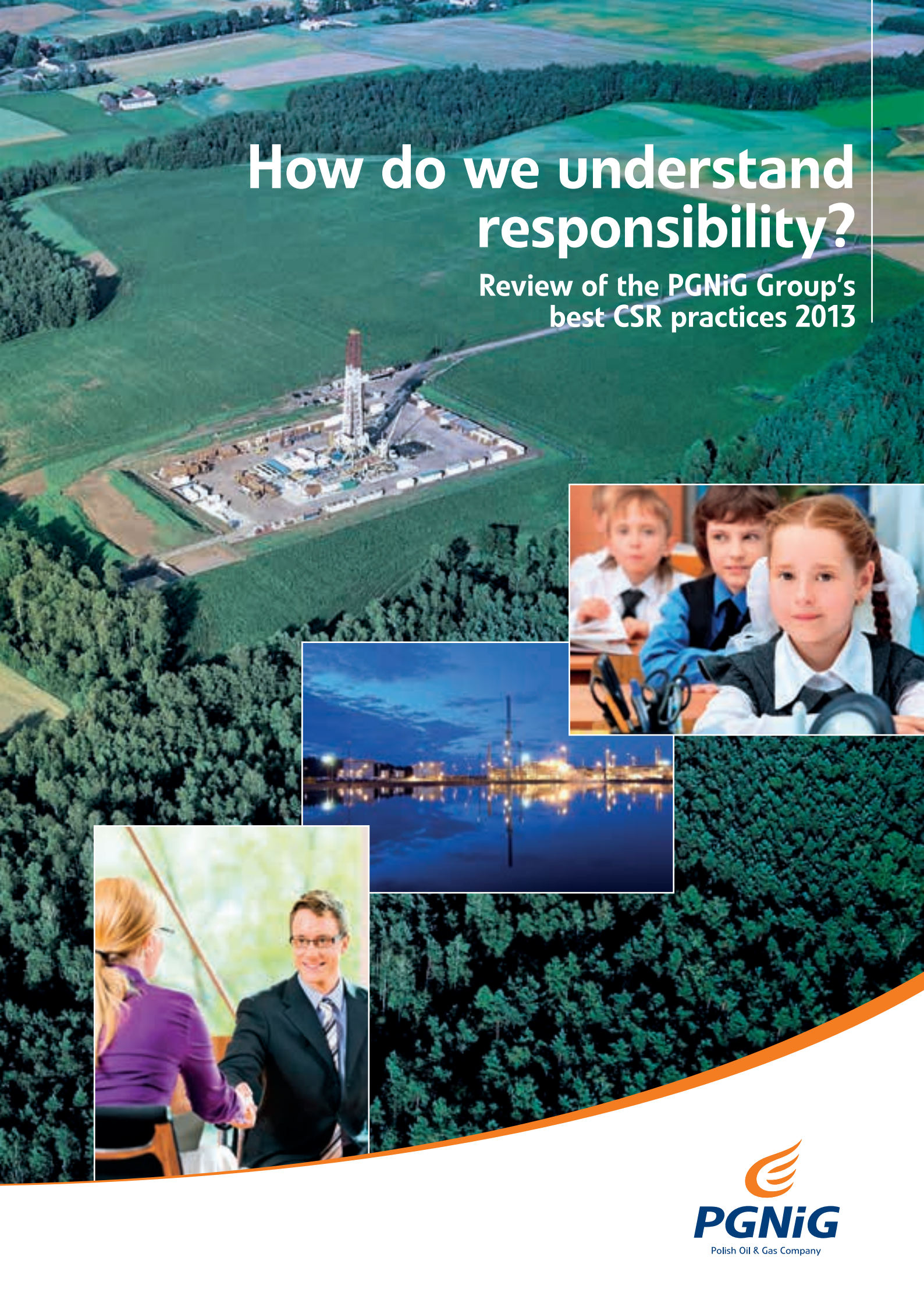


How do we understand responsibility?

Review of the PGNiG Group's best CSR practices 2013











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1. Introduction



This folder presents best practices of the PGNiG Group companies, broken down into four areas: customers, communities, workplace and the natural environment, as well as information on the company profile in accordance with GRI guidelines. The best practices are a summary of the Group's efforts and initiatives in corporate social responsibility and sustainable growth. In 2012, PGNiG took part in various initiatives of the Responsible Business Forum, and pursued its own projects based on the Global Compact values and objectives.



2. Mission and values



Our mission is to provide secure and reliable supplies of clean and environmentally friendly energy using competitive and innovative solutions.

We are true and faithful to our traditions and to the trust our customers place in us, but also remain open to new challenges and changes.

Acting in the best interests of our shareholders, customers and employees, we strive to be a reliable and trustworthy partner, pursuing business growth and value creation in accordance with the principles of sustainable development.



Responsibility

lies at the core of everyday work of all PGNiG employees irrespective of their position. At the same time Responsibility is what motivates us to work together for the common good.



Partnership

is about building lasting relations that stem from mutual trust and benefit all parties involved, both within PGNiG – with the employees and the trade unions, and with third parties – customers, local communities, and other market participants.



Credibility

is earned by long-term and persistent building of a high culture of communication based on the principles of dialogue, fostering trust among all our stakeholders.



Quality

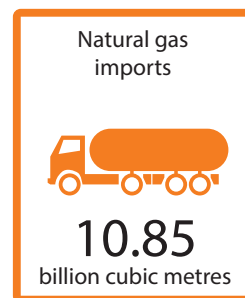
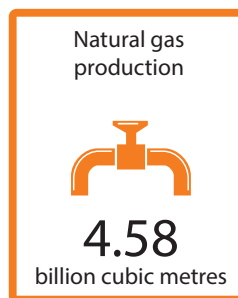
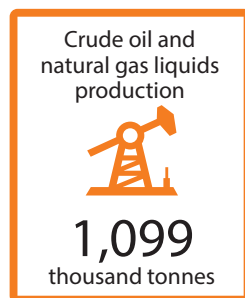
is about ongoing improvement of our products and service quality through implementation of modern technologies, enhancement of management systems and creation of an ethical culture at PGNiG S.A., in line with the expectations of our customers, employees and all partners.

3. PGNiG – company profile



The PGNiG Group is the leader in the Polish natural gas market. Companies of the Group employ approximately 31 thousand staff. Outside Poland, where the PGNiG Group ranks among the largest employers, we are present across several continents in many countries including Belgium, Denmark, Egypt, Norway, Pakistan, Russia, Kazakhstan, Uganda, Czech Republic, Austria, Germany, Belarus, Ukraine and Hungary.

Key results in 2013

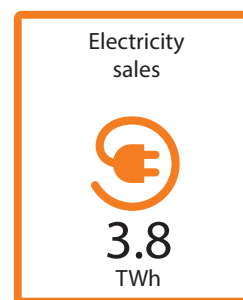
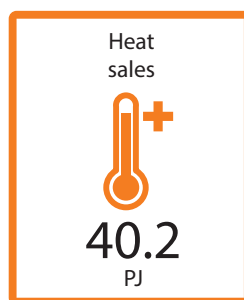
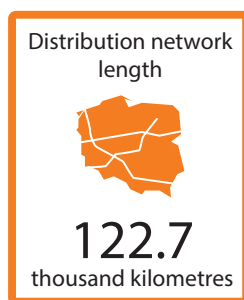
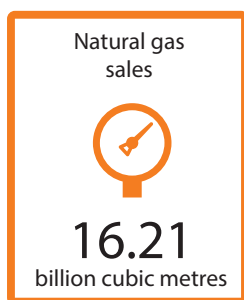


The Group's core business is the production and sale of natural gas and crude oil. Both domestically and abroad, we are engaged in geophysical and geological research, exploration for and production of hydrocarbons, and preparation of products to bring them to the market.

The Group sells natural gas produced in Poland and also imported gas. To secure its stable and continuous supplies, the PGNiG Group stores gas in eight modern underground storage facilities. Gas is supplied to our customers through thousands of kilometres of pipeline, owned and operated by six regional gas distribution companies.

PGNiG has been listed on the Warsaw Stock Exchange since September 2005. The PGNiG Group has enjoyed the growing trust and confidence of the capital market and has been assigned excellent credit ratings. Our strong position is confirmed by the fact that PGNiG shares are included in WIG20 – the blue-chip index of the Warsaw Stock Exchange. Since October 2009, our stock has also been included in the 'RESPECT Index' of socially responsible companies.

In 2013, the PGNiG Group was ranked fifth in 'Lista 500' – a listing of the largest Polish businesses put together by the 'Rzeczpospolita' daily.



The PGNiG Group came fifth in the 'Lista 500' ranking of the largest Polish companies compiled by the 'Polityka' weekly magazine. It was additionally awarded the CSR Golden Leaf, a distinction granted to companies which place implementation of the ISO 26000 CSR guidance at the very centre of their strategic business activities.

Structure of the Group

As at the end of 2013, the PGNiG Group comprised PGNiG (the parent) and 30 production and service companies, including:

- 22 direct subsidiaries, and
- 8 indirect subsidiaries.

Group's headcount as at the end of 2013, by segment

	2013	2012	2011	2010
PGNiG Head Office	606	617	838	840
Exploration and Production	10,754	10,990	12,054	11,592
Trade and Storage	3,464	3,780	3,841	3,809
Distribution	13,050	13,255	13,865	13,881
Power Generation	1,066	1,069	-	-
Other Activities	1,990	2,327	2,185	2,296
Total	30,930	32,038	32,783	32,418

Consolidated companies of the PGNiG Group

Exploration and Production	Trade and Storage	Distribution	Generation
<ul style="list-style-type: none"> Exalo Drilling Group 100% Oil Tech International F.Z.E. 100% Poltava Services LLC 100% 	<ul style="list-style-type: none"> Operator Systemu Magazynowania Sp. z o.o. 100% GK PGNiG Sales&Trading 100% XOOL GmbH 100% 	<ul style="list-style-type: none"> Polska Spółka Gazownictwa Group 100% Powiśle Park Sp. z o.o. 100% „GAZ” Sp. z o.o. 100% 	<ul style="list-style-type: none"> PGNiG Termika SA 100%
<ul style="list-style-type: none"> Geofizyka Kraków SA 100% Geofizyka Toruń SA 100% PGNiG Upstream International AS 100% POGC Libya B.V. 100% 	<ul style="list-style-type: none"> PGNiG Finance AB 100% 		

Changes in the Group structure

- On January 2nd 2013, the Extraordinary General Meeting of BUD-GAZ PPUH Sp. z o.o. resolved to wind up the company and place it in liquidation.
- On February 1st 2013, a merger of PGNiG Poszukiwania S.A. (now Exalo Drilling S.A.) with PNiG Kraków S.A., PNiG NAFTA S.A., PNiG Jasło S.A., PN Diament Sp. z o.o. and ZRG Krosno Sp. z o.o. was effected and registered with the National Court Register. PGNiG Poszukiwania S.A.'s name was changed to Exalo Drilling S.A., and the change was registered with the National Court Register on February 6th 2013.
- On May 23rd 2013, an amendment to the Articles of Association of PGNiG Norway AS, involving a change of the company name to PGNiG Upstream International AS, was registered with the National Court Register.
- On April 15th 2013, INVESTGAS S.A. acquired 307 shares in Ośrodek Badawczo-Rozwojowy Górnictwa Surowców Chemicznych CHEMKOP Sp. z o.o., following which INVESTGAS S.A.'s interest in the company's share capital increased from 85% to 85.51%.
- On May 14th 2013, the General Meeting of Biogazownia Ostrowiec Sp. z o.o. resolved to wind up the company and place it in liquidation.
- On July 1st 2013, a merger was effected pursuant to Art. 492.1.1 of the Commercial Companies Code between PGNiG SPV 4 Sp. z o.o. (the acquiring company) and six gas distribution companies (target companies), i.e. Mazowiecka Spółka Gazownictwa Sp. z o.o., Wielkopolska Spółka Gazownictwa Sp. z o.o., Karpacka Spółka Gazownictwa Sp. z o.o., Pomorska Spółka Gazownictwa Sp. z o.o., Dolnośląska Spółka Gazownictwa Sp. z o.o. and Górniośląska Spółka Gazownictwa Sp. z o.o. As a result, the share capital of PGNiG SPV 4 Sp. z o.o. was increased by PLN 10,453,211,550, to PLN 10,454,206,550. The merger and the share capital increase were registered with the National Court Register on July 1st 2013. PGNiG SPV 4 Sp. z o.o.'s name was changed to Polska Spółka Gazownictwa Sp. z o.o., and the change was registered with the National Court Register on September 12th 2013.
- On July 1st 2013, INVESTGAS S.A. (target company) was merged with Operator Systemu Magazynowania Sp. z o.o. (acquiring company) pursuant to Art. 492.1.1 of the Commercial Companies Code. As a result, the share capital of Operator Systemu Magazynowania Sp. z o.o. was increased by PLN 10,290,000, to PLN 15,290,000. The merger and the share capital increase were registered with the National Court Register on July 1st 2013.
- On July 23rd 2013, a merger was effected pursuant to Art. 492.1.1 of the Commercial Companies Code between PGNiG S.A. (the acquiring company) and PGNiG Energia S.A. (the target company), without increasing the acquiring company's share capital. The merger was registered with the National Court Register on July 23rd 2013.
- On August 22nd 2013, the Extraordinary General Meeting of Polskie Elekrownie Gazowe Sp. z o.o. resolved to wind up the company and place it in liquidation.
- On October 31st 2013, a new company under the name of PGNiG Obrót Detaliczny Sp. z o.o. was established. The company's share capital is PLN 1,000,000 and comprises 10,000 shares with a par value PLN 100 per share. PGNiG S.A. holds a 100% equity interest in PGNiG Obrót Detaliczny Sp. z o.o. The new company was registered with the National Court Register on December 3rd 2013.
- November 21st 2013, a new company under the name of PGNiG SPV 5 Sp. z o.o. was established. 100% of its share capital (PLN 250,000; 2,500 shares with a par value of PLN 100 per share) is held by PGNiG S.A. The new company was registered with the National Court Register on December 13th 2013.
- On November 21st 2013, a new company under the name of PGNiG SPV 6 Sp. z o.o. was established. 100% of its share capital (PLN 250,000; 2,500 shares with a par value of PLN 100 per share) is held by PGNiG S.A. The new company was registered with the National Court Register on December 11th 2013.
- On November 21st 2013, a new company under the name of PGNiG SPV 7 Sp. z o.o. was established. 100% of its share capital (PLN 250,000; 2,500 shares with a par value of PLN 100 per share) is held by PGNiG S.A. The new company



Other Activities

● Geovita SA	100%
● PGNiG Technologie SA	100%
● PGNiG Serwis Sp. z o.o.	100%
● BSiPG „Gazoprojekt” SA*	75%

* PGNiG SA has the right to appoint the majority of the company's Supervisor Board members. PGNiG SA's direct interest in the share capital of B.SiP.G „Gazoprojekt” S.A. is 22.50%, while its indirect interest through PGNiG Technologie S.A. is 52.50%.



was registered with the National Court Register on December 9th 2013.

Material changes in the PGNiG Group structure in Q1 2014

On January 20th 2014, GEOFIZYKA Toruń S.A. reported that its subsidiary, PT Geofizyka Toruń Indonezja LLC w likwidacji (in liquidation) was deleted from the business register after the company liquidation process had been completed.

3.1. PGNiG on the stock market

In 2013, the PGNiG share price hit an all-time high of PLN 6.55. Having delivered solid financial performance, the Company was able to pay a dividend and carry out major investment projects. However, 2013 was also a time of stock market volatility, and at the end of the year PGNiG's trading price was close to the level seen at the end of 2012.

Our position on the Warsaw Stock Exchange

From the day PGNiG shares were first listed on the Warsaw Stock Exchange (September 23rd 2005), they have been among the most recognisable and credible listed securities. They have been included in the WIG20 blue-chip index since December 15th 2005, as well as in the MSCI Emerging Markets Index, a global index of emerging market stocks put together by Morgan Stanley Capital International.

We are also proud that PGNiG has been a constituent of the RESPECT Index of socially responsible companies since its inception. 2013 was the seventh year of the index's existence and PGNiG's inclusion in it. In 2013, the Warsaw Stock Exchange launched the WIG30 index, comprising Poland's 30 largest listed companies. First quoted on September 23rd 2013, the new index will ultimately take over the role of the WIG20. PGNiG shares are also included in the WIG Paliwa index of fuel sector companies, accounting for 34% of its portfolio (at the end of 2013).



4. Corporate governance

The PGNiG Group pays close attention to the observance of corporate governance standards. The Group is honest and fair to its shareholders, treats them all on equal terms and makes every effort to establish and maintain the best possible relations between its investors and governing bodies.

General Meeting

The General Meeting is PGNiG's supreme governing body, through which shareholders exercise their corporate rights, including the examination and approval of the Directors' Report, and adoption of decisions on the amount, form and payment date of the dividend. The General Meeting grants its vote of approval to members of the other governing bodies of PGNiG, appoints members of the Supervisory Board and makes decisions concerning the Company's assets.

Supervisory Board

The Supervisory Board exercises continuous supervision over all areas of the Company's activities, in accordance with the Rules of Procedure for the Supervisory Board. It is composed of five to nine members (including one independent member) appointed by the General Meeting of PGNiG for a joint three-year term. The State Treasury is entitled to appoint and remove one member of the Supervisory Board, as long as it remains a shareholder of PGNiG. On a Supervisory Board composed of up to six members, two of them are elected by PGNiG employees. Where the Supervisory Board comprises seven to nine members, there are three members elected in this way.

Management Board

The Management Board is an executive body managing the affairs of PGNiG and representing it in all matters in and out of court. The Management Board is composed of between two to seven members, with the number defined by the Supervisory Board. Members of the Management Board are appointed for a joint three-year term. Powers of the Management Board include all matters connected with the management of the affairs of PGNiG, where such matters are not explicitly reserved for other governing bodies by applicable laws or provisions of the Articles of Association. The Management Board operates in accordance with applicable laws and regulations, including in particular the Commercial Companies Code, as well as the provisions of the Company's Articles of Association and the Rules of Procedure for the Management Board.



Audit Committee

The Audit Committee has operated as a standing body of the Supervisory Board since November 27th 2008. It is composed of at least three members of the Supervisory Board, including at least one member independent from PGNiG or any entity significantly affiliated with PGNiG and appointed by the General Meeting pursuant to PGNiG's Articles of Association. Such a person must be competent in accounting and finance matters. Members of the Audit Committee are appointed by the Supervisory Board.

The powers and the manner of operation of the Company's governing bodies are described in detail in the Articles of Association and the Rules of Procedure for the General Meeting, the Supervisory Board (including the Rules of Procedure for the Audit Committee) and the Management Board. The documents are available at www.pgnig.pl in the Corporate Governance section.

Best practices

The Management Board of PGNiG is strongly committed to compliance with corporate governance standards. Since its stock-exchange debut in 2005, the Company has followed the relevant recommendations of the Warsaw Stock Exchange, as set out in the Code of Best Practice for WSE Listed Companies. Reports on PGNiG's compliance with the principles of corporate governance are published online at www.pgnig.pl in the Corporate Governance section.

Special control rights

In accordance with the Articles of Association, as long as the State Treasury holds an equity interest in the Company, the State Treasury, represented by the minister concerned with matters pertaining to the State Treasury, acting in consultation with the minister competent for economic affairs, has the right to appoint and remove one member of the Supervisory Board.

Additionally, pursuant to the Articles of Association, the State Treasury (as a shareholder) approves in writing: (i) any amendments to material provisions of existing trade agreements for import of natural gas to Poland and the execution of such agreements, and (ii) the implementation of any strategic investment projects by the Company or its involvement in investment projects which, permanently or temporarily, impair the economic efficiency of the Company's business activities, but which are necessary to ensure Poland's energy security.

Irrespective of the State Treasury's share in the Company's share capital, the State Treasury also has the right to demand that the General Meeting be convened and that particular matters be placed on the agenda.

Voting rights restrictions

On December 31st 2012, the amendments to the Articles of Association of PGNiG introduced under a resolution of the Company's Extraordinary General Meeting dated December 6th 2012 were entered in the Company Register. Under the amended Articles of Association, the voting rights of Company shareholders are limited so that at the General Meeting no shareholder can exercise more than 10% of total voting rights at the Company as at the date of the General Meeting, with the proviso that such restriction of voting rights is deemed non-existent for the purpose of determining the obligations of buyers of major holdings of shares.

The voting rights restrictions do not apply to shareholders who were holders of shares conferring more than 10% of total voting rights at the Company on the date of the General Meeting's resolution imposing the restrictions, and to shareholders acting together with shareholders holding shares conferring more than 10% of total voting rights under agreements on voting in concert.

For the purpose of the voting rights restriction, votes of shareholders bound by a parent-subsidiary relationship are aggregated and if the aggregated number of votes exceeds 10% of total voting rights at the Company, it is subject to reduction.

Rules governing amendments to the Company's Articles of Association

Pursuant to the Commercial Companies Code and the Company's Articles of Association, amendments to the Articles of Association are introduced by virtue of resolutions passed by the General Meeting with the required majority of votes, whereupon they must be entered in the Company Register. Any amendment to the Articles of Association must be submitted by the Management Board to the Registry Court within three months from the date on which the General Meeting passed the resolution introducing the amendment. The consolidated text of the Articles of Association is drawn up by the Management Board and then approved by the Supervisory Board.

Rules governing appointment and removal of Management Board members

Pursuant to the Articles of Association, individual members of the Management Board or the entire Management Board are appointed and removed by the Supervisory Board. A member of the Management Board is appointed following a qualification procedure carried out pursuant to the Regulation of the Polish Council of Ministers of March 18th 2003 concerning qualification procedures for members of management boards of certain commercial-law companies (Dz.U. No. 55, item 476, as amended). This procedure does not apply to Management Board members elected by employees.

