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Environment, Social and Governance Report 2021

LNG: A GREEN TRANSITION FUEL

## ONOUR COMMITTMENTS

DELIVERING It is our clear target that this should not be a biased report that aives readers a be a biased report that gives readers an unrealistic picture of the challenges we face as a company in the hydrocarbon industry. We seek to provide an honest and realistic report outlining the facts and the challenges our company is working to overcome, particularly to reduce our carbon footprint. The path forward will not always be straight with all relevant metrics materially improving every year, however it is our clear ambition that we as a company will take a leading role in the ongoing energy transition.

> During 2021 most of the older less efficient vessels in the fleet were sold contributing to an **improvement in Golar's** Annual Efficiency Ratio. This is despite many charterers choosing to burn more carbon intensive fuels because of fuel price differentials. Reductions in CO2 emissions from our flagship asset FLNG Hilli were also achieved. Utilisation of this asset will increase from 2022 and emissions per ton of LNG produced are expected to fall further.

As the Covid pandemic eased, management was able to resume vessel visits and face to face officer conferences were reinstated. Training hours increased significantly and systems were simplified based on crew feedback. 2021 Lost Time Injuries decreased from already low levels.

## Together with EASTERN PACIFIC,

another equally environmentally conscious cornerstone investor, ship owner and pioneer adopter of cleaner LNG powered ships, Golar announced the formation of Cool Company Limited ("CoolCo"). This pure play LNG shipping company now owns Golar's fleet of eight modern TFDE LNG carriers.

A sustainability linked \$570 million facility was used to refinance six of the eight carriers. All of the CoolCo ships comply with new IMO emissions rules that come into effect in 2023 and are expected to meet the requirements for a top tier A or B rating. To provide users with additional confidence in the rigor of our reporting, the remit of our auditors was expanded in 2021 to provide limited assurance not only of our emissions data but all reported data. We are also delighted to have been independently recognised by Corporate Finance International (CFI.CO) who awarded Golar North American 2021 winner – Best ESG Energy Business

Strategy. The recent development in global energy prices following seven years of under investment in the oil and gas industry and further exacerbated by the recent tragic events in Ukraine has highlighted the need for additional energy infrastructure.

For the foreseeable future it is clear that the world cannot rely solely on renewable energy and that significant investment in the hydrocarbon sector is required to meet global energy demand growth. The industrialisation of emerging markets and the need to bring more people out of poverty is a key driver of this. Strong growth in LNG production is therefore critical to meeting energy requirements.

It is a matter of real concern that a material amount of gas continues to be wasted globally because of flaring and that large proven low CO2 content gas reserves in poor African countries are not developed because of technical or political challenges. Development of these reserves could be used to significantly improve the living standards in many African nations and materially reduce CO2 emissions by substituting coal and oil consumption with gas.

Europe is now in the process of adding gas to its taxonomy of green fuels. South Korea has also recognised gas as a green fuel. Golar has historically played an important role in developing LNG infrastructure by use of floating storage and regas units ("FSRUs"), floating liquefaction ("FLNGs") and LNG shipping. These efforts continued last year when we converted an older LNG ship into a FSRU for LNG Croatia.

Today LNG supply and infrastructure are the key constraints facing the industry. Our innovative, proven, flexible, low cost FLNG solutions can bring new LNG to market quicker than any other greenfield project. If deployed in Africa, as exemplified by the operation of FLNG Hilli Episeyo in Cameroon, not only can it open direct opportunities for a radical improvement in living standards for many using the revenue generated by these developments, but also indirectly, for example, through the development of power infrastructure and industrialisation such as fertiliser production. After 20 years developing pioneering LNG infrastructure, Golar is pleased that the company today is very well positioned to play an active and leading role in the ongoing energy transition.

We aim to use our marine expertise and innovative floating LNG assets to provide the most competitive LNG solution to monetise natural gas reserves and deliver LNG.

Tor Olav Trøim Chairman of the Board

## CONTENTS

5	ABOUT GOLAR
7	MAINTAINING SAFE OPERATIONS THROUGHOUT THE PANDEMIC
8	OUR SUSTAINABILITY STRATEGY
10	GOVERNANCE AND MATERIALITY
12	OUR FOCUS AREAS
16	2030 AMBITIONS
20	CLIMATE AND LNG
26	OUR KEY INDICATORS
28	OUR KEY FOCUS AREAS
28	HEALTH, SAFETY AND SECURITY
31	INNOVATION AND TRANSITION
34	ENVIRONMENTAL IMPACT
41	PEOPLE AND COMMUNITIES
43	GOVERNANCE AND BUSINESS ETHICS

APPENDICES

- 46 APPENDIX 1: KEY FACTS AND FIGURES - GOLAR FLEET
- 50 APPENDIX 2: CLIMATE RELATED RISKS AND OPPORTUNITIES







Golar is one of the world's most innovative and experienced independent owners and operators of marinebased LNG infrastructure.

4 \star ESG Report 2021

Golar is one of the world's most innovative and experienced independent owners and operators of marine-based LNG infrastructure.

Golar services the entire LNG value chain from floating LNG liquefaction (FLNG), LNG shipping (LNGC) and floating storage and regasification (FSRUs).

In April 2021 we concluded the sale of our downstream focussed business interests to New Fortress Energy. In early 2022 we separated our LNG carriers from our FLNG assets. The LNG carriers are now owned and managed by 31% co-owned pure-play LNG shipping affiliate, Cool Company Ltd. Golar is now focussed on its remaining FLNG assets and on the development of our upstream capabilities.

## A TRACK RECORD OF INNOVATION

We embrace fresh thinking and our lean organisational structure enables us to develop new ideas quickly. Our two most significant innovations have been:



In both cases, we offered rapid schedule and cost effective solutions to industry problems, and redefined industry cost per MMbtu at both ends of the LNG value chain.

We continue to be pioneers in our industry. We have now developed a larger newbuild FLNG solution, and the latest Golar FLNG designs reduce carbon intensity by 25% or more, for both conversions and newbuilds, compared to typical operating LNG plants.

## **GOLAR AT A GLANCE**



## Experience

50 years of experience in the LNG midstream sector.



## Innovation

The first company to convert ships into FSRUs and FLNGVs and harness waste energy to improve the efficiency of both.



## Simplicity

New combinations of existing technologies that offer simple, low-cost solutions to a complex business.



## Integration

Working with upstream resource holders to incorporate our FLNG solutions to monetise stranded gas.



## Growth

Strong balance sheet to finance attractive FLNG opportunities. 3-4x expected EBITDA growth over the next three years.

Keep our people, both at sea and onshore, safe from the virus

Even more so in these challenging and uncertain times, safety was our top priority. We implemented new measures to ensure that we keep our seafarers, staff, their families and our wider communities safe

- We screened all our seafarers to identify higher risk conditions for COVID.
- We restricted access to our vessels to reduce the risk of transmission to crew. This included working with Port Authorities to ensure that the minimum number of officials came on board the ship, and that they did so in a safe manner.
- We provided all our shore-based staff with the equipment required to successfully work from home.
- From January 1, 2022 all personnel joining a vessel must be vaccinated

## MAINTAINING SAFE OPERATIONS THROUGHOUT

THE PANDEMIC

Whilst the COVID-19 pandemic continued, as part of the global energy supply chain our operations remained uninterrupted. We are proud of the response of our employees - despite the extraordinary circumstances they have taken extra care of each other in challenging times and have gone to great efforts to continue our operations. Sadly two of Golar's valued crew and a family member succumbed to the virus in 2021. We believe seafarers are one of the "unsung heroes" of

## 2

Look after our seafarers and their families during extended periods at sea

Crew changes continued to be severely restricted throughout the year. This led to extended stays at sea for some seafarers, who stayed onboard far beyond their contracts. Again, we worked tirelessly to provide crew changes, but continued to face challenges from changing local requirements, guarantine restrictions and the significant reduction in flights. In certain cases Golar also resorted to chartering flights to effect a crew change.

