying assets includes borrowing costs.

Any increase in the carrying amounts resulting from revaluations are credited to revaluation reserve in equity through other comprehensive income. Decreases that offset previously recognised increases of the same asset are charged against revaluation reserve in equity through other comprehensive income; all other decreases are charged to the consolidated statement of profit or loss. To the extent that an impairment loss on the same revalued asset was previously recognised in the consolidated statement of profit or loss, a reversal of that impairment loss is also recognised in the consolidated statement of profit or loss.

Expenditure incurred to replace a component of an item of property, plant and equipment that is accounted for separately, is capitalised with the carrying amount of the replaced component being derecognised. Subsequent costs are included in the asset's carrying amount or recognised as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the item will flow to the Group and the cost of the item can be measured reliably. All other repairs and maintenance are charged to the consolidated statement of profit or loss during the financial period in which they are incurred. Property, plant and equipment are derecognised upon disposal or when no future economic benefits are expected to be received from the continued use of the asset. Gains and losses on disposal determined by comparing proceeds with the carrying amount of property, plant and equipment are recognised in the consolidated statement of profit or loss. When revalued assets are sold or disposed of, the amounts included in the revaluation reserve are transferred to retained earnings.

Property, plant and equipment includes cushion gas required to be held in the storage facilities for the operating activities of the Group's subsidiary in the gas storage segment.

Cushion gas is the gas intended for maintaining pressure in underground storage facilities of the Group and protecting them from flooding. Cushion gas is revalued when there is an indication that its carrying amount as of the reporting date is materially different from its fair value.

Construction in progress includes also prepayments for property, plant and equipment.

Exploration expenses. Exploration expenses comprise the costs associated with unproved reserves. These include geological and geophysical costs for the identification and investigation of areas with possible oil and gas reserves and administrative, legal and consulting costs in connection with exploration. They also include all impairments on exploration wells where no proved reserves could be demonstrated.

Research and development expenses. Research and development ("R&D") expenses include all direct and indirect materials, personnel and external service costs incurred in connection with the focused search for new development techniques and significant improvements in products, services and processes and in connection with research activities. Expenditures related to research activities are shown as R&D expenses in the period in which they are incurred. Development costs are capitalised if the recognition criteria according to IAS 38 "Intangible Assets" are met.

Exploration and evaluation assets. Oil and gas exploration and evaluation expenditures are accounted for using the successful efforts method of accounting.

Expenditures at the exploration stage of hydrocarbon reserves exploration and evaluation, including the economic and technical feasibility studies for exploratory field development and advisory services, are expensed as incurred.

Expenses directly related to obtaining special rights to extraction of mineral resource reserves are capitalised in cost of licences for exploration and recognised as intangible assets from the date of special rights. Subsequently, the relevant assets are accounted for as required by IAS 38 "Intangible Assets".

Expenses arising at the stage of field development, including costs of drilling and trenching, leases and depreciation of property, plant, and equipment, are capitalised in construction in progress as exploration and evaluation assets. The assets created are reviewed for impairment on an annual basis. In case the exploratory drilling does not give a result, or it is probable that the expenses incurred will not generate revenue, the asset is partially or fully written off against expenses of the period.

In the event a decision is taken on further development of the field and from the date of putting into operation of the first producing well, the Group classifies the capitalised exploration and evaluation costs related to this well as oil and gas extraction assets within property, plant, and equipment in the consolidated statement of financial position.

Depreciation and depletion. . Depreciation is charged to the consolidated statement of profit or loss on a straight-line basis to allocate costs of individual assets except their residual value over their estimated useful lives. Depreciation commences on the date of acquisition or, in respect of self-constructed assets, from the time an asset is completed and ready for use.

Hydrocarbon extraction wells are depleted using a unit-of-production method over the life of proved developed hydrocarbons reserves. Specialised drilling tools and other fixed assets used to perform any work on the well are depleted using a unit-of-production method based on the relevant output standard established by the Group.

Other property, plant and equipment items are depreciated on a straight-line basis over their expected useful lives. The useful lives of the Group's other property, plant and equipment items are as follows:

	Useful lives in years
Drilling assets	2-60
Gas and oil upstream	2-60
Underground gas storages	2-60
Oil transmission system	2-60
Gas and oil refinery	2-60
Filling stations	2-60
Gas distribution assets	2-60
LNG transportation	2-60
Other fixed assets	3-30

Construction in progress and cushion gas are not depreciated.

Intangible assets. Intangible assets have definite useful lives and primarily include licences for exploration and extraction and capitalised computer software. Acquired computer software is capitalised on the basis of the costs incurred to acquire and bring it to use. Intangible assets are carried at cost less accumulated amortisation and impairment losses, if any. If impaired, the carrying amount of intangible assets is written down to the higher of value in use and fair value less costs to sell. Intangible assets are amortised on a straight-line basis to allocate costs of individual assets over their estimated useful lives.

Leases. According to IFRS 16, the Group records assets in the form of the right–of-use and lease liability in the consolidated statement of financial position and measures them at the present value of future lease payments that are not made at the commencement date, discounted by using the rate implicit in the lease. If this rate cannot be readily determined, the Group uses its incremental borrowing rate. The Group records depreciation of assets in the form of the right-of-use and interest on lease liability in the consolidated statement of profit or loss. The total amount of cash paid to principal is presented within financial activities in the consolidated statement of cash flows and interest is presented within financing activities.

In respect of short-term leases (12 months or less) and leases of low value assets (such as personal laptops and office furniture), the Group records lease payments as an operating expense on a straight-line basis over the term of the lease in accordance with the requirements of IFRS 16.

Leases in lessor accounting in which a significant portion of the risks and rewards of ownership is retained by the lessor are classified as operating leases. Payments made under operating leases (net of any incentives received from the lessor) are recognised as income in the consolidated statement of profit or loss on a straight-line basis over the period of the lease.

Decommissioning liabilities. The Group's assessment of the decommissioning liabilities is based on the estimated future costs expected to be incurred in respect of the decommissioning and site restoration, adjusted for the effect of the projected inflation for the upcoming periods and discounted using interest rates applicable to the provision. Estimated costs of dismantling and removing an item of property, plant and equipment are added to the cost of an item of property, plant and equipment when the item is acquired, and corresponding obligation is recognised. Changes in the measurement of the existing decommissioning liability, that result from changes in the estimated timing or amount of the outflows, or from changes in the discount rate used for measurement, are recognised in the consolidated statement of profit or loss or, to the extent of any revaluation balance existence in respect of the related asset, in other comprehensive income or loss. Provisions for decommissioning activities are evaluated and re-estimated annually, and are included in the consolidated financial statements at each reporting date at their expected present value, using discount rates which reflect the economic environment in which the Group operates.

Interest expense related to the provision is included in finance costs in profit or loss.

Impairment of non-financial assets. Assets are reviewed for impairment when events and changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognised for the amount by which the assets carrying amount exceeds its recoverable amount. The recoverable amount is the higher of fair value less cost to sell and value in use. For purposes of assessing impairment, assets are grouped to the lowest levels for which there are separately identifiable cash flows (cash generating unit). Non-financial assets that have incurred impairment are reviewed for possible reversal of the impairment at each reporting date.

An impairment loss is recognised immediately in profit or loss, unless the relevant asset is carried at a revalued amount, in which case the impairment loss is treated as a revaluation decrease.

When an impairment loss subsequently reverses, the carrying amount of the asset (or a cash-generating unit) is increased to the revised estimate of its recoverable amount, but so that the increased carrying amount does not exceed the carrying amount that would have been determined had no impairment loss been recognised for the asset (or cash-generating unit) in prior years. A reversal of an impairment loss is recognised immediately in the consolidated statement of profit or loss, unless the relevant asset is carried at a revalued amount, in which case the reversal of the impairment loss is treated as a revaluation increase.

Financial instruments. The Group's principal financial instruments comprise borrowings, cash and bank balances, trade accounts receivables and trade accounts payables, state treasury bonds, consideration receivable under the SPA and compensation of underrecovered gas transmission revenues (Note 8).

All purchases and sales of financial instruments that require delivery within the time frame established by regulation or market convention ("regular way" purchases and sales) are recorded at the trade date, which is the date on which the Group commits to deliver a financial instrument. All other purchases and sales are recognised on the settlement date.

Classification and subsequent measurement of financial assets. Financial assets are subsequently measured at amortised cost or fair value. Specifically, debt investments that are held within a business model whose objective is to collect the contractual cash flows, and that have contractual cash flows that are solely payments of principal and interest on the principal outstanding are generally measured at amortised cost at the end of subsequent accounting periods. Debt instruments that are held within a business model whose objective is achieved both by collecting contractual cash flows and selling financial assets, and that have contractual terms that give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding, are generally measured at fair value through other comprehensive income. All other debt investments and equity investments are measured at their fair value through profit or loss at the end of subsequent accounting periods.

Amortised cost is calculated using the effective interest method and, for financial assets, it is determined net of any impairment losses. Premiums and discounts, including initial transaction costs, are included in the carrying amount of the related instrument and amortised based on the effective interest rate of the instrument.

The Group uses practical expedient according to which the amortised cost of financial assets with a maturity of less than one year, less any estimated credit losses, are assumed to be their face values.

Impairment of financial assets. The Group accounts for expected credit losses ("ECL") and changes in those expected credit losses at each reporting date to reflect changes in credit risk since initial recognition. The Group applies simplified approach for impairment of trade and lease receivables. The approach is built as a three stage model for impairment, based on changes in credit quality since initial recognition.

A financial instrument that is not credit-impaired on initial recognition is classified in Stage 1. Financial assets in Stage 1 have their ECL measured at an amount equal to the portion of lifetime ECL that results from default events possible within the next 12 months or until contractual maturity, if shorter ("12 Months ECL"). If the Group identifies a significant increase in credit risk ("SICR") since initial recognition, the financial instrument is transferred to Stage 2 but it is not considered to be credit-impaired, and the allowance is based on a lifetime ECL of the financial instruments (Note 30). If the Group determines that a financial asset is credit-impaired, the asset is transferred to Stage 3 and its ECL is measured as a Lifetime ECL.

The carrying amount of the asset is reduced through the provision, and the amount of respective loss is recognised in the consolidated statement of profit or loss and included in net movement in the provision for financial assets line. When receivables are uncollectible, they are written off against the provision account for receivables. Subsequent recovery of amounts previously written off are credited to the consolidated statement of profit or loss.

Classification and subsequent measurement of financial liabilities. Financial liabilities are subsequently measured at amortised cost or fair value through profit or loss ("FVTPL").

Financial liabilities that are not (i) contingent consideration of an acquirer in a business combination, (ii) held for trading, or (iii) designated as at FVTPL, are measured subsequently at amortised cost using the effective interest method. The effective interest rate is the rate that exactly discounts estimated future cash payments (including all fees and points paid or received, transaction costs and other premiums or discounts) through the expected life of the financial liability, or (where appropriate) a shorter period, to the amortised cost of a financial liability.