As long as the State Treasury remains a shareholder of the Company and the Company's annual average headcount exceeds 500, the Supervisory Board appoints to the Management Board one person elected by the employees, to serve for the Management Board's term of office. A person is considered to be a Management Board candidate elected by the employees if he or she receives 50% plus one of total valid votes cast in the election, with the reservation that the election results are binding on the Supervisory Board if at least 50% of the Company's employees have participated in the election.

Management Board members are appointed for a joint term of three years. A member of the Management Board may resign from his or her position by delivering a notice to that effect to the Supervisory Board, with a copy to the State Treasury (represented by the minister competent for matters pertaining to the State Treasury). To be valid, the resignation must be submitted in written form, or otherwise will be ineffective towards the Company.

The Management Board member elected by the employees may also be removed upon a written request submitted by at least 15% of the Company's employees. The vote is ordered by the Supervisory Board, and its results are binding on the Supervisory Board if at least 50% of the Company's employees participate in the vote and the percentage of votes cast in favour of the removal is not lower than the majority required for the election of a member of the Management Board by the employees.

Information for shareholders pertaining to General Meetings

A shareholder or shareholders representing at least one-twentieth of the share capital may request that certain matters be placed on the agenda of the General Meeting. Any such request should be sent to the Company in the Polish language, in writing, or in electronic form to the following email address: wz@pgnig.pl. The request should contain grounds or a draft resolution concerning the proposed agenda item and should be submitted to the Company's Management Board not later than 21 days before the scheduled date of the General Meeting. The shareholder or shareholders should prove their entitlement to exercise this right by presenting relevant documents in written form.

Any shareholder or shareholders representing at least one-twentieth of the Company's share capital may, before the date of the General Meeting, submit to the Company draft resolutions concerning items which have been or are to be placed on the General Meeting's agenda, in writing or in electronic form to the email address: wz@pgnig.pl. Any such draft resolutions should be in the Polish language, in the form of a Word file. The shareholders should prove their entitlement to exercise this right by presenting relevant documents in written form.

During the General Meeting, each shareholder may submit draft resolutions with respect to items placed on the agenda. Such draft resolutions should be in the Polish language.

Shareholders may participate in the General Meeting in person or by proxy. Pursuant to Art. 4121.2 of the Commercial Companies Code, powers of proxy for participation in a General Meeting of a public company and exercise of voting rights must be granted in writing. Powers of proxy should be granted in writing or in electronic form, and should be in the Polish language. They may be sent to the Company prior to the General Meeting in electronic form as a PDF file (scanned document) to the email address: wz@pgnig.pl. While at the General Meeting, all shareholders and proxies should carry a valid identity document.

Given that the Company does not provide for the possibility of participating in the General Meeting by electronic means (including taking the floor at the General Meeting using means of electronic communication) or exercising voting rights by postal ballot or by electronic means, no proxy ballot forms will be published.



Representatives of legal persons should have on them the original or a copy (certified by a notary public) of an excerpt from the relevant register (issued within the last three months), and if their right to represent the legal person does not follow from the relevant register entry – they should have on them written powers of proxy (the original or a copy certified by a notary public) along with the original or a copy (certified by a notary public) of the excerpt from the relevant register which must be valid as at the date of granting the powers of proxy.

The General Meeting may be attended only by persons who are Company shareholders on the record date, i.e. 16 days prior to the General Meeting.

Persons entitled to participate in the General Meeting may obtain the full text of documents to be submitted to the General Meeting, along with draft resolutions and comments of the Management and Supervisory Boards, from the Company's registered office. Such persons may obtain copies of the Directors' Report on the Company's operations and of the Company's financial statements, as well as a copy of the Supervisory Board's report and the auditor's opinion, no later than 15 days prior to the General Meeting, while copies of recommendations and proposals concerning other items of the agenda begin to be distributed a week before the General Meeting.

Pursuant to Art. 407.1 of the Commercial Companies Code, the list of shareholders entitled to participate in the General Meeting is made available for inspection at the Company's registered office in Warsaw, ul. Marcina Kasprzaka 25, for three weekdays prior to the date of the General Meeting.

Information concerning the General Meeting is available on the Company's website at: www.pgnig.pl in the section General Meeting – Information for shareholders.



5. Operations and value chain



The ultimate strategic objective pursued by PGNiG S.A. is to deliver growth in shareholder value. In pursuit of that objective, in mid-2011 the Company adopted the 'Updated Strategy for the PGNiG Group until 2015'. In implementing the strategy, it takes into account considerations related to the long-term development and liberalisation of the Polish gas market.

In December 2012, the Company adopted the 'Short-Term Value Creation Strategy for the PGNiG Group in 2012–2014'. This operational strategy is a set of coordinated activities geared towards achievement of the Group's primary strategic objective. The document, adopted in December, is consistent with the 'Updated Strategy for the PGNiG Group until 2015'.



The PGNiG Group is one of the largest companies in Poland. In terms of revenue and earnings, it ranks among the largest and most profitable Polish businesses. It is also one of Poland's largest employers.

The Group's main strategic objectives form its vision to become, by 2015, a modern and efficiently managed organisation controlling almost the entire value chain in the gas sector, and holding assets in the fuel and power generation sectors. Attainment of these strategic objectives will depend on its activities in three areas:

- Exploration for and production of hydrocarbons both domestically and abroad to secure access to new oil and gas reserves;
- Diversification of the Group's revenue sources and product range;
- Management of the natural gas portfolio in Poland and abroad.

The 'Short-Term Value Creation Strategy for the PGNiG Group in 2012–2014' is a comprehensive document describing a set of coordinated activities that are geared towards the delivery of 19 initiatives broken down into three business areas:

Initiatives in the Upstream sector:

1. Appraisal and development of unconventional hydrocarbon reserves under held licences
2. Cooperation with external partners in the area of hydrocarbon exploration and production
3. Escalation of the conventional hydrocarbon exploration programme in Poland
4. Optimisation of upstream operations outside of Poland

Initiatives in the Market sector:

1. Efficiency improvement in the marketing and customer service areas
2. Implementation of an integrated product range
3. Implementation of a new marketing policy
4. Active participation in and support of the gas market deregulation
5. Development of the power generation segment
6. Change in pricing rules for gas import contracts
7. Change in the structure of imported gas sources
8. Centralisation of the wholesale trading function at the PGNiG Group

Initiatives in the Business Model sector:

1. Optimisation of the HR management system at PGNiG
2. Implementation of a project/project portfolio management system
3. Establishment of a Shared Services Centre
4. Restructuring of the PGNiG Group's core businesses
5. Restructuring of the PGNiG Group's non-core businesses
6. Restructuring of employment
7. Optimisation of the storage segment at the PGNiG Group

Thanks to the 'Short-Term Value Creation Strategy for the PGNiG Group in 2012–2014', the Company was able to implement its ambitious investment plans, and at the same time reduce debt and generate surplus cash, which may be used to finance other investment projects.



5.1. Upstream sector

Our achievements to date

In 2013, the PGNiG Group was involved in exploration and appraisal work either on its own or in cooperation with partners. In Poland, its exploration and appraisal projects were focused in the Carpathian Mountains, Carpathian Foothills and Polish Lowlands. Drilling work in Poland was performed on 27 exploratory wells, including 7 research and 6 appraisal boreholes. A total of 16 wells were tested, including 7 drilled in previous years. The tests confirmed the presence of gas in 9 wells – 4 exploratory and 5 appraisal wells. Seven wells did not flow hydrocarbons at commercial rates.

Two wells were tested in the search for unconventional deposits. Drilling work was performed on 8 wells, with 6 reaching their target depths.

In 2013, in addition to projects undertaken independently, the PGNiG Group was working with other entities in the licence areas of PGNiG, FX Energy Poland Sp. z o.o., and San Leon Energy PLC (the company acquired interests from its former partner, Aurelian Oil & Gas PLC). Furthermore, the PGNiG Group partnered with other entities in carrying out exploratory work in Pakistan, Norway and Libya.

Under a framework agreement of July 4th 2012 (concerning the exploration for and production of shale gas and oil within the Wejherowo licence area), PGNiG, Tauron Polska Energia S.A., KGHM Polska Miedź S.A., PGE Polska Grupa Energetyczna S.A. and Enea S.A. held negotiations in 2013 to define detailed terms of their cooperation. The framework agreement expired on December 31st 2013 due to non-fulfilment of certain conditions provided for in it.

On August 14th 2013, PGNiG and LOTOS Petrobaltic S.A. signed an agreement for joint operation within the Kamień Pomorski licence area. The performance of the agreement will be possible upon fulfilment of certain conditions precedent, i.e. with positive tax rulings from the Ministry of Finance and approval of the sub-lease of the mining usufruct (mineral extraction rights) from the Ministry of Environment.

The PGNiG Group continued its exploration and appraisal work in Pakistan. In 2013, the construction of gas pipelines and temporary surface installations was completed and test production from the Rehman-1 and Hallel X-1 wells began. The gas produced is sold to the Pakistani transmission system. Also in 2013, preparatory work began for drilling of the Rizq-1 exploratory well, which is scheduled for completion in 2014.

On December 31st 2012, the Company and its partners launched the production of crude oil and natural gas from the Skarv and Idun fields (Skarv project) on the Norwegian Continental Shelf. The Company has been selling the extracted hydrocarbons since January 2013. In 2013, PGNiG Upstream International held interests in 13 exploration and production licences on the Norwegian Continental Shelf.

In 2013, the PGNiG Group completed preparatory work in Libya and commenced the first round of drilling, which consists of four exploration wells. Work on the first exploratory well was completed. The drilling and production tests on the second well ended in December 2013. Also in 2013, the PGNiG Group completed preparatory work on the third well, while second-stage 3D seismic surveys originally scheduled for 2013 were postponed for future years.

Last year, the PGNiG Group also conducted exploration work within Egypt's Bahariya licence area (Block 3), where two exploration wells were drilled, but were subsequently abandoned as they did not flow hydrocarbons at commercial rates. The Bahariya licence potential was re-evaluated using newly acquired geological data, which proved that further work was not economically viable. Therefore, a decision was made to terminate the licence and liquidate the Egypt branch.



5.2. Market sector

Our achievements to date

Import

PGNiG buys imported natural gas under a long-term contract with OOO Gazprom Export and under short- and medium-term gas supply contracts with European suppliers.

In an attempt to diversify the supplies of imported gas, the PGNiG Group increased the volumes of gas purchased under short-term contracts. The purchases were contracted chiefly by PGNiG Sales & Trading.

PGNiG Sales & Trading purchased natural gas on the German market, mainly in OTC transactions on the NCG (NetConnectGermany) and Gaspool virtual trading platforms. The company also purchased gas on the European Energy Exchange (EEX). In 2013, PGNiG and PGNiG Sales & Trading executed short-term agreements for the purchase of natural gas to be mainly supplied using the reverse flow service on the Yamal pipeline.

In late 2013, PGNiG and NAK Naftogaz Ukrainy signed an agreement to terminate the natural gas supply contract of October 26th 2004. This was due to the fact that, on January 1st 2011, NAK Naftogaz Ukrainy had suspended gas deliveries via the Zosin cross-border point on the Polish-Ukrainian border.

Sales

PGNiG is the largest supplier of natural gas in Poland. Its share of the gas market is approximately 96%, the remaining 4% being held by suppliers from outside the PGNiG Group, who mostly purchase gas from PGNiG.

In 2013, the PGNiG Group sold 16.2 bcm of natural gas, with 95% of that as sales from transmission and distribution systems, and the balance as direct sales from gas fields.

In 2013, PGNiG concluded contracts for gas fuel supply, both from the transmission system and from the distribution system, with 86.9 thousand new customers.

PGNiG delivered natural gas to customers in Poland. The gas was purchased primarily by industrial

customers (mainly in the chemical, oil refining, petrochemical and metallurgical sectors) and by households. Households made up the largest group of customers for natural gas (approximately 6.5m), accounting for 97% of the entire customer base.

PGNiG began selling gas on the Polish Power Exchange, where it sold approximately 66 mcm of gas in 2013.

In November 2013, PGNiG became the first direct member of the gas market on the Polish Power Exchange. Previously the Company had executed trades on the exchange through commodity brokers. The Company also agreed to act as a market maker in the natural gas futures market, and to regularly place both sell and buy orders on this market. The key role of a market maker is to enhance the market's liquidity and transparency.

In 2013, the Wholesale Trading Division was established, with operations involving wholesale trade in natural gas, electricity, heat, property rights under certificates of origin for electricity and CO₂ emission allowances. In September 2013, PGNiG became a member of the London-based ICE Futures exchange, so it can now enter into transactions on Europe's largest platform for trading in carbon credit futures.

In July 2013, PGNiG merged with PGNiG Energia, as a result of which wholesale trading in electricity and related products was consolidated within the Wholesale Trading Division.

PGNiG S.A. continued a project consisting in LNG-based distribution of Group E gas fuel to customers in Elk and Olecko. This project is a part of an initiative to switch customers in Pisz, Elk, Suwałki and Olecko to high-methane gas (PESO project), and involves the construction of an LNG regasification station and two-step pressure reduction, metering and odouring stations in Elk and Olecko. In 2013, the Company commenced construction of an LNG regasification station and pressure reduction and metering stations in Elk and Olecko.

In 2013, PGNiG was engaged in wholesale trading in electricity and related products in Poland and Germany. In Poland, the Company traded on the OTC market under EFET (European Federation of Energy Traders) standard agreements or through brokers, and also on the Polish Power Exchange. In Germany, the Company was engaged in spot contract trading on the EPEX (European Power Exchange) Spot market, and in the inter-system Poland-Germany exchange (between the areas covered by PSE and 50 Hertz Transmission).

PGNiG Sales & Trading was engaged in electricity trading in Germany on the EPEX Spot, EEX Power Derivatives and OTC markets.

PGNiG expanded its offering by launching sales of electricity to business customers (tariff groups A, B and C). The Company also commenced its preparations for the launch of electricity sales to households (tariff group G).

In 2013, the PGNiG Group sold 7,231.6 GWh of electricity, 73% of which was to the Polish market.

Distribution

Polska Spółka Gazownictwa was appointed as the Distribution System Operator and the Natural Gas Liquefaction System Operator until December 31st 2030. The President of the Energy Regulatory Office also granted the company a licence to distribute gas fuel and a licence to liquefy natural gas and regasify LNG at LNG regasification plants until December 31st 2030.

In 2013, Polska Spółka Gazownictwa carried on 18 projects involving the construction, extension and modernisation of its distribution networks, for which, in previous years, the gas distribution companies had concluded agreements on EU co-financing under the Infrastructure and Environment Operational Programme. In 2013, the Company also pursued projects financed directly with its own funds.

Storage

An amendment to Gas Fuel Storage Tariff No. 1/2012, approved by the President of the Energy Regulatory Office on December 17th 2012, has been in effect since January 1st 2013. This amendment covers charges for storage services, service quality, and settlement methods under short-term contracts. By virtue of a decision of April 30th 2013, the President of the Energy Regulatory Office extended the effective term of the Tariff until September 30th 2013. In July 2013, Operator Systemu Magazynowania Sp. z o.o. applied to the President of the Energy Regulatory Office for another extension of the term of the Tariff until March 31st 2014. The President of the Energy Regulatory Office granted the company's request in his decision of September 16th 2013.

The working capacity of the Mogilno Underground Gas Storage Cavern Facility was reduced from 411.9 mcm to 407.9 mcm as a result of the process of convergence (tightening) of the salt rock mass.

On April 11th 2013, the President of the Energy Regulatory Office amended the gas fuel storage licence granted to Operator Systemu Magazynowania to reflect the 4 mcm reduction in the Mogilno facility's working storage capacity.

As at December 31st 2013, the PGNiG Group made available a total of 1,817.5 mcm of working storage capacity for third party access and to OGP GAZSYSTEM. Of this volume, 1,796.0 mcm was made available under long-term agreements, while 21.5 mcm was covered by short-term agreements. 0.39 mcm is allocated for the Mogilno cavern facility's own needs.

Power Generation

In 2013, as part of the Stalowa Wola CCGT project (a joint project between PGNiG, Tauron Polska Energia S.A. and Elektrownia Stalowa Wola S.A.), the PGNiG Group concluded financing agreements for the CCGT unit, and the construction work began. The work included construction of an electricity switching substation with a control room, and foundations for the unit's main installations. Foundations for the recovery boiler and gas turbine were laid, and work continued on foundations for the steam turbine. The support structure for the gas turbine building was completed and construction of the steam turbine building was begun. Also, phase one of work on the San river dam system was completed.



5.3. Business Model sector

Our achievements to date

Exploration and Production

In 2012, PGNiG consolidated its exploration and well services companies within the Group's Exploration and Production segment. PGNiG Poszukiwania S.A. (since February 2013: Exalo Drilling S.A.) was merged with PNiG Kraków, PNiG NAFTA, PNiG Jasło, PN Diament and ZRG Krosno.

In 2013, the number of production facilities was reduced following their merger. The Zielona Góra Branch produces crude oil and nitrogen-rich natural gas at 22 sites, including 13 gas production facilities, 6 oil and gas production facilities and 3 oil production facilities. The Sanok Branch produces high-methane and nitrogen-rich natural gas and crude oil at 38 sites, including 20 gas production facilities, 12 oil and gas production facilities and 6 oil production facilities.

Power Generation

PGNiG merged with PGNiG Energia, whose main operations were in electricity trading.

Shares in Elektrociepłownia Stalowa Wola S.A., previously held by PGNiG Energia, were transferred to PGNiG Termika, which is the PGNiG Group's current power generation competence centre.

Sales

PGNiG established the Wholesale Trading Division, which will consolidate all wholesale trading processes and will manage the Group's product portfolio (including natural gas, crude oil, and electricity). This is to ensure that the Group maintains its competitive edge in the changing market environment.



Distribution

Until the end of June 2013, natural gas distribution had been handled by six gas distribution companies. On July 1st 2013, as a part of the Distribution segment's consolidation, PGNiG SPV 4 Sp. z o.o. acquired all assets of those six companies, which were transformed into regional branches. The name of the company was then changed to Polska Spółka Gazownictwa Sp. z o.o.

This will allow the introduction of uniform standards and procedures across the Group, which will bring about improvements in distribution costs while further enhancing customer service.

Storage

As part of the Storage segment's reorganisation, the Mogilno Underground Gas Storage Cavern Facility and Wierzchowice Underground Gas Storage Facility were established as branches of PGNiG, while INVESTGAS was merged with Operator Systemu Magazynowania (OSM). The management and supervisory processes in the Storage segment were centralised in OSM, which is expected to facilitate a long-term improvement in efficiency..

6. Our approach to sustainable growth



6.1. Stakeholders

Given the scale and reach of its operations, PGNiG has a wide spectrum of Stakeholders. Our impact on and relations with Stakeholders vary at different stages of the value chain, as do our specific commitments towards them. PGNiG strives to conduct its business in a responsible manner, always mindful of the role of social dialogue. Throughout the business decision making process, PGNiG looks for solutions that would benefit all its Stakeholders at the same time, taking into account both the economic and social aspects. This approach is driven by the awareness that sustainable development is only possible if there is mutual understanding between PGNiG and its Stakeholders, and if we recognise and try to understand one another's needs and expectations.

Stakeholder	Method of dialogue
Employees – current and retired	Broad-based consultations with staff, Employee Council, system of Communicators (employees responsible for internal communication processes), daily electronic newsletter, corporate intranet, staff surveys, web chats with representatives of the Management Board, events marking special occasions, trips for retired employees
Customers	Satisfaction surveys, helpline, website, Customer Service Office, dedicated business consultants
Local communities	Public consultations, activities of the PGNiG Foundation and donation fund, direct interaction with local authorities and organisations, dialogue relating to shale gas exploration
Trading partners NGOs Social organisations	Dedicated business consultants, direct meetings, conferences, trade declarations, involvement in worldwide humanitarian relief efforts – in Poland, through the PGNiG Foundation and donation fund
Suppliers Suppliers of services and equipment	Evaluation of working relationships, support for local development
Research institutes, universities and other schools Consultancies and research institutions	Support for vocational education at all levels, conferences, the PGNiG Foundation's scholarship scheme, technical support for investment projects
State administration and market regulator, European Commission	Consultations, joint initiatives – conferences and workshops
Shareholders and investors	Meetings with asset managers, participation in roadshows and foreign conferences for investors, dedicated newsletter, current and periodic reports
Media	Press articles, interviews, thematic inserts



Paying attention to Stakeholders' needs and communication with Stakeholders are also part of the risk management process.

One example of Stakeholder relations at PGNiG is the complex network of interconnections within the gas production segment. The PGNiG Sanok and Zielona Góra Branches are involved in the production of crude oil and natural gas. These operations involve significant environmental impact, as well as interaction with local communities. Therefore, it is crucial to the immediate and wider environment of oil and gas production facilities that they operate in an environmentally friendly manner. Often located in the middle of forested areas, modern production facilities are equipped with state-of-the-art process monitoring systems and built with the use of cutting-edge technologies.

In this respect, suppliers of equipment as well as customers play an important role. Their expectations and requirements concerning product quality, flexibility, the timeliness of supplies, as well as maintenance of high working standards, are a key priority for the Branches. Interaction with local communities entails frequent public consultations, and also participation in various sports and cultural events taking place in a given region. Stakeholder relations are managed in a similar manner in the segment of exploration for unconventional gas (shale gas). For more details, see the 'Public/Local communities/Partners' section.

6.2. Sustainable Development and Responsible Business Strategy

The Group's Sustainable Development and Responsible Business Strategy was formally approved by the PGNiG Management Board in July 2009. Formulated with an active contribution from employees of all areas of the PGNiG S.A. Head Office and of the PGNiG Group's Branches, Divisions and companies, it complements the PGNiG business strategy. The key goal we set in defining our sustainable development mission was to be an active and responsible player on the Polish energy market, balancing the needs and expectations of our various Stakeholders and caring for the environment.

The Group's CSR strategy addresses a range of challenges posed by our environment, and the actions we plan result from our Stakeholders' needs and from best practices in place at the Group, particularly in the area of environmental protection and community involvement.

Sustainable development and business responsibility cover all links in the PGNiG Group's value chain, apply to all four areas of sustainability, and rest on six strategic pillars (as discussed below).