We were able to deliver crew changes for all our vessels, but we are aware that seafarers employed by other companies were not so fortunate. In 2021, we joined over 400 maritime businesses and organisations in signing the Neptune Declaration, recognising a shared

responsibility to resolve the crew change crisis and calling for seafarers to be recognised as key workers with priority access to vaccines. Regrettably, two of Golar's valued seafarers succumbed to Covid in 2021 and this contributed to the Companies requirement that all joiners to a vessel be vaccinated once vaccines were widely available.

This crisis also impacted crew members who were unable to start their contracts. Golar operates in compliance with all maritime standards and the Maritime Labour Convention. In addition, Golar offered financial support to all crew unable to join as scheduled helping them and their families.

## Responding to the COVID-19 pandemic in 2020, Golar's focus was to keep our people and their families safe. This has also been the main focus for 2021, and management has continued to place employee wellbeing and safety ahead of cost considerations.

the pandemic. They are providing a vital role in maintaining the flow of vital goods that people everywhere need, in our case LNG for energy, whilst not yet being recognised as key workers and experiencing prolonged periods at sea as a result of government regulations restricting crew changes.

In response to the pandemic, Golar identified three key priorities which guided us throughout the year:

3

Continue our operations and serve our customers

In addition to protecting our people, we ensured that we continued to deliver on our commitments to customers and kept the fleet operating. The pandemic caused widespread disruption to supply chains, but our FLNG and FSRU vessels continued to operate to nomination and our ING carriers continued to sail.

There are many examples of our teams finding creative solutions to the challenges presented by the pandemic, including implementing remote solutions for maintenance and mandatory ship audits, supporting our suppliers and flexible planning to minimise disruption to major projects.

## **OUR SUSTAINABILITY STRATEGY**



Sustainability is critical to Golar's strategy – we are firm believers that LNG is a key transition fuel and a bridge to a cleaner energy future. With an industry reputation for innovation, we support the growth of LNG to replace more carbon intensive and particulate laden fossil fuels.

Our approach to sustainability is embedded in our vision and business strategy. We believe that LNG will grow as a companion fuel to renewables and are also taking active steps to prepare for a carbon neutral future by investing in and pioneering new carbon capture technology – first, to eliminate the majority of our FLNGs carbon footprint, then to use our solution for carbon capture to facilitate blue hydrogen production through gas reforming.

## **GOLAR'S SUSTAINABILITY PRIORITIES**



## VISION

We believe that gas has a critical role to play in providing cleaner energy for many years to come. Our pioneering infrastructure assets provide safe, competitive and sustainable ways of liquefying, transporting and turning gas into energy across the world.

## **OUR SUSTAINABILITY PRIORITIES**



Working as a companion fuel to renewables, LNG will enable emerging markets to move away from burning dirtier oil and coal. This can deliver immediate emissions reductions and support the UN's goal that reliable, clean and affordable energy is available to all whilst paving the way for a cleaner energy future.





Ultimately, for the energy transition to succeed, renewables cannot bear the load alone. Low carbon and carbon free alternative fuels must be identified and developed into scalable, cost-effective solutions. Golar continues to investigate the feasibility of floating solutions producing carbon free fuels. The most promising candidates are blue hydrogen and ammonia.





## Efficient and responsible operations

Despite LNG's positive credentials it is critical that our industry reduces its environmental footprint. As industry innovators, we aim to take a leading role and make tangible change in the areas that really matter. We have identified five key focus areas where we feel we can make a real difference in support of the UN Sustainable Development Goals, which are set out in this report.

## Support the development of low carbon and carbon free fuels

## ESG **GOVERNANCE** AND MATERIALITY



At Golar, we take our responsibilities towards sustainability and transparent ESG reporting seriously. Our governance framework applies equally to executing our strategy in support of the energy transition, monitoring our ESG performance, and managing climaterelated risks.

Governance of sustainability at Golar is led by the Board through the Safety, Environment and Ethics Committee and the leadership team. Their oversight ensures executive ownership of ESG priorities and leads to an integrated approach, embedded within our strategic decision making, performance management, planning and risk management.

## **OUR SAFETY ENVIRONMENT** & ETHICS COMMITTEE

Our Board-level Safety, Environment and Ethics ("SEE") Committee, oversees our ESG performance and the execution of our sustainability strategy.

Having spent 2020 focusing on the development of our key performance indicators and 2030 ambitions, the Committee's focus for 2021 has been on monitoring of performance against set targets. The Committee reports to the Board of Directors on its progress.

## POLICIES AND COMPLIANCE

We have various policies and procedures that govern our ESG practises, such as our Environmental, Security, Health and Safety, Risk Management, Speak-up and Anti-bribery and Corruption policies, just to mention a few. We update our policies regularly and provide training on them to our staff.

Compliance with our policies and procedures is fundamental to our success which is why we undergo regular compliance audits, both internal and external, to give management and the board comfort that they are followed and are operating as intended. In 2020 we engaged an independent third party to provide assurance over the completeness and accuracy of our emissions data. In 2021 we expanded the scope of this assurance to cover all reported ESG data.

## **IDENTIFYING AND ADDRESSING** SUSTAINABILITY RISKS

Sustainability and the opportunities arising from the energy transition are key parts of our strategy. Therefore, the key risks to these objectives, and climate and sustainability related risks more broadly are already embedded in our risk management processes.

The Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD) established recommendations for voluntarily reporting such risks and opportunities in 2017. We believe these disclosures are important in allowing stakeholders to understand our response to key climate issues.

We disclose information on our governance and risk management practice to align to TCFD expectations in those areas. Going forward, we will further align our reporting to the full set of TCFD disclosure requirements.

## Our climate related risk and opportunities can be seen in Appendix 2.

## SAFETY, ENVIRONMENT & ETHICS COMMITTEE

Oversight of ESG projects, KPI performance and external reporting. Chaired by an independent Board member, with the CEO, COO, CFO and DHSEQ as Committee members. This Committee meets at least twice a year.

**OPERATIONS** 

Cross functional Committee chaired by the Chief Operating Officer focusing on health & safety, the environment and energy efficiency of the LNGC and FSRU fleet. Monitors priority aspects, improvement plans, KPI delivery and regulatory compliance.

## **PEOPLE AND** COMMUNITIES

Working group led by the Global Director of HR which brings together shore based and offshore programmes. Focused on diversity, training and development and coordinating our community engagements across the globe.

Onboard safety and environmental committees are chaired by the Master / Offshore Installation Manager. They continually review the performance of the vessel against set KPIs, delivery of action plans and identifying improvements

10 ★ ESG Report 2021

## GOVERNANCE & ETHICS

Working group chaired by the Chief Accounting Officer overseeing Golar's ethics and compliance programmes. This includes conduct training, our anti-bribery and anticorruption programme and supply chain human rights management.

The Board established the Safety, **Environment and Ethics Committee in** 2019 to govern how the business executes our sustainability strategy. The Committee is responsible for overseeing key ESG improvement initiatives and our response to climate-related risks and opportunities

As mandated by our Board, Golar is committed to taking an impact-based approach to setting sustainability goals, and making regular, ongoing ESG disclosures in line with our reporting guidelines. This means that we do not apply a specific overall reporting standard but focus on the ESG issues that matter most to Golar, are relevant to our business model and are of most interest to our stakeholders.