Derecognition of financial instruments. The Group derecognises financial assets when (a) the assets are redeemed or the rights to cash flows from the assets otherwise expire or (b) the Group has transferred the rights to the cash flows from the financial assets or entered into a qualifying pass-through arrangement whilst (i) also transferring substantially all the rewards of ownership of the assets or (ii) neither transferring nor retaining substantially all risks and rewards of ownership but not retaining control.

Control is retained if the counterparty does not have the practical ability to sell the asset in its entirety to an unrelated third party without needing to impose additional restrictions on the sale. The Group derecognises financial liabilities when, and only when, the Group's obligations are discharged, cancelled or expire. The difference between the carrying amount of the financial liability derecognised and the consideration paid and payable is recognised in profit or loss.

Income taxes. Income taxes have been provided for in the consolidated financial statements in accordance with Ukrainian legislation enacted or substantively enacted by the end of reporting date. The income tax charge comprises current tax and deferred tax and is recognised in the consolidated statement of profit or loss unless it relates to transactions that are recognised, in the same or a different period, in other comprehensive income or directly in equity.

Current tax is the amount expected to be paid to or recovered from the taxation authorities in respect of taxable profits or losses for the current and prior periods. Taxes other than on income are recorded within operating expenses.

Deferred income tax is provided using the balance sheet liability method for tax losses carried forward and temporary differences arising between the tax bases of assets and liabilities and their carrying amounts for financial reporting purposes. In accordance with the initial recognition exemption, deferred taxes are not recorded for temporary differences on initial recognition of an asset or a liability in a transaction other than a business combination if the transaction, when initially recorded, affects neither accounting nor taxable profit. Deferred tax liabilities are not recorded for temporary differences on initial recognition of goodwill and subsequently for goodwill which is not deductible for tax purposes. Deferred tax balances are measured at tax rates enacted or substantively enacted at the reporting date which are expected to apply to the period when the temporary differences will reverse or the tax losses carried forward will be utilised. Deferred tax assets and liabilities are netted only within the individual companies of the Group. Deferred tax assets for deductible temporary differences and tax losses carried forward are recorded only to the extent that it is probable that future taxable profit will be available against which the deductions can be utilised.

Inventories. Inventories are recorded at the lower of cost and net realisable value. The cost of inventories includes expenditures incurred in acquiring the inventories, production or conversion costs and other costs incurred in bringing them to their existing location and condition. Cost of manufactured inventories includes an appropriate share of production overheads based on normal operating capacity. The cost of inventories is determined on the first in first out basis for all inventories except for natural gas, oil and petroleum products. Weighted average cost formula is used for natural gas, oil and petroleum products. Net realisable value is the estimated selling price in the ordinary course of business, less the cost of completion and selling expenses.

Trade accounts receivable. Trade and other receivables are recognised initially at fair value and subsequently measured at amortised cost using the effective interest method, less provision for impairment.

Prepayments made and other current assets. Prepayments are carried at cost excluding VAT less provision for impairment. A prepayment is classified as non-current when the goods or services relating to the prepayment are expected to be obtained after one year, or when the prepayment relates to an asset that will itself be classified as non-current upon initial recognition.

If there is an indication that the assets, goods or services relating to a prepayment will not be received, the Group recognises provision for impairment in respect of such prepayment made and a corresponding impairment loss is recognised in the consolidated statement of profit or loss.

Promissory notes. Some purchases may be settled by promissory notes or bills of exchange, which are negotiable debt instruments. Purchases settled by promissory notes are recognised based on management's estimate of the fair value to be given up in such settlements. The fair value is determined with reference to observable market information.

State treasury bonds. The State treasury bonds are initially measured at fair value attributable to acquisition of such financial assets. The State treasury bonds are subsequently measured at fair value through profit or loss.

Cash and cash equivalents. . Cash and cash equivalents include cash on hand, deposits held at call with banks, and other short-term highly liquid investments with original maturities of three months or less. Cash and cash equivalents are carried at amortised cost using the effective interest rate method. Restricted balances are excluded from cash and cash equivalents for the purposes of the consolidated statement of cash flows. Balances restricted from being exchanged or used to settle a liability for the period from three to twelve months after the reporting date are included in other current assets. Balances restricted from being exchanged or used to settle a liability for at least twelve months after the reporting date are included in other non-current assets.

Share capital. Ordinary shares are classified as equity. Incremental costs directly attributable to the issue of new shares are shown in equity as a deduction, net of tax, from the proceeds.

Dividends and mandatory budget contribution of profit share. Dividends are recorded as a liability and deducted from equity in the period in which they are declared and approved. Any dividends declared after the reporting period and before the consolidated financial statements are authorised for issue are disclosed in the subsequent events note. The statutory accounting reports of the Company are the basis for profit distribution and other appropriations. Ukrainian legislation identifies the basis of distribution as the current year net profit. If dividends are not declared the mandatory budget contribution of profit share is recognised as a liability in the amount of minimum required level as per Ukrainian legislation.

Value added tax ("VAT"). In Ukraine VAT is levied at two rates: 20% on sales and imports of goods, works and services within the country, and 0% on the export of goods and limited list of services (e.g. international transportation). A taxpayer's VAT liability equals the total amount of VAT accrued within a reporting period, and arises on the earlier of the date of shipping goods or rendering services to a customer or the date of receiving payment from the customer. A VAT input is the amount that a taxpayer is entitled to offset against its VAT liability in a reporting period. Rights to VAT input arise when a VAT invoice is received, which is issued on the earlier of the date of payment to the supplier or the date goods are received or services are rendered. VAT related to sales and purchases is recognised in the consolidated statement of financial position on a gross basis and disclosed separately as an asset and liability. Where provision has been made for impairment of receivables, the impairment loss is recorded for the gross amount of the debtor, including VAT, except provision for impairment of prepayments made.

Borrowings. Borrowings include bank borrowings and bonds. Borrowings are initially recognised at fair value, net of transaction costs incurred. Borrowings are subsequently carried at amortised cost using the effective interest method. Bank overdrafts are included into borrowings line item in the consolidated statement of financial position.

Borrowing costs. Borrowing costs directly attributable to the acquisition, construction or production of qualifying assets, which are assets that necessarily take a substantial period of time to get ready for their intended use or sale, are added to the cost of those assets, until such time as the assets are substantially ready for their intended use or sale. All other borrowing costs are recognised in consolidated statement of profit or loss in the period in which they are incurred.

Trade accounts payable. Trade accounts payable are recognised and initially measured under the policy for financial instruments mentioned above. Subsequently, instruments with a fixed maturity are re-measured at amortised cost using the effective interest method. Amortised cost is calculated by taking into account any transaction costs and any discount or premium on settlement.

Advances received. Advances received are carried at amounts originally received excluding VAT. Amounts of advances received are expected to be realised through the revenue received from usual activities of the Group.

Provisions. Provisions are recognised when the Group has a present obligation (legal or constructive) as a result of a past event and it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate of the obligation amount can be made. Where the Group expects some or all of a provision to be reimbursed, for example under an insurance contract, the reimbursement is recognised as a separate asset but only when the reimbursement is virtually certain.

The expense on any provision is presented in the consolidated statement of profit or loss net of any reimbursement. If the effect of time value of money is material, provisions are discounted using a current pre-tax rate that reflects, where appropriate, the risks specific to the liability. Where discounting is used, the increase in provision due to the passage of time is recognised as a finance cost.

Other liabilities. Other financial liabilities are recognised initially at fair value, net of transaction costs incurred, and are subsequently stated at amortised cost using the effective interest method. Other non-financial liabilities are measured at cost.

Contingent assets and liabilities. A contingent asset is not recognised in the consolidated financial statements but disclosed when an inflow of economic benefits is probable.

A contingent liability is not recognised in the consolidated financial statements unless it is probable that an outflow of economic resources will be required to settle the obligation and it can be reasonably estimated. Contingent liabilities are disclosed unless the probability of an outflow of resources embodying economic benefits is remote.

Revenue recognition. The Group recognises revenue when or as a performance obligation is satisfied, i.e. when control of the goods or services underlying the particular performance obligation is transferred to the customer. Revenue from the sale of gas which is transported through gas transmission system is recognised when the gas has been delivered to the customer at delivery point. Revenue from sale of petroleum products is recognised when the title passes to the customer. Delivery occurs when the goods have been shipped to the specific location, the risks of obsolescence and loss have been transferred to the customer, and either the customer has accepted the goods in accordance with the contract, the acceptance provisions have lapsed, or the Company has objective evidence that all criteria for acceptance have been satisfied.

Revenue gross versus net presentation. When the Group acts as a principal, revenue, production costs and purchases are reported on a gross basis. If the Group sells goods or services as an agent, revenue is recorded on a net basis, representing the margin/commission earned. Whether the Group is considered to be a principal or an agent in a transaction depends on the analysis of both legal form and substance of the agreement the Group enters in.

Recognition of expenses. Expenses are recorded on an accrual basis. Costs incurred in process of production, storage, distribution and transportation of hydrocarbons are classified as Production and Manufacturing Expenses. Purchases include cost of gas transit organisation services, cost of gas and other similar expenses. .

Compensation for performing public service obligations. As described in Note 2, the Company is eligible for compensation for performing public service obligations. Management consider such compensation as the government assistance and accounts for it as a government grant related to income.

The Company recognised the government assistance when there was reasonable assurance that the assistance would be received, and all attached conditions would be complied with, as permitted by IAS 20 "Accounting for Government Grants and Disclosure of Government Assistance".

The Company presents the compensation for performing public service obligations as a separate line on the face of the consolidated profit or loss statement.

Finance income and costs. Finance income and costs comprise interest expense on borrowings, losses on early repayment of loans, interest income on deposits and current accounts, gain or loss on origination of financial instruments, unwinding of interest of the pension obligation and provisions.

Interest income is recognised as it accrues, taking into account the effective yield on the asset.

Employee benefits: Defined Contributions Plan. The

Group makes statutory unified social contributions to the Pension Fund of Ukraine in respect of its employees. The contributions are calculated as a percentage of current gross salary and are expensed when incurred. Discretionary pensions and other post-employment benefits are included in labour costs in the consolidated statement of profit or loss.

Employee benefits: Defined Benefit Plan. The Group provides lump sum benefits, payments on reaching certain age, and other benefits as prescribed by the collective agreement. The liability recognised in the consolidated statement of financial position in respect of the defined benefit pension plan is the present value of the defined benefit obligation at the reporting date. The defined benefit obligation is calculated annually using the projected unit credit method.

The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using interest rates of high-quality corporate bonds that are denominated in the currency in which the benefits will be paid, and that have terms to maturity approximating the terms of the related pension liability.

Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are charged or credited to other comprehensive income in the period in which they arise. Past service costs are recognised immediately in the consolidated statement of profit or loss.

Consolidated Statement of Financial Position. In 2021 the Group changed its presentation of the consolidated statement of financial position. The reason for such change was to better reflect the significant assets and align the Group's presentation with other leading companies within the Group's industry. As a result, the following key material changes to Consolidated Statement of Financial Position were made:

- The new separate item 'Intangible assets' was introduced, in which amounts were reclassified from the item 'Other non-current assets'.

The effect of the retrospective change in the presentation on the consolidated statement of financial position as at 31 December 2020 was as follows:

In millions of Ukrainian hryvnias	31 December 2020, as previously reported	Effect of change in presentation	31 December 2020, as restatedIntangible
assets	-	3 147	3 147
Other non-current assets	6 039	(3 147)	2 892

The Group changed its presentation of segment information for the year ended 31 December 2021 as described in Note 3.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2021

30. CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

In the application of the Group's accounting policies, management is required to make judgements, estimates and assumptions about the carrying amounts of assets and liabilities that are not readily apparent from other sources. The estimates and associated assumptions are based on historical experience and other factors that are considered to be relevant. Actual results may differ from these estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimate is revised if the revision affects only that period, or in the period of the revision and future periods if the revision affects both current and future periods.

Critical judgements in applying accounting policies. The following are the critical judgements, apart from those involving estimations, that the Group management has made in the process of applying the Group's accounting policies and that have the most significant effect on the amounts recognised in the consolidated financial statements:

Gas transit. As discussed in Note 3, at the end of 2019, the Company and "Gazprom" JSC signed an agreement on organising gas transit through the territory of Ukraine. In its turn, Naftogaz signed an agreement on gas transmission services from "Gas Transmission System Operator of Ukraine" LLC. The Company is considered to be a principal in this transaction based on the following criteria:

- it is a primarily responsible party for fulfilling the promise to provide the specified service;
- it bears the risk of price change for transmission services through the territory of Ukraine.

State property not subject to privatisation. As disclosed in Note 25, in 1998, the Company entered into an agreement "On use of the State-owned property not subject to privatisation" ("Agreement") with the State Property Fund of Ukraine and assumed control of the oil and gas transportation and storage systems. Management believes that terms and conditions of the agreement give the Group control over the defined properties and, therefore, these properties meet the definition of an asset, namely an item of property, plant and equipment in accordance with the IAS 16 definition. As such, the properties received for management are carried on the Group's balance sheet at fair value as part of Property, plant and equipment.

Revenue recognition. As part of its operating activity the Group supplies gas to different customers, including municipal heatines entities. The financial condition of these entities and the legislative framework these customers work in presumes that the source to finance their cost of production includes not only tariff revenues but also other subsidies and compensation mechanisms as presumed by the Ukrainian legislation. The management of the Group believes that the municipal heatines entities have enough sources of income to conclude that it is probable for the Group to collect consideration under sale agreements in full amount. Therefore, management concluded that the criteria for revenue recognition are met when the gas is delivered to customer.

Key sources of estimation uncertainty. The following are the key assumptions concerning the future, and other key sources of estimation uncertainty at the end of the reporting period, that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year.

Impairment of financial assets (Note 11). Management estimates the likelihood of the collection of trade and other accounts receivable based on an analysis of both individual accounts and portfolios of clients with similar characteristics. Factors taken into consideration include an aging analysis of trade and other receivables with reference to the payment history, expected events that could materially impact future payments, credit terms allowed to customers, and available market information regarding the counterparty's ability to pay. Expected credit losses for trade receivables for gas are measured using an individual and portfolio approaches (Note 11).

The Group distinguishes between the following portfolios of clients with trade receivables for gas:

- Regional gas supply entities, represented by gas supply entities that buy gas for further reselling to different groups of customers, and a balancing group (Note 2),
- Heat generating entities, represented by municipal and other heat and electricity generating entities and industrial entities that buy gas for heat and electricity production both under and outside PSO. PSO was abolished for this portfolio of clients on 21 May 2021, and in May 2021 the Group concluded 3-year agreements for natural gas supply for heat generating entities with a fixed price for the first year of supply (Note 2),
- Household consumers (Note 2),
- Other entities, mainly represented by industrial entities that buy gas for different purposes outside PSO.

Each group of customers has its own selling price setting procedure and its own economic characteristics, such as products delivered to the end customers, their credit risks etc.

As at 31 December 2020, the Group accrued a provision for impairment of accounts receivable for gas sold to regional gas supply entities in full amount, as expected credit losses for these entities are estimated at 100%. Such estimate was done by management because there were no settlements of outstanding debts for gas.

As at 31 December 2020, the expected credit losses for heating entities were estimated using a migration matrix of aging of gas receivables and past default experience of the debtors.

Based on the migration matrix approach, default rates for trade accounts receivable of heating entities not past due and trade accounts receivable past due up to 90 days were estimated at 17% and 33%, respectively, as at 31 December 2020 compared to the historical level of underpayments at 40%.

Management believes that the following factors might reasonably have been expected to have been considered in estimating expected credit losses for heating entities as at 31 December 2020:

(a) Tariffs for heat and other utilities generated by this group of customers are regulated, these tariffs are insufficient to cover their costs and there have been no working arrangements with the Government to compensate for such negative differences between actual tariffs and their economically justifiable level.

(b) Regulations introduced in 2020-2021 limited ability of heating entities to raise their tariffs and to ensure a higher collection rate.

In particular, on 17 March 2020, as part of the COVID-19 measures introduced by the Law of Ukraine No. 540-IX heating entities were forbidden to cease supply of heat and other utilities or apply any penalties or interest in case of non-payment by the customers.

On 9 February 2021, the government, local authorities, NCREU and Naftogaz signed a memorandum according to which (i) tariffs for heat and hot water were not to be increased until the end of the 2020-2021 heating season; (ii) heating entities were guaranteed to receive gas for heat production for the needs of the households until the end of 2020-2021 heating season; and (iii) heating entities were provided with a deferral of payment for gas purchased for heat and electricity production for the needs of households in January-April 2021 up to 30 September 2021 on their request. The amounts deferred relate to the difference between the gas market price and gas prices included in the tariff for heat.

(c) Historically, heating entities have never been able to collect payments for heat and other utilities from their end customers in full.

(d) Under such conditions, heating entities had limited funds to pay for gas supplies, which resulted in accumulation of their debts. There is a risk that heat tariffs will not fully reflect their current costs in the foreseeable future, which will not allow settling both current and overdue receivables for gas supplies.

According to the migration matrix approach, provisioning for outstanding debts is exercised during a longer period comparing to individual assessment.

Considering all of the above, in 2021 management concluded that the default rate applied by the Group was underestimated. At the same time, management considers that it is impracticable to distinguish information that would have been available when the financial statements as at and for the year ended 31 December 2020 were authorised for issue and which provides additional evidence of circumstances that existed as at 31 December 2020 and the information that relates to changes in circumstance after that date and corresponding subsequent changes in expected credit losses.

Therefore, management concluded that it should not make any retrospective adjustments to the provision for accounts receivable and instead recognised a reassessment of provision for this group of customers in the first quarter of 2021.

As at 31 December 2021, the Group adopted the new methodology for estimation of the expected credit losses ("ECL") of trade accounts receivable for gas. ECL is measured by the Group as the product of the following credit risk parameters: Probability of Default ("PD"), Exposure at Default ("EAD"), and Loss Given Default ("LGD").

EAD is an estimate of exposure at a future default date, taking into account expected changes in the exposure after the reporting period. Considering specifics of Ukrainian gas market, EAD is heavily dependent on the Government financing programmes aimed at settlement of debts caused by state regulation of the gas market. Thus, management assessment of potential volumes and probability of state financing is the key and essential element of EAD and, consequently, ECL calculation.

PD is an estimate of the likelihood of default to occur over a given time period. The Group assesses the credit quality of the customer and related PD, considering its financial position, past experience of payments and other factors. The Group's credit risk exposure is monitored and analysed on a case-by-case basis at each reporting date.

The Group also used supportable forward-looking information for measurement of ECL, primarily from its own macro-economic forecasting model. To consider forward-looking macroeconomic information in measuring ECL, the Group analyses sensitivity of default levels to macroeconomic, political and regulatory factors. The Group uses PDs by counterparty group and overall portfolio for this analysis.

The Group assesses the following key terms of the natural gas supply contracts giving rise to receivables from the counterparty to the Group entities:

- duration of the contract;
- conditions of supply;
- payment conditions (procedure and timing of payment, existence and length of any grace period;
- existence and type of security under the contract (no security, bank guarantee or contractual direct debit from the counterparty's settlement account).

The Group also classifies counterparties between counterparty groups for an analysis of credit risk. Counterparty groups are defined in accordance with the Group internal policies.

LGD is an estimate of the loss arising on default and varies by type of the counterparty and the availability of collateral or other credit support. It is based on the difference between the contractual cash flows due and those that the Group would expect to receive after a default event.

According to the methodology, accounts receivable are allocated to three stages of impairment based on credit risk attributed to a customer. A financial instrument that is not impaired on initial recognition for which credit risk has not increased significantly since initial recognition has a credit loss provision measured based on a 12-month ECL (Stage 1). If a significant increase in credit risk since initial recognition is identified, the financial instrument is moved to Stage 2, but it is not yet deemed to be credit-impaired and the amount of provision is based on a lifetime ECL. If a financial instrument is credit-impaired, the financial instrument is moved to Stage 3 and the amount of provision is based on a lifetime ECL. The event of default is defined as an event giving rise to objective evidence of impairment for an asset and/or liability becoming more than 90 days overdue.

The expected losses are not discounted to present value at the end of the reporting period.

The credit risk components used in estimation of the ECL are estimated on an annual basis as at 30 September of each reporting year before a start of a new heating season.

During an assessment of the provision for this client portfolio as at 31 December 2021, management considered possible settlements under the Anti-Crisis Law, that sets out the mechanism of settlements for regional gas supply and distribution entities similar to that for municipal heat generating entities as described below.

As described in Note 2, in December 2021 the Group collected UAH 22 billion of overdue receivables from heat generating entities under the Anti-Crisis Law. The Company is a key market player of the energy market in Ukraine, and

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2021

management believes that the mechanism of debt settlement between the gas market participants implied in the Anti-Crisis Law can be seen as an opportunity for the Group to ensure settlements of overdue debts accumulated by the regional gas distribution entities, thus helping the Group to maintain its functions in future. Consequently, the Group considers that settlement with the regional gas distribution entities is likely to occur, and considers such settlement in assessing the provision for the accounts receivable as at 31 December 2021.