An integral part of the Strategy is the implementation plan, which defines the operational objectives corresponding to each strategic goal. Apart from defining the operational objectives and steps needed to achieve them, the plan also specifies success measures and implementation schedules, which enable the Group to consistently gauge progress, as well as monitor the owners of individual objectives. An additional part of the plan is a list of internal and external Stakeholders relevant to the respective objectives. The identification of Stakeholder groups is meant to better accommodate their needs in the implementation process.

1

Enhance the satisfaction of existing customers and win new customers through improved customer care

2

Engage in effective, dialogue-based cooperation with social and trading partners

3

Conduct business in a responsible way with due regard for the natural environment

4

Create a safe and friendly workplace

5

Manage communications and the marketing area in a consistent, reliable and efficient manner

6

Explore new business opportunities in line with the principle of sustainable development



6.3. Strategy management

Soon after the formal adoption of the Strategy, a dedicated structure was established to coordinate the processes of its implementation at the Group. Within its framework, Members of the Management Board, along with the President, act as Project Sponsors. Another tier is the Steering Committee, composed of the owners of strategic goals. The Management Board's Proxy for the Strategy is responsible for coordinating and monitoring the Sustainable Development and Responsible Business Strategy's implementation at PGNiG Group subsidiaries and Branches, as well as for internal and external communication of the sustainable development and responsible business agenda. The same role at the level of the Group's Branches and subsidiaries is performed by regional CSR Facilitators. Altogether, there are several dozen employees for whom sustainable development is one of their principal duties. The Proxy is also responsible for monitoring the implementation status of the strategic goals and operational objectives, and for reporting actions scheduled for a given period to the Management Board.

It is worth noting that since 2010 the strategic goals have been among the criteria used to evaluate senior management staff, following their inclusion in the annual MBO targets. In this way the strategic goals are reflected in the objectives set for individual employees and teams.

Since 2010, the Group companies have conducted their businesses based on their own Sustainable Development and Responsible Business Strategies.

6.4. About the report

The PGNiG Group 2013 Best CSR Practices is a set of best practices in the implementation of the Sustainable Development and Responsible Business Strategy at the PGNiG Group.

The report 'The PGNiG Group 2013 Best CSR Practices' presents our pursuit of the objectives defined in the Sustainable Development and Responsible Business Strategy in the period from January to December 2013, by using figures and/or describing the practices, rules and procedures in place.

The presented figures apply to 2013, unless stated otherwise.

7. Review of CSR best practices



7.1. Customers

7.1.1. The 'Natural Gas from PGNiG and Money to You' promotional campaign

(PGNiG S.A. Carpathian Trading Division; currently PGNiG Obrót Detaliczny Sp. z o.o., Carpathian Region)

As the largest supplier of gas fuels in Kraków, PGNiG S.A.'s Carpathian Trading Division of Tarnów, in agreement with local government authorities, has embarked on a transparent campaign targeted at retail and business customers.

In consultation with the Municipal Office of Kraków, a promotional campaign called 'Natural Gas from PGNiG and Money to You' was organised. The objective of the campaign is to reduce emissions from coal-fired boilers and furnaces in Kraków, mainly by liquidating the sources of such emissions and replacing them with natural gas as an environment-friendly fuel.

The principal goal of the campaign is to win new and encourage existing customers to change their energy carriers and use natural gas for heating purposes, which will result in lower emissions from coal-fired boilers and furnaces and increased natural gas consumption. Each customer who takes advantage of this special offer will receive PLN 300.00 or PLN 500.00 (using gas in tariff W-2 or tariff W-3, respectively).

This initiative was first implemented at the Carpathian Trading Division in 2012 as a pilot project and then continued in 2013 as part of joint efforts coordinated by the Municipal Office of Kraków under the Programme to Reduce Emissions from Coal-Fired Boilers and Furnaces. The agreement was signed by PGNiG S.A.'s Carpathian Trading Division of Tarnów, the Province of Kraków, the Provincial Fund for Environmental Protection and Water Management, the Municipal Office of Kraków, MPEC S.A. of Kraków, EDF Kraków S.A., Elektrownia Skawina S.A. and TAURON Sprzedaż Sp. z o.o.

In 2013, under the Programme to Reduce Emissions from Coal-Fired Boilers and Furnaces 435 customers switched to gas heating. Of that number, 161 took advantage of the special offer, which required them to make timely payments and agree to use natural gas for at least five years in the following quantities: tariff W-2 – 1,500 m³/year, tariff W-3 – 6,000 m³/year.

Based on the results of the campaign in 2013 and given the involvement of the other parties mentioned above, it was decided that the project would be continued in an unchanged format in 2014.



at the PGNiG Group



The Municipal Office of Kraków plans to continue the activities designed to reduce emissions from coal-fired boilers and furnaces until 2022. It should be noted that the campaign has raised the environmental awareness of Kraków's inhabitants and increased the number of households using environmentally-friendly heating sources, which has the direct benefit of reducing air pollution in the city.

7.1.2. The One Work Gallery

(Pomeranian Trading Division; currently PGNiG Obrót Detaliczny Sp. z o.o., Pomeranian Region)

The goal of the project was to promote art and culture as well as to build the company's image and enhance the visual appearance of the Customer Service Centre. By turning the premises of the Customer Service Centre into a showroom exhibiting the work of various artists we set example for other companies which would like to aid young artists in reaching the audience.

7.1.3. Improvement of customer support tools – E-GAZOMIERZ

(PSG Branch in Tarnów)

The project was designed to make customers aware that they can provide us with information on their gas meter readings using the E-Gazomierz (e-gas meter) application as well as a telephone call. This free application is available for use on our website. Each month, Regional Gas Distribution units receive three to five thousand meter readings through E-Gazomierz.

7.1.4. Safe House Action

(Polska Spółka Gazownictwa, Zabrze Branch)

The goal of the project was to promote safe use of gas and prevent its illegal consumption by making all residents, prevention services as well as home owners and administrators realise the risks associated with illegal connection to the gas system and theft of the gas system infrastructure. An information campaign was run in the community and among elementary school children. Training courses were held. Teachers received teaching aids and gave lessons on natural gas to their pupils. An art competition with the theme of safe use of natural gas was organised and calendars and posters featuring the artwork awarded in the competition were distributed. All these efforts helped to increase the knowledge and awareness of safe use of gas.

7.1.5. Safe work culture

('Safety First') (Exalo Drilling)

The project was designed for the operators using services provided by the Company and for employees. The project increased active participation of drilling and service teams in DuPont's Safety Training Observation Program (STOP), involving joint efforts to ensure safe workplace for employees and safety supervision by managers. An extensive campaign of 'zero tolerance' for anyone working under the influence of drugs or alcohol was organised. Special emphasis was placed on the safety of new hires and trainees in drilling and service teams (the 'Green Hard Hat' programme).

As a result, the number of workplace accidents reported during the year declined by more than 20%, which went hand in hand with higher sense of shared responsibility for work performed by colleagues in drilling teams.

7.1.6. Cooperation with the Police for enhanced security in the local community

(Polska Spółka Gazownictwa, Wrocław Branch)

The project was aimed at enhancing security in the local community by preventing illegal abstraction of gas (gas theft). Beneficiaries of the project included gas customers, the local community, and the Police. The following measures were implemented: regular meetings with representatives of the Provincial Police Headquarters, training on gas theft for County Police Departments, and publication of articles on gas theft in the 'Dylematy Policyjne' magazine issued in cooperation with the Police. One of the noteworthy effects of the project is gas theft prevention.

7.1.7. Promotional and awareness campaigns in the Greater Poland Region in 2013

(Greater Poland Trading Division; currently: PGNiG Obrót Detaliczny Sp. z o.o., Greater Poland Region)

To attract prospective customers in the areas where the distribution network is being rolled out, the Greater Poland Region organised a number of promotional and awareness campaigns in 2013 to extend its customer base in new locations connected to the gas network. Four such meetings were held in the Szczecin Sales Area (in Czarne, Białcz, Grzędzice and Wyszewo), and two meetings in the Poznań Sales Area (in Żydowo and Rybno).

The first event was held at the Children's Day Family Picnic in Żydowo (the municipality of Czarniejewo), which was to be connected to the distribution network in the autumn of 2013. The campaign was organised by the Marketing



Section in cooperation with the Customer Service Centre of Gniezno and with Wielkopolska Spółka Gazownictwa (currently Polska Spółka Gazownictwa). The picnic took place on June 1st at a sports stadium, where kids and adults alike were offered a wide range of activities, which attracted a large turnout. Prospective customers received exhaustive information on how to get connected to the new gas distribution network and on the current stage of the network roll-out. Their questions related mainly to costs of natural gas for heating. They could also receive a form of application for network connection, as well as advertising leaflets promoting gas heating or new forms of customer communication. Representatives of the distribution and trading segment were ready to answer all questions.



The next distribution network roll-out campaign was held in the town of Czarne on August 10th at the local Folklore Festival. Construction of the gas pipeline in Czarne was completed in 2013, and customers did not wait too long before they were offered a chance to get connected to the network in 2014. Visitors at our stand could complete the application for network connection and find out more about the technicalities of the construction of indoor and outdoor gas systems. Prospective customers were offered an opportunity to fill in applications for network connection and to take a closer look at examples of gas-fired boilers.

On August 24th 2013, we organised a promotional and awareness campaign in Rybno near Kiszkowo at the Harvest Festival. Inhabitants of a number of towns and villages were given a chance to gain more information on the conditions of switching to gas heating and the terms and conditions of a contract. Splendid weather, exceptional atmosphere and great organisation encouraged many guests to visit our stand.



7.1.8. Business workshop 'New Model of the Polish Gas Market – Amendments to the Rules of Service' (Operator Systemu Magazynowania)

The purpose of the project was to determine the demand for gas storage services. Beneficiaries included participants of the gas market, namely current and prospective customers. We prepared and distributed questionnaires asking what changes should be introduced to the operator's services, and analysed results of the survey. Project deliverables included a closing report, based on which we fine-tuned our model of gas storage service provision.

In the village of Białcz (municipality of Witnica), with the population of more than 400, we took an opportunity to meet the locals at the Stork Festival on August 31st 2013. We invited representatives of the distribution business, who explained the technical details of the project.

On September 7th, we organised two promotional and awareness meetings in Wyszewo and Grzędzice. Grzędzice (municipality of Stargard Szczeciński) was next on our list.

For the first time we decided to organise kids zones at both events, offering a 4-hour programme run by animators.

7.1.9. Adoption of the Quality, Environment, and Health & Safety Integrated Management Systems (PGNiG Technologie SA)

The objective of this project was to implement the ISO 9001:2009 standard, to improve satisfaction of our current customers, and to attract new users. To that end, we designed and implemented appropriate procedures (for the preparation of offers, drafting and review of contracts, and customer satisfaction surveys), which made it possible to obtain the ISO 9001:2009 certificate.

7.1.10. The consultation network; closing workshop of the DGC consultations

(Distribution Grid Code) (Polska Spółka Gazownictwa)

The purpose of this project was to facilitate a broad-based and active discussion with the stakeholders (customers and business partners). After a round of consultations, which were meant to obtain the opinions of distribution system users on the new Distribution Grid Code draft, Polska Spółka Gazownictwa organised the closing DGC workshop. Company representatives explained the reasons for drafting a new Distribution Grid Code, presented opinions collected from market participants in the course of DGC consultations, and explained how they would be incorporated by the company in the new DGC. They also discussed the rules for the transfer and disclosure of data to distribution system users and the rules for the distribution system balancing, and signalled the new challenges ahead of the distribution business following the implementation of settlements based on energy units. Over 50 representatives of 17 different organisations, including the Energy Regulatory Office, took part in the workshop. The project effects included:

1. providing access to reliable and clear information relating to the changes in the regulatory regime and organisation;
2. building company awareness and confidence among its stakeholders;
3. collecting the stakeholders' comments and opinions and starting an active stakeholder dialogue.

The project was recognised as a Good Practice and will be described in more detail in the Responsible Business Forum's report 'Responsible Business in Poland in 2013. Good Practices'.





7.2. The Public/ Local communities/ Partners

7.2.1. 'We Discover Kids' Talents' – a joint project with the Children For Children Foundation

(PGNiG Termika)

The goal of the project was to discover and foster young talents. Beneficiaries of the project included children of PGNiG TERMIKA employees and of inhabitants of Warsaw. The project included 'The Heat Story' competition held in the spring of 2013 and addressed to children of the company's employees, who were asked to write a creative story about heat. Winners were announced on Children's Day at Teatr Rampa. The winning story was turned into a script of a theatre play, which was later staged featuring children actors (who first participated in a theatre workshop). The play premiered in December at the finale of the 3rd Edition of the 'Fairytale Theatre Festival' Campaign at the Palace of Culture and Science. An educational documentary 'How Heat is Produced' was also shot.





7.2.2. The educational programme 'We Encourage Learning'

(PGNiG Termika)

An educational project organised since 2009 by PGNiG TERMIKA in co-operation with Polskie Stowarzyszenie Zarządzania Kadrami (Human Resources Management Association) and Business for Society. It is addressed to students of technical secondary schools and junior high schools of Warsaw, Radom, and the surrounding areas.

The programme is based on close co-operation with selected technical secondary schools, which was initiated in response to the challenges faced by the company: the expected number of retirees combined with a shortage of qualified personnel and schools that would offer training for future employees in the energy sector.



Since day one, the programme has been run under the patronage of Hanna Gronkiewicz-Waltz – Mayor of the Capital City of Warsaw, and Andrzej Kosztowniak – Mayor of Radom.

Partner schools: Stefan Wyszyński School No. 40 of Warsaw and Tadeusz Kościuszko Technical School of Radom.

The project's objectives were to recruit young technical staff who would replace experienced employees approaching the retirement age; to highlight the benefits offered by technical education and career in the energy sector; to train prospective employees and foster skills they will use in their work; to provide educational and financial support to most promising students of technical secondary schools, who would be interested in working for the energy business; to build a knowledge-sharing culture among PGNiG TERMIKA S.A. personnel; and to promote the image of PGNiG TERMIKA S.A. as a good employer in the region of Warsaw.

Modules of the programme

The key modules of the programme, which were designed to make the practical, hands-on education at schools more compatible with the needs of the energy sector, included the Employee Mentoring Programme (technical workshops, internships for students, soft skills workshops, specialisation classes for 4th graders), as well as the Scholarship Programme (promotion of schools – competitions for junior high students, purchase of new equipment for school workshop rooms).

Key figures of the 3rd edition of the 'We Encourage Learning' programme

- 21** – number of mentors participating in the Employee Mentoring Programme
 - 24** – number of students participating in the Scholarship Programme at the two partner schools
 - PLN 36,000** – value of scholarships granted in 2011 to students at the partner schools
 - 45** – number of students of the partner schools participating in the quiz testing their knowledge
 - 22** – number of soft-skills and specialist workshops organised for students at the partner schools
 - 8** – number of specialisation classes organised in the 2011/2012 school year
 - 206** – number of participants of technical workshops organised for students at the two partner schools
 - 10** – number of Ambassadors
 - 30** – number of recruitment interviews with graduates of the partner schools
 - 8** – number of graduates who were offered a job at PGNiG TERMIKA S.A.
 - 80** – number of publications in the media relating to the 3rd edition of the programme
 - 7,800** – number of visits at the www.zagrzewamydonauki.pl official programme website (from September 2011 to June 2012)
 - 3,200** – number of unique users of the www.zagrzewamydonauki.pl official programme website (from September 2011 to June 2012)
 - 2,500** – number of cream fudge candies bearing the programme logo, eaten by the programme participants
 - 1** – number of Campus Recruiters.
- The new 5th edition of the programme is to start on September 2nd!

7.2.3. Social dialogue on unconventional gas exploration

(PGNiG, the PGNiG Group branches and companies)

Poland's reportedly vast shale gas potential has raised both high hopes and heated emotions. On the one hand, it offers a promise of energy independence, which explains the fact that Poles' overall attitude to shale gas is – at least from the statistical point of view – highly positive. On the other hand though, the issue has become rife with misconceptions, which are fuelled by publications portraying it in a biased – if not altogether false – light. Given this backdrop, as early as mid-2011 PGNiG decided that its intensive shale gas exploration efforts should be backed by a special PR drive. By a decision of the President of the PGNiG Management Board, a dedicated team was then established to handle dialogue and communication related to shale gas. It was intended to serve as a platform for close and regular cooperation between experts in geology, drilling and environmental protection, as well as lawyers, and communication/PR specialists. As a result, we were able to draw up a map of risks and start working on a strategy and plan for dialogue and communication on the issue.

Since then, our shale gas team has been busy with work. In 2013, they continued tried and tested activities and implemented new tools to boost efficiency of the team's work.

For instance, drawing on the PGNiG Code of Ethics, the team has developed the Code of Responsible Gas and Oil Production, which sets out our vision of how we want to go about this process.

We also wanted experts in drilling, geology and environmental protection, and not merely 'spin doctors', to take part in meetings and share their knowledge with local communities. This is why the entire communication team attended training sessions where we learned how to listen and communicate effectively, as well as the role of body language. Now, we hold weekly meetings at which we exchange information and discuss various issues. We have thus developed into a tightly-knit team, working together to implement one of PGNiG's major PR projects.

All our communication efforts are designed to:

- provide target audiences with extensive information on shale gas production, reliably and transparently communicate the details of planned projects, and correct untrue information about unconventional gas,
- show the advantages and benefits that may arise from launching projects in particular locations,
- conduct and promote two-way communication with local communities.

Target audiences:

- residents of all towns/villages located in the immediate vicinity of our prospective drilling pads
- the authorities of counties, municipalities, and villages
- local opinion leaders, representatives of local NGOs

As part of an educational programme targeted at local communities, PGNiG has held workshops for members of the local governments and press in our licence areas.

Between June 2012 and July 2014, we organised:

- 66 workshops for members of the local governments and press;
- about 200 hours of Q&A sessions with PGNiG experts;
- 17 open meetings with local residents.

In addition, field trips (to Dębki, Żarnowiec, the Lubocino drilling site – where the Company's first horizontal well was spudded in August 2012, and other locations) also attracted considerable interest.

PGNiG strives to support local communities in satisfying what they consider their vital needs. We put the 'good neighbour' philosophy into practice by supporting schools, building roads and sponsoring important local events.

Since 2012, PGNiG has run educational campaigns through both local and nationwide media, aimed at disseminating key information on shale gas exploration and production, and address the most frequent concerns about the safety of such operations for the environment, landscape and people. Total number of publications issued to date:

- about 130,
- with the average readership of some 3.5m.

A 10-episode educational programme on shale gas exploration and production has also been produced, featuring the opinions of a wide group of stakeholders: politicians, gas exploration companies, scientists, local authorities, local governments, research institutes, members of the press, local businessmen and residents. Between July 6th and September 9th 2012, the programme had 30 showings on TVP Gdańsk, attracting more than 280,000 viewers.

The www.lupkipolskie.pl website, the key source of information on shale gas, is another crucial tool in our communication drive. In addition to basic facts, as well as economic, environmental and technical aspects of shale gas exploration and production, the site contains expert reports and opinions. So far, we have received some 1.2m unique visits to the site.





We also regularly distribute a newsletter to over 4,000 recipients, including representatives of public authorities, both chambers of the Polish Parliament, the press and local governments. It is a source of news on the most up-to-date data and developments concerning a wide range of shale gas-related topics from Poland and the world.

A dedicated email box (info@lupkipolskie.pl) has been set up for direct, two-way communication between PGNiG and local communities on matters related to shale gas exploration and production. Its address is published in all printed materials related to shale gas, including materials distributed among the local communities in areas where PGNiG's exploration licences are located.

Since we have worked together as one team and held regular meetings for a long time, we have worked out certain standards and procedures, which are replicated in each locality. We begin by contacting the local government, then we deliver materials to be posted on the local website, we inform residents by mail of open meetings and we arrange for our experts to be available at set times to provide information (Q&A sessions). By following this pattern, we ensure that nothing of importance is omitted, although we are aware that unexpected developments or crises are always possible.

We have certainly learnt to take responsibility for the entire exploration process, since the way we are perceived depends not only on our own actions, but also those of our contractors – primarily geophysical and drilling service providers, but also the security firms we work with. Drawing on our Code of Ethics, we have developed the Code of Responsible Gas and Oil Production, and we expect all companies involved in the process to adhere to its provisions. We are well aware that this is a constant learning process. By no means do we claim absolute knowledge on how certain things should be done – we keep on learning, also from our people in the field. We must also remember there are a number of misconceptions about shale gas, which are persuasive enough to capture people's imagination and stir their fears. This is why it is so important to approach the feelings and attitudes of everyone involved in or affected by our jointly implemented projects with patience and respect.



7.2.4. 'Miners in Pre-Schools/Schools' educational meetings (Zielona Góra Branch)

Another edition of the 'Miners in Pre-Schools/Schools' educational project has proved extremely popular. To date, almost ten thousand children at various locations across Poland have met with miners in full-dress uniforms.

As part of the project, employees of the Zielona Góra Branch wearing miners' uniforms visit schools and pre-schools (traditionally, each year at the end of November and at the beginning of December, that is around the Feast Day of Saint Barbara, the patron saint of miners) to talk about the miner's profession. Members of the Branch staff, that is 87 miners, have so far visited 144 pre-schools and schools, where they met with 9,988 children and handed out 8,000 paper miner's shako hats and over 200 kilograms of sweets.

Meetings were held in schools and pre-schools in Kamień Pomorski, Wierzchucino, Poznań, Dębno, Zielona Góra, Lipinki, Międzychód, Gorzów Wielkopolski, Góra, Witnica, Mieszkowice, Żagań, Kościan, Żegrówek, Odolanów, Krośnice and other cities and towns. They commenced in mid-November and continued until mid-December.

As our colleagues reported, the sight of a miner in uniform and shako hat made a huge impression on children. They listened with excitement to the stories about the work in oil and gas mines. They were very intrigued to examine crude oil and drilling core samples as well as various elements of rescue equipment. They reacted in an equally enthusiastic way to the sweets and paper shako hats distributed at the meetings. Many miners have already received invitations to Saint Barbara Feast Day meetings next year.