To determine these topics, we conducted a comprehensive "materiality" assessment in 2019. We applied the Global Reporting defined as topics that reflect significant economic, environmental and social impacts

- Benchmarking against proxy peers and other public reports documenting key issues for LNG
- Review of applicable industry and ESG standards such as SASB, GRI and IPIECA

This led to the development of the five key areas of focus outlined on page 14, and

## **DETERMINING THE CONTENTS OF THIS REPORT**

The content and quality of this report is major sustainability and industry specific we have considered the following principles:

- For emissions data, whilst operational and financial control resides with our charterers, we disclose emissions on all vessels owned by Golar's entities. Therefore, unless operations and practices for the entire Golar fleet (LNGC, FSRU and FLNG) in 2021, encompassing assets owned and operated by Golar LNG, and Golar Hygo Energy Transition vessels is 2021 as these vessels were sold to
- included in this report for all of 2021.
- The GHG Protocol is followed for greenhouse gases, however we consider Scope 2 (indirect emissions from

The detail behind the calculations can be seen in appendix 1 of statement on our website.

## UNITED NATIONS (UN) **SUSTAINABLE** DEVELOPMENT GOALS

Pursuant to our own goals, Golar is proud to support the principles of the 2016 **United Nations Paris** Aareement and the wider UN sustainability agenda, including the associated Sustainable Development Goals (SDGs). While Golar supports all of the SDGs, we identified four goals that align most to our strategy and sustainability priorities:



**9** INDUSTRY, INNOVATION AND INFRASTRUCTURE



- Setting challenging carbon reduction targets for all of our existing assets and continuing our innovative approach to the design of new assets to ensure an even smaller carbon footprint.
- Researching marine solutions to produce carbon-free alternative fuels, starting with blue and green ammonia and carbon capture and storage.
- Researching with a view to investing in technical solutions to capture methane slip from LNG fuelled engines and gas turbines.

12 ★ ESG Report 202



Our low cost and speed of delivery reduces the cost per MMbtu of LNG, increasing the ability of emerging economies to access LNG

and adopt a "gas plus renewables" mix to replace coal and oil.

## DECENT WORK AND ECONOMIC GROWTH

- Safety is our number one priority, both in our own operations and within our supply chain.
- Respecting human rights in all aspects of our business, both for our own staff and contractors but also across our supply chain.
- Creating local jobs and procuring locally wherever it makes sense to support local development in our communities.



- LNG is the cleanest fossil fuel. As a proven technology, it can replace dirtier fuels today and support the energy transition as a companion fuel to renewables. We support this transition through our low cost, quick delivery infrastructure, providing opportunities for emissions reduction.
- We take action to minimise our environmental footprint, focused on fuel use and efficiency to drive down carbon and other air emissions.

## **GOLAR'S FIVE KEY FOCUS AREAS**

We conducted a series of internal and external workshops to determine which Environment, Social and Governance topics are most important and significant to Golar and our stakeholders. Based on the results we were able to identify five key focus areas.



## Health, Safety and Security

Maintaining safety through learning and cooperation, fostering a sense of community, and minimising risk.



## Environmental Impact

Operating responsibly to make commercial decisions that limit our environmental footprint.

High focus on optimising vessel performance to minimise fuel consumption and our environmental footprint.

Sale of less energy efficient assets ensuring that those retained will comply with future emission regulations.



## Innovation and Transition

Recycling our vessels and the incorporation of pioneering FLNG technology into our operations and selective investments into other emission reduction technologies.



## People and Community

For stationary assets employ local crew and office personnel and procure goods locally wherever feasible.



## Governance and Business Ethics

Committing to principles of transparency, human rights, anti-bribery and anti-corruption.

We have been focused on the company's environmental impact, social contribution and corporate governance for many years. As signatories of the UN Global Compact, we commit to operating in line with the ten principles on responsible business conduct and to contributing positively to relevant UN Sustainable Development Goals.

Karl Fredrik Staubo

Chief Executive Officer

Golar was awarded Best 2021 North America ESG Energy Business Strategy by Capital Finance International. We have a history of being an LNG market entrepreneur at the forefront of some of the key technology advances in the LNG industry that make both financial and environmental sense for Golar and its customers. We are grateful to be independently recognized by CFI.CO for our long-standing efforts on this front.

Last year we produced our first stand-alone ESG report and laid out our 2030 targets for our five key focus areas. This year we have focussed on delivering on these targets. In Golar, we believe these focus areas are important and by delivering on them we will become a better employer, reduce our emission footprint and continue to contribute to a better future.



## 2030 AMBITIONS



We have developed a range of bold but achievable goals designed to make a positive impact on our ESG footprint by 2030. These reflect our belief that whilst it is not possible to predict exactly what form the energy transition will take, or how our sector will react. action is required now to meet decarbonisation ambitions.

## Health, Safety And Security

Safety is our number one priority. We want to protect our people, their families and our communities. We want to be the preferred employer and aspire to a culture of zero harm.



## Our targets are to:

- **BEI NW** 0.80 LTIF
- Achieve zero fatalities and sustain a lost-time injury frequency below 0.80 per million exposure hours.
- Maintain a "best in class" safety framework compliant with the hiahest standards in our industry.

EXPLORE (NEW) LATEST DESIGN CASES



## **Environmental Impact**

## FLNG

Our FLNG approach offers an efficient, fully marinized solution with highly competitive CO2e emissions, but we are actively exploring how we can further reduce our footprint in future FLNG vessels.

## Our targets are to:

- Consistently achieve our benchmark emissions intensity on Hilli of 0.30 TCO2e / TLNG.
- Maintain highly competitive greenhouse gas footprints. We have ready to implement FLNG design cases which deliver in the range of 25% reduction in intensity.

0/

REDUCTION

 Continue to explore technologies which could deliver even greater improvements in emission intensity, such as carbon capture technologies or integration of our power management system with renewable sources.

## **Environmental Impact**

## 25% REDUCTION

WASTE AND SPILLS

Our targets include:

## LNGC

We are committed to delivering improvements in efficiency and emissions reductions which meet the IMO's reduction targets. We have made significant progress towards the 2030 target (40% savings in carbon efficiency compared to 2008), saving around 30% compared to our estimate of 2008 emissions.

## Our targets are to:

• Deliver continuous reductions in emissions intensity (AER) as per the IMO trajectory to 2030. The fleet average AER shall meet CII rating B or better.

• Reducing total waste (oily and We are committed to reducing our total non-oily) by 20% compared to environmental footprint, not just emissions. our 2019 benchmark.



- Modern fleet of TFDE ships, delivered in 2014 and 2015.
- Fleet delivers a 15% improvement in 5 years.
- Wide range of fleet initiatives undertaken, including speed optimisation, engine load management, data-based voyage planning and trim management.
- Technical and operational improvements being planned in conjunction with charterers.
- EEXI will impact older vessels in global fleet during this period.

• Zero serious environmental events

- The AER target for 2026 is set to 7.5. equal to a 44% reduction from the 2008 baseline.
- Work closely with our charterers to maximise the use of boil off gas, which reduces total lifecycle emissions for the LNG we transport.
- i. Proactively sharing of efficiency data with charterers
- in low efficiency
- Take action to reduce methane emissions



- IMO trajectory estimated based on IMO 4th Greenhouse Gas study, The trendline reflects IMO's guidance that the global fleet saved on average 21% between 2008 and

 Golar's AER is actuals as reported in our ESG Report from 2016 – 2021. All other dates are estimates and projections. (4) AER defined as CO2 emissions per transportation work

(dwt x transported distance

Golar was awarded Best 2021 North **America ESG Energy Business Strategy** by Capital Finance International.

## Innovation and Transition

We are proud of our reputation for implementing innovative ideas in our industry. We will continue to identify and develop pioneering floating solutions to support the energy transition. Our targets include:

- Developing technically and commercially viable floating application of green and blue technologies, focusing on hydrogen, ammonia and carbon capture.
- Utilising our investment in carbon capture technology which could fit into the footprint of future FLNG units, potentially providing charterers with the option to significantly reduce carbon emissions from liquefaction.