As a result, for the outstanding trade receivables for gas sold to the regional gas supply and distribution entities, management developed two scenarios. One scenario suggests that regional gas supply and distribution entities are not able to pay off their debts for gas in full.

Therefore, in accordance with this scenario, management expected the 100% provision as at 31 December 2021 for receivables accumulated before 1 January 2021. Management applies judgment that the probability that the first scenario will realise in 2022 is at the level of 75%.

In the second scenario management considered possible settlements under the Anti-Crisis Law. The Anti-Crisis Law envisages, inter alia, receiving compensation by the regional gas supply and distribution entities, and further settlement of their outstanding debts to the Group. The estimated amount of the total compensation to be provided to the regional gas supply and distribution entities approximates to UAH 76 billion as per preliminary information based on estimates of such regional gas supply and distribution entities: UAH 44.1 billion relate to compensation attributable to periods prior to 1 January 2021 and is already covered by the adopted Anti-Crisis Law; and UAH 31.9 billion relate to compensation attributable to periods after that date and require separate regulations to be adopted in 2022.

Management expects that UAH 44.1 billion out of this total compensation could be used in 2022 to settle outstanding receivables to the Group (UAH 41.0 billion excluding intragroup eliminations), accumulated up to the 1 January 2021. The Anti-Crisis Law prescribes that verification of the amounts to be compensated should be completed before any settlements occur. Considering uncertainty regarding the period of the verification completion, management applies judgment to the probability of the second scenario realisation assuming settlements under the Anti-Crisis Law to occur in 2022 at the level of 25% for the receivables accumulated before 1 January 2021.

Should the management estimate on the probability of the second scenario be lower/higher by 10%, the Group would be required to charge or reverse UAH 4,098 million to the provision.

As a result of applying the weighted average scenarios, management recognised UAH 10,246 million of reversal of the provision for receivables from regional gas supply and distribution companies for natural gas for the year ended 31 December 2021. As for compensation to the regional gas supply entities attributable to periods after 1 January 2021, given the uncertainties related to the changes implemented to the Anti-Crisis Law in respect of these debts, management believes the likelihood of the settlements to occur in 2022 at 5% and, therefore, decided not to reverse any of the provisions recorded previously for trade receivables from the regional gas supply entities accumulated after 1 January 2021.

Expected credit losses for gas receivables are estimated using an individual and portfolio approaches (Note 11). For trade accounts receivables other than for gas, the Group estimates the likelihood of the collection of accounts receivable based on an analysis of both portfolios of clients with similar characteristics.

Employee benefit obligations. The Group assesses post-employment and other employee benefit obligations using the projected unit credit method based on actuarial assumptions which represent management's best estimates of the variables that will determine the ultimate cost of providing post-employment and other employee benefits. The present value of the pension obligations depends on a number of factors determined on an actuarial basis using a number of assumptions. The major assumptions used in determining the net cost (income) for pensions include the discount rate and expected salary increases. Any changes in these assumptions will impact the carrying amount of pension obligations. Since there are no long-term, high quality corporate or government bonds issued in Ukrainian hryvnias, significant judgement is needed in assessing an appropriate discount rate. Key assumptions are presented in Note 14.

Decommissioning costs. The decommissioning provision represents the present value of the decommissioning costs relating to oil and gas properties, which are expected to be incurred in the future (Note 15). These provisions were recognised, based on the Group's internal estimates.

Main estimates include future market prices for the necessary decommissioning costs, and are based on market conditions and factors. Additional uncertainties relate to the timing of the decommissioning costs, which depends on depletion of the fields, future oil and gas prices and as a result, the expected point of time, when there are no further economic benefits in the production.

Changes in these estimates can lead to the material changes in the provisions recognised in the consolidated statement of financial position.

Depletion of oil and gas assets. Oil and gas assets are depleted using a unit-of-production method. The cost of the wells is amortised based on the proved volumes of available reserves, estimated in accordance with the standards of the Petroleum Resource Management System (PRMS) prepared by the Oil and Gas Reserves Committee of the Society of Petroleum Engineers (SPE). The estimation of hydrocarbons reserves is carried out in general on the field. Respectively, all wells of the field are depreciated based on the total volume of a specific type of hydrocarbons extracted from field for the period and the balances of the hydrocarbons reserves available at the beginning of the period. Changes in the estimates regarding the volumes of total proved reserves, either to downward or upward, can result in the change of depreciation and depletion expenses.

Estimation of oil and gas reserves. Reserves are the quantities of oil and gas which are anticipated to be commercially recovered from known accumulations from a given date forward under defined conditions. Proved and probable reserves used in the depletion rate calculation are determined using the estimates of known oil and gas reserves, recovery factors, operating conditions, future oil and gas prices and government regulations. The latest assessment of gas reserves was performed as at 1 January 2021, and the latest assessment of oil reserves was performed as at 30 September 2019. Reserves estimates involve some degree of uncertainty, and their estimates are revised as additional geologic and engineering data becomes available or as economic conditions change. Accordingly, depletion rates and discounted cash flows for revaluation and impairment of property, plant and equipment may be also revised.

Revaluation and impairment of property, plant and equipment. Management performs an assessment whether carrying amounts of property, plant and equipment accounted for under the revaluation model, differ materially from their fair values (Note 27). Such assessment is performed on an annual basis, and involves an analysis of prices, price indices, changes in technology, foreign exchange rates and other relevant factors. In case such assessment identifies that carrying amounts of items of property, plant and equipment differ materially from their fair values, management engages independent appraisers to perform property, plant and equipment revaluation.

The Group engaged independent appraisers to determine the fair value of its major groups of property, plant and equipment as at 01 October 2021 and 31 December 2021, as at 1 December 2021. Major assumptions used in estimating the recoverable amount include judgments regarding the gas, oil, condensate and petroleum products sale prices, discount rates and other factors as presented in Note 27. Management has determined the discount rate by using the after tax rate that reflects current market investment rates with similar risk levels. To project sale prices, the Group has used consensus forecasts of analytical agencies.

Numerical values of key judgments of the Group's management reflect their estimation of future business trends; they are based on both internal and external sources of the Group.

In making the assessment for general impairment, assets that do not generate independent cash flows are allocated to an appropriate cash-generating unit. Indicators of potential impairment include an analysis of market conditions, asset utilisation and the ability to utilise the asset for alternative purposes. If an indication of impairment exists, the Group estimates the recoverable value (greater of fair value less cost to sell and value in use) and compares it to the carrying value, and records impairment to the extent the carrying value is greater than the recoverable amount.

Useful lives of other property, plant and equipment. The Group's property, plant and equipment, except oil and gas assets are depreciated using the straight-line method over their estimated useful lives, which are based on management's business plans and operational estimates.

The Group reviews the estimated useful lives of property, plant and equipment at the end of each annual reporting period. The review is based on the current condition of the assets and the estimated period during which they will continue to bring economic benefits to the Group. Any change in estimated useful life or residual value is recorded on a prospective basis from the date of the change.

Inventory valuation. Inventory are stated at lower of cost or net realisable value. In assessing the net realisable value of its inventories, management bases its estimates on various assumptions including current market prices. At each reporting date, the Group evaluates its inventories for excess quantities and obsolescence and, if necessary, records an allowance to reduce inventories for obsolete and slow-moving goods. This allowance requires assumptions related to future inventories use. These assumptions are based on inventories ageing and projected demand. Any changes in the estimates may impact the amount of the allowances for inventory that may be required.

Measurement of the fair value of receivables under the agreement on the compensation of underrecovered gas transmission revenue. As at 31 December 2021, the Group has significant receivables under the agreement on the compensation of underrecovered gas transmission revenue, which are carried at fair value through profit and loss (Note 8). Management measured the fair value of receivables as total discounted cash flows expected to be received by the Company under this agreement as the compensation of underrecovered gas transmission revenue for the regulatory period 2020-2024 (Note 27).

31. ADOPTION OF NEW OR REVISED STANDARDS AND INTERPRETATIONS

Adoption of new and revised International Financial Reporting Standards. The following standards have been adopted by the Group for the first time for the financial year beginning on or after 1 January 2021:

Standards/Interpretations	Effective for annual accounting periods beginning on or after:
Covid-19-Related Rent Concessions – Amendments to IFRS 16 "Leases" (issued on 28 May 2020 and effective for annual periods beginning on or after 1 June 2020). The amendments provided lessees (but not lessors) with relief in the form of an optional exemption from assessing whether a rent concession related to COVID-19 is a lease modification. Lessees can elect to account for rent concessions in the same way as they would if they were not lease modifications. In many cases, this will result in accounting for the concession as a variable lease payment. The amendment is to be applied retrospectively in accordance with IAS 8 "Accounting Policies, Changes in Accounting Estimates and Errors", but lessees are not required to restate prior period figures or to provide the disclosure under paragraph 28(f) of IAS 8.	1 June 2020
Interest rate benchmark (IBOR) reform: IFRS 9 "Financial Instruments", IAS 39 "Financial Instruments: Recognition and Measurement", IFRS 7 "Financial Instruments: Disclosures", IFRS 4 "Insurance Contracts", IFRS 16 "Leases": Amendments regarding replacement issues in the context of the IBOR reform	1 January 2021

Standards and Interpretations in issue, but not yet effective. At the date of authorisation of these consolidated financial statements, the following standards and Interpretations, as well as amendments to standards were in issue but not yet effective:

Standards and Interpretations in issue, but not yet effective	Effective for annual accounting periods beginning on or after:
Amendments to IFRS 10 "Consolidated Financial Statements" and IAS 28 "Investments in Associates and Joint Ventures": the amendments address an inconsistency between the requirements in IFRS 10 and those in IAS 28 in dealing with the sale or contribution of assets between an investor and its associate or joint venture	To be determined
Covid-19-Related Rent Concessions – Amendments to IFRS 16 (issued on 31 March 2021 and effective for annual periods beginning on or after 1 April 2021). In May 2020 an amendment to IFRS 16 was issued that provided an optional practical expedient for lessees from assessing whether a rent concession related to COVID-19, resulting in a reduction in lease payments due on or before 30 June 2021, was a lease modification. An amendment issued on 31 March 2021 extended the date of the practical expedient from 30 June 2021 to 30 June 2022.	1 April 2021
Proceeds before intended use, Onerous contracts – Cost of Fulfilling a Contract, Reference to the Conceptual Framework – narrow scope amendments to IAS 16, IAS 37 and IFRS 3, and Annual Improvements to IFRSs 2018-2020 – amendments to IFRS 1, IFRS 9, IFRS 16 and IAS 41 (issued on 14 May 2020 and effective for annual periods beginning on or after 1 January 2022). The amendment to IAS 16 prohibits an entity from deducting from the cost of an item of PPE any proceeds received from selling items produced when the entity is preparing the asset for its intended use. The proceeds from selling such items, together with the costs of producing them, are now recognised in profit or loss. An entity will use IAS 2 to measure the cost of those items. Cost will not include depreciation of the asset being tested because it is not ready for its intended use. The amendment to IAS 16 also clarifies that an entity is 'testing whether the asset is functioning properly' when it assesses the technical and physical performance of the asset. The financial performance of the asset is not relevant to this assessment. An asset might therefore be capable of operating as intended by management and subject to depreciation before it has achieved the level of operating performance expected by management. The amendment to IAS 37 clarifies the meaning of 'costs to fulfil a contract'. The amendment explains that the direct cost of fulfilling a contract comprises the incremental costs of fulfilling that contract; and an allocation of other costs that relate directly to fulfilling. The amendment also clarifies that, before a separate provision for an onerous contract is established, an entity recognises any impairment loss that has occurred on assets used in fulfilling the contract, rather than on assets dedicated to that contract. IFRS 3 was amended to refer to the 2018 Conceptual Framework for Financial Reporting, in order to determine what constitutes an asset or a liability in a business combination. Prior to the amendment, IFRS 3 referred to the 2001 Conceptual Framework for Financial Reporting. In addition, a new exception in IFRS 3 was added for liabilities and contingent liabilities. The exception specifies	1 January 2022