7.2.6. 'Women's Safety Academy'

(Greater Poland Trading Division; currently PGNiG Obrót Detaliczny Sp. z o.o., Greater Poland Region)

The purpose of the initiative is to educate women about their personal safety. PGNiG has been a partner of the project for several years now. It is organised in cooperation with the Prevention Division of the Municipal Police Department in Poznań, with the main objective of educating women and helping them learn certain skills to improve their personal safety and prevent crimes against women, as well as strengthening and broadening preventive measures undertaken to improve women's safety. The project is also designed to promote efforts aimed at counteracting violence and discrimination against women and raising women's awareness of pathological and criminal behaviour. Its participants acquire skills needed to cope with difficult and stressful situations. An additional benefit is the promotion of healthy and active living habits among women.

The project's target group included adult women living in the greater Poznań area. The participants enrolled in the project of their own initiative. Advertised by the police in the press and on message boards, the Women's Safety Academy attracted significant interest from the target group. Some 1,500 women on average participate in the project.

The Women's Safety Academy covers a series of lectures, workshops and presentations addressed to women, during which they learn how not to become a victim to a crime, how to provide first aid, and how to lead a healthy and active life. Theory is supplemented by practical classes during which the participants learn the basics of self-defence. PGNiG also organises self-defence workshops for its female personnel.



7.2.5. 'Say Yes to Transplantation'

project carried out in the area of operation of the Carpathian Trading Division in Sandomierz and Rzeszów (currently PGNiG Obrót Detaliczny Sp. z o.o., Carpathian Region)

The project's main goal was to support the efforts undertaken to promote the idea of life-saving transplantation, encourage healthy living habits, and promote disease prevention behaviour. In 2013, an additional objective of the project was to help finance the construction of Module C at the Silesian Centre for Heart Diseases, which will house the Cystic Fibrosis Treatment and Lung Transplantation Centre.

Through our initiative, we have managed to reach directly over 150 thousand people in the area of operation of the Carpathian Trading Division, promoting sports, healthy lifestyles and disease prevention, and actively supporting the idea of life-saving transplantation and employment of people with disabilities.



The following events were organised as part of the project:

- June 23rd 2013 Sandomierz Days – a festival of the town of Sandomierz which was combined with a campaign promoting transplantation and healthy living habits (medical examinations and doctor consultations)
- August 31st 2013 'SAY YES TO TRANSPLANTATION' event organised during the 24th Street Run in Rzeszów
- September 29th 2013 'WORLD HEART DAY' in Rzeszów



7.2.7. 'I Help Because I Like Helping Others'

a charity collection of essential items and funds among staff members to support Single Mother Shelters in Tarnów and Kraków (Carpathian Trading Division; currently PGNiG Obrót Detaliczny Sp. z o.o., Carpathian Region)

In June 2013, a charity collection among staff members of the Carpathian Trading Division was organised for the benefit of Single Mother Shelters in Kraków and Tarnów. The purpose of the charity event was to collect in-kind donations and raise funds to finance the purchase of essential items and equipment. The donated or purchased items were presented to the shelters by the representatives of the Carpathian Trading Division before Christmas. Before the charity collection was launched, the shelters were first asked to specify their most urgent needs and requirements. The purchases financed with the collection proceeds were also made based on earlier consultations with the shelters, so they received exactly the supplies they needed most. The collected stocks of essential items were sufficient to cover the operating needs of the shelters for at least several months.



7.2.8. 'All of Poland Reads to Kids'

(Carpathian Trading Division; currently PGNiG Obrót Detaliczny Sp. z o.o., Carpathian Region)

The main objective of the project was to promote daily reading to children as an effective and friendly method supporting their comprehensive psychological, mental, social and moral development, and to raise interest in modern children's and youth literature. The activities undertaken as part of the project mainly involved cooperation with and support to libraries that organised a number of events addressed to children and youth, such as competitions, meetings with authors, etc.

Supporting education and stimulating all-round development of children and youth are very important issues from a social point of view. The care for development of future generations is of key importance to the proper functioning of our society in the future. As a company that is sensitive to social problems and actively participates in the life of local communities, PGNiG S.A. joined the 'Week of Reading to Kids' nationwide campaign.

As a result of the initiative, we were able to directly reach some 1,000 people of different ages, including children, youth and adults, who could be potential or existing customers for our gas fuel.



7.2.9. 'Pre-Schooler's Safety Academy'

(Greater Poland Trading Division; currently PGNiG Obrót Detaliczny Sp. z o.o., Greater Poland Region)



The project's objective was to educate pre-schoolers on safety issues. PGNiG has been a partner of the project for several years now (also in 2013). The project is organised in cooperation with the Prevention Division of the Municipal Police Department in Poznań. As part of the initiative, meetings and educational demonstrations are held in pre-schools to encourage safe behaviour on the way to/from school, to teach children how to play safely at school, outdoors or at home, and to familiarise them with the most common road signs. The guests invited are usually members of the police force, firefighters or representatives of programme partners, such as PGNiG. An important objective of the programme is to win children's trust and help them acquire the confidence to ask parents and tutors for help.

The initiative is carried out in pre-schools in Poznań and its vicinity, with the children divided into three age groups. The number of pre-schools willing to take part in the project has been growing consistently from year to year (in the 2013/2014 season, 100 pre-schools will take part in the programme). As part of the initiative, pre-schoolers participate in educational classes conducted by representatives of the Police and partners of the project with the use of special teaching aids. During the classes instructors use play and toys to teach children about safety issues (such as a sponge town and a car walker, as well as awareness-building games, educational books and safety reflectors). Children receive educational materials describing specific dangerous situations (in the case of natural gas, showing how to handle it safely).



Another part of the initiative saw information brochures for children and parents printed and distributed, outlining basic safety rules for kids and the correct way of handling gas and electric appliances.

7.2.10. 'Be a Santa Claus'

(Greater Poland Trading Division; currently PGNiG Obrót Detaliczny Sp. z o.o., Greater Poland Region)

The purpose of the project was to provide support to the residents of Children's Homes in Otorowo and Lipnica. Beneficiaries of the project were 50 children. Christmas gifts were prepared according to the children's wish lists contained in their letters to Santa Claus. The letters were delivered to our employees, who prepared the gifts and, dressed as Fathers Christmas, handed them out to the children.

7.2.11. Support to the Responsible Business League

(PGNiG Head Office)

Being aware that in a few years today's young people will enter the labour market, setting work and management standards and shaping our social and business environment, PGNiG made a decision to support young people's education on Corporate Social Responsibility and has pursued this objective for several years now. In 2013, our employees were involved in the project by giving presentations on PGNiG's approach to Corporate Social Responsibility and environmental protection at various colleges and universities.

The Responsible Business League (Liga Odpowiedzialnego Biznesu, LOB) is an educational programme of the Responsible Business Forum, an organisation of which PGNiG has been a long-time member. The project's objective is to exert long-term influence on the development of new managers and entrepreneurs, social leaders, change leaders and, most of all, responsible people. The Responsible Business League comprises a group of CSR Ambassadors operating in local communities as well as organisations implementing projects promoting Corporate Social Responsibility. For ten years of its operation, the Responsible Business League has been the source of CSR knowledge for several thousand young people.

The programme has been carried out in cooperation with the Responsible Business Forum Association.



7.2.12. 13th edition of the 'Let an Apple Hit Your Head' environmental competition 2013/2014

(Pomeranian Trading Division; currently PGNiG Obrót Detaliczny Sp. z o.o., Pomeranian Region)

The project has been designed to develop children's and youth's interest in science through experiment. Indirectly, it is also intended to teach how to present one's own work, be consistent and systematic in preparing experiments, and draw conclusions. For the children and youth involved, the contest proved an excellent opportunity to share passions and interests that go beyond the school curriculum. During the final event of the competition, the participants could watch presentations of the winning teams and get inspiration for further work and participation in the competition in the future.

The students worked in teams of two or three. They were expected to choose a problem/subject from the list included in the competition rules, and to illustrate it with an experiment or demonstration. Each team, acting on its own, conducted an experiment it has prepared and drew conclusions. Teachers supported their students with expertise and assisted them by, for instance, referring to sources of relevant information. Then, semi-final presentations took place, during which ten finalists in each of the two age categories (a total of 20 teams) were selected. On May 8th and 9th 2014, final presentations of the winning teams were held at the Experiment Science Centre of Gdynia, and the awards were delivered.

Invitations to participate in the competition were sent by electronic mail to all elementary and junior high schools of the Gdańsk-Gdynia-Sopot metropolitan area. Additionally, hard copies of the invitation, including the rules of the competition and the list of subjects to choose from, were inserted in the folders kept at the Education Department of the City Office of Gdańsk, where all schools collect documents addressed to them. A total of 600 students, accompanied by their teachers/tutors, enrolled in the competition.

7.2.13. The Gdańsk Family Run

(Pomeranian Trading Division; currently PGNiG Obrót Detaliczny Sp. z o.o., Pomeranian Region)

The Gdańsk Family Run is a street running event for amateur runners, designed to promote active lifestyles and to encourage people to take up active outdoor recreation. The guiding idea behind the event is the participation itself: there are no age categories and no final ranking. The route leads along the streets of Gdańsk's Old Town. After the event, everyone who has completed the run and put their coupon into a box located at the finish line takes part in a draw for valuable prizes. PGNiG has been the partner of the event since 2009. The run is the most important sporting event of the City Festival.



7.2.14. 'PIN A RIBBON' – celebration of the 95th anniversary of the Greater Poland Uprising

(Wielkopolska Spółka Gazownictwa; currently Polska Spółka Gazownictwa, Poznań Branch)

The project was designed to encourage the inhabitants of the Province of Poznań to pin a ribbon in the national colours to their lapels to celebrate the anniversary of the Greater Poland Uprising, commemorate the merits of the freedom fighters, and reminisce on the Uprising. The project beneficiaries were the local community. The celebration of 165 years of the gas industry in the Lower Silesia was organised. The project succeeded in involving the local community, fostering patriotic attitudes, and developing historical awareness. Moreover, such initiatives play an important role in shaping long-term, confidence-based relations with external stakeholders: the local community, trading partners and local government bodies.

Painted canvases grew, the youth got encouraged to experiment with arts. More and more young artists were taking brushes and it soon turned out there was no blank canvas left. The created works reflected the young painters' fascinations and interests, but a few pieces could easily be imagined hanging on the wall of an art gallery.

The next event was held at the children's home in Zabrze. The ninety minute workshop brought fruit in the form of beautiful, inspired and colourful pictures, and at the end of the event the children said this was the best workshop they had ever attended.



The next stop along the paint and canvas route was the Mother and Child Healthcare Institute of Warsaw. The participating children were encouraged by their parents and medical personnel. Soon, the room was full of colourful canvases, which will probably be used to decorate one of the children's ward corridors.

The next event of the 'Become an Artist with PGNiG Technologie' project was organised at the Tarnów Service Centre of Childcare Facilities. Once again art proved to be able to 'soothe the savage beast' and trigger positive emotions. The last part of the project was held at 'Warsaw Child' Children's Home No. 3 in Warsaw. The 'Become an Artist with PGNiG Technologie' project was designed for children who, for various reasons, have limited access to artistic events. The paramount objective of the workshops was to enable even very young children, whatever their situation, to develop their imagination, be exposed to beauty, and express themselves. During the workshops, the participating children were carried to the world of fantasy, could satisfy the natural need to express themselves, and develop their skills. First reserved and distrustful, they slowly mellowed down, concentrated on their work and opened up. They allowed us to visit their inner worlds for a moment and left the workshops joyful and smiling.

7.2.16. Industrial exhibition 'WARM ENERGY'

(PGNiG, Zielona Góra Branch)

The industrial exhibition 'WARM ENERGY', which was first on display from October 2013 in the exhibition hall of PGNiG S.A. Zielona Góra Branch, has to date been shown at a number of venues. It has an educational value: the visitors learn about the various forms of the energy sector's use of nitrogen-rich gas produced from the fields operated by

7.2.15. Each of us is an artist

(PGNiG Technologie)

Once again PGNiG Technologie embarked on an educational and social project and organised art workshops for residents of children's homes. This time, the beneficiaries were children in the care of children's homes and childcare facilities in Krosno, Zabrze and Tarnów, as well as the little patients of the Mother and Child Healthcare Institute of Warsaw.

The organisers of 'Become an Artist with PGNiG Technologie' first brought paints, canvas and brushes to Janusz Korczak Children's Home No. 2 in Warsaw. As the weather permitted, the workshop was held outdoors. The youngest children did not hesitate to grab paints, while those older were distrustful and reserved. However, as the number of





the Branch: Barnówko-Mostno-Buszewo, Cychry, Zielin, Górzycza, Kościan and Brońsko.

The exhibition presents in a clear way the production and transmission of natural gas, as well as investment projects in the new energy sector and their importance to Poland's economy. Enriched with exhibits and puzzles, 'WARM ENERGY' has proved a good carrier of information for visitors of various age groups. The exhibition is organised under the patronage of Elektrociepłownia Zielona Góra S.A., PGE Górnictwo i Energetyka Konwencjonalna S.A. Gorzów CHP Plant Branch, and Arctic Paper of Kostrzyn.

In December 2013, 'WARM ENERGY' was moved to the Customer Service Centre of Elektrociepłownia Zielona Góra S.A., and in January 2014 to the Public Library of the City and Municipality of Dębno, where around 200 people attended meetings accompanied by presentations given by Paweł Błaszczuk, our colleague from the Dębno Oil and Gas Production Facility. In February 2014, the exhibition came to the PGNiG S.A. Customer Service Centre in Gorzów Wielkopolski, and currently it is displayed at the AGH University of Science and Technology of Kraków. It is accompanied by an exhibition of photographs taken by the participants of a photography competition held among the Branch employees. In April and May 2014, the exhibition was displayed at the Museum of Oil and Gas Industry in Bóbrka.

7.2.17. A Christmas Card, an Easter Card

(PGNiG, Zielona Góra Branch)

Another edition of the competition as part of which children make their own Christmas or Easter cards was concluded with the finale meeting at the Zielona Góra Branch's headquarters on December 13th. Thanks to cooperation with the Regional Television (RTV Lubuska), the channel announced the competition, inviting children aged 6 to 9 to design their own Christmas cards.

After long discussions, the Competition Jury granted the 1st award to Julia Jonaczyk, while nine other children were presented with distinctions. The 10 works were printed on a Christmas card which was sent to PGNiG's trading partners, as well as to the winning children's families. The children's works could be viewed at the Exhibition Hall.

A similar competition is organised for Easter.





7.2.19. 'Open Creative Activities' happening

(PGNiG, Zielona Góra Branch)

The 'Open Creative Activities' happening was organised in 2013 for the tenth time. We have supported this educational and integration project from its early days.

On June 4th 2013, children and youth from Special Schools Complex No. 1 and Art School Complex, students of the Medical Vocational College and residents of Zielona Góra met at the Plac Bohaterów Square to take part in a happening under the slogan 'Playing the Lithuanian Way', based on Lithuanian culture themes.

Attractions for the participants included ready art stands for large-format painting (easels), using templates for painting on foil, making compositions of cardboard and tissue paper, as well as points for playing with rainbow sheet, face painting, games of skill and sports games.



7.2.18. Blood donation campaigns 'Blood Donation for Children's Day' and 'Blood Donation for St. Barbara's Day'

(PGNiG, Zielona Góra Branch)

A club of Polish Red Cross honorary blood donors 'Nafta' has operated at the Zielona Góra Branch of PGNiG since 1968. For a few years, the Branch has organised campaigns to support the club's operations: 'Blood Donation for Children's Day' and 'Blood Donation for St. Barbara's Day.' The campaigns are addressed both to the employees, and to Zielona Góra residents. Other parties involved in the event include Polish Red Cross volunteers and the Blood Donation and Haemotherapy Centre, which provides the blood donation coach. The aim of these activities is to educate the general public about donation of blood and bone marrow, and to encourage the largest possible number of people to become honorary blood donors.





7.2.20. 'My First Two Wheels'

(Pomeranian Trading Division; currently PGNiG Obrót Detaliczny Sp. z o.o., Pomeranian Region)

'My First Two Wheels' is a campaign which has been organised by PGNiG in order to introduce the children into the world of bicycles. As part of the project, balance bikes were purchased and made available to children from kindergartens in the municipalities located in the vicinity of Gdańsk. Teaching the children to ride was combined with educating them about the basic rules of traffic, and competitions. An educational package was also prepared, including various teaching aids related to the theme of riding a bicycle.



7.2.21. Activities of the PGNiG's I. Łukasiewicz Foundation

In accordance with the Foundation's charter, its mission is to conduct public activities that are beneficial to the society, in particular by promoting and supporting:

- culture as an element of national heritage, including theatre and music performances, and film shows
- particular achievements in the area of fundamental sciences and technical sciences
- protection of gas industry monuments and museums
- sports, with rivalry being viewed as a tool in the education of children and youth
- health protection.

In 2013, PGNiG's I. Łukasiewicz Foundation received the 'Aladdin' statuette from the Fulfilled Dreams Foundation. The statuette is the highest distinction awarded in recognition of efforts undertaken with a view to helping children with cancer.

'Projektor' Students' Voluntary Work Programme

The 'Projektor' Students' Voluntary Work Programme of the Polish-American Freedom Foundation is implemented by the Voluntary Service Promotion Foundation and is the continuation of years of joint efforts.

As part of the programme, volunteering students conduct educational workshops for children living in small towns (below 20 thousand inhabitants) and villages. The purpose of the programme is to provide equal opportunities to children and young people and support them in their education.

Since 2010, the PGNiG Foundation has been running the 'Young Nobel' programme, encouraging children and youth from small towns and villages to broaden their knowledge in sciences. The fourth edition comprised 600 projects, involving about 8,500 students, as well as 11 Educational Picnics (one of which was held at the Gas Industry Museum in Warsaw on September 28th 2013) and a Film Competition.

The purpose of the programme is to popularise knowledge of various areas of science through interesting experiments and demonstrations.

Programmes of extracurricular classes for schools bearing the name of Ignacy Łukasiewicz

In 2013, **28** schools received funds for the financing of extracurricular classes for children and youth, and for the purchase of teaching aids necessary to conduct those classes.

About three thousand students participated in the programme, which altogether consisted of 1.5 thousand school hours. The schools spent some of the funds on purchases of the necessary equipment and excursions.

Scholarships for the best students

One of the key missions of our Foundation is to promote and support particular achievements of children and youth in the area of technical and fundamental sciences. In view of the young people's weakening interest in technical sciences and in an effort to motivate them to work hard and deepen their knowledge, the Foundation's Board decided to support and promote the best students by creating a dedicated scholarship fund.

In 2013 (fifth edition of the programme) the Foundation's Board, acting on recommendations from the Foundation's Council, awarded 10 scholarships to the students that met relevant criteria specified in the programme rules.

Scholarships for the most talented students

2013 saw the fourth edition of a competition for secondary-school students pursuing education in fields related to the oil and gas industry. 15 best students were awarded scholarships on the basis of a recommendation from the Foundation's Council.

Bridge scholarships

In 2013, the Foundation conducted the second edition of a competition for the best secondary-school graduates pursuing education in fields related to the oil and gas industry and wishing to continue their education at universities. One graduate was awarded a scholarship.

In 2013, the Foundation received 720 applications from institutions and natural persons. Applications from natural persons were not considered.

The Foundation Board adopted 101 resolutions.



7.3. Workplace

7.3.1. Project: 'Eleven Thousand Kilometres for Communication'

(Polska Spółka Gazownictwa)

The initiative was aimed to provide information on current changes on a day-to-day basis and initiate real dialogue with employees. The project saw Polska Spółka Gazownictwa's Management Board members travel more than 11,000 kilometres in total to participate in 24 face-to-face meetings with employees and answer over 200 questions asked by the audience. Among the issues presented and discussed at the meetings were the company's key areas of activity, business model assumptions, and operational changes and processes.

The initiative's achievements include increasing the employees' understanding and awareness of CSR issues specific to the energy industry.

7.3.2. GeoTalent educational initiative

(PGNiG/Geology and Hydrocarbon Production Branch, and Head Office)

Addressed to students interested in the hydrocarbon exploration and production industry, the GeoTalent initiative aims to educate the participants and help them develop a practical skill set for hydrocarbon exploration, appraisal and production from conventional and unconventional deposits.

The first edition of the GeoTalent initiative was launched in May 2013 and ended in June 2014. The GeoTalent educational events, which took place at the AGH University of Science and Technology in Kraków, were addressed chiefly to those studying at the Faculty of Geology, Geophysics and

Environmental Protection, the Faculty of Drilling, Oil and Gas, the Faculty of Mining Surveying and Environmental Engineering, and the Faculty of Mining and Geoengineering.

The first edition of the initiative targeted at the students of the AGH University of Science and Technology included a series of educational meetings and activities, such as specialist workshops, English language classes for the oil and gas industry, a 6-category competition, and PGNiG S.A.'s development programmes.

The second edition will start in October.

7.3.3. 'Safety at Work' contest

(PGNiG Sanok Branch)

The purpose of the initiative was to encourage blue-collar workers to broaden their knowledge of occupational health and safety, and to eliminate potential threats to safety in the workplace. Posters informing of the OHS contest, which each time attracts some 150 participants, were sent to all employees via email. The posters also appeared on the notice boards at the Administrative Centres and the Mines (some 80 posters in total; see attachment).

The participants broaden their knowledge of occupational health and safety by preparing for the contest.

7.3.4. Promoting collaborative teamwork

(Mazovian Trading Division; currently PGNiG Obrót Detaliczny Sp. z o.o., Mazovian Region)

Aiming to encourage balanced cooperation in the workplace, the Mazovian Trading Division has organised a training course to promote collaborative teamwork. By participating in a series of educational games organised by a third-party company, the employees had the opportunity to better understand both themselves and their colleagues, as well as to work on their interpersonal relationships. The workshops were held on September 20th in Jadwisin and on October 4th in Serock, each time attracting 100 guests.