We are committed to maintaining the highest standards of governance and ethical conduct wherever we are in the world. We acknowledge the challenges in our industry, and take action to ensure they do not exist in our organisation or supply chain. Specifically, we focus on:

## **Our People**

We aim to be a preferred employer through our culture as a learning organisation and our focus on the development of our staff.

Our targets are to:

• Achieve a retention rate of 95% for crewing and 90% for office staff.

• More than 90% of our staff demonstrate living by the Golar values.



## **Our Communities**

As our business develops we are more involved in our communities than ever before. We take our role seriously, and aim to have a lasting positive impact in the development of our communities through:



• Charitable work to support community growth.

• Hiring and procuring locally, where we can.

## **Governance And Ethics**

- Ensuring human rights are respected in our supply chain.
- A robust system to comply with anti-bribery and corruption laws and regulations and maintaining our culture of compliance.



## CLIMATE **AND LNG**



We champion LNG as a key transition fuel to our collective carbon neutral future: a sustainable, economical alternative to other fossil fuels that supports renewable development.



LNG is the cleanest burning fossil fuel – it generates 40%-50% less CO<sub>2</sub> than coal and can dramatically lower air pollution.

of Global Energy Consumption

Global energy demand growth 2020-2030: +8%

2019-2021: +4% p.a. LNG demand growth through COVID

LNG demand **expected to** grow 50% next decade

LNG and Natural Gas pivotal drivers in transition away from coal & oil

<sup>1</sup> BP world energy outlook 2020 <sup>2</sup> IHS Connect

Population and economic growth will drive increases in global energy consumption. The challenge of the energy transition is to deliver reliable, modern, affordable energy for all whilst expediently reducing emissions and pollution.

The UN estimates that around, 800 million people still lack access to electricity. Finding a solution that supplies energy to more people, protects the climate, maintains air quality and ensures affordability is one of the biggest challenges facing the world today. According to the 2021 International Energy Outlook, LNG trade will continue to grow, mainly to support increasing energy consumption in developing Asian economies. Energy security requirements in Europe mean that LNG will also be increasingly relied upon to replace pipeline gas from Russia.

448%



Natural Gas Diesel Residual Fuel Oil Low-Sulphur Coal 100% 73% CO2 NOx





## **Global Energy Consumption** – LNG has the potential to displace coal and oil, which currently represents around 60%



## THE ENERGY MIX AND THE **ONGOING ROLE OF GAS**

All realistic energy models, including those aligned to Paris Agreement goals, show that gas will continue to play a major role in the energy mix for years to come. Whilst achieving a carbon neutral energy mix is the eventual endgame, it will take time for alternative fuels and renewable technologies to develop and achieve meaningful market share. It is not possible to predict the exact shape and form for the energy transition and so the more immediate, compelling, and realistic economic proposition lies first with replacing dirtier fossil fuels as fast as possible. This means that gas, and LNG in particular, will be a critical part of the energy mix for decades to come.



<sup>3</sup> Particulate matter 10: Finely divided solid or liquid material, with an aerodynamic diameter less than or equal to a nominal 10 micrometers



Currently around 60% of Global Energy consumption is made up of coal and oil<sup>1</sup>, and we must rapidly change this energy mix to reduce emissions. The urgency of this transition is increasing, with more and more countries setting out net-zero targets for 2050.

We believe that it is imperative that we use available 'here and now' solutions including Golar's flexible and guick to deploy FLNGs to produce cleaner burning LNG that can displace dirtier fossil fuels and reduce global emissions immediately. Waiting for new developments, technologies and other

future promises and good intentions to deliver later will only increase the size of the problem to be solved.

This view is supported by both the IEA's Sustainable Development Scenario and BP's Rapid Scenario in their 2020 Energy Outlook, both of which see gas outperforming other fossil fuels.

The transition is already underway. Natural gas can help lower overall emissions, either in partnership with renewables to deliver reliable energy or to power hard-to-electrify sectors, and LNG is forecast to be the fastest growing energy source after renewables.

<sup>1</sup> International Energy Agency

11%



<sup>1</sup> Shell LNG Outlook 2021

LNG-fuelled trucks & buses (China)<sup>1</sup>

The IEA estimates that coal-to-gas switching since 2010, primarily in the power sector in the United States and Europe together with buildings and industry in China, means that global emissions were around 750 million metric tons of CO2 lower in 2020 than they otherwise would have been.

Announced pledges in the run-up to COP26 in 2021 mean that coal-to-aas switching continues. Around 100 bcm of additional

gas is used to replace coal in 2030 in these regions, which avoids around 180 million metric tons of CO2 emissions in that year. In the IEA 2021 net zero emissions by 2050 scenario, additional gas use for switching is even higher at 185 bcm, and oil-to-gas switching, particularly in the power sector in parts of the Middle East and in light industry and manufacturing in emerging market and developing economies in Asia becomes an important part of transition strategies.





International Energy Agency (2019)

Other renewables Nuclear Coal Hydro Bioenerg





## LNG-fuelled trucks (Europe)<sup>1</sup>

## LNG fuelled ships & consumption<sup>1</sup>





Interestingly, in the IEA 2021 announced pledges scenario for 2050, global natural gas demand reaches its maximum level soon after 2025 and then declines toward 2050. Reduced use of natural gas in advanced countries offsets continued growth in emerging market and developing countries. This has important implications for the global LNG trade. Over the same timeframe LNG continues to grow, capturing nearly 70% of traded volumes by 2050. Reduced gas demand in Europe leads to an 80% drop in pipeline imports, while LNG supplies the majority of the 430 bcm increase in gas demand in emerging and developing



## Share of UK generation 2021<sup>1</sup>

7 day rolling average



2 International Energy Agency World Energy Outlook 2021

## **A COMPANION FUEL TO RENEWABLES**

Natural gas is an ideal companion fuel for renewables and carbon-free alternative fuels. According to the International Renewable Energy Agency (IRENA), the transition to variable renewable sources requires balance to overcome challenges related to limitations in output and reserve requirements.

Golar has already played an active role. Through Hygo Energy Transition we delivered Latin America's most efficient thermal power plant in 2020. This plant has since provided crucial continuity of supply to Brazil during a drought in 2021. Elsewhere in Brazil Golar's pioneering FSRUs ensured that gas remained a reliable companion to hydro power during this and other droughts over the last 13-years. These assets that support higher penetration of variable renewables were sold to New Fortress Energy in 2021.

## **LNG IS THE SOLUTION**

LNG can meet rising energy demand with a fuel that is practical and cleaner than any of its fossil fuel competitors. In particular:

- LNG is a cost-efficient alternative to its fossil fuel competitors.
- LNG is the cleanest burning fossil fuel it generates 40%-50% less CO2 than coal and can dramatically lower air pollution.

## **Emissions reductions in the Net Zero Emissions by 2050** scenario relative to the stated policies scenario<sup>2</sup>





- LNG will support renewables to make up the shortfall.
- LNG has a wealth of practical applications including combined heating, power and transportation, thus allowing LNG to comprehensively support the global transition to a clean energy future.

## **METHANE & METHANE SLIP**

Delivering net zero requires more than retiring dirty and building low emissions projects. According to the IEA 2021 World Energy Outlook, actions that "make dirty cleaner" are crucial in determining the speed and scope of energy transitions and deliver the largest share of emissions reductions required to get from their stated policies scenario trajectory to a net zero one.