Standards/Interpretations	Effective for annual accounting periods beginning on or after:
that, for some types of liabilities and contingent liabilities, an entity applying IFRS 3 should instead refer to IAS 37 or IFRIC 21, rather than the 2018 Conceptual Framework. Without this new exception, an entity would have recognised some liabilities in a business combination that it would not recognise under IAS 37. Therefore, immediately after the acquisition, the entity would have had to derecognise such liabilities and recognise a gain that did not depict an economic gain. It was also clarified that the acquirer should not recognise contingent assets, as defined in IAS 37, at the acquisition date. The amendment to IFRS 9 addresses which fees should be included in the 10% test for derecognition of financial liabilities. Costs or fees could be paid to either third parties or the lender. Under the amendment, costs or fees paid to third parties will not be included in the 10% test. Illustrative Example 13 that accompanies IFRS 16 was amended to remove the illustration of payments from the lessor relating to leasehold improvements. The reason for the amendment is to remove any potential confusion about the treatment of lease incentives. IFRS 1 allows an exemption if a subsidiary adopts IFRS at a later date than its parent. The subsidiary can measure its assets and liabilities at the carrying amounts that would be included in its parent's consolidated financial statements, based on the parent's date of transition to IFRS, if no adjustments were made for consolidation procedures and for the effects of the business combination in which the parent acquired the subsidiary. IFRS 1 was amended to allow entities that have adopted this IFRS 1 exemption to also measure cumulative translation differences using the amounts reported by the parent, based on the parent's date of transition to IFRS. The amendment to IFRS 1 extends the above exemption to cumulative translation differences, to reduce costs for first-time adopters. This amendment will also apply to associates and joint ventures that have adopted the same IFRS 1 exemption. The requirement for entities to exclude cash flows for taxation when measuring fair value under IAS 41 was removed. This amendment is intended to align with the requirement in the standard to discount cash flows on a post-tax basis.	1 January 2022
Amendments to IFRS 17 "Insurance Contracts" and IFRS 4 "Insurance Contracts" include clarifications intended to ease implementation of IFRS 17 and to simplify some requirements of the standard and transition	1 January 2023
IAS 8 "Accounting Policies, Changes in Accounting Estimates and Errors": Amendments regarding the definition of accounting estimates	1 January 2023
IAS 1 "Presentation of Financial Statements": Amendments to require companies to disclose their material accounting policy information rather than their significant accounting policies.	1 January 2023
Amendments to IAS 1 "Presentation of Financial Statements": Amendments regarding the classification of liabilities	1 January 2023
IAS 12 "Income Taxes"; Amendments to specify how to account for deferred tax on transactions such as leases and decommissioning obligations	1 January 2023

Management anticipates that adoption of new standards and interpretations in future periods will not have a material effect on the consolidated financial statements of the Group in future periods.

ABOUT THE REPORT

Transparent and responsible disclosure of information on the results of its own activities and impact on society, environment and the economic sphere in Ukraine is one of the priorities of the Naftogaz Group. That is why Naftogaz annually prepares a report, in which it publicly presents its financial and non-financial performance results.

The Naftogaz Group report for 2021 is the 7th report of the company. This report is devoted to the main challenges and opportunities that appeared to the Naftogaz Group in 2021, both in terms of production activities and in the context of sustainable development.

The report displays and describes in detail the information on the company's business strategy and transformation, operational and financial results, situation on the world and Ukrainian markets, provides data on key social and environmental indicators and their impact on employees, representatives of local communities, as well as on the natural environment.

The report is prepared in compliance with the requirements of the international standard for reporting on sustainable development GRI (Global Reporting Initiative), disclosure option "Core". During preparing the report in order to ensure its proper quality, the Naftogaz Group considered the GRI reporting principles for defining report quality, among which accuracy, balance, comparability, timeliness, clarity and reliability.

In order to determine the key material topics for disclosure in the 2021 report, a number of measures were taken in accordance with the principles of the GRI Standards for determining the content of the report. Among them:

Stakeholder Inclusiveness
A key principle in determining the report content and material topics for further disclosure is transparent communication with stakeholders to identify their interests and concerns. Naftogaz Group understands the importance of interaction with stakeholders, therefore takes into account the opinions of all stakeholders when determining the report content.

Sustainability Context
Achieving the sustainable development goals is one of the main priorities of the Naftogaz Group. That is why, in order to facilitate their achievements, the Naftogaz annually discloses both positive and negative impacts of its activities on three key components of sustainable development: economic, environmental and social. The company's Annual report reflects the direct consequences of its activities, as well as outlines and describes the actual and potential indirect impacts at all levels — from the country in general to local communities on a local scale.

Materiality
The report discloses material topics — those issues that reflect significant impacts of the company's activities on economic, social, and environmental aspects and are important for stakeholders. Naftogaz Group uses a structured approach to define the report content. Naftogaz interacts with various stakeholders to identify and understand specific issues related to the Group's activities and its impact, paying particular attention to environmental and social development issues. Naftogaz considers the opinion of various stakeholders, such as non-governmental organizations, customers, investors, employees, and others. All topics identified are evaluated in terms of their importance for the Group's activities and their impact on economic, environmental, and social aspects. To evaluate and prioritize topics, the following tools are used:

- Analysis of Naftogaz's external information field;
- Analysis of annual and sustainability reports of similar companies in Ukraine and abroad;
- Questionnaires and communications with the Group's internal departments and subsidiaries;
- Consultations with Naftogaz's top management;
- International standards, agreements, resolutions regarding sustainable development.

Each material topic has its own defined boundaries – a list of structural and organizational units (subsidiaries, joint ventures), the results of which have an impact on each of the material topics and were disclosed in the report. Material topics and their boundaries, which were determined during the preparation of the report for 2021, are presented in a separate table with a similar name below. The list of essential topics is revised every year while determining the report content and, if necessary, is adjusted considering the peculiarities of the reporting year.

Completeness
To provide a full understanding of the Naftogaz Group's activities impact in 2021, the report provides detailed information on the impact of Naftogaz's activities in the economic, social and environmental domains within the coverage scope of the identified material topics. An undistorted and comprehensive, to the extent possible, disclosure of information regarding the goals, impacts and consequences of the Group's activities facilitates the decision-making process for stakeholders.

For proper completeness of information disclosure, the Naftogaz Group does not limit the scope to the current reporting period (01.01.2021 – 31.12.2021), but additionally describes historical and expected trends in the oil and gas market in Ukraine and beyond, potential short- and long-term effects of their activities on the society and the environment.

Material topics and its boundaries

Aspect	Topic	Topic boundaries
Economical`	Economic efficiency	All the Naftogaz Group enterprises
	Indirect economic impact	Ukrgasvydobuvannia, Ukrnafta, Ukrtransgaz, Ukrtransnafta, Naftogaz of Ukraine
	Procurement practices	All the Naftogaz Group enterprises
Ecological	Energy	Naftogaz of Ukraine, Ukrgasvydobuvannia, Ukrnafta, Ukrtransgaz, Ukrtransnafta, Ukravtogaz, Ukrspectransgaz, Chornomornaftogaz, Navtogazobslugovuvannia, Center for metrology and gas distribution systems
	Water	Naftogaz of Ukraine, Ukrgasvydobuvannia, Ukrnafta, Ukrtransgaz, Ukrtransnafta, Ukravtogaz, Ukrspectransgaz, Naftogaz Teplo, Kirovogradgaz
	Biodiversity	Ukrgasvydobuvannia, Ukrnafta, Chornomornaftogaz
	Emissions	Naftogaz of Ukraine, Ukrgasvydobuvannia, Ukrnafta, Ukrtransgaz, Ukrtransnafta, Ukravtogaz, Ukrspectransgaz, Kirovogradgaz, Naftogaz Teplo, Center for metrology and gas distribution systems
	Wastes	Naftogaz of Ukraine, Ukrgasvydobuvannia, Ukrtransgaz, Ukrtransnafta, Ukravtogaz, Ukrspectransgaz, Kirovogradgaz, Chornomornaftogaz, Naftogaz Teplo
	Compliance with environmental standards	All the Naftogaz Group enterprises
Social	Employment	All the Naftogaz Group enterprises
	Relationship between employees and management	All the Naftogaz Group enterprises
	Health and safety at work	All the Naftogaz Group enterprises
	Training and education	All the Naftogaz Group enterprises
	Diversity and equal opportunities	All the Naftogaz Group enterprises
	Anti-discrimination	All the Naftogaz Group enterprises
	Anti-discrimination	All the Naftogaz Group enterprises
	Forced and compulsory labor	All the Naftogaz Group enterprises
	Support for local communities	All the Naftogaz Group enterprises