7.4. Natural environment

Environmental initiatives implemented at primary schools in the Province of Rzeszów

(Carpathian Trading Division); currently PGNiG Obrót Detaliczny Sp. z o.o., Carpathian Region)

Among the environmental projects pursued at schools, the following warrant special attention:

- Ecological week – Hand in hand with the environment (May 20th–June 9th 2013)
- Ecological project – Ecological Christmas (December 23rd 2013)

PGNiG S.A. pursues environmental initiatives at many primary schools in the area of operation of PGNiG Obrót Detaliczny Sp. z o.o., Carpathian Region, which is positively received by the local community.

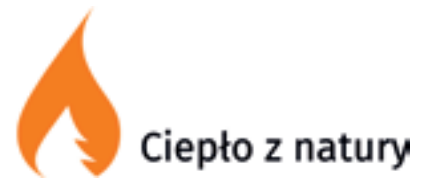


The initiatives comprise various meetings, lessons and competitions aimed to educate and promote environmental awareness, both among the pupils and their parents. The activities were geared towards encouraging children to think ecologically, as well as towards promoting natural gas as an environmentally-friendly fuel in front of a vast audience of parents and carers. Our initiatives were a direct way to reach children from some 1,400 primary schools in south-east Poland.

'Natural Heat' (PGNiG Termika)

The 'Natural Heat' initiative enjoys huge popularity every year, which is partly thanks to the close cooperation of the organiser, PGNiG Termika (owner of Żerań and Siekierki CHP Plants), with the Warsaw Municipal Office. At the turn of the year, Warsaw's residents could bring their Christmas trees to special mobile collection points set up in all of the capital city's districts. The trees which had been left in bin enclosures adjacent to houses were picked up by waste management companies and also handed down for collection. All of the trees were converted to biomass – a CO₂ neutral fuel.

The Christmas tree recycling initiative is in line with PGNiG Termika's strategy and goals. The company pursues a number of investments aimed at protecting the environment and mitigating the negative climatic effects of power generation. Under one of such investments, a boiler at the Siekierki CHP Plant is currently being reworked to make it completely biomass-fired. The company estimates that the investment, along with other similar projects, will allow it to reduce coal consumption by several percent by 2021. In February 2014, PGNiG Termika joined the 'Partners for Climate'

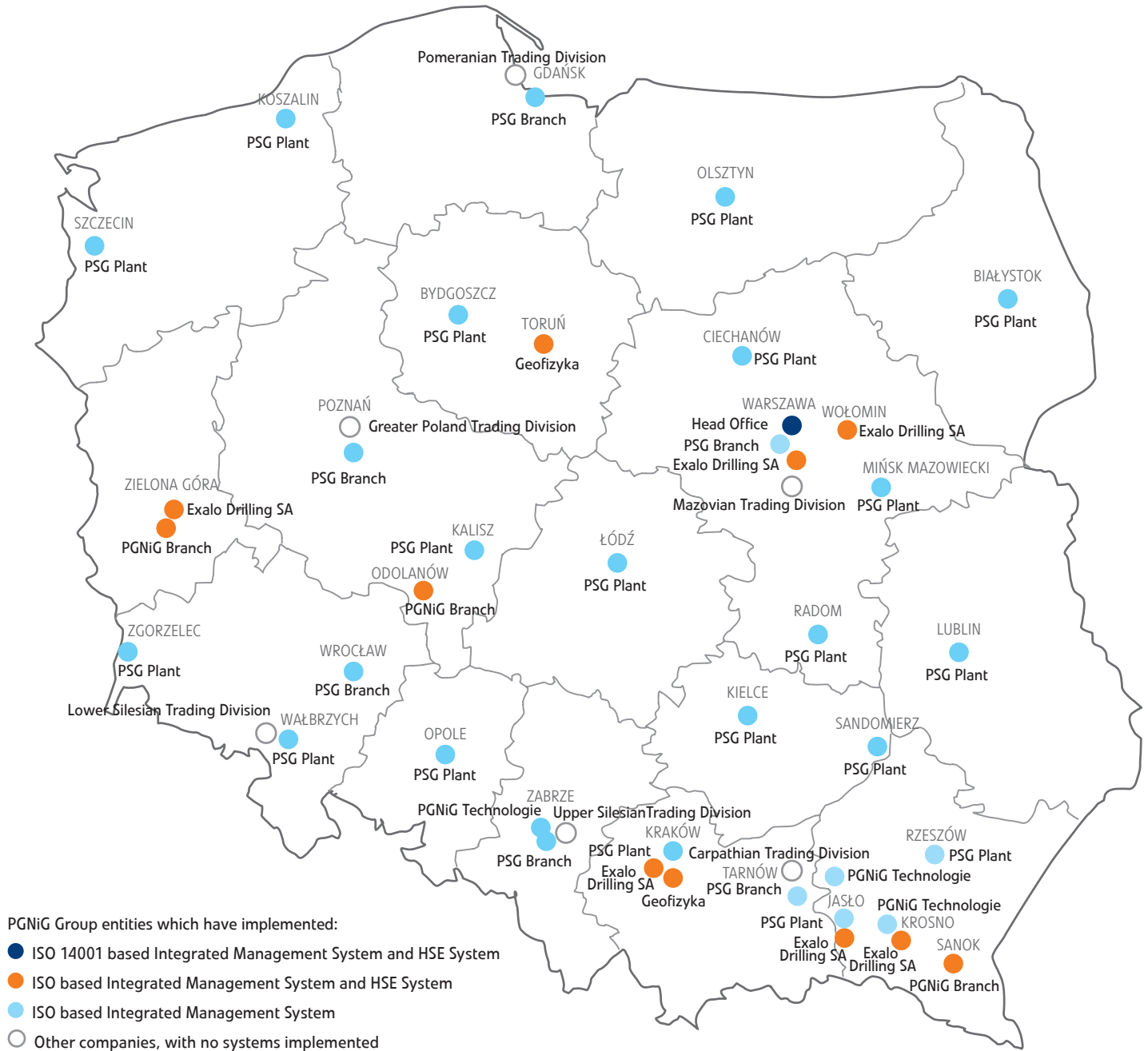


programme, run under the auspices of Warsaw's municipal authorities, which allows it to better coordinate its environmental efforts.

The latest, fifth edition of the 'Natural Heat' initiative took place in late 2013 and early 2014. This year, the Christmas trees we have collected will allow us to produce 130 tonnes of biomass more than the last time. Thanks to this collaborative effort, a record 500 tonnes of Christmas trees will be converted to biomass, which will fuel Warsaw's CHP plants, bringing ecological benefits to all households in the form of clean heat and electricity. As green fuel, the collected Christmas trees will deliver enough energy to heat about 130 60 m² apartments for a full year.

In all of the project's editions so far, we have been able to collect over 1,700 tonnes of the ecological fuel.

Figure 1 – Environmental Management Systems at the PGNiG Group



7.4.1. Environmental Management Systems

Environmental protection is a paramount objective for PGNiG Group companies, and their efforts are focused on managing work processes in an effective, efficient and environmentally friendly manner. The great commitment of the management staff as well as proper preparation of our employees translate into our ability to demonstrate and improve the environmental performance of the PGNiG Group and its products and services, in line with the requirements of international standards.

At the PGNiG Group companies, environmental protection is managed based on a system compliant with the Polish standard PN-EN ISO 14001:2005. The standard supports sustained implementation of environmental protection and pollution prevention measures. Using their Environmental Management Systems compliant with the ISO 14001 standard, all PGNiG Group companies seek to reduce their harmful effect on the environment by assessing the risk of adverse

environmental impact of planned manufacturing processes, as well as monitoring the progress and verifying all operations. Further, with the resources, responsibility and powers of the management and the employees, which are precisely defined and documented in the system, the Group is able to demonstrate and further improve the effects of its pro-environmental initiatives, as well as the environmentally friendly nature of its products and services, compliant with the requirements of international standards.



Table 1 – Environmental management systems at the PGNiG Group (December 2013)

PGNiG entity	Date certified	Certificate validity	Certifying entity
PGNiG S.A.			
Head Office	Jul 14 2012	Jul 14 2015	Det Norske Veritas
Sanok Branch*	Nov 25 2013	Nov 25 2016	Det Norske Veritas
Zielona Góra Branch*	Apr 25 2011	Apr 25 2014	TUV Nord
Operator Systemu Magazynowania – Mogilno Underground Gas Storage Cavern Facility Branch*			
Service GmbH	Nov 17 2013	Nov 16 2016	TUVSUD Management
Odolanów Branch*	Jan 6 2013	Jan 5 2016	LROA Lloyds Register
PGNiG GROUP COMPANIES			
PSG Branch in Zabrze	Oct 17 2010	Oct 18 2013	Polskie Centrum Badań i Certyfikacji S.A.
PSG Branch in Wrocław	Jun 2 2011	Aug 31 2014	Det Norske Veritas
PSG Branch in Warsaw	May 6 2013	Jun 11 2016	DEKRA Certification
PSG Branch in Tarnów	Oct 23 2013	Oct 22 2015	Urząd Dozoru Technicznego (Office of Technical Inspection) UDT-CERT Polski Rejestr Statków (Polish Register of Shipping)
PSG Branch in Gdańsk	Jun 6 2008	No certificate	
PSG Branch in Poznań	Oct 22 2013	Aug 22 2014	TUVSUD Management
Service GmbH			
Geofizyka Kraków	Jun 14 2011	Jun 14 2014	Bureau Veritas Certification
Geofizyka Toruń	Mar 18 2011	Mar 18 2014	LROA Lloyds Register
Exalo Drilling S.A.	Dec 2013	Dec 2016	TUVSUD Management Service GmbH Urząd Dozoru Technicznego (Office of Technical Inspection) UDT-CERT
PGNiG Technologie S.A.	Dec 20 2013	Dec 19 2016	Urząd Dozoru Technicznego (Office of Technical Inspection) UDT-CERT
PGNiG Termika	Dec 3 2013	Dec 2 2016	Polskie Centrum Badań i Certyfikacji S.A.

* Companies with the HSE (Health, Safety and Environment) system in place.

In line with the main assumptions of the PN-EN ISO 14 001 standard, the implementation of an environmental management system is a testament that the company is committed to achieving certain environmental objectives. The system in place at the PGNiG Group companies proves that the Group companies strive to reduce their environmental footprint to the minimum, comply with all environmental requirements under statutory and secondary legislation, and have undertaken to continuously enhance their expertise in the area of environmental protection.

At most PGNiG Group companies, the PN-EN ISO 14001-based Environmental Management System (EMS) is integrated with other systems, such as quality assurance, OHS and information security management systems. PGNiG S.A.'s five branches operating in the hydrocarbon exploration, production and tankless storage sector have implemented the Principles of the Operator HSE System, of which environmental protection management is an integral part. HSE standards for the sector have been developed and the Operator HSE System Book has been reviewed.

Under PGNiG S.A. Management Board Resolution No. 611 of August 13th 2013, the PGNiG S.A. HSE Policy has been adopted, and the Branches (Sanok Branch, Zielona Góra Branch, Odolanów Branch, Geology and Hydrocarbon Production Branch, Well Mining Rescue Station in Kraków, Branch in Egypt and Operating Branch in Pakistan) have been placed under an obligation to apply the Operator HSE System and implement it by August 1st 2014.

The management systems compliant with the ISO and HSE standards are supervised by the Head of the Safety at Work, HSE and Quality Standard Department.

The table sets forth detailed information on the Environmental Management System in place at the PGNiG Group, including certificate validity dates and names of the certifying entities.

Following the organisational changes at the PGNiG Group, work is underway to implement or adapt the system to the new structure. As part of a merger of the PGNiG Group gas distribution companies, formally completed on July 1st 2013, a single company operating under the name of Polska Spółka Gazownictwa Sp. z o.o. (PSG), with registered office in Warsaw, was established to replace the six gas distribution operators. The consolidated company operates on the basis of six regional branches based at the head offices of the former gas distribution companies, that is Gdańsk, Poznań, Warsaw, Wrocław, Tarnów and Zabrze.

Prior to the establishment of Polska Spółka Gazownictwa, all the gas distribution companies had had environmental management systems in place. Presently, alignment work has been undertaken at PSG to develop a uniform system and prepare it for joint certification. Given the above, PSG Branch in Zabrze did not enter the process of recertification of its system in October 2013, expecting to be covered by a certificate issued for the entire company in near future. The ongoing work on developing uniform documentation and uniform standards does not affect the operation of the system at the individual Branches.

In February 2013, five independent providers of drilling and oilfield services in the PGNiG Group: PNiG Kraków S.A., PNiG JASŁO S.A., PNiG NAFTA S.A., PN Diament Sp. z o.o. and ZRG Krosno Sp. z o.o., completed the formal and legal integration and merged to become a single entity – Exalo Drilling. In December 2013, the newly established company obtained a joint certificate. Also in December 2013, a single certificate was obtained by PGNiG Technologie S.A.

The implementation of the Environmental Management System is in line with the Company's strategy for growth, ongoing improvement, and care for the natural environment. As part of the activities supporting the operating objective 'Implementation, maintenance and improvement of environmental management systems' provided for in the Sustainable Development and Responsible Business Strategy of the PGNiG Group for 2009–2015 in the area 'Environment', an EMS compliant with the ISO 14001 standard is to be put in place and maintained at the PGNiG Group organisational units as a tool facilitating the management and supervision of the operating area related to the broadly understood protection of the natural environment.

The Trading Divisions, which are the only PGNiG S.A. branches, were among the few Group entities that had no EMS in place, and should commence the implementation process in performance of the above operating objective.

Therefore, certain 2012 projects related to the performance of initial environmental reviews, which closed the stage of preparations preceding introduction of the EMS at the Trading Divisions and implementation of the post-review recommendations and improvement measures provided for in an appendix to the PGNiG Management Board Resolution No. 335/2013 of May 14th 2013 on the review of the EMS, were followed on with the development of system documents to facilitate the implementation of the EMS at the Trading Divisions.

In the first phase, to optimise environmental management, preparations were made to implement the EMS covering all Trading Divisions and the company's Head Office, with

a single Environmental Policy and system documentation. The concept of a single system was revised following the decision to spin-off the Retail Trading Company which will incorporate the Trading Divisions.

The implementation of the EMS will facilitate successful and effective environmental management within the retail trading structures.

One of the key requirements of the PN-EN ISO 14001 standard which facilitates delivery on the above commitments is to identify any environmental emissions referred to in the regulations as 'environmental aspects'. Once identified, evaluated and compiled in a list, the environmental aspects are the foundation on which to build environmental objectives within the environmental management systems. Streamlining this area is therefore one of the key issues required for carrying out analyses at all PGNiG Group companies and for selecting areas of particular interest to the oil and gas industry.

The Environmental Management System operates on the basis of key environmental aspects which directly affect other elements of the system – the environmental policy, tasks and objectives, monitoring and measurement, as well as operational control.

With reference to the above, the following key environmental aspects have been identified at the PGNiG Head Office:

1. Contaminated land and groundwater (waste: coal tar and other waste related to the operation of coal gas works) – on the property at ul. Kasprzaka and on non-production properties;
2. Asbestos and materials containing asbestos – on the properties managed by the Asset and Administration Department (indirect aspects);
3. Reclaimed landfill site – bog ores with sulfur and petroleum content. The landfill site is monitored.

Contaminated land and groundwater is one of the most commonly identified key environmental aspects – it has been identified at almost all PGNiG Group entities covered by the review. Its occurrence may be explained by the presence of contaminants generated in past activities, as well as leaks of petroleum or hazardous substances during drilling and other technological processes, operation of machinery and equipment, or leaks from the storage tanks or pipelines.

Another frequently found key environmental aspect is the release of pollutants into the atmosphere as a result of fuel combustion by car motors, industrial machinery and boilers, or as part of such processes as welding, varnishing, construction and maintenance activities relating to the gas network, and in extreme cases – as a result of eruptions at the rig. Emission of particulates and gases, such as nitrogen oxides, sulfur oxides and carbon oxides, have been identified as a key environmental aspect at PGNiG Termika, which produces electricity and heat from coal.

Most technological processes are associated with noise emission, with some companies also generating thermal radiation (PGNiG Termika) and ionising radiation (Geofizyka Kraków).

Apart from environmental emissions, an important aspect of the PGNiG Group's operations is consumption of raw materials, fuel, electricity and water.

Another key environmental aspect identified by almost all PGNiG Group companies is generation of hazardous, non-hazardous and drilling waste. It is involved in all types of human activities – from office work to technological processes.

The compliance evaluation has demonstrated that the legal requirements relating to all key environmental aspects have been met.





The environmental objectives and tasks comprising environmental programmes in place at individual PGNiG Group entities have been established not only based on the results of the evaluation of environmental aspects' significance, but also on the basis of the applicable environmental laws.

Environmental programmes are developed for each year, but the implementation horizon for certain objectives may span two or three years. The environmental tasks that need to be carried out to deliver the relevant objectives must be supported by organisational units, branches and companies other than those responsible for environmental protection, which requires an additional effort to coordinate their actions. Execution of certain tasks may be prolonged due to unexpected events or the need to opt for alternative solutions. To enhance the environmental protection system, as successive environmental projects are completed new tasks are added to the environmental programme each year, thus improving the environmental performance of a given organisation.

7.4.2. Reducing emissions of greenhouse gases and other air pollutants

The applicable legal regulations concerning monitoring and reduction of greenhouse gas emissions brought about the need to set up a framework for monitoring and reporting CO₂ emissions at the PGNiG Group companies subject to the European Union Emission Trading Scheme (EU ETS).

PGNiG's facilities generating CO₂ emissions qualify as E.1.1 operations (*combustion installations other than units for incineration of hazardous or municipal waste*)¹, and are covered by the EU ETS as their rated thermal input exceeds 20MW. Given that the Wierzbowice Underground Gas Storage Facility will also be included in the EU ETS and it has received no free emission allowance allocations to date, the facility is being verified for its eligibility to receive such free allocations.

Table 2 – Carbon dioxide emissions from the PGNiG Group installations covered by the EU ETS [Mg]

Installation	National Allocation Plan No.	emission allowances [Mg]	actual emissions in 2013 [Mg]	remaining amount [Mg]
Mogilno Underground Gas Storage Cavern Facility	PL-898-08	8,532	5,354	3,178
PGNiG S.A. Odolanów Branch	PL-562-05	8,589	11,607	-3,018
PGNiG S.A. Odolanów Branch	PL-950-08	21,760	25,885	-4,125
PGNiG S.A. Lubiatów Oil and Gas Production Facility, Central Facility	PL-1070-13	0	14,381	-14,381
PGNiG S.A. Dębno Oil and Gas Production Facility	PL-563-05	22,244	27,734	-5,490
Total		61,125	84,961	-23,836

At present, the following five PGNiG facilities are covered by the EU ETS:

- Mogilno Underground Gas Storage Cavern Facility, PL-0898-08;
- Odolanów I, PL-0562-05;
- Odolanów II, PL-0950-08;
- Dębno Oil and Gas Production Facility, PL-0563-05;
- Lubiatów Oil and Gas Production Facility, Central Facility, PL-1070-13.

In 2013, CO₂ emissions from our facilities covered by the CO₂ EU ETS reached 84,961 Mg.

The Environmental Protection Division of the Geology and Hydrocarbon Production Branch developed the 'Procedure for reporting greenhouse gas emissions under the European Union Emission Trading Scheme, maintaining accounts and purchasing CO₂ emission allowances for PGNiG S.A. installations in the Union Registry', which assigns responsibilities to individual PGNiG S.A. entities operating the facilities covered by the EU ETS and governs the exchange of information between the facility operators, supervision bodies and entities maintaining accounts for the facilities in the Union Registry.

The companies of the PGNiG Group are cutting down their emissions of greenhouse gases and other pollutant gases and particulates into the atmosphere by:

- using gas as a low-emission fuel,
- monitoring the consumption of fuels,
- reducing the energy intensity of their technological processes,
- upgrading or replacing the sources of heat used for their own needs.

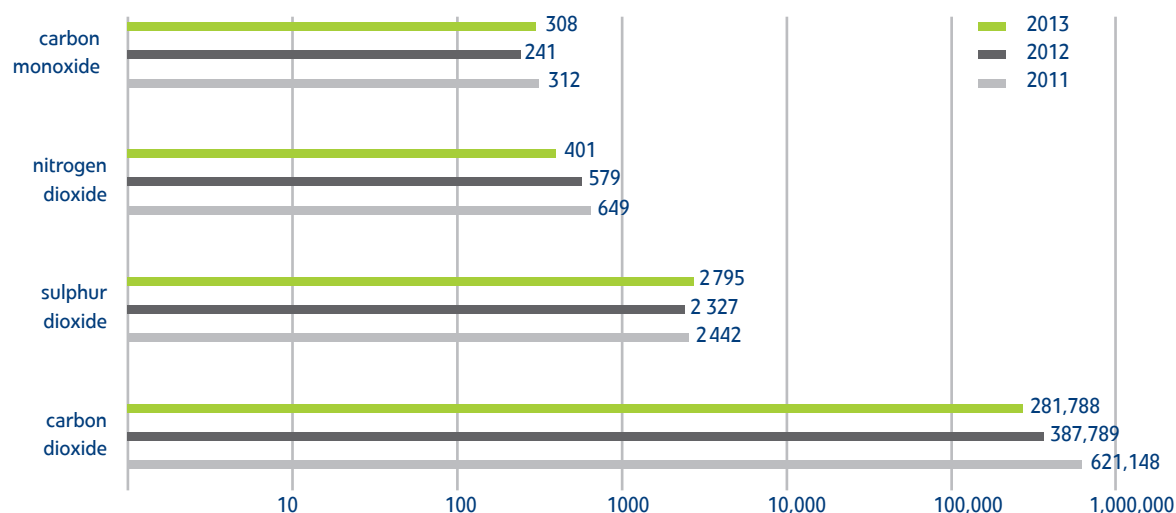
The PGNiG companies emit air pollutants in the form of gases and particulates in the course of their hydrocarbon exploration and production, and gas distribution operations, as well as investment, upgrade, overhaul and maintenance projects. The pollutants are a product of burning of fuels in internal combustion engines of vehicles and machines, in industrial processes and heat sources, in processes involved in the production and processing of crude oil and natural gas at the production facilities and in the distribution network and gas pipelines, as well as in auxiliary activities (painting, welding, wood processing, galvanic processing, etc.) at all companies, including in particular the service divisions of PGNiG Technologie.