Methane has been identified as a major contributor to rising temperatures and the recent COP26 meeting concluded in 2021 that rapid and sustained reductions in methane emissions are essential to limit near-term warming. Around 100 countries have promised to cut methane emissions by 2030. In terms of benefits for the environment, scientists estimate that stopping leaks would prevent between 0.005C and 0.002C of warming. Based on gas prices over the last 5-years and forecast prices for the

methane emissions could also be avoided at no net cost to the gas industry as the cost of abatement measures should be less than the value of the captured gas. Golar is assessing technologies that can be deployed to capture up to 90% of the methane slip from its ships. Although Golar's FLNG solutions offer a carbon footprint per unit of production that matches shore-based mega projects - despite having a flexible platform and operating at smaller scale, Golar also sees further opportunities to reduce their impact. We have recently invested in a company that develops technology that may capture carbon emissions from our liquefaction process.

next 10 years that are expected to be higher,



## OUR ROLE

Getting LNG to market and ultimately replacing coal and oil represents our biggest immediate opportunity to mitigate climate change. However, we also recognise our obligation to make dirty cleaner by reducing and managing our own environmental footprint, promoting sustainability in all our operations and investigating and addressing problems within our industry.

Golar's approach assists the industry by reducing the onshore footprint of liquefaction and regasification terminals. To fulfil the role of natural gas in the energy transition the industry must also reduce greenhouse gas emissions and other environmental impacts throughout the value chain whilst keeping costs down. This includes taking immediate action on key challenges such as fugitive emissions and methane slippage.

**Rapid and sustained** reductions in methane emissions are essential to limit near-term warming

Golar NC

## OUR KEY INDICATORS

**FATALITIES** 

SERIOUS Marine Incidents We have developed key performance indicators for each of our key focus areas to assess our performance and help us to achieve our goals and objectives. We constantly monitor our performance and progress is reported to the Safety, Environment and Ethics Committee to enable Board oversight.

HOURS

53 HOURS

SCRAPPING OF VESSELS

ZERO

Norsafe IENDAL NORWA

GOLAR SEAL

## IOURS SPENT ON SAFETY TRAINING ER SEAFARER AND OFFSHORE WORKER

HAS INCREASED BY 25% IN 2021 TO

## SAFETY PERFORMANCE

## LTI DOWN

reflecting extensive discussions with seafarers, vessel managers, marine

superintendents and a resumption in vessel visits as Covid subsided. Awareness, awareness, awareness!



FROM 1,49

1.56

FROM 0,89

0.16

CARBON INTENSITY CARRIERS 8.62

DOWN TO 8.48



CADET

PROGRAM

ZERO SPILLS

ESG Report 2021 ★ 27

Ø

## 00 OUR KEY Focus Areas

## focus area HEALTH, SAFETY AND SECURITY

The safety and security of our teams and everyone who works with us is our number one priority. Experience, cooperation and learning are critical to achieving this. We aspire to a culture of zero harm – meaning a workplace which is injury free. This ambition is integral to Golar's company culture.

We know that it is impossible to create a system where failure never happens, but we believe that serious issues can be prevented by focusing on understanding why minor issues occur and learning from them.

## DELIVERING ON AN AMBITION OF ZERO HARM

and near accidents.

We pursue zero harm through four key areas:

- Building a company culture which reinforces safety awareness among our employees.
- Ensuring practical and well-considered risk management onboard and onshore.
  Learning through analysing accidents
- Continual improvement of procedures and routines, including skills of personnel and emergency preparedness.

## SAFETY THROUGH EXPERIENCE, COOPERATION AND LEARNING

We believe that a transparent and in depth understanding of our culture is critical to keeping our staff safe. We have worked hard to foster a culture based on the concepts of experience transfer and being a learning organisation.

Put simply - we view mistakes and issues identified as pivotal learning opportunities. We believe that discussing mistakes, learning from them and cooperating through sharing experiences with other vessels ensures that our team is stronger and safer as a result.

We monitor our culture in detail through periodic third party surveys, making assessments against eight leadership behaviours: Trust; Openness; Feedback; Team; Care; Learn; Speak up; and Dilemmas.

We also take a holistic approach to our assessment of operational risks. Golar operates a sophisticated risk management system that enables seafarers to actively identify and raise concerns which may have an impact on safety, the environment, our assets, or our reputation.

Golar provides comprehensive training to our employees to ensure that we are able to meet our objectives and targets

The Golar Management System ("GMS") is certified to ISO9001, ISO14001, ISO45001, ISO27001 and ISM Code



These standards underline the robustness of our system and commitment to continuous improvement

## MAINTAINING HIGH SAFETY STANDARDS

Our ambition is to remain best in class when it comes to safety and safety culture. We have a robust safety management system. We are certified according to the ISM Code as well as ISO9001, ISO 14001, ISO 45001 and ISO27001. We are also fully compliant with other relevant industry standards. We conduct rigorous internal audits for all of our vessels against our safety framework and additionally we are regularly audited by flag states, port states, charterers and other stakeholders to ensure that our vessels meet or exceed all required standards. This includes the requirements of the Tanker Management and Self-Assessment programme (TMSA) and the Ship Inspection Report Programme (SIRE).

## SECURITY

Shipment of cargoes at sea involves an element of inherent security risk, especially in high risk areas for piracy.

Illustration of Golar's Operational Risk Dashboard

NOR PACII OCE

•



BRAZIL

<image>



## **2021 PROGRESS AND RESULTS**

COVID-19 presented a unique challenge to our safety management. As outlined in this report, as a vital part of the energy supply chain Golar continued to operate, and we took a number of steps to keep our crew, staff and their families safe, including working tirelessly to perform crew changes as soon as we could. We also had to adapt our safety management system due to the restrictions on travel, moving to remote auditing and training for much of the year. In-person visits from Marine Superintendents were reinstated later in the year. The focus of these visits was on safety awareness and this contributed in part to the substantial reduction in LTI's for the year.

A OH&S summary of 2021 events include:

- Exclusive of the two crew COVID related deaths (natural cause) we had another year with zero fatalities or serious marine incidents (2020; zero).
- Lost time injury frequency decreased from 0.89 per million exposure hours in 2020 to 0.16 in 2021. The drivers for this include increased communication with seafarers, vessel managers, marine superintendents and the reinstatement of vessel visits when Covid circumstances permitted.

## LTIF and TRCF

2016

30 **★ ESG Report** 2021

2017



2018

2020

2019

2021

- Our focus on improved reporting of incidents and opportunities for improvement continued to deliver results, with over 2,300 high quality safety observations being reported
- We were able to maintain our high level of safety training through moving to remote training, with crew and offshore workers completing an average of 66 hours each (2020: 53 hours). The increase in training hours is a result of:
- Adding on more mandatory safety training programs
- Fleet growth and recruitment of new crew members who had to complete a full set of safety training courses.

## **We achieved** certification to ISO45001 for all our locations.

## INNOVATION AND TRANSITION

We are proud of our reputation for innovation having completed the world's first **FSRU** and **FLNG** conversions. We apply this pioneering spirit to maximise Golar's contribution to the energy transition.

As set out in this report, as a pioneer in our own industry, we recognise the need for disruption and change in the world's energy market to decarbonise whilst meeting rising energy demand and ensuring reliable modern energy is available and affordable for all.

We believe that marine infrastructure can play a critical role making the energy transition happen at pace. This relates both to delivering quicker, cleaner energy today through LNG replacing oil and coal, whilst also looking to a future where marine infrastructure supports the growth of hydrogen and ammonia as a viable alternative to traditional energy sources.

Golar is a proven implementor of innovative and disruptive solutions, and this experience positions us well to develop novel marine contributions to the challenges of the energy

## **DELIVERING CLEANER** LNG AT SMALLER SCALE

Golar's FLNG approach can match and compete with land based "mega projects" on emissions and cost-per-tonne of LNG produced despite operating at much smaller scales.

This provides a commercially viable route for the development of smaller or stranded gas resources, which will in turn deliver more gas to market to fuel the energy transition.

to traditional shore-based facilities, including:

- lower scale whilst delivering a highly competitive emissions footprint, in large
- Quicker return on investment due to the shorter period from FID to commercial



FFORDABLE AND

0

• Ability to extend the life of infrastructure and develop smaller gas resources that cannot anchor a 25 year plus land-based project, as floating assets are not fixed to one location.