GRI Content Index

Material topic	Disclosure number & title	Report page	References and comments
GRI 102: General Disclosures 2016. Organizational profile	102-1 Name of organization		Naftogaz of Ukraine (Naftogaz Group)
	102-2 Activities, brands, products and services	128	Business activities
	102-3 Location of headquarters	340	Contacts
	102-4 Location of operations+	340	Contacts
	102-5 Ownership and legal form	250	Financial statements
	102-6 Market served	250	Financial statements Consolidated Financial Statements
	102-7 Scale of the organization	186, 250	Human capital management Financial statements
	102-8 Information on employees and other workers	186	Human capital management
	102-9 Supply chain	218	Efficient procurement
	102-10 Significant changes to the organization and its supply chain		There were no significant changes during the reporting period
	102-11 Precautionary Principle or approach	170 182 190 246	Environment protection Energy efficiency Employee health and security Risk management
	102-12 External initiatives	170, 186	Environment protection Human capital management
	102-13 Membership of associations		The company is a member of the following organizations: • International Gas Union • European Energy Forum • European Union of Gas Industry • European Federation of Energy Traders
GRI 102: General Disclosures 2016. Strategy	102-14 Statement from senior decision-maker	5	Letter from the CEO
GRI 102: General Disclosures 2016. Ethics and integrity	102-16 Values, principles, standards, and norms of behavior		Code of Corporate Ethics Naftogaz-Code_Ethics_ENG.pdf
GRI 102: General Disclosures 2016. Governance	102-18 Governance structure	222	Corporate governance at Naftogaz
	102-35 Remuneration policies	236	Remuneration
GRI 102: General Disclosures 2016. Stakeholder Engagement	102-40 Process for determining remuneration	202	Developing local communities
	102-41 Collective bargaining agreements	186	Human capital managemment All mutual obligations of the company and its employees to regulate production, labor, social and economic relations are specified in the collective bargaining agreement, which applies to all employees of the company
	102-42 Identifying and selecting stakeholders	326	About the Report Code of Corporate Ethics Naftogaz-Code_Ethics_ENG.pdf
GRI 102: General Disclosures 2016. Stakeholder Engagement	102-43 Approach to stakeholder engagement	326	About the Report Code of Corporate Ethics Naftogaz-Code_Ethics_ENG.pdf
	102-44 Key topics and concerns raised	326	About the Report

Material topic	Disclosure number & title	Report page	References and comments
GRI 102: General Disclosures 2016. Reporting practice	102-45 Entities included in the consolidated financial statements	250	Financial statements
	102-46 Defining report content and topic Boundaries	326	About the Report
	102-47 List of material topics	326	About the Report
	102-48 Restatements of information		There were no adjustments
	102-49 Changes in reporting		There were no significant changes in the reporting period
	102-50 Reporting period		2021 calendar year (01.01.2021-31.12.2021)
	102-51 Date of most recent report		28th of April, 2021
	102-52 Reporting cycle		Annual reporting
	102-53 Contact point for questions regarding the report		Director of Interaction with Stakeholders of Naftogaz Group Svitlana Zalishchuk phone: +380 (44) 586-33-30 +380 (44) 586-335-30- press service press@naftogaz.com 6 B. Khmelnytskogo str. Kyiv, 01601, Ukraine www.naftogaz.com
	102-54 Claims of reporting in accordance with the GRI Standards		The report was prepared in accordance with the GRI Standard. Disclosure level- “Core”
	102-55 GRI content index	328	GRI content index
	102-56 External assurance		An external audit of the report was not conducted
GRI 200: Economic indicators			
GRI 201: Economic performance 2016	103 Management approach 2016	222	Corporate governance at Naftogaz
	201-1 Direct economic value generated and distributed	222	Corporate governance at Naftogaz
	201-4 Financial assistance received from government		The group did not receive financial assistance from the state in the reporting period
GRI 202: Market presence 2016	103 Management approach 2016	186	Human capital managemment
	202-1 Ratios of standard entry level wage by gender compared to local minimum wage		Information about the salary level is confidential and is not disclosed by the company
GRI 203: Indirect economic impact 2016	103 Management approach 2016	202	Developing Local Communities
	203-1 Infrastructure investments and services supported	202	Developing Local Communities
GRI 204: Procurement practices 2016	103 Management approach 2016	218	Efficient procurement
	204-1 Proportion of spending on local suppliers	218	Efficient procurement
GRI 207: Tax 2019	103 Management approach 2016	250	Efficient procurement
	207-1 Approach to tax	250	Efficient procurement
	207-2 Tax governance, control, and risk management	250	Efficient procurement
	207-3 Stakeholder engagement and management of concerns related to tax	250	Efficient procurement
	207-4 Country-by-country reporting	250	Efficient procurement

Material topic	Disclosure number & title	Report page	References and comments
GRI 300: Environmental indicators			
GRI 302 Energy 2016	103 Management approach 2016	182	Energy efficiency
	302-1 Energy consumption within the organization	182	Energy efficiency
	302-4 Reduction of energy consumption	182	Energy efficiency
GRI 303 Water and effluents 2018	103 Management approach 2016	170	Environment protection
	303-1 Interactions with water as a shared resource	170	Environment protection
	303-2 'Management of water discharge-related impacts'	170	Environment protection
	303-3 Water withdrawal	170	Environment protection
	303-4 Water discharge	170	Environment protection
	303-5 Water consumption	170	Environment protection
GRI 304 Biodiversity 2016	103 Management approach 2016	170	Environment protection
	304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	170	Environment protection
	304-2 Significant impacts of activities, products, and services on biodiversity	170	Environment protection
GRI 305 Emissions 2016	103 Management approach 2016	178	Climate change
	305-1 Direct (Scope 1) GHG emissions	178	Climate change
	305-5 Reduction of GHG emissions	178	Climate change
	305-7 Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	178	Climate change
GRI 306 Waste 2020	103 Management approach 2016	170	Environment protection
	306-1 Waste generation and significant waste-related impacts	170	Environment protection
	306-2 Management of significant waste-related impacts	170	Environment protection
	306-3 Waste generated	170	Environment protection
	306-4 Waste diverted from disposal	170	Environment protection
	306-5 Waste directed to disposal	170	Environment protection
GRI 307 Environmental compliance 2016	103 Management approach 2016	170	Environment protection
	307-1 Non-compliance with environmental laws and regulations	170	Environment protection
GRI 400: Social indicators			
GRI 401: Employment 2016	103 Management approach 2016	186	Human capital management
	401-1 New employee hires and employee turnover	186	Human capital management The indicator is partially disclosed
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	186	Human capital management In most enterprises of the Naftogaz Group, social benefits are provided to full-time employees, as well as non-working pensioners of the company. However, employees who work part-time, temporary, or part-time are not provided or not fully provided with the social benefits provided for full-time employees

Material topic	Disclosure number & title	Report page	References and comments
GRI 402: Labor/ Management relations 2016	103 Management approach 2016	186	Human capital managemen
	402-1 Minimum notice periods regarding operational changes	186	Human capital managemen According to the current legislation of Ukraine, this period is 2 months. The corresponding norm is fixed in collective agreements
GRI 403: Occupational health and safety 2018	103 Management approach 2016	190	Employee health and security
	403-1 Occupational health and safety management system	190	Employee health and security
	403-2 Hazard identification, risk assessment, and incident investigation	190	Employee health and security
	403-3 Occupational health services	190	Employee health and security
	403-4 Worker participation, consultation, and communication on occupational health and safety	190	Employee health and security
	403-5 Worker training on occupational health and safety	190	Employee health and security
	403-6 Promotion of worker health	190	Employee health and security
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	190	Employee health and security
	403-8 Workers covered by an occupational health and safety management system	190	Employee health and securityy The indicator is partially disclosed
	403-9 Work-related injuries	190	Employee health and security The indicator is partially disclosed
	403-10 Work-related ill health	190	Employee health and security
GRI 404: Training and education 2016	103 Management approach 2016	186	Human resources management
	404-1 Average hours of training per year per employee	186	Human resources management More than 70% of employees completed at least one training program in 2021, Employees completed an average of 22 hours of training per year
	404-2 Programs for upgrading employee skills and transition assistance programs	186	Human resources management
GRI 405 Diversity and Equal Opportunity 2016	103 Management approach 2016	186	Human resources management
	405-1 Ratio of basic salary and remuneration of women to men	186	Human resources management
GRI 406 Non-discrimination 2016	103 Management approach 2016	186	Human resources management
	406-1 Incidents of discrimination and corrective actions taken	–	During the reporting period, no cases of discrimination were detected.
GRI 408 Child Labor 2016	103 Management approach 2016	186	Human resources management
	408-1 Operations and suppliers at significant risk for incidents of child labor	–	Not relevant. Child labor is prohibited in Ukraine according to current legislation. The company does not operate in countries where there is a high risk of human rights violations, including the use of child labor.
GRI 409 Forced or Compulsory Labor 2016	103 Management approach 2016	186	Human resources management
	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	–	Not relevant. Forced labor is prohibited in Ukraine according to current legislation. The company does not operate in countries where there is a high risk of human rights violations, including the use of forced labor.
GRI 413 Local Communities 2016	103 Management approach 2016	202	Developing local communities
	413-1 Operations with local community engagement, impact assessments, and development programs	202	Developing local communities Environment protection
	413-2 Operations with significant actual and potential negative impacts on local communities	170	Environment protection The indicator is partially disclosed

RATIONALE & EXPLANATION
TO THE LETTER FROM THE CEO TO THE READERS OF THE COMPANY'S ANNUAL REPORT 2021

Yuriy Vitrenko's statement is based on a number of statements, as well as data, which are the results of the Group's activities. Below is a detailed rationale of the relevant theses of the CEO, as well as the references containing more information.

Statement 1: "In this report you can read about the successful turnaround of the company in 2014-2017, with the major results of this turnaround culminating in 2019. Intertwined with this turnaround, Naftogaz was a key driver for Ukraine's modernization, which helped make Ukraine more resilient".

- In his book "The New Map: Energy, Climate, and the Clash of Nations", Daniel Yergin, Pulitzer Prize laureate and one of the world's most influential authors on energy, international policy and economics, stated: "... to the surprise of many, world got out that Russia and Ukraine had concluded a settlement of what had seemed to be their endlessly acrimonious natural gas battle. It was more than a "tie"; it was the deal that Ukraine could only have hoped for: Russia guaranteed five years of volumes of natural gas to Europe through Ukraine, which would assure a level of transit revenues. Even more surprising, Russia agreed to pay Ukraine a $3 billion arbitration claim that Ukraine won against Gazprom."
- According to the conclusions of the OECD Report "State-Owned Enterprises in the Hydrocarbon Sector in Ukraine" (2019): "The transformation of Naftogaz is a potential good practice example and could be an important driver in the reform of the overall SOE sector in Ukraine."
- Also according to the conclusions of the "OECD Review of the Corporate Governance of State-Owned Enterprises (UKRAINE)" (2021): "In 2019, Naftogaz was one of the largest Ukrainian state-owned enterprises in terms of asset value and revenue. Over the past six years, the performances of the enterprise have improved significantly... a significant part of the income of Naftogaz was earned from gas transmission activities" (note that gas transmission was the responsibility of Yuriy Vitrenko at that time).
- More information about the results of National Joint Stock Company "Naftogaz of Ukraine" achieved in 2019 can be found in the corresponding annual report of the company.
- For more facts in support of this statement, see the following publications: "Looking Putin in the Eye: an Insider's Lessons from a Major Victory" and "Naftogaz vs. Gazprom".
- For more facts in support of this statement, see the Annual Report of Naftogaz of Ukraine 2021, subsection "Ukraine's dependence on Russian gas", page 66.
- The statement is supported by the Naftogaz Group results presented in its Annual Report 2021, subsection "Exploration and Production", page 128.