Table 3 – Main types of pollutants released into the atmosphere in 2013

Substance	Volume [Mg]
CO ₂	281,787.7369
CH ₄	27,330.4558
SO ₂	2,794.79386
NO _x /NO ₂	400.5826717
CO	308.0818472
Total particulates	13.9271
aliphatic hydrocarbons	271.3878439
aromatic hydrocarbons (WWA)	16.35417837
benzo(alpha)pyrene (WWA)	0.000110098

¹ Installation types covered by the EU ETS and their capacity thresholds in accordance with the Regulation of the Minister of Environment of July 27th 2009 (Dz. U. No. 136, item 1120).

Figure 2 – Aggregate volumes of main gas pollutants released into the atmosphere in 2010–2012



Emissions into the atmosphere may be controlled (through point and stationary emission sources) or uncontrolled (e.g. in the painting process).

The pollutants released into the atmosphere by the PGNiG Group include mainly SO₂, NO_x, CO, CO₂, and CH₄, particulates (from fuel combustion, silica particulates, carbon and graphite particulates and others), hydrocarbons, aldehydes, alcohols, acids, heavy metals, metallic and non-metallic elements.

Carbon dioxide coming from fuel combustion in heat sources and industrial processes accounts for approximately 90% of all emissions, followed by methane, and other substances produced mainly in industrial processes.

The aggregate amount of pollutants released into the atmosphere went down 28% relative to 2012, which is attributable to lower carbon dioxide emissions. 2012 also saw a year-on-year decline in emissions of the following substances, produced mainly by fuel combustion in heat sources and industrial processes: sulphur dioxide, carbon oxide and nitrogen oxides (NO₂ equivalent), as well as particulates. The lower emissions are due to reduced volumes of fuel burned by gas compressor stations and engine compressors.

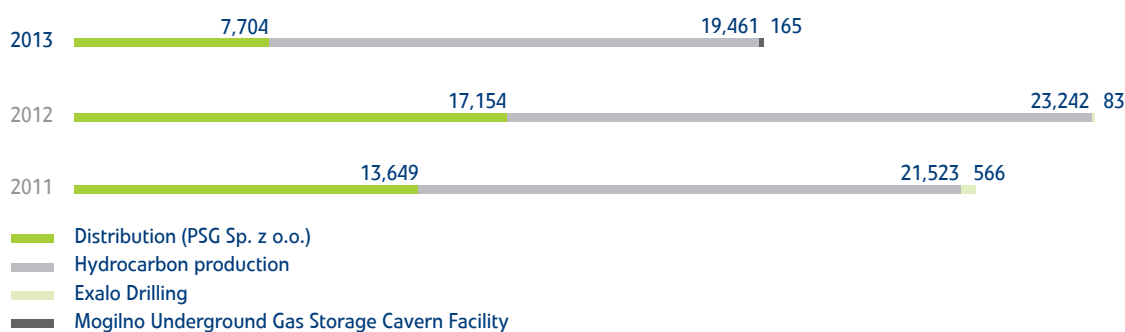
Table 4 – Volume of methane emissions in 2013 [Mg]

Polska Spółka Gazownictwa	7,704.4
Hydrocarbon production	19,460.9
Mogilno Underground Gas Storage Cavern Facility	165.1

Methane is released into the atmosphere during routine and emergency discharges of gas from pipelines and distribution network facilities, production facilities of the hydrocarbon production divisions, and during siphoning of oil or gas from wells by the exploration companies. The volume of methane emissions in each business segment is presented in Table 4.

Total methane emissions generated by the PGNiG Group companies in 2013 stood at 27,330.4 Mg (including 13,045.4 Mg at the Odolanów Branch alone), down 32% relative to 2012.

Figure 3 – Volume of methane emissions generated by the PGNiG Group companies in 2011–2013





7.4.3. Water and wastewater management

The PGNiG Group is deeply concerned about the shortage and deteriorating quality of domestic water resources, on account of the water quality itself, but also for economic and environmental reasons. This is why steps aimed at protecting water resources are of vital importance. The PGNiG Group companies draw water from their own groundwater intake points, or directly from the mains. This water is used for staff's needs and for industrial processes. Changes in the PGNiG Group's water consumption from year to year can be explained primarily by the amount of process water used (i.e. the number of exploration and capex projects under way).

In 2013, mains water consumption rose slightly from 347.14 thousand cubic metres to 375.09 thousand cubic metres, while the amount of water drawn from the company wells fell by more than a half (Figure 4).

Wastewater generated by the PGNiG Group entities is discharged into the wastewater system (under contracts with water supply and wastewater collection operators), or into surface water and soil (under existing water permits), following its pre-treatment or full treatment at a company's wastewater treatment plant. Wastewater from human use and from industrial processes is discharged into the wastewater collection system. Rainwater collected on the premises and from access roads is either discharged into the wastewater system or into surface water and soil.

In 2013, the volume of wastewater discharged into surface water and soil increased, whereas the volume of wastewater discharged to the wastewater collection system fell (Figure 5).

Withdrawal of water from a company's own intake points and discharge of wastewater into the environment are subject to environmental fees (for special use of water). Withdrawal of water from the water supply system and discharge of wastewater into the wastewater collection system are subject to fees payable to utility companies and to water supply and wastewater collection operators with which the PGNiG Group entities have entered into relevant contracts.

Figure 4 – Surface water and groundwater drawn in 2011–2013 by source ('000 m³)

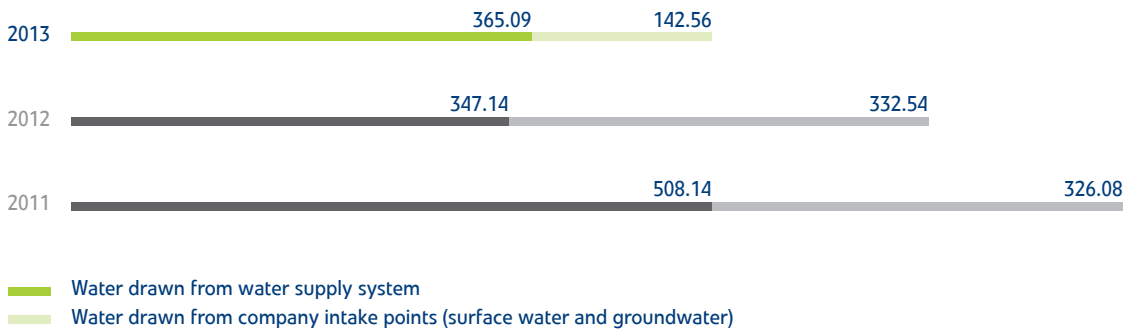


Figure 5 – Volumes of wastewater generated by PGNiG Group entities in 2011–2013 by place of discharge

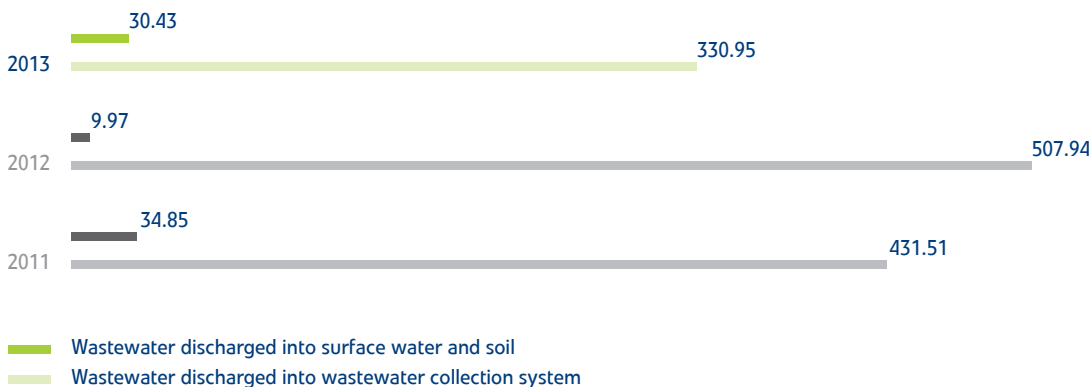
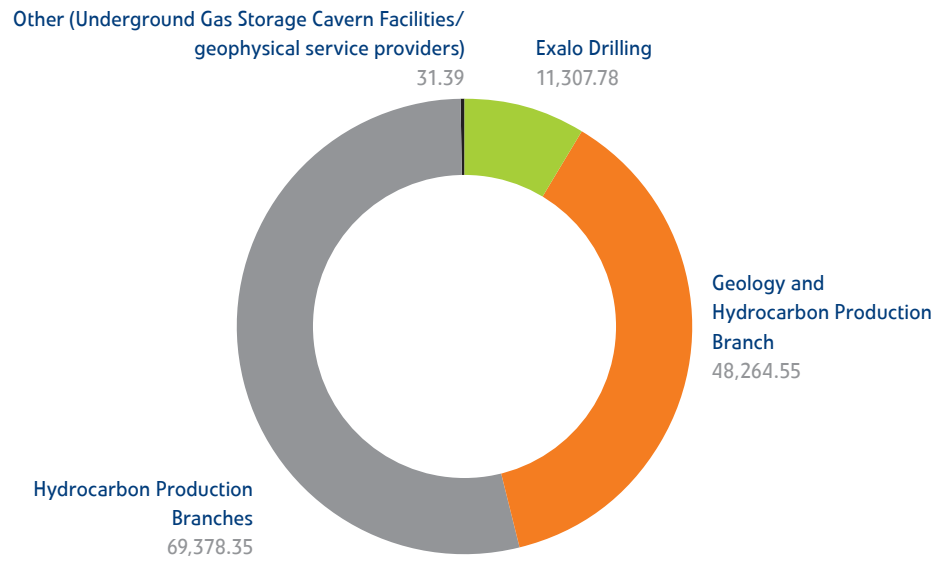


Figure 6 – Aggregate volumes of waste generated in 2013



7.4.4. Waste

The waste management objective of the PGNiG Group entities is to reuse waste or minimise its volume.

In 2013, the PGNiG Group generated 158,294.34 Mg of waste, falling into three categories, i.e. drilling waste, municipal waste and other waste.

Drilling waste

The aggregate amount of waste generated annually by the PGNiG Group entities depends mainly on the amount of drilling waste. In 2013, the Group generated 128,982.08 Mg of drilling waste, which accounted for ca. 82% of all waste generated by the PGNiG Group – up from 64% in 2012. The year-on-year volume increase can be explained by an increase in upstream activity and higher production of crude oil. The volumes of drilling waste produced by the PGNiG Group are shown in Figure 6. The annual volume of drilling waste generated by the PGNiG Group is the sum of the volumes of waste produced by Exalo Drilling S.A. (the exploration companies consolidated in 2013), the Hydrocarbon Production Branches (Sanok Branch and Zielona Góra Branch) and the Geology and Hydrocarbon Production Branch established in September 2012.

The largest volume of drilling waste was produced by the Hydrocarbon Production Branches (54%). The exploration and production work carried out by the Geology and Hydrocarbon Production Branch was the source of 37% of the PGNiG Group's total drilling waste (rock cuttings and drilling mud from oil and gas well drilling). Exalo Drilling S.A. generated approximately 9% of the Group's drilling waste (Figure 6), while other entities (the Geophysical Service Divisions and the Underground Gas Storage Cavern Facilities) generated less than 1% of the total volume.

The vast majority of drilling waste was waste classified as 01 01 02 (wastes from mineral non-metalliferous excavation excluding 01 01 08) (Hydrocarbon Production Branches) and 01 05 08 (chloride-containing drilling muds and wastes

other than those mentioned in 01 05 05 and 01 05 06) (Geology and Hydrocarbon Production Branch) (Figure 7).

Bits of rock are separated from drilling mud on vibrating screens or by means of other devices, such as desanders and desilters. Waste drilling mud is generated when circulation mud is exchanged for another kind (as required by the drilling technology), or when well drilling is completed and drilling fluid is no longer necessary. Drilling waste also includes process water mixed with drilling mud, cement slurry and other fluids from well treatments.

In 2013, 88,325.54 Mg of drilling waste was transferred for treatment, 489 Mg – for storage, 15,134.84 Mg – for recycling and reuse, and 15,134.84 Mg – for landfill disposal (Figure 8).

Figure 7 – Drilling waste of class 01 – wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals

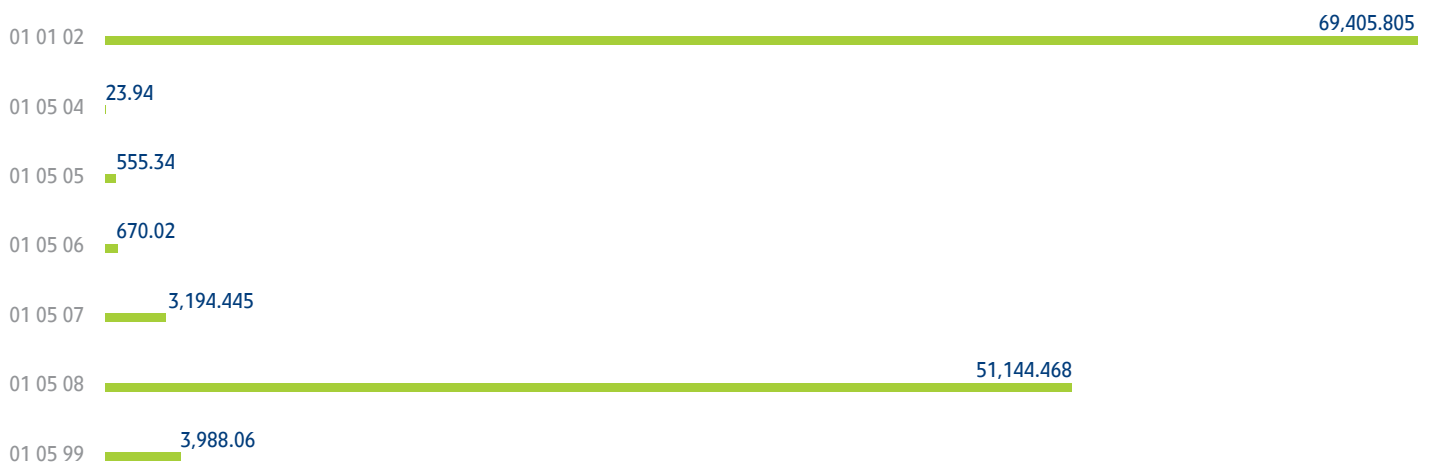
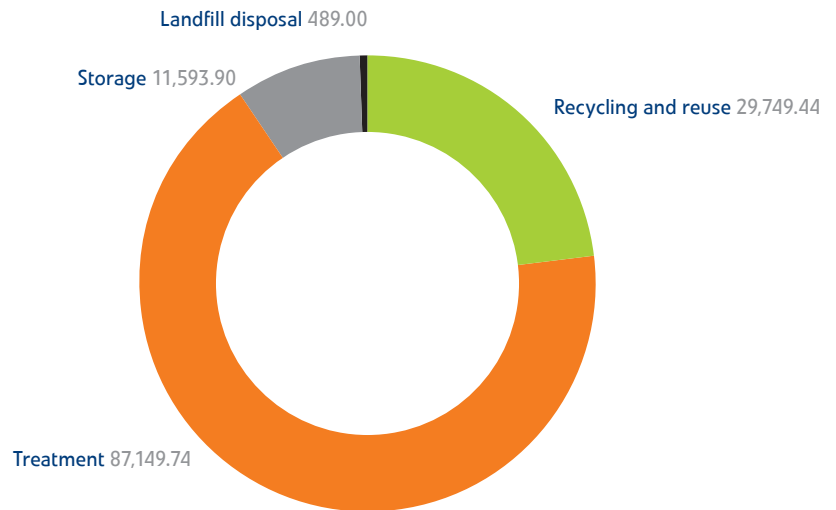




Figure 8 – Drilling waste management methods [Mg]

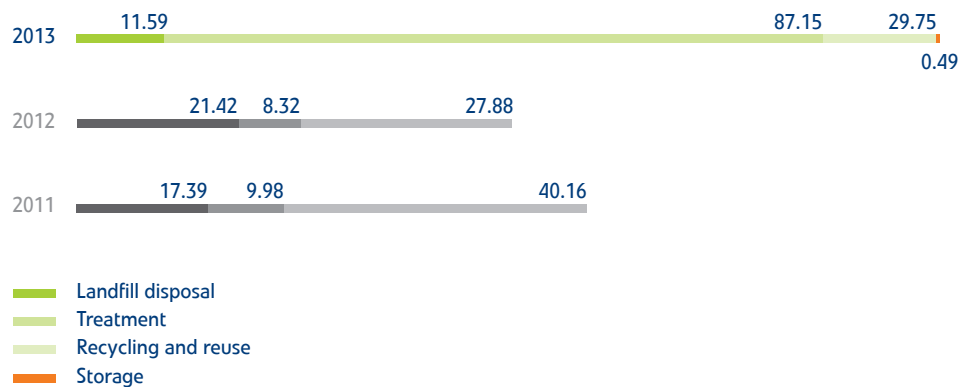


Drilling waste generated during exploration and production work is transferred, through a tender process, to authorised operators holding permits to manage this kind of waste. In 2013, ca. 9% of waste was landfilled, 23% was recycled, while the remaining volumes were transferred for treatment. For landfilling purposes, we used the landfill site in Wronowo, which meets all the applicable legal requirements. It is owned by Exalo Drilling S.A. (formerly: Spółka Poszukiwań Diament of Zielona Góra). The site accepts solid and liquid drilling waste, generated by both Exalo and the other PGNiG exploration companies, as well as the Hydrocarbon Production Branches and the Geology and Hydrocarbon Production Branch. A significant portion of waste intended for treatment was transferred to the treatment facility owned by Exalo (the geological work centre in Tarnogród). The different drilling waste management methods used over the past three years are shown in Figure 9.

Municipal waste

In 2013, the PGNiG Group produced 5,431.19 Mg of class 20 municipal waste (municipal wastes including separately collected fractions), which accounted for 23% of total waste volumes (excluding drilling waste). 76% of class 20 waste was categorised as 20 03 01 (mixed municipal waste). 83% of total municipal waste (4481,33) was disposed of through landfilling.

Figure 9 – Drilling waste management methods in 2011–2013 ('000 Mg)



Other waste

Among all waste generated by the PGNiG Group entities (excluding drilling and municipal waste), a vast portion was class 17 waste (construction and demolition wastes, excluding excavated soil from contaminated sites) (67%), followed by class 05 waste (wastes from petroleum refining, natural gas purification and pyrolytic treatment of coal) (13%), class 16 waste (wastes not otherwise specified in the list) (6%), class 15 waste (waste packaging;

absorbents, wiping cloths, filter materials and protective clothing not otherwise specified) (3%), class 13 waste (oil wastes and wastes of liquid fuels, except edible oils, and those in chapters 05, 12 and 19) (3%), and class 12 waste (wastes from shaping and physical and mechanical surface treatment of metals and plastics) (2%).

7.4.5. Projects with a potentially material impact on the environment and Natura 2000 sites

When undertaking an investment project with a potentially material impact on the environment and Natura 2000 sites, entities of the PGNiG Group act in compliance with relevant regulations and strive to minimise the project's impact on the environment and on protected species and habitats within Natura 2000 sites. If it is required under applicable regulations or by the authority qualified to issue a decision on environmental conditions, before the commencement of a project, a report is prepared assessing its impact on the environment and the Natura 2000 site.

According to submitted information, in 2013:

- 68 decisions on environmental conditions were obtained for projects planned by entities of the PGNiG Group (Geology and Hydrocarbon Production Branch, Polska Spółka Gazownictwa, Termika);
- out of the 68 planned projects, the obligation to undertake an environmental impact assessment (prepare an environmental impact assessment report) was imposed in 12 cases, including 9 projects to be executed within a Natura 2000 site or in its vicinity (up to 1 km);
- out of the 68 planned projects, 29 are located outside the Natura 2000 network, whereas 39 are located within 70 Natura 2000 sites or in their vicinity (up to 1 km).

Table 5 contains a list of Natura 2000 sites within which (or in the vicinity of which) projects covered by environmental decisions obtained in 2013 are located, while Table 6 shows projects located outside Natura 2000 sites covered by environmental decisions obtained in 2013.