Our FLNG approach has several advantages

• Maintaining capital efficiencies at much part due to effective use of heat recovery.

But we know we can do more – our engineers continue to improve our FLNG offering to deliver greater reliability and availability alongside reduced emissions.

## CHEAPER, CLEANER FUEL **IN EMERGING MARKETS**

We developed Hygo Energy Transition to bring LNG to markets which currently lack gas access in order to facilitate the switch from dirtier fuels, such as coal, diesel and oil and to provide flexible backup power generation that is less polluting than alternatives when renewable sources are unavailable.

In Brazil, this innovative business model is having a real impact. Hygo established an FSRU terminal in Sergipe, to supply the Porto de Sergipe I power plant (which was 50% owned by Hygo). This power plant provided critical base load electricity in Brazil during 2021 when a long drought caused a significant reduction in hydroelectric electricity generation.

Another FSRU in Barcarena was being permitted to allow nearby heavy industry to switch to cleaner burning LNG instead of much more carbon intensive fuels.

In April 2021 we concluded the sale of Hygo Energy Transition to New Fortress Energy ("NFE"). We are proud of the achievements of Hygo and believe that its combination with NFE will allow the business to further strengthen its footprint and accelerate its vision to deliver low carbon energy solutions globally.

## WHAT COMES NEXT?

Achieving the goals of the Paris Agreement and combating the climate crisis requires a new generation of affordable, scalable energy alternatives to fossil fuels. We believe in LNG as a transition fuel, but this must go hand in hand with the development of low carbon alternatives if the energy transition is to succeed.

We believe that marine infrastructure will have a critical role to play, and in November 2020 we entered into a collaboration agreement with our longterm FLNG partners, Black and Veatch, to explore floating ammonia production, carbon capture, green LNG and hydrogen.

In February 2021, we launched our first thought leadership paper through this collaboration – "Floating blue ammonia production: Creating a zero-carbon emission fuel". The paper explores:

- How blue ammonia can be the catalyst for development of the hydrogen economy.
- The benefits of ammonia compared to transporting hydrogen and how this can accelerate the transition to carbon free energy in energy intensive industries through use of existing infrastructure.
- The role that floating ammonia production can play in making this a reality, as well as potential carbon capture benefits.

A critical enabler for floating production of blue non-carbon fuels such as ammonia is carbon capture and handling. Our short to medium term focus is therefore to develop truly viable solutions for this. We have recently invested in a company that develops technology that may capture carbon emissions from our liquefaction process.

The replacement of coal, fuel oil and diesel with cleaner burning LNG represents one of the easiest and most cost-effective nearterm steps to decarbonize the worlds energy mix. The next step is to plan for a net zero carbon energy mix. As a company with an established history of championing and delivering disruptive solutions to problems in its industry, we believe we can play a leading role in developing floating ammonia and hydrogen production, carbon capture, and other decarbonisation initiatives.

GOLAR SEAL MAJURO

CASE STUDY

## **LNG CARRIER PROPELLER BOSS CAP FINS**

To be even more energy efficient Golar have retrofitted propeller boss cap fins (PBCF) on two LNG carriers. The PBCF is an energy-saving device attached to the propeller of a vessel. It breaks up the hub vortex generated behind the rotating propeller, resulting in a decrease in fuel consumption and CO2 emissions of up to 5%.

More vessels will be retrofitted with PBCF's at their next dry-docking.



energy is wasted.



## **FSRU SALT-WATER DISCHARGE TURBINE**

Most FSRUs utilize sea water as the main source to heat Liquefied Natural Gas: sea water is lifted 25 meters up from sea level by heavy duty pumps to the regasification module located on the main deck. This takes a lot of energy - 1.4MW is required to maintain the required volume of up to 18,000 m3/h. For conventional FSRUs the water is drained back to sea level after heat exchange, meaning this

Our engineers came up with the idea of utilising a hydro electric turbine in the sea water discharge pipe to harness this energy. There was no readily available solution on the market – so we designed this ourselves and delivered it in partnership with a system supplier. The system delivers:

- Reduced fuel consumption through an up to 7% improvement in total system efficiency – the equivalent of 5 tonnes per day in fuel.
- Reduced emissions with estimated annual savings of up to 5.000 tonnes of CO2 – the equivalent of taking 1,000 cars off the road.
- Improved flow dynamics through the turbine controlling the rate of discharge, with more even flow leading to reduced pressure fluctuations, vibrations and the visual "foam effect" created by FSRUs.

In 2020 we successfully completed our proof-of-concept trial aboard the Golar Igloo, demonstrating that we can harvest over 1.1MW at peak

## ENVIRONMENTAL IMPACT

We are committed to being a responsible operator. This means transparently assessing our environmental impact and taking action to improve energy efficiency and minimizing our environmental footprint.

FOCUS AREA 🕴 At Golar, our ambition is to be an industry leader in terms of understanding our environmental impact and working towards reducing air emissions and energy consumption. We closely monitor the impact of our vessels on an intensity basis to maintain focus on efficiency and seek out initiatives which can help us improve.

> emissions produced by fuel used onboard so our priority is to increase energy efficiency to deliver more output for less fuel.

## **COLLABORATION WITH MAKERS**

Golar will engage Wärtsilä on tuning and modification of our TFDE engines to reduce methane slip and increase engine efficiency.

## **COLLABORATION WITH CHARTERERS**

Based on vessel performance data we can estimate the optimal AER baseline for our with charters will have a far greater impact

than focusing on new technology that can be retrofitted to an existing vessel. Initiatives in on our AER performance than initiatives in

is therefore essential to optimise our environmental performance. Charterers consumed by a vessel. The resultant emissions of a vessel are therefore substantially under their control. We will however make our charterers aware of the implications of their choices in order to encourage better decision emission data with them together with routing, fuel mix suggestions to reduce operationally driven emissions. Further, Golar will seek to include the Carbon Intensity rating (IMO) in the charter party as a mutual goal for vessel environmental performance.

Current performance (actual AER)

Routing, optimal speed and cargo management, 1 fuel mix, hull & machinery condition

Investing in new technology

2

(optimal AER) Improved baseline

Baseline

AER

ESG Report 2021 \* 35

## A CLEANER FUEL MIX

LNG is cleaner than other vessel fuels. Therefore, the more we can utilise our LNG cargo as fuel the lower our emissions will be. Between 2020 and 2021 LNG usage dropped from 95.1% to 89.6% due to a significant increase in global LNG prices that resulted in charters directing us to burn more emission intensive but cheaper low sulphur fuel oil.



## **GCU USAGE**

Between 2020 and 2021 the use of the gas combustion unit (GCU) dropped from 10.0% to 6.9% on our TFDE carrier fleet. This is in line with our 2030 targets.

The main contributor to this positive development is a higher average speed resulting in more use of the engines and less need for GCU. This too is directed by the charterer

## **DRIVING EFFICIENCY IMPROVEMENTS**

We benchmark our operations and performance on a continuous basis. Key parameters are compared to an "optimal" vessel condition and deviation thresholds are defined. In case of underperformance. corrective actions are swiftly initiated.

We assesses our energy management performance with reference to:

## **Data Quality**

Good data quality is essential for good performance analysis. The indicator measures the quality of reported data vs. sensor data.

## **Commercial consumption** performance (CP O/U Consumption)

To make sure consumption is within what is agreed in our charter party contracts. The indicator measures metric tons of fuel "over" or "under" consumption vs. the charter party contract.

## **Speed Management**

To make the vessel speed profile as favorable as possible. The indicator measures the variance in speed vs. voyage speed average.

## Trim

To make sure the vessel trim is as favorable as possible. The indicator measures vessel actual trim vs. the most favorable one.

## Hull and Propeller

To make sure the propeller and hull are clean to avoid excessive fuel consumption due to barnacles and marine growth. The indicator measures increase in propeller slip vs. an optimal baseline.