Statement 2: "In 2020, when I left the company, many unbiased observers could see problems within the company".

- For data on losses in Q2 2020 and the for the whole 2020, see the Annual Report of Naftogaz of Ukraine 2021, subsection "2021 Major Achievements", page 12.
- For information on the problems related to corporate governance, see the Annual Report of Naftogaz of Ukraine 2021, subsection "Corporate Governance", page 222.
- For information on the problems related to the remuneration of the company's Executive Board members, see the Annual Report of Naftogaz of Ukraine 2021, subsection "Remuneration of the Executive Board members", page 236.
- In October 2020, the Executive Board of Naftogaz approved an amicable settlement agreement with a number of entities which the company had been conducting a lengthy dispute with and openly called them "fraudulent". As part of the amicable settlement agreement, Ukrtransgaz gave back 300 mcm of "disputed" gas. The agreement was approved by court decisions dated November 10 and 13. Thus, the Profi-Gas company received gas worth UAH 2.2 billion.
- The State Bureau Of Investigation (SBI) started a pre-trial investigation into the illegal alienation of 305 mcm of natural gas by officials from Ukrtransgaz, Naftogaz of Ukraine with the complicity of others.
- Transit remained the main source of income for Naftogaz, because the company's other activities were either unprofitable or insufficiently profitable.
- Based on a report prepared by AlixPartners Services UK LLP in 2021 following the appointment of new management in 2021, Naftogaz began discussions with the US authorities about alleged cases of corruption and money laundering related to one of the former managers of Naftogaz, Andriy Favorov.
- For more facts in support of this statement, see the publication: "Looking Putin in the Eye: An Insider's Lessons from a Major Victory".
- For more facts in support of this statement, see the presentation of Yuriy Vitrenko to the Supervisory Board of National Joint Stock Company "Naftogaz of Ukraine".
- For more facts in support of this statement, see the Report of Naftogaz analytical unit dated 2019 "Measuring Progress of Naftogaz's Organisational Transformation: "Isn't it too little, too late?".

Statement 3: "The governance bodies became too complacent over what was essentially parasitic behaviour targeting valuable assets obtained by the company from the state for free. Instead of transparency, the company's corporate culture could be described as "smoke and mirrors."

- For more facts in support of this statement, see the Annual Report of Naftogaz of Ukraine 2021, subsection WHAT IS ROIC: How analysing Return On Investment Capital helps Naftogaz spot financial sustainability challenges facing our businesses, page 122.
- In 2020, the results of the statutory audit of Naftogaz by the State Audit Service were published, which revealed violations at Naftogaz totalling more than UAH 180 billion, leading to state budget state budget losses of about UAH 75 billion. Despite the fact that it was a final audit report, the management of Naftogaz pretended that journalists were commenting on some non-finalized conclusions of the report.
- Due to the terms and conditions of the agreements with gas suppliers providing gas to households concluded by the previous management of Naftogaz (in particular, with the largest player – Je Energy, controlled by oligarch Dmytro Firtash), gas suppliers were able to resell gas purchased from Naftogaz for the needs of households to industrial enterprises at preferential prices.

- The financial plan for 2021, developed by the previous management of the company, approved by the previous Executive Board and the Supervisory Board, did not include any imports of gas.

- This statement is confirmed by the facts presented in Yuriy Vitrenko's interview to the Interfax-Ukraine agency dated October 15, 2020, in particular, by the fact that the previous management organized the sale of gas for the needs of households to gas suppliers on preferential terms, without a guarantee that these volumes would go only to households, even without a guarantee of payment.

- Despite the general impression that Naftogaz was well-prepared for challenges, a detailed analysis, as of the beginning of 2020, showed that was not the case. In particular, Yuriy Vitrenko's presentation to the Supervisory Board of National Joint Stock Company "Naftogaz of Ukraine" in March 2020 stated that there were problems with financial results, natural gas production, corporate governance, as well as the culture of governance and ethics.

- The letter of the independent members of the Supervisory Board of Naftogaz to the Government of Ukraine dated May 3, 2021 contained a number of distorted facts that could create a false impression about the real situation in the company. The facts included information about taxes paid by the company to the state budget, causes of losses, etc.

- The company paid for smear campaigns inside Ukraine and abroad directed against personal opponents of the company's management.

- For information on the problems related to corporate governance, see the Annual Report of Naftogaz of Ukraine 2021, subsection "Corporate Governance", page 222.

- For information on problems with the remuneration of Executive Board members, see the Annual Report of Naftogaz of Ukraine 2021, subsection "Remuneration of Executive Board members", page 236.

- For information on problems with gas production, see the Annual Report of Naftogaz of Ukraine 2021, subsection "Exploration and Production of Hydrocarbons", page 128.

- For specific examples of "smoke and mirrors", see presentation of Yuriy Vitrenko to the Supervisory Board of National Joint Stock Company "Naftogaz of Ukraine" dated 2020.

- An additional example of "smoke and mirrors". Criticism emerged in the press about a possible gas reselling scandal. The company publicly stated it would check the facts published, to see if Mr. Favorov had a conflict of interest, for which purpose an external auditor was engaged. As a follow-up to the auditor's engagement, a conflict of interest was reported. However, instead of recognising and resolving the conflict of interests in its next release, the company manipulated concepts and said that the conditions under which gas had been sold to Eru were no different from the conditions under which it was sold to other traders.

- Naftogaz lost a dispute in the London Court of International Arbitration based on a claim of minority shareholders of Ukrnafta against Naftogaz, but at the same time declared that it had won it. This situation is described in detail in Yuriy Vitrenko's interview with Economic Pravda on August 15, 2019.

- Naftogaz disrupted the competition for the appointment of CEO of Ukrnafta, keeping the manager who is comfortable for Ihor Kolomoiskyi, and unduly accused the Chairman of the Nomination Committee Andriy Boitsun and Yuriy Vitrenko of this, claiming they had violated procedures (for details on the situation, see Andriy Boitsun's interview to Interfax Ukraine dated May 27, 2020). At that, instead of influencing the management of Naftogaz, Chairperson of the Supervisory Board of National Joint Stock Company "Naftogaz of Ukraine" Clare Spottiswoode was actually defending him (in particular, as evidenced in her interview to Interfax Ukraine dated March 15, 2021).

- For more facts in support of this statement, see interview of Yuriy Vitrenko to Ukraine News Agency RBC dated July 27, 2021.

Statement 4: "The government as a sole shareholder disagreed and assessed the results as unsatisfactory, dismissed the Supervisory Board, fired the old CEO, and in April 2021 appointed me as CEO of the company."

- For detailed information on this statement, see "Corporate Governance" subsection, page 222.

- Decree of the CMU dated April 28, 2021 No. 370-r: "To recognize the work of the Supervisory Board and the Executive Board of the Joint Stock Company "National Joint Stock Company "Naftogaz of Ukraine" in 2020 as unsatisfactory."

- The absence of violations of the law in the situation with the appointment of Yuriy Vitrenko is confirmed by the conclusions of the representative office "Baker and Mackenzie - CIS, Limited", which were provided to Naftogaz. The opinion states that the employment contract concluded with Yuriy Vitrenko for the position of chairman of the Executive Board of Naftogaz of Ukraine does not fall under the anti-corruption restrictions established in paragraph 1 of the first part of article 26 of the Law of Ukraine "On Prevention of Corruption", since he while holding the position of First Deputy Minister of Energy of Ukraine and temporarily performing the duties of the Minister of Energy, was not empowered and did not exercise powers of control, supervision or preparation or decision-making regarding the activities of Naftogaz of Ukraine. The same conclusions were introduced by the leading experts in the field of law of the Institute of State and Law named after V. Koretsky.

- The Prime Minister of Ukraine Denys Shmyhal contested the order of the NACP against the chairman of the board of Naftogaz of Ukraine Yuriy Vitrenko – the corresponding lawsuit was submitted to the District Administrative Court of the city of Kyiv.

- Courts of Ukraine has not judged on the merits of legality of the appointment of Yuriy Vitrenko, instead, decisions were made only on the application of measures to ensure the claim and jurisdiction.

- In his interview dated May 13, 2022, the Head of the NACP Oleksandr Novikov admitted NACP had no objections to Yuriy Vitrenko's reappointment in 2021.

Statement 5: "...the first time in many years we used legal strategies to squeeze oligarchs from the dominant middleman positions in the retail gas sector".

- From October 1, 2021, National Joint Stock Company "Naftogaz of Ukraine" has supplied gas to companies for further sale to households on a new contractual basis – a balancing group, after termination of the previous contracts including the contract with Dmytro Firtash's Je Energia company, which was concluded by the previous management. The contract provided for undue advantages, as it enabled the company to resell to industrial enterprises the gas purchased from Naftogaz for the needs of households at preferential prices.

- On 28 May 2022, the Cabinet of Ministers of Ukraine transferred 28 operators of gas distribution system (oblgas) that were related to Dmytro Firtash to the Chornomornaftogaz enterprise, which is part of the Naftogaz Group (decree of the CMU dated May 28, 2022 No. 429-r).

- Since June 1, 2022, the gas supply company associated with Dmytro Firtash was no longer able to provide gas to its consumers under the conditions stipulated by the state. 8.8 million Ukrainian households therefore began to receive gas from Naftogaz.

Statement 6: "It was the first winter since Ukraine incorporated the European Union's directives into the Gas Market law in 2015, that so-called "public service obligations" were not abused by the government."

- According to EU rules, "imposition of public service obligations" is a government tool that can be used to set gas prices below the market level, but then compensate the seller for the difference between the regulated price and the market level. In Ukraine, each government between 2015 and 2022 abused this tool to set regulated prices well below market prices without any compensation. In particular, this problem was mentioned in the "OECD Review of Corporate Governance of State-Owned Enterprises (UKRAINE)" (2021).
- Resolution No. 867 of the Cabinet of Ministers of Ukraine dated October 19, 2018 approved a Regulation on imposing special obligations on natural gas market entities, which determines the conditions of natural gas supply and its payment by heat supply enterprises. It expired on 20 May 2022 and was not extended by the government.
- Instead, National Joint Stock Company "Naftogaz of Ukraine" offered heat supply companies a three-year contract with Naftogaz.

Statement 7: "...for the first time since 2016, the government, our sole shareholder, launched an open, competitive, and merit-based selection process to find Supervisory Board members for Naftogaz in line with best international practices."