Table 5 – Natura 2000 sites within which (or in the vicinity of which – up to 1 km) projects covered by environmental decisions obtained in 2013 are located

No.	Natura 2000 site	Project name	Project number	No.	Natura 2000 site	Project name	Project number
Zielona Góra Geology and Hydrocarbon Production Branch							
1	Bagna Rozwarowskie PLB320001 (Rozwarowo Marshes)	Exploration and appraisal of crude oil and natural gas deposits within the 1/2000/p KAMIEN POMORSKI licence area	8	12	Dolina Mogielnicy PLH300033 (Mogielnica River Valley)	Exploration and appraisal of crude oil and natural gas deposits within the 36/97/p GRODZISK WLELKOPOLSKI-ŚMIGIEL licence area	21
		Exploration and appraisal of crude oil and natural gas deposits within the 28/2008/p KALEŃ licence area	15	13	Dolina Płoni i Jezioro Miedwie PLH320006 (Płoń River Valley and Miedwie Lake)	Exploration and appraisal of crude oil and natural gas deposits within the 3/2012/p SZCZECIN licence area	18
2	Barłóżnia Wolsztyńska PLH3000282	Exploration and appraisal of crude oil and natural gas deposits within the 26/96/p WOLSZTYN-NOWY TOMYŚL licence area	23	14	Dolina Radwi, Chocieli i Chotli PLH320022 (Radew, Chociel and Chotla Rivers Valley)	Production of natural gas from the Białogard field	22
3	Będlewo-Bieczyny PLH300039	Exploration and appraisal of crude oil and natural gas deposits within the 27/2001/p KOŚCIAN-ŚREM licence area	19	15	Dolina Środkowej Odry PLB080004 (Middle Odra River Valley)	Production of crude oil and associated natural gas from the Retno field	11
4	Bory Chrobotkowe koło Brzózki PLH080031 (Cladonio-Pinetum Forests near Brzózka)	Exploration and appraisal of crude oil and natural gas deposits within the 25/99/p GUBIN-KROSNO ODRZAŃSKIE licence area	13			Exploration and appraisal of crude oil and natural gas deposits within the 26/99/p CHARTÓW-OŚNO LUBUSKIE licence area	12
5	Bory Chrobotkowe koło Bytomca PLH080048 (Cladonio-Pinetum Forests near Bytomiec)	Exploration and appraisal of crude oil and natural gas deposits within the 25/99/p GUBIN-KROSNO ODRZAŃSKIE licence area	13			Exploration and appraisal of crude oil and natural gas deposits within the 25/99/p GUBIN-KROSNO ODRZAŃSKIE licence area	13
6	Brzeźnicka Węgorza PLH320002 (Brzeźnicka Węgorza River)	Exploration and appraisal of crude oil and natural gas deposits within the 21/2000/p ŁOBEZ licence area	5	16	Dolina Środkowej Warty PLB300002 (Middle Warta River Valley)	Development of the Komorze gas field	7
7	Dąbrowy Gubińskie PLH080069 (Gubin Oak Forests)	Exploration and appraisal of crude oil and natural gas deposits within the 25/99/p GUBIN-KROSNO ODRZAŃSKIE licence area	13	17	Dorzecze Parsęty PLH320007 (Parsęta River Basin)	Development and production of natural gas from the Daszewo-31k well, along with upgrade of the Daszewo Gas Collection Facility	1
8	Dąbrowy Krotoszyńskie PLB300007 (Krotoszyn Oak Forests)	Exploration and appraisal of crude oil and natural gas deposits within the 9/2008/p CZATKOWICE licence area	20	18	Dorzecze Regi PLB320049 (Rega River Basin)	Exploration and appraisal of crude oil and natural gas deposits within the 12/99/p GRYFICE licence area	2
9	Dolina Ilanki PLH080009 (Ilanka River Valley)	Exploration and appraisal of crude oil and natural gas deposits within the 26/99/p CHARTÓW-OŚNO LUBUSKIE licence area	12			Exploration and appraisal of crude oil and natural gas deposits within the 21/2000/p ŁOBEZ licence area	5
10	Dolina Iny koło Recza PLH320004 (Ina River Valley near Rzecze)	Exploration and appraisal of crude oil and natural gas deposits within the 60/20111p STARGARD SZCZECIŃSKI licence area	17			Exploration and appraisal of crude oil and natural gas deposits within the 20/2000/p NOWOGARD licence area	9
11	Dolina Krąpieli PLH320005 (Krąpiel River Valley)	Exploration and appraisal of crude oil and natural gas deposits within the 60/20111p STARGARD SZCZECIŃSKI licence area	17	19	Jeziora Czaplineckie PLH320039 (Czaplinek Lakes)	Exploration and appraisal of crude oil and natural gas deposits within the 21/2000/p ŁOBEZ licence area	5



No.	Natura 2000 site	Project name	Project number	No.	Natura 2000 site	Project name	Project number
20	Jeziora Pszczewskie i Dolina Obrzy PLB080005 (Pszczew Lakes and Obrza River Valley)	Exploration and appraisal of crude oil and natural gas deposits within the 65/98/p MIĘDZYRZECZ licence area	3	36	Ostoja Witnicko-Dębnińska PLB320015 (Witnica-Dębno Refugium)	Exploration and appraisal of crude oil and natural gas deposits within the 26/99/p CHARTÓW-OŚNO LUBUSKIE licence area	12
		Exploration and appraisal of crude oil and natural gas deposits within the 26/96/p WOLSZTYN-NOWY TOMYŚL licence area	23			Development and production of crude oil and associated natural gas from the Gajewo field	14
21	Jeziora Wełtyńskie PLB320018 (Wełtyń Lakes)	Exploration and appraisal of crude oil and natural gas deposits within the 3/2012/p SZCZECIN licence area	18	37	Ostoja Zgierzyniecka PLH300007 (Zgierzynka Refugium)	Exploration and appraisal of crude oil and natural gas deposits within the 10/99/p WRONKI licence area	6
22	Jezioro Kubek PLH300006 (Kubek Lake)	Exploration and appraisal of crude oil and natural gas deposits within the 10/99/p WRONKI licence area	6	38	Pojezierze Ińskie PLH320067 (Ina Lake District)	Exploration and appraisal of crude oil and natural gas deposits within the 60/2011/p STARGARD SZCZECIŃSKI licence area	17
23	Jezioro Zgierzynieckie PLB300009 (Zgierzynka Lake)	Exploration and appraisal of crude oil and natural gas deposits within the 10/99/p WRONKI licence area	6	39	Pojezierze Sławskie PLB300011 (Sława Lake District)	Exploration and appraisal of crude oil and natural gas deposits within the 36/97/p GRODZISK WLELKOPOLSKI-ŚMIGIEL licence area	21
24	Karsibór Świdwiński PLH320043	Exploration and appraisal of crude oil and natural gas deposits within the 21/2000/p ŁOBEZ licence area	5			Exploration and appraisal of crude oil and natural gas deposits within the 26/96/p WOLSZTYN-NOWY TOMYŚL licence area	23
25	Kopanki PLH300008	Exploration and appraisal of crude oil and natural gas deposits within the 36/97/p GRODZISK WLELKOPOLSKI-ŚMIGIEL licence area	21	40	Puszcza Goleniowska PLB320012 (Goleniów Forest)	Exploration and appraisal of crude oil and natural gas deposits within the 28/2008/p KALEŃ licence area	15
26	Łęgi Słubickie PLH080013 (Słubice Floodplain Forests)	Exploration and appraisal of crude oil and natural gas deposits within the 26/99/p CHARTÓW-OŚNO LUBUSKIE licence area	12	41	Puszcza Notecka PLB300015 (Noteć Forest)	Exploration and appraisal of crude oil and natural gas deposits within the 65/98/p MIĘDZYRZECZ licence area	3
27	Łąki Skoszewskie PLB320007 (Skoszewo Meadows)	Exploration and appraisal of crude oil and natural gas deposits within the 1/2000/p KAMIEŃ POMORSKI licence area	8			Exploration and appraisal of crude oil and natural gas deposits within the 10/99/p WRONKI licence area	6
28	Ostoja Drawska PLB320019 (Drawsko Refugium)	Exploration and appraisal of crude oil and natural gas deposits within the 21/2000/p ŁOBEZ licence area	5	42	Rogalińska Dolina Warty PLH300012 (Rogalin Warta River Valley)	Exploration and appraisal of crude oil and natural gas deposits within the 27/2001/p KOŚCIAN-ŚREM licence area	19
29	Ostoja Golczewska PLH320052 (Golczewo Refugium)	Exploration and appraisal of crude oil and natural gas deposits within the 12/99/p GRYFICE licence area	2	43	Ryńska Jezior Obrzańskich PLH080002 (Obrza Ribbon Lakes), name changed from Jeziora Pszczewskie i Dolina Odry in 2013	Exploration and appraisal of crude oil and natural gas deposits within the 65/98/p MIĘDZYRZECZ licence area	3
		Exploration and appraisal of crude oil and natural gas deposits within the 1/2000/p KAMIEŃ POMORSKI licence area	8			Exploration and appraisal of crude oil and natural gas deposits within the 26/96/p WOLSZTYN-NOWY TOMYŚL licence area	23
30	Ostoja Goleniowska PLH320013 (Goleniów Refugium)	Exploration and appraisal of crude oil and natural gas deposits within the 1/2000/p KAMIEŃ POMORSKI licence area	8	44	Sieraków PLH300013	Exploration and appraisal of crude oil and natural gas deposits within the 10/99/p WRONKI licence area	6
		Exploration and appraisal of crude oil and natural gas deposits within the 20/2000/p NOWOGARD licence area	9	45	Torfowiska Sułowskie PLH080029 (Sułów Peatland)	Exploration and appraisal of crude oil and natural gas deposits within the 26/99/p CHARTÓW-OŚNO LUBUSKIE licence area	12
31	Ostoja Ińska PLB320008 (Ina Refugium)	Exploration and appraisal of crude oil and natural gas deposits within the 21/2000/p ŁOBEZ licence area	5	46	Torfowisko Reptowo PLH320056 (Reptowo Peatland)	Exploration and appraisal of crude oil and natural gas deposits within the 3/2012/p SZCZECIN licence area	18
		Exploration and appraisal of crude oil and natural gas deposits within the 20/2000/p NOWOGARD licence area	9	47	Ujście Odry i Zalew Szczeciński PLH320018 (Odra Estuary and Szczecin Lagoon)	Exploration and appraisal of crude oil and natural gas deposits within the 28/2008/p KALEŃ licence area	15
		Exploration and appraisal of crude oil and natural gas deposits within the 60/2011/p STARGARD SZCZECIŃSKI licence area	17	48	Ujście Warty PLC080001 (Warta Estuary)	Development and production of crude oil and associated natural gas from the Kamień Mały field, in connection with the application for a licence to produce those hydrocarbons, as well as a permit to construct the Kamień Mały Production Facility, wellsite facilities and pipelines connecting the wells with the Kamień Mały Production Facility, and the Kamień Mały Production Facility with the Górzycza gas collection facility, and to extend the Górzycza gas collection facility	4
32	Ostoja Międzychodzko-Sierakowska PLH300032 (Międzychód-Sieraków Refugium)	Exploration and appraisal of crude oil and natural gas deposits within the 65/98/p MIĘDZYRZECZ licence area	3			Production of crude oil and associated natural gas from the Jeniniec field	10
		Exploration and appraisal of crude oil and natural gas deposits within the 10/99/p WRONKI licence area	6			Exploration and appraisal of crude oil and natural gas deposits within the 26/99/p CHARTÓW-OŚNO LUBUSKIE licence area	12
33	Ostoja nad Baryczą PLH020041 (Barycz River Refugium)	Exploration and appraisal of crude oil and natural gas deposits within the 9/2008/p CZATKOWICE licence area	20				
34	Ostoja Nadwarciańska PLB300009 (Warta River Refugium)	Development of the Komorze gas field	7				
35	Ostoja Rogalińska PLB300017 (Rogalin Refugium)	Exploration and appraisal of crude oil and natural gas deposits within the 27/2001/p KOŚCIAN-ŚREM licence area	19				

No.	Natura 2000 site	Project name	Project number	No.	Natura 2000 site	Project name	Project number
49	Uroczyska Płyty Krotoszyńskiej PLH300002, name changed from Dąbrowy Krotoszyńskie in 2013	Exploration and appraisal of crude oil and natural gas deposits within the 9/2008/p CZATKOWICE licence area	20	61	Ostoja Czarnorzeka PLH180027 (Czarnorzeki Refugium)	Extension of the formation water reinjection facility of the Węglówka Production Site	10
50	Wielki Łęg Obrzański PLB300004 (Great Obra Floodplain Forest)	Development of the Brońsko-21, Brońsko-22, Brońsko-23, Brońsko-24, Brońsko-25 and Kościan-31 wells, along with upgrade of the Central Facility of the Kościan-Brońsko Gas Production Site	16	62	Ostoja Przemyska PLH180012 (Przemysł Refugium)	Upgrade of the Przemysł 198 well at the Tuligłowy Gas Production Site	4
		Exploration and appraisal of crude oil and natural gas deposits within the 27/2001/p KOŚCIAN-ŚREM licence area	19			Amendment of the natural gas production licence for the Przemysł field extending the scope of the licence to include reinjection of produced formation water into the rock mass and reducing the mining area and mining site	8
		Exploration and appraisal of crude oil and natural gas deposits within the 36/97/p GRODZISK WIELKOPOLSKI-ŚMIGIEL licence area	21	63	Pogórze Przemyskie PLB180001 (Przemysł Foothills)	Upgrade of the Przemysł 198 well at the Tuligłowy Gas Production Site	4
		Exploration and appraisal of crude oil and natural gas deposits within the 26/96/p WOLSZTYN-NOWY TOMYŚL licence area	23			Amendment of the natural gas production licence for the Przemysł field extending the scope of the licence to include reinjection of produced formation water into the rock mass and reducing the mining area and mining site	8
51	Wolin i Uznam PLH320019	Exploration and appraisal of crude oil and natural gas deposits within the 28/2008/p KALEŃ licence area	15	64	Rzeka San PLH 180007 (San River)	Amendment of the natural gas production licence for the Przemysł field extending the scope of the licence to include reinjection of produced formation water into the rock mass and reducing the mining area and mining site	8
52	Wybrzeże Trzebiatowskie PLB320010 (Trzebiatów Coastline)	Exploration and appraisal of crude oil and natural gas deposits within the 28/2008/p KALEŃ licence area	15	65	Wisłoka z Dopływami PLH180052 (Wisłoka River with Tributaries)	Installation of a gas compressor by the R-40 well at the Roztoki Oil and Gas Production Site	3
53	Wzgórze Bukowe PLH320020 (Bukowe Hills)	Exploration and appraisal of crude oil and natural gas deposits within the 3/2012/p SZCZECIN licence area	18	66	Wisłok Środkowy z Dopływami PLH180030 (Middle Wisłok River with Tributaries)	Amendment of licence No. 51/92 to produce crude oil and associated natural gas from the Krościenko field	5
54	Zalew Szczeciński PLB320009 (Szczecin Lagoon)	Exploration and appraisal of crude oil and natural gas deposits within the 28/2008/p KALEŃ licence area	15	Warsaw Geology and Hydrocarbon Production Branch			
55	Zamorze Pniewskie PLH300036	Exploration and appraisal of crude oil and natural gas deposits within the 10/99/p WRONKI licence area	6	67	Bieńkowo PLH280009	Exploration and appraisal of crude oil and natural gas deposits within the 47/2001/p Górowo Iławeckie licence area	1
56	Zbiornik Wonieść PLB300005 (Wonieść Reservoir)	Development of the Brońsko-21, Brońsko-22, Brońsko-23, Brońsko-24, Brońsko-25 and Kościan-31 wells, along with upgrade of the Central Facility of the Kościan-Brońsko Gas Production Site	16	68	Ostoja Warmińska PLB280015 (Warmia Refugium)	Exploration and appraisal of crude oil and natural gas deposits within the 47/2001/p Górowo Iławeckie licence area	1
		Exploration and appraisal of crude oil and natural gas deposits within the 27/2001/p KOŚCIAN-ŚREM licence area	19	Polska Spółka Gazownictwa			
Sanok Geology and Hydrocarbon Production Branch				69	Uroczyska Lasów Starachowickich PLH260038 (Starachowice Forest Preserve)	Reconstruction of the DN400 PN 6.3 MPa; MOP 6.0 MPa Lubień-Parszów high-pressure gas pipeline with auxiliary infrastructure	1
57	Dolina Wisłoka z Dopływami PLH18003 (Wisłok River Valley with Tributaries)	Obtaining a natural gas production licence for the Podole field	2	Termika S.A.			
		Construction of the DN 80 PN 6.3 MPa high-pressure gas pipeline; Development of the Blizna 5 and 11 wells – Czarna Sędziszowska Gas Production Site	7	70	Dolina Środkowej Wisły PLB140004 (Middle Wisła River Valley)	Replacement of electrostatic precipitators with bag filters on fluidised bed boilers and switch-over of flue gas stream from the OFz450B boiler to chimney 3 at the Żerań CHP plant	1
58	Fort Salis Soglio PLH180008	Amendment of the natural gas production licence for the Przemysł field extending the scope of the licence to include reinjection of produced formation water into the rock mass and reducing the mining area and mining site	8			Conversion of the K-2 coal-fired boiler at the Siekierki CHP Plant to biomass combustion	2
59	Łukawiec PLH180024	Reconstruction of the gas pipelines of the Lubaczów Gas Production Site	6			Construction of a high-pressure gas pipeline from the Żerań CHP plant to the Rembelszczyzna Gas Compressor Station, with auxiliary infrastructure	3
60	Nad Husowem PLH180025	Obtaining a natural gas production licence for the Siedlecza field, obtaining a natural gas production licence for the Białobłoki field, development of the Siedlecza 2 and Białobłoki 1 wells – Husów Gas Production Site	1			Construction of a wet flue gas desulfurization unit and SCR system for the K1 and K2 boilers at the Siekierki CHP plant	4
		Development of the Siedlecza 2 and Białobłoki 1 wells at the Krasne Gas Production Site, hook-up of the Siedlecza 3 well at the Krasne Gas Production Site	9				



Table 6 – Projects located outside the Natura 2000 network, covered by environmental decisions obtained in 2013

No.	Project name
Zielona Góra Geology and Hydrocarbon Production Branch	
1	Reconstruction of the power supply system of the Nowy Tomyśl gas station at the site of Paproć Gas Production Facility, and reconstruction of gas network at the Grodzisk Gas Collection Facility
2	Reconstruction and relocation of the Kotowo-Granowo high-pressure reduction and metering station
3	Development of the Lisewo-2k well
4	Development of the Wilków-51k well
5	Production of crude oil and associated natural gas from the Buk field
6	Construction of the water-injection system for the BMB (Barnówko-Mostno-Buszewo) field
7	Production of crude oil and associated natural gas from the Kije field
Sanok Geology and Hydrocarbon Production Branch	
1	Connection of the Pogwizdów 3 well to the medium-pressure network – Krasne Gas Production Facility
2	Development of the Tryńcza 1 well at the Żołynia Gas Production Facility; obtaining a licence to produce gas from the Tryńcza field
3	Extension of the scope of licence No. 68/92 to include operations involving reinjection of produced formation water into the reservoir in the Kryg-Libusza-Lipinki field
4	Hook-up of the Lubliniec-12 well – Lubaczów Gas Production Facility
5	Reconstruction of the gas pipeline section between the Nieznanowice Gas Processing Facility and the Łąka Gas Production Facility
6	Obtaining a natural gas production licence for the Draganowa field
7	Conversion of licence No. 9/2004 into a natural gas production licence for the Terliczka field
8	Obtaining a licence to produce crude oil and associated natural gas from the Glinnik field
9	Extension of the scope of licence No. 63/92 to include operations involving reinjection of produced formation water into the reservoir in the Osobnica field
10	Reconstruction of part of the equipment installed at the crude oil storage and treatment facilities on the P-23, P-24, P-26, P-41, and P-313 wells (Pławowice Crude Oil Production Facility)
11	Extension of the scope of licence No. 55/92 to include operations involving reinjection of produced formation water into the reservoir in the Jaszczew field
12	Development of the Przemyśl-284H well (Żurawica Gas Production Facility)
13	Recompletion of the Roztoki 42 well from self-flowing to pumping well (Roztoki Production Facility)
Polska Spółka Gazownictwa	
1	Construction of an LNG regasification facility with a pressure reduction and metering station and auxiliary infrastructure; construction of a medium-pressure gas station; construction of a medium-pressure gas network in the Suwałki Municipality
2	Reconstruction of the section of the Szobiszowice-Szopienice Dn80 CN 1.6 MPa pipeline in Ruda Śląska branching off to the Grochowska pressure reduction and metering station
3	Construction of a gas pressure reduction and metering station with a flow rate of 250 m ³ /h
4	Construction of a gas pressure reduction station with a flow rate of 25,000 m ³ /h on the site of an existing gas station, with gas pipeline sections linking the existing high-pressure and medium-pressure gas network
5	Construction of a DN500/DN100 PN63 angle-pattern block-and-bleed system, a DN100 PN63 gas pipeline and a gas station under the project 'Connection of GSG Sp. z o.o.'s distribution network in the Blachownia district of Kędzierzyn-Koźle to the transmission network'
6	Construction of a DN200 MOP 8.4 MPa high-pressure gas pipeline linking the metering station in the village of Godzikowice with the planned Oława-Strzelin high-pressure gas pipeline
7	Construction of a section of the DN500 CN 1.6 MPa Szobiszowice-Szopienice gas pipeline between ul. Radoszowska in Ruda Śląska and the branch line to the ProLogis Poland pressure reduction and metering station in Chorzów
8	Reconstruction of a DN 400 CN 1.6 MPa Szobiszowice-Ząbkowice gas pipeline section near the Zalew Przeczycko-Siewierski lake and Kuźnica Świętojańska
9	Construction of a building: a gas pressure reduction and metering station with a flow rate of 5,000 Nm ³ /h, along with process systems installed in a shelter, an inlet and outlet block-and-bleed system, fencing, lighting and an internal electricity supply and earthing system; construction of a pipeline project: the station's entry and exit lines, and road access (exit roads); construction of traffic routes on a property located in Białystok

7.4.6. Pro-environmental projects

Various environmental projects are also implemented in connection with the operations of individual Group companies, many of which have contributed over the years to reduced atmospheric emissions, improved safety of land, soil and groundwater, and reduced amount of generated waste. They include projects to replace old pipelines, purchase advanced drilling equipment, feed gas into pipelines in an emission-free way, purchase mobile double-shell fuel storage tanks, etc.

As regards investment and repair work, the following projects are worthy of note:

- purchase and installation of double-shell storage tanks, water and drilling mud tanks, decanter, vibrating screens, oil containers, waste tanks, and hydrophobized sorbents,
- construction of a car wash and drilling equipment repair stations,
- construction of water injection facilities, conversion of wells into water and waste injection wells, installation of noise dampers, construction of sanitary wastewater service lines, and conversion of loading equipment,
- purchase of sorbents and neutralising agents,
- construction and upgrade of gas-fired boiler houses and co-generation systems to reduce emissions from power-generation sources, repairs of metering and gas odouring systems, thermal insulation of buildings, repairs of sewage and drainage systems,
- replacement of cast-iron pipelines with PE pipelines, upgrades and repairs of pressure reduction and metering stations,
- construction of wastewater treatment facilities, exchangers and a nitrogen rejection plant, modernisation of deep drainage systems and upgrades of start-up and low-emission burners, repairs of water supply and water decarbonisation systems.