## **Engine Load**

To make sure the general engine load is as high as possible, resulting in optimal SFOC. The indicator measures engine(s) load vs. an optimum theoretical one for a given total load.

## Gas to Gas Combustion Unit (GCU)

To reduce the GCU usage to a minimum. The indicator measures daily metric tons of gas burned in the GCU.

## Specific fuel oil consumption (SFOC)

To make sure the diesel engines SFOC is as close to design value as possible. The indicator measures the SFOC vs. an optimal baseline

We have seen the impact of our efforts in the performance of the fleet in 2021, saving an average of 4.6 tonnes of fuel per day per vessel against our speed/consumption benchmark compared to 2019.

In 2021 we strengthened the team who monitor fleet performance with a new fulltime position. The team notify relevant office As required by our environmental policy, we regularly monitor, track and report environmental performance, including GHG emissions. Our operations team is responsible for managing and monitoring our environmental impact against targets and baseline performance levels, reported through to the Safety, Environment and Ethics Committee

We also hold ISO 14001 environmental management system certification, alongside ISO 9001 quality management system certification.

We believe that transparency is important to drive change in the sector. Our processes ensure that we not only meet emissions reporting requirements but are able to make the voluntary disclosures within this report and provide our charterers with meaninaful insight on how our environmental impact can be reduced.

## **PROGRESS IN 2021**

We have maintained a strong focus on minimising our environmental footprint. We have:

• Continued our energy management rewards programme across the fleet, with the highest performing vessels and

## Common KPIs 1. CP O/U Consumption 5. Hull and Propeller (Slip) 5. Hull and Propeller (Slip) 1. Data Quality 1. Trim 1. Speed Management IAS vs Event Log Accuracy Actual FOE vs Form B Variance in SPeed (Std.dev.) Avg Trim (Speed>15kts) Slip: Deviation from Baseline Deviation from Baselin

14.0 [MT]

-1.3 [kts]

40 [cm]

-24[.

## **TFDE Specific KPIs**



96.8 (%)

personnel and vessels in case of negative trends. During the year we also reorganised the technical management organisation to a team-based structure. One of the objectives was to strengthen the follow-up and ownership to performance. We also increased quality of sensor data checks in 2021.

## MONITORING OUR IMPACT

those with the most improvement receiving awards on a quarterly basis. Performance is assessed using our data driven approach to energy efficiency and emissions.

- The long-term targets for emissions intensity from our fleet have been followed up. The targets reflect Golar's ambition to reduce emissions and our commitment to meeting, and where possible exceeding, increasing regulatory demands from the IMO and others
- Committed to an ambitious yearly CII improvement plan for six of our LNGC's as part of a refinancing plan.
- We have continued reviewing many of the key emissions saving technologies and operational solutions available today, with some of the most promising currently being piloted by selected Golar vessels. At their next dry docking several vessels will be fitted with additional technology to make them even more energy efficient.



Not OK Observe OK

ESG Report 2021 ★ 37

## **2021 PERFORMANCE**

Our performance at a vessel-by-vessel level was strong in 2021. Our challenge now is to continue to make progress during 2022 as the benefits of a large number of 2019 drydocks begin to subside.

## **FLNG HILLI EPISEYO**

## Maintained consistent efficiency and emissions per tonne

Our 2021 performance resulted in slightly lower emission intensity compared to what we achieved in our 2019 benchmark year with an emission intensity of 0.29 tonnes compared to 0.30 CO2 equivalent per tonne LNG produced. This headline emissions rate is competitive with larger scale shore-based liquefaction plants, all of which have a higher cost per tonne produced and have the benefits of operating at a much greater scale. Achieving that relative performance with floating infrastructure is a significant achievement, and demonstrates the efficiency we can deliver, particularly through effective use of heat recovery steam generators (HSRG) integral to our design.

Further, this performance has been achieved during another challenging year, with the COVID-19 pandemic still disrupting crew changes on Hilli and delaying the delivery of spare parts to the vessel. With the Hilli Episevo carbon intensity being very sensitive to fluctuations in the production rates, 2021 performance resulted in a further reduction to emission intensity due to better utilisation of the HSRG and Gas Engines and reduced demand on the Main Boiler.

We regularly report our environmental impact to Perenco and the National Hydrocarbons Corporation of Cameroon ("SNH"). We are also actively monitored on our performance, with a focus on the amount of feed gas used as fuel in the liquefaction process. In addition, the Ministry of Environment, Nature Protection and Sustainable Development (MINEPDED) in Cameroon also receives bi-annual reports covering environmental performance and social governance.



LNGC fleet intensity figures



SHIPPING

## Significant year on year improvement

We use AER and a set of more specific KPI's to monitor the impact of our emission reduction measures.

We delivered another performance improvement in 2021, with a fleet AER of 8.48 (2020: 8.62). This reduction was delivered despite charterers choosing to burn more carbon intensive fuels.

The main drivers for this improvement in 2021, are:

- less efficient vessels in April.
- Impact of our data analysis and **Energy Management Awards**

**Studies by SEA-LNG show** that, depending on engine technology, using LNG as a marine fuel offers greenhouse gas emissions reductions of up to 30% on a Tankto-Wake basis and 23% on a Well-to-Wake basis compared to conventional marine fuels

• Divestment of most of our older and

focusing attention on engine load, trim optimisation and voyage planning, leading to stronger performance.

- The achievement was made despite less favorable instructions form operators:
- Higher speed (1.0 kts increase in avg speed)
- Less favorable fuel mix less LNG

## FSRU

We only reported for Q1 and the intensity figures went from 0.05 to 0.08 due low send out rates requested by customers resulting in low efficiency.

## LOOKING FORWARD

The IMO has set a target for shipping to save 40% of CO2 emissions by 2030 compared to a 2008 benchmark year. To put this into perspective, we estimate our performance in 2008 equated to an AER of 13.4 meaning that we have reduced emissions by approximately 36% over that timeframe. In the last 5 years alone, Golar has delivered a 15% reduction in emissions (2016: 10.03).

We have an ambition to reduce our emissions beyond targets set by the IMO. We will achive this by retrofitting existing vessels with fuel saving technologies as well as potentially expanding the fleet with even more energy efficient vessels.

## FOCUS AREA COMMUNITIES

It is our ambition to continue to build a workplace that is both ethical and inclusive, ensuring that our organisation is a place where corporate responsibility pervades all business operations and decisions.



For seafarers, the drop was due to a planned reduction in the number of positions onboard. In 2021 we adopted the INTERTANKO

We are guided by our living values and with a culture of strength and support that resides in all areas of Golar.

70% CADETS

STILL EMPLOYED

 $20^{\prime}$ 

**RETENTION RATES** 

P FOR OUR SEAFARERS ↑ & FOR OUR OFFICE STAFF



## 40 ★ ESG Report

2021 was a uniquely challenging year. Our employees showed remarkable resilience in response to the COVID19 pandemic, and our main focus was to support them in these uncertain times and keep them and their families safe.

## **EMPLOYEE SATISFACTION**

AND EXPERIENCE

The satisfaction of our employees begins with ensuring adherence to internationally recognised human rights and labour standards in all our workplaces and by following our internal principles set out in our Code of Business Ethics and Conduct.

Retention is a crucial and widely recognised indicator of employee satisfaction. Despite a drop in 2021, our retention rate for seafarers and office-based staff remains high.

calculation method resulting in a lower rate relative to prior years where planned headcount reductions were not included.

Retention of office-based staff was also lower. A redundancy process in our London office contributed to the subsequent departure of other members of staff.

Despite this we can still lay claim to consistently high retention rates. This, we believe, is a testament to our robust culture.

## WE ARE A LEARNING ORGANISATION

At Golar, we recognise that providing opportunities for learning and development allows our team to reach its full, innovative potential ensuring Golar's reputation as a learning organisation.

An example of this is our cadet programme that aims to promote career growth for young seafarers by giving them an opportunity to develop the necessary skills to become top Golar officers. Since we started the program in 2013, 70% of all our cadets remain in our employment, with some now having reached senior officer positions on our vessels.



## THE COMMUNITIES WE OPERATE IN

In recent years, Golar has become more directly involved in local communities through our FLNG projects and through our former affiliate Hygo Energy Transition's activities in Brazil. We recognise our responsibilities in aiding the social and economic development of the local communities in which we operate.

We focus our support through:

## Hiring locally, where we can

Having local teams has proven invaluable to our business and the development of our operations. It is also more cost effective. Over the last 2 years an average of 88% of office-based staff are local employees.

This also applies to our stationary vessels. For example, on the Hilli Episeyo, despite only commencing operations in 2018, Cameroonian employment developed from 30.5% and 2019, 35.4% in 2020 and 40% in 2021. The target is to increase this every year. We have trainees in all departments onboard for development into more senior roles when vacancies occur. Vacancies on board are also shared with the villages local to Kribi, providing equal opportunities to all who wish to join the Golar team.

Kribi, Cameroon Hospital supplies

## Procuring locally, where we can

We work with local suppliers and endeavour to develop strong relationships with a wide range of local businesses. This also makes financial sense in a world of rising freight prices. Our aim is to procure local goods and services and to support the economies of the areas in which we operate. We increased the local spending from \$10 million in 2020 to \$15 million in 2021. This included material purchase, provision of services as well as crewing. We continue to work closely with current suppliers, as well as qualify new suppliers, as we aim to increase our local procurement.

## **COMMUNITY ENGAGEMENT**

Our engagement with community stakeholders is critical to our aim to provide a lasting positive impact wherever we operate.

## Cameroon

We have worked with community leaders in Kribi to identify how we can help. Listening led to the development of three focus areas: Education, Training and Health. In 2021 the key highlights were:

- We continued the scholarship program that will allow students from Kribi to graduate from university or a higher education program.
- We continued to donate computers to beneficiaries in Kribi like schools, students or medical clinics etc.

## Philippines and Indonesia

Golar supports the SOS children's villages care program and has also set aside funding to support the families of Golar crew impacted by natural disasters in the area on an ongoing basis.

## Mauritania

Golar will commence operations in Mauritania in 2023 but has already started to provide funding support for a local school.

## Norway

For the last three years Golar has been a proud sponsor of the Windjammer Guild. In conjunction with the Christian Radich Foundation (custodians of a Norwegian fullrigged sailing ship) The Windjammer Guild has been helping youth at risk of exclusion and dropout from secondary education to get back on to a path of active participation in professional life.

## GOVERNANCE AND BUSINESS

## an important part in ensuring that we conduct business responsibly and ethically, with a focus on sustainability and strict adherence to all regulations.

## OUR BOARD

We are

committed to the

highest standards

ethical conduct in

everything we do.

We support actions

in our industry and

on the key issues

throughout our

supply chain.

of governance and

Our Board operates through a governance framework with clear procedures, lines of responsibility and delegated authorities to ensure that our strategy is implemented, and key risks are assessed and managed effectively.

As of 31 December 2021, our board consisted of seven members, five of which were independent directors. The percentage of women on our Board was 29%.

## **OUR BOARD COMMITTEES**

The governance structure adequately differentiates governance and management functions from oversight, control, and strategic definition functions. Our Board has delegated some of its responsibilities to four Committees, namely the Audit Committee, the Nominations Committee, the Compensation Committee and the Safety, Environment and Ethics Committee. Our executive team oversees the day-today operational matters and report to the Board on these matters. Our board and our Committees' Charters can be found on our website.

	BOARD
2	Nomination Committee

Responsible for financial reporting, auditing, internal controls and risk management processes

Audit

Committee

Responsible for Board composition, appointment of directors and succession planning

Our board is responsible for the overall leadership of Golar and plays

We are always looking for ways to enhance and improve our governance.

## ANTI-BRIBERY AND CORRUPTION

We have zero tolerance for bribery, corruption and other financial crimes and we explicitly prohibit behaviours that are not consistent with fair, respectful and decent business practices. A copy of our Corporate Code of Business Ethics and Conduct can be found on our website.

Our Anti-Bribery and Corruption Policy aligns with the U.S. Foreign Corrupt Practices Act (FCPA) and the U.K. Bribery Act of 2010, as well as best practices in anti-corruption

## **SUPPLIERS**

We require our suppliers to uphold our Code of Ethical Conduct and our contractual agreements include ethics and compliance clauses covering these requirements. Prior to engaging with suppliers, we conduct riskbased, third-party due diligence on matters relating to ethical conduct including, antibribery and corruption, sanctions and trade restrictions, and human and labour rights.

## OF DIRECTORS



**Compensation** Committee

A Safety, and Ethics Committee

Responsible for reward and compensation for executive directors, the Chair and Senior Management

Responsible for oversight of ESG projects, KPI performance and external reporting

## GOLAR'S APPROACH TO COMPLIANCE

We understand that our industry has historically been subject to investigations and ethical concerns, particularly regarding bribery and corruption. This drives our focus on compliance.



**TOP LEVEL COMMITMENT:** Our Code of Conduct and ABC Policy are clear, publicly available, and express our zero-tolerance for breaches of our high standards.

**RISK BASED FOCUS:** Specifically, high risk countries, interactions with government officials, our affiliates and facilitation payments at port calls.

**REGULAR TRAINING:** All staff receive conduct and ABC training on induction. This is supplemented by advanced face-to-face training for those considered to be at higher exposure, and annual refresher training for all staff.

**THIRD PARTY MANAGEMENT:** We require all consultants and agents to sign up to these standards, and all suppliers to sign up to our bespoke Supplier Code of Conduct.

**AUDIT AND COMPLIANCE:** We regularly audit our key controls and procedures, and monitor compliance across the business.

**SPEAK UP** 

We want our employees, contractors, vendors, third parties and other stakeholders to feel comfortable about speaking up whenever they have any concerns or issues of non-compliance. Therefore, we have a Speak up Hotline, managed by an external service provider. The Speak up line acts as a vehicle for employees, third parties and others to report anonymously, without risk of retaliation, potential violations of any of our policies.

Concerns and enquiries can be raised through multiple channels: with line managers or other senior leaders, supporting teams, including human resources, legal, ethics and compliance and through work councils.

## COMPLIANCE WITH LAWS AND REGULATIONS

Our industry is highly regulated under the international laws of the IMO, ship classification rules and others. Our vessels are audited regularly by our customers, Flag States, Class and Port State Control to verify compliance.

In 2021 we did not have any violation of any laws or regulations.

Corruption and bribery are industry wide challenges, and we know we cannot address them alone. We are active members of the Maritime Anti-Corruption Network, which aims to eradicate these issues in our sector, and support collaborative action efforts across the world.



MACN Maritime Anti-Corruption Network Golar is committed to the highest standards of governance and ethical conduct in everything we do. We support action on the key issues in our industry and expect all our staff and anyone working with Golar to uphold our high standards.

# **APPENDICES**

## APPENDIX 1 KEY FACTS AND FIGURES - GOLAR FLEET

in order to provide insight, transparency and comparability on what we consider to be our most important ESG topics. Where possible, we have aligned our reporting with industry standards to enable comparison, and where industry standards are not available, we use ESG frameworks (for example SASB or GRI) to support our calculation/methodology. In some instances, there is no agreed comparable definition, and therefore in the footnote section we disclose how we have calculated the figure, including the alongside our detailed methodology statements. definitions used and, where applicable, which standard we have followed.

We have identified the data and figures below The figures relate to the entire Golar fleet, encompassing assets owned and operated by ourselves, and in the case of emissions data, for former affiliates Golar LNG Partners and Hygo Energy Transition