- For more details, see "Corporate Governance" subsection, page 222.
- The first ever independent Supervisory Board in a Ukrainian state-owned enterprise was appointed at Naftogaz in 2016 (following a competitive process – ed.). In 2017, one representative of the state and all independent members of the board resigned, and the rest also expressed a number of complaints about the role of the state as the owner and drew attention to the shortcomings of corporate governance (OECD Report State-Owned Enterprises Reforms in the Hydrocarbon Sector in Ukraine (2019)).
- On December 13, 2017, the Cabinet of Ministers of Ukraine appointed new members of the Supervisory Board, however without any open competition (order of the Cabinet of Ministers of Ukraine dated 13 December 2017 No. 892-r).
- Yuriy Vitrenko's comment on the situation with the Supervisory Board: "Since 2017, no member of the Supervisory Board of Joint Stock Company "National Joint Stock Company "Naftogaz of Ukraine" has been appointed on the basis of an open competition."
- On May 19, 2021, the Cabinet of Ministers of Ukraine announced a competitive process for the positions of four independent members of the Supervisory Board of Naftogaz (decree of the CMU of 19 May 2021 No. 494-r).
- On October 25, 2021, the Ministry of Economy of Ukraine announced the start of the competitive selection of four independent members of the Supervisory Board of the Joint Stock Company "National Joint Stock Company "Naftogaz of Ukraine". The selection was carried out by the independent Committee for the Appointment of Managers of Enterprises of Special Economic Importance.
- As of the date of publication of this report, a short list of candidates for the positions of four independent members of the Supervisory Board of the Joint Stock Company "National Joint Stock Company "Naftogaz of Ukraine" has already been formed.

Statement 8: "In 2021, Naftogaz had the honour to participate in insightful meetings with leaders of Germany, Turkey, Qatar, Azerbaijan and Lithuania, and with top government officials in Washington D.C. and EU Commissioners in Brussels, with representatives of the IFIs and the ambassadors of many countries. This outreach was structured, deliberate, and helped us to advance the company's interests in the geopolitical arena. After the war broke out, we were able to use these networks to help Ukraine defend against the Russian aggression and to secure Naftogaz's interests."

- The National Council for the Recovery of Ukraine from the Consequences of the War established an advisory board that included world-renowned economic experts: Professor of Political Science at Stanford University Michael McFaul, Director of the EBRD Matteo Patrone, and former Finance Minister of Slovakia Ivan Miklos. The advisory board also included Yuriy Gorodnichenko, Professor of Economics at the University of California Berkeley; Tymofiy Mylovanov, President of the KSE; Francis Fukuyama, Professor at Stanford University; Arup Banner, Regional Director of the World Bank, Deputy Executive Director from Ukraine in the IMF Vladyslav Rashkovan, and CEO of Naftogaz Yuriy Vitrenko.
- Naftogaz is part of the International Working Group on Sanctions Against Russia (the so-called McFaul-Yermak group). In particular, they developed the Energy Sanctions Roadmap: Recommendations for Sanctions against the Russian Federation.
- Yuriy Vitrenko testified at the Commission on Security and Cooperation in Europe, also known as the Helsinki Commission (a hearing on "European Energy Security Post-Russia"). During this visit to the USA, the issues of export financing and political insurance of the supply of American LNG to Ukraine were discussed with partners, as well as the supply of American LNG under the Lend-Lease program (see Yuriy Vitrenko's speech before the Commission on Security and Cooperation in Europe on 7 June 2022 in Washington).
- During a visit to the USA in June 2022, the CEO of Naftogaz suggested that the US government consider the inclusion of gas in the Lend-Lease program as part of support to be provided to Ukraine for passing the 2022/23 heating season. The proposal was discussed at meetings with the Export-Import Bank of the United States, the Department of Energy, the Department of Commerce, the Department of State, the Department of the Treasury, the United States Agency for International Development, the US International Development Finance Corporation, the World Bank, the IMF and representatives of Congress (the corresponding information was published in the American media: including Foreign Policy on June 14, 2022).
- Naftogaz worked with the German government, as well as with the Independent Energy Regulator (BNetzA) to prevent the launch of Nord Stream 2. As a result, Naftogaz was admitted to the certification process of the gas pipeline.

Statement 9: "That is why we are developing our gas production, applying new, more efficient technologies."

- For more facts in support of this statement, see subsection "Exploration and Production of Hydrocarbons", page 128.

Statement 10: "We are also developing projects in renewable energy sources that can bring fast results, making Ukraine's energy, especially the heating sector, more resilient."

- For more information expanding this statement, see "Business Activities" section, page 128.
- For additional information about the overall context regarding the energy sector of Ukraine, see the Report authored by the Ministry of Energy in 2021 under the leadership of Yuriy Vitrenko.

- In 2021, the company expanded its capacity to produce electricity from alternative sources by commissioning the second photovoltaic power plant in Zhytomyr region – the Chudniv power plant with a capacity of 33 MW. The total electricity generation of the two PPPs in 2021 was 1,444.3 thousand MWh. (Annual report of Naftogaz of Ukraine for 2021, page 131).

- In 2021, the company started developing heat generation from biomass and agromass and established a team of professionals with expertise in implementing similar projects in Ukraine. On May 21, 2022, Naftogaz and Clear Energy launched a biogas power plant in the Lviv region.

- In the first months of 2022, the team elaborated a list of projects for the construction of eight bio-CHPs in seven regions of Ukraine, including five plants that will use wood chips as fuel. The total installed capacity of these eight bio-CHPs will be more than 200 MW of thermal energy and more than 60 MW of electricity, which would substitute up to 250 mcm of natural gas per year (Annual report of Naftogaz of Ukraine 2021, page 132).

Statement 11: "We will continue defending our rights before the EU antitrust regulator and courts against Gazprom and the Russian Federation."

- For more information, see subsection "Gas Transit, Nord Stream 2, and Gazprom's Anti-Competitive conduct."

- Naftogaz of Ukraine intends to file a lawsuit against Russia's Gazprom over their reduction in transit of natural gas through Ukraine at below contracted volumes.

- A Hague tribunal has begun hearing Naftogaz's claim for compensation over Russia's seizure of Naftogaz investments in Crimea.

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TERMS & ABBREVIATIONS

Unbundling – separation of gas transmission from gas supply and production
Crimea – The Autonomous Republic of Crimea
JSC Ukrgasvydobuvannya, Ukrgasvydobuvannya (UGV) – Joint Stock Company Ukrgasvydobuvannya
Ukrspetstransgaz – Joint Stock Company Ukrspetstransgaz
JSC Ukrtransgaz, Ukrtransgaz (UTG) – Joint Stock Company Ukrtransgaz
JSC Ukrtransnafta, Ukrtransnafta (UTN) – Joint Stock Company Ukrtransnafta
JSC Chornomornaftogaz, Chornomornaftogaz (CNG) – Public Joint Stock Company Chornomornaftogaz
OJSC Kirovohradgaz, Kirovohradgaz (KirGaz) – Open Joint Stock CompanyKirovohradgaz, a regional gas distribution and supply company
Gas – natural gas, unless stated otherwise
Urengoy-Pomary-Uzhhorod Gaspipeline (UPU) – the gas export route connecting the Urengoy gas field and northern gas fields of Western Siberia to Uzhhorod at the western border of Ukraine
Gazprom – Public Joint Stock Company Gazprom, a Russian energy company
GMS – gas measuring station
RSC – regional gas supply companies
HF – hydraulic fracturing
GDS – gas distribution station
GTS – gas transportation system
GROUP – a group of companies that consists of NJSC Naftogaz of Ukraine, JSC Ukrgasvydobuvannya, SE Ukrnaftogazkomplekt, SE Naukanaftogaz, SE Naftogazobsluhovuvannya, SE Likvo, SE Naftogazbezpeka, SE Budivelnyk, PJSC Ukrnafta, JSC Chornomornaftogaz, LLC Naftogaz of Ukraine Gas Supply Company, LLC Naftogaz Teplo Gas Supply Company, LLC Naftogaz Trading Gas Supply Company
State Company gas of Ukraine, gas of Ukraine – a subsidiary of National Joint Stock Company Naftogaz of Ukraine
USD – United States Dollar
Subsidiaries – subsidiary companies of National Joint Stock Company Naftogaz of Ukraine, includingJSC Ukrgasvydobuvannya, JSC Ukrtransgaz, JSC Ukrtransnafta, SC Gas of Ukraine, SE Uktavtogaz, OJSC Kirovohradgaz, SE Zakordonnaftogaz, JSC Ukrspetstransgaz, Overseas SA, PJSC Ukrnafta
Zakordonnaftogaz – a subsidiary of NJSC Naftogaz of Ukraine State Enterprise Zakordonnaftogaz
JSC Ukravtogaz, Ukravtogaz (UAG) – Joint Stock Company Ukravtogaz
SE Vuhlesyntezgaz, Vuhlesyntezgaz – Subsidiary enterprise of National Joint Stock Company Naftogaz of Ukraine Vuhlesyntezgaz
DSNS, SESU – State Emergency Service of Ukraine
EBRD – European Bank for Reconstruction and Development
EC – the European Commission
EGPC – Egyptian General Petroleum Corporation
EIB – European Investment Bank
EU – the European Union
Cabinet of Ministers – The Cabinet of Ministers of Ukraine
COMPANY – NJSC Naftogaz of Ukraine
BCS – booster compressor stations, which maintain the pressure necessary for production at the final stage of field development
WO – workover operations
Gas trunk pipelines – a single-line system feeding into the common system of gas pipelines, through which gas is transmitted from the production site to consumers
IBRD – International Bank for Reconstruction and Development
IMF – International Monetary Fund, a special UNO agency
Energy Ministry – the Ministry of Energy and the Coal Industry of Ukraine
IFRS – International Financial Reporting Standards
Naftogaz – NJSC Naftogaz of Ukraine
NEURC – National Commission for Regulation of Energy and Utilities
OF – Oil refinery
OECD – Organization for Economic Cooperation and Development
PJSC Ukrnafta, Ukrnafta (UN) – Public Joint Stock Company Ukrnafta
UGS – underground gas storage
PSO – public service obligations
Russia – the Russian Federation
LPG – liquefied petroleum gas
WORLD BANK – the organization that provides assistance for development. It comprises two I nstitutions: the International Bank for Reconstruction and Development (IBRD), and the International Development Association (IDA)
MHE– municipal heat generating entities
DHC – district heating company (same as "teplokomunenergo")
Teplokomunenergo – enterprises, producing heat and energy, district heating companies
BP – British Petroleum, a transnational oil and gas, petrochemical and coal corporation
EFET – European Federation of Energy Traders
EUSTREAM – Slovak gas transmission system operator
NOPLAT – adjusted operating result net of income taxes
Naftogaz overseas S.A. – JSC Naftogaz Overseas (Switzerland)
Pricewaterhousecoopers (PWC) – international audit consultancy
ROIC – Return on Invested Capital. ROIC is calculated as NOPLAT for the respective year divided by invested capital, which was determined as a sum of invested capital in fixed assets and net working capital as of the end of the year