In 2012, the focus of pro-environmental work was on counteracting air pollution, with the highest capex incurred by Polska Spółka Gazownictwa. The funds were spent on construction of new and replacement of existing cast-iron pipelines with PE pipelines to reduce atmospheric emissions of methane, roll-out of the gas supply system in off-gas areas (which will contribute to reducing emissions from coal-fired boilers and furnaces), purchase of EURO 6-compliant cars, construction of rainwater and meltwater drainage and pre-treatment systems, and reconstruction of pressure reduction and metering stations.

The second largest capex on air, soil and underground water protection, including water injection facilities and storage tanks for produced water and loading equipment, was incurred by the Hydrocarbon Production Branches.

Exalo made investments in wastewater management and water protection, waste management, as well as soil and underground water protection. The funds were spent to purchase hydrophobized polypropylene sorbents, drilling mud cleanup systems, double-shell fuel storage tanks, and a rainwater storage reservoir at the production waste disposal facility.

The aggregate amount of **capital expenditure** incurred by the PGNiG Group companies in 2013 was in excess of PLN 62m (Table 7).

Table 7 – Capital expenditure and costs of pro-environmental projects in 2013 by type of project

Type of project	Pro-environmental capex projects		
	[PLN]	Pro-environmental upgrades [PLN]	Pro-environmental repairs [PLN]
Air and climate protection	61,808,021.63	53,870,347.42	5,669,068.03
Wastewater management and water protection	518,905.00	1,681,320.30	100,975.91
Waste management	149,895.50	0.00	15,900.22
Soil and groundwater protection	48,600.00	1,167,691.00	1,444,567.61
Reducing noise and vibration	134,300.00	0.00	14,637.00
Biodiversity and landscape protection	0.00	0.00	48,093.00
Protection against ionising radiation	32,000.00	0.00	0.00
Research and development	0.00	0.00	0.00
Other pro-environmental activities	48,600.00	76,700.00	0.00
Total	62,740,322.13	56,796,058.72	7,293,241.77

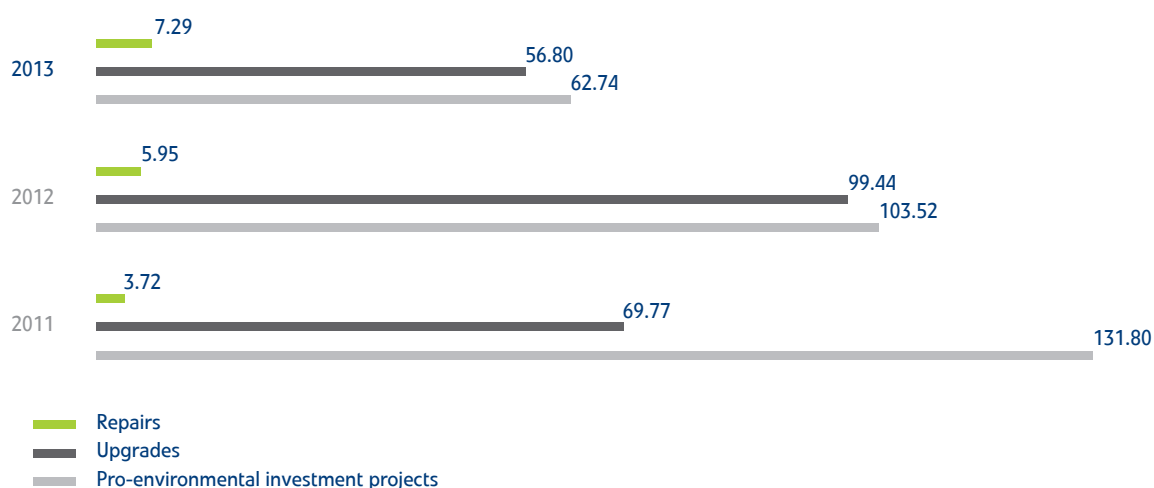
Table 8 – Capital expenditure and costs of pro-environmental projects at PGNiG Group in 2013

PGNiG entity	Pro-environmental		
	capex projects	upgrades	repairs
Company Head Office and Central Measurement and Testing Laboratory Branch	0.00	0.00	0.00
Geology and Hydrocarbon Production Branch	0.00	0.00	0.00
Hydrocarbon production	271,800.00	2,455,041.00	1,438,867.61
Mogilno Underground Gas Storage Cavern Facility	0	0	0
Trading Divisions	26,568.00	508,750.00	62,730.00
Polska Spółka Gazownictwa	62,310,754.13	53,823,722.72	5,566,744.16
Geophysical subsidiaries	131,200.00	0	27,700.00
Exalo	0	8,545.00	197,200.00
Storage system operator	0.00	0.00	0.00
PGNiG Technologie	0	0	0
Total	62,740,322.13	56,796,058.72	7,293,241.77

Upgrade work in 2013 focused on air pollution mitigation, wastewater management and water protection, as well as waste management. Work undertaken by Polska Spółka Gazownictwa included boiler house reconstruction, replacement of central heating boilers, upgrade of pressure reduction stations, and reconstruction of gas pipeline network and service lines. Work undertaken by Hydrocarbon Production Branches included replacement of storage tanks for produced water, reconstruction of a produced water injection station and loading facilities, as well as upgrade of infrastructure and facilities at production sites. The aggregate costs of upgrades incurred by the PGNiG Group companies in 2013 were in excess of PLN 58m (Table 7).

The total **cost of repair work** incurred by all entities of the PGNiG Group in 2013 amounted to over PLN 7.3m. The amount was spent mainly on repairs of boiler houses, gas network, improvement in thermal insulation of buildings, removal of roof coverings, parking lot surfaces, production site pipelines, spillage bunds, including in tanks used for storing process water, etc. (Table 7).

Looking at the period 2011–2013, the amount of pro-environmental expenditure on new investment projects, upgrades and repairs was down relative to 2012 and the preceding years. However, the significant annual budget of pro-environmental capex allows us to constantly mitigate the PGNiG Group's adverse environmental impact (Figure 10).

Figure 10 – Pro-environmental capex on new investment projects and upgrades, and cost of repair work in 2011–2013 (PLNm)

8. Supplementary information



8.1. Indicators

PGNiG's 'Responsible Energy 2013' report was prepared primarily on the basis of the reporting indicators of the Global Reporting Initiative, which is an independent stakeholder network with a mission to develop and popularise unified guidelines for economic, environmental, and social performance reporting worldwide. This enables objective comparisons of CSR activities pursued by various companies. Besides principles and guidance, the GRI guidelines contain a system of indicators that companies may opt-in to include in their reporting.



8.2. Glossary of CSR terms

Community action

short-term social initiatives carried out on a one-off or regular basis to help a given group or person. An example of a one-off community action is the 'Krewniacy' initiative, which promotes donation of blood for patients in need of transfusions.

Employee Opinion Survey

a tool for investigating the level of job satisfaction among the employees of a given company. The results give an insight on the most satisfying aspects of their jobs, and reveal potential problems and areas of conflict that may negatively affect their attitude and commitment. This information can help the company to better adjust its employee policies to the needs and expectations of its workforce.

Declaration on Sustainable Development of Polish Business

(previously: Declaration on Sustainable Development in the Polish Energy Sector)

a declaration initially signed on June 17th 2009, containing statements by its signatories that they understand and are willing to implement the principles of sustainable development in their policies. The following largest companies in the Polish energy sector subscribed to the initiative: EDF Polska, Enea, GAZ-SYSTEM, GDF SUEZ Energia Polska, Tauron, Vattenfall Poland, and PGNiG, the initiator of the project. On June 17th 2010, the Declaration was signed by three more companies – Fortum Power and Heat Polska, Grupa Lotos and Polskie Sieci Elektroenergetyczne Operator. Later, the project was also joined by Dalkia Polska and PKN Orlen. During a conference on June 14th 2011, the Declaration was then signed by Dolnośląska Spółka Gazownictwa (currently: Dolnośląski Oddział

Polskiej Spółki Gazownictwa), Górnośląska Spółka Gazownictwa (currently: Górnośląski Oddział Polskiej Spółki Gazownictwa), Karpacka Spółka Gazownictwa (currently: Karpacki Oddział Polskiej Spółki Gazownictwa), Mazowiecka Spółka Gazownictwa (currently: Mazowiecki Oddział Polskiej Spółki Gazownictwa), Pomorska Spółka Gazownictwa (currently: Pomorski Oddział Polskiej Spółki Gazownictwa), Wielkopolska Spółka Gazownictwa (currently: Wielkopolski Oddział Polskiej Spółki Gazownictwa), PKP Energetyka, and Energa S.A. In 2012, the Declaration was signed by Talisman Energy Polska, Aurelian Oil & Gas Poland, and Strzelecki Energia Sp. z o.o. In 2013, Gaspol S.A. and Lafarge joined the signatories. Therefore, the group of signatories included companies from outside the industry, which resulted in the change of the Declaration's name.

Social dialogue

exchange of information between parties, most frequently related to common problems and social issues. Parties participating in social dialogue may include both public and private entities, entrepreneurs and non-governmental organisations. The success of such dialogue is chiefly determined by good cooperation and the reliability of the information.

Dialogue with stakeholders in accordance with AccountAbility's AA1000 standards

the international AccountAbility AA1000 standards are a useful tool in developing and managing stakeholder relations. The standards help companies build their relations with stakeholders on trust and open dialogue, thus contributing to the creation of social capital. They focus on stakeholder relations and provide support for their management. The series comprises the following standards:

- AccountAbility Principles Standard – AA1000APS,
- AccountAbility Assurance Standard – AA1000AS,
- AccountAbility Stakeholder Engagement Standard – AA1000SES.

Philanthropy

charitable activities which demonstrate care for the common good, carried out by persons, organisations or companies to benefit people in need. Such activities mainly involve providing financial or material support, and in modern societies are chiefly carried out through foundations and associations.

Responsible Business Forum

a non-governmental organisation whose mission is to promote the principles of responsible business as a standard applicable in Poland, with the aim of increasing the competitiveness of companies, enhancing social satisfaction with them, and improving the condition of the natural environment. The Responsible Business Forum includes a number of Polish companies, among them PGNiG.

Global Compact

initiative of the former UN Secretary General Kofi Annan to introduce a new framework for businesses by supporting, among other things, respect for human rights, the application of labour standards, and business activities conducted in harmony with the environment. The Global Compact is supported by various NGOs and more than 1,000 companies from around the world, including Pomorska Spółka Gazownictwa and PGNiG S.A.

The 'Grasz o staż' initiative

longest running internship competition in Poland. Launched in 1996 and organised by the Gazeta Wyborcza daily and PricewaterhouseCoopers. Each year, the winners are awarded paid internships and other prizes (such as post-graduate studies or training programmes, books and materials, etc.) funded by the participating companies and NGOs.

HSE

(Health, Safety, Environment) – rules of conduct for health and safety at work and environmental protection, as defined by international regulations.

Stakeholder

any entity with an interest in a company's operations. These may include third parties, such as individuals, communities, institutions, organisations or public authorities, and related entities, such as company employees or shareholders.

SRI (Socially Responsible Investing)

an approach to business operations which treats the company's benefit and society's well being on equal terms. Socially responsible investors favour those companies which comply with or promote the principles of sustainable development, environmental protection, human rights protection and consumer protection.

Social campaigns

aimed at changing or preventing a certain attitude or behaviour by a given group of people. Social campaigns are carried out using mass media (traditional media, unconventional methods) and are supported by numerous entities. These include companies, social organisations and public authorities, whose assistance to the initiators of the campaign may take different forms, be it financial, material or in the form of services. A company's involvement in a social campaign strengthens its image by presenting it as an entity with an active interest in its environment, and is an opportunity for it to build stronger relationships, both between its employees and between itself and particular groups.



Company Code of Values/Ethics

the code of values adopted by a company, defining its organisational culture. A common code of values promotes higher awareness of unwritten principles and company rules among employees, allowing them to build a closer relationship with their company and the other employees.

Value chain

defined activities performed by specific companies which form a common value system. A value chain clearly demonstrates mutual dependencies between companies and the process of adding value to a product.

Cause-related marketing

intermediate form of marketing between commercial and social marketing that involves supporting a social cause while strengthening the image of the company. The implementation of cause-related marketing very often involves three parties: the company, social organisations and consumers.

Social programme

planned activities aimed at providing a solution to, or preventing a specific social problem; may be implemented independently or as a joint effort by public institutions, businesses and social organisations.

CSR report

company's comprehensive report on its implementation of sustainable development and corporate social responsibility strategy. It focuses on economic, social and environmental aspects of the company's operations.

CSR (Corporate Social Responsibility)

a business strategy based on the assumption that a company should voluntarily take the public interest into consideration in its pursuit of economic objectives. CSR promotes the observance of ethical principles, employee rights, human rights, as well as a respect for the social and natural environment in which a company operates and makes its decisions. It is generally accepted that a company's policy should provide not only for achievement of economic objectives, but also implementation of corporate social responsibility principles.

Local community

people living in a specific area and bound by social relationships, common traditions and culture. A local community can define a locality, commune, housing estate, town or city district.

Sponsorship

a mutual agreement between two parties: a sponsor and a sponsoree, in which the sponsor provides the sponsoree with financial or material resources or services in exchange for promotional activity. Sponsorship involves planned and intended activities designed to impute a positive image to the sponsoring company.

Organisational structure

relationships between different positions within a company, also applicable to its subordinate organisations and associations. The purpose of organisational structure is to clearly define the division of duties and hierarchy of powers. A strong organisational structure facilitates efficient management of the company.

Employee volunteer programmes

the involvement of company employees in voluntary work for the benefit of social organisations. Employees volunteer their time and expertise to carry out various types of activities for people in need, often also improving their skills in other areas. Depending on the policy adopted, the company supports voluntary work by its employees by allowing them to do so during working hours, or by providing material, logistic or financial assistance.

Sustainable development

a development strategy wherein political, economic and social activity is conducted in such a way as to avoid or limit its impact on the natural environment. The aim of sustainable development is to ensure that natural resources are used in a way which allows future generations to also utilise them. The concept of sustainable development is included in the Environmental Protection Law – Dz.U. of 2001, No. 62, item 627, Art. 3.50.

8.3. Glossary of industry terms

Biogas plant

a plant which ferments substrates, such as energy crops, livestock waste, distillery waste, and methane from landfill sites, into biogas. The resulting fuel can be combusted on-site by small cogeneration units (0.5–2 MW).

CCS (Carbon Capture and Storage)

a process of capturing carbon dioxide from flue gasses to reduce its emission into the atmosphere, thus mitigating its negative impact on the environment. Because of the limited use for captured carbon dioxide, one important issue related to the process is the compression of CO₂ and its storage in underground caverns that used to hold hydrocarbon deposits.

CNG (Compressed Natural Gas)

natural gas compressed at a pressure of 20–25 MPa and used as vehicle fuel for spark ignition and compression ignition engines.

Distribution

transport of gaseous fuels to customers via distribution networks.

Exploration and Production, ERP

one of PGNiG's operating segments. The companies operating in this segment are engaged in exploration, geophysical and geological work, as well as production of natural gas and crude oil.

Shale gas

gas from shale formations. The United States is the largest shale gas producer in the world. In Poland, there has been a surge in interest in shale gas, which – according to estimates – lies here at depths ranging from 500 metres to 4 kilometres, in a diagonal belt stretching from central Pomerania to the Lublin region, and within the foreland of the Sudety Mountains.

Natural gas

a natural mixture of paraffin hydrocarbons, primarily consisting of methane (up to 98% in high-methane gas). Natural gas is often found in the form of deposits in the Earth's crust.

Direct gas pipeline

a gas pipeline used for the transmission of gas fuel directly to customer installations, bypassing the main gas distribution network.

PGNiG Group

the Polskie Górnictwo Naftowe i Gazownictwo Group.

LNG (Liquefied Natural Gas)

natural gas in a liquid state, with a temperature of -163°C. During the liquefaction process the gas is cooled to -163°C, which also reduces its volume 630 times.

LLDP

Local Land Development Plan.

OGP GAZ-SYSTEM

the abbreviated name of Operator Gazociągów Przesyłowych GAZ-SYSTEM S.A. The company was established on April 16th 2004 under the name PGNiG Przesył Sp. z o.o. as a wholly-owned subsidiary of PGNiG. On April 28th 2005, 100% of its shares were acquired by the State Treasury. Currently, OG PGAZ-SYSTEM operates as a gas transmission system operator under a licence issued by the Polish Energy Regulatory Office.

Transmission System Operator (TSO)

an energy company involved in the transmission of gas fuels, responsible for network traffic in the gas transmission system, the ongoing and long-term security of the system's operation, as well as the operation, maintenance, repair and necessary extension of the transmission network, including the interconnectors with other gas systems.

Underground Gas Storage Facility

the PGNiG Group is the exclusive owner of the underground gas storage facilities in Poland. These are six high-methane gas storage facilities, five of which are located in worked-out natural gas caverns, with the sixth located in the salt caverns under Mogilno.

Transmission

transport of gas fuels through transmission networks to distribution networks or end customers connected to the transmission network.

Transmission network

a gas network of low, medium and high pressure, other than a mine pipeline or a direct pipeline. The responsibility for network traffic rests with the Transmission System Operator.

Distribution network

a gas network of low, medium and high pressure, other than a mine pipeline or a direct pipeline. The responsibility for network traffic rests with the gas distribution companies.

SGT EuRoPol GAZ

the abbreviated name of System Gazociągów Tranzytowych EuRoPol GAZ S.A. The company is responsible for natural gas transmission along the Polish section of the Yamal transit pipeline, which connects the Russian Federation with Western Europe.

Gas distribution company

an energy company distributing gas fuels, responsible for network traffic in the gas distribution system, the ongoing and long-term security of the system's operation, as well as the operation, maintenance, repair and necessary extension of the distribution network, including the interconnectors with other gas systems in the relevant geographical area.

Environmental Management Systems

the systems defined in the ISO 14001 standard, based on the principles of comprehensive quality management. The main assumption of environmental management is to reduce the negative impact of human activity on the natural environment. This can be achieved by application of uniform management principles governing access to environmental resources, elimination of the negative environmental impact of business activities and rational consumption of natural resources.

URE (Urząd Regulacji Energetyki)

the Energy Regulatory Office. Under applicable regulations, the President of URE is responsible for approving the tariffs submitted by holders of licences which authorise them to conduct business involving trade in and storage of gas fuels.



8.4. Glossary of terms related to shale gas

Shale gas

natural gas obtained from shale rock, characterised by a high content of organic matter but low porosity and permeability. The first attempts to extract gas from shale formations date back to the 19th century. In 2011, the global shale gas market was worth USD 27 billion. As regards its composition, shale gas does not differ from gas from conventional sources

Shale

a fine-grained sedimentary rock whose characteristic feature is fissility. The mineral content of shales may vary – most often clay minerals prevail, but they may also contain quartz, feldspar, carbonates and organic matter. As shales may contain layers of mudstone or sandstone, an appropriate adjective should be used in their names (e.g. argillaceous shale, arenaceous shale, mud shale). In favourable conditions, natural gas was generated in those shales that were rich in organic matter. In Poland, gas-bearing shales are found at depths of 2.5 km or more.

Well

a completed borehole drilled in a rock formation for investigation, exploration, documentary or production purposes. Boreholes are drilled on the basis of an Operations Plan approved by the Regional Mining Authority (Okręgowy Urząd Górniczy). All work must be conducted in compliance with Polish law and safety regulations. The structure of a borehole must meet all the safety requirements defined in the applicable laws. For this reason, several strings of cemented casing are placed in a well to ensure its tightness, joined by a casing head on which the production wellhead is mounted.

Gas fuel

a mixture of combustible and non-combustible gases, natural or manufactured, approved for use as a source of energy in households, municipal services, industry and transport.

Hydraulic fracturing (fracking)

the process of creating fractures in rock formations with the use of a special fracking fluid, which is a mixture of water and sand (99.5%) and chemical additives (0.5%). Hydraulic fracturing is a well intensification method, used to extract natural gas from shales.

Drilling pad

a site accommodating an assembled and fully operational drilling rig, along with all the technical infrastructure and necessary auxiliary facilities.

Shale gas production facility

(shale gas production site) – a small area of land with wellheads used to collect hydrocarbons extracted from pads. The hydrocarbons are then gathered and transported for sale to wholesale and retail customers.

Production wellhead

enables receipt/injection of gas/fluids into a well. The wellhead is a steel assembly resistant to high pressures and fitted with valves to enable flow control. Production wellheads are designed for various pressures. Only a wellhead whose operational pressure is higher than the highest pressure in the borehole can be installed in that borehole. The wellhead is mounted on the casing head.

Proppant

a type of sand added to a fracking fluid (with proppant concentration of 4.5%), applied in hydraulic fracturing operations. A proppant prevents fractures in shale rock from closing and allows gas to flow more easily within the formation.

Shale gas deposit

pockets of natural gas trapped in shale rock.

Horizontal borehole

a directional borehole whose trajectory in its end section is horizontal or close to horizontal. It is drilled along gas-bearing layers. Horizontal boreholes are of key importance in shale gas production. They help expand the territorial scope of exploration without the need to enlarge the area occupied for that purpose on the surface. Horizontal drilling technology minimises the need to acquire land necessary to search for and produce hydrocarbons.

Underground aquifers

rock layers which contain free water (i.e. water capable of moving) in open spaces (pores and fractures). If the temperature of the water is high, it is called thermal water. Water bearing layers can be encountered along the entire drilled section.

Drilling rig

a set of devices including a mast or derrick, power generation equipment, mud systems and all tools necessary to drill boreholes.



Polish Oil & Gas Company (PGNiG SA)
25 M. Kasprzaka St., 01-224 Warsaw, Poland
tel. +48 22 589 45 55, fax +48 22 691 82 73
www.pgnig.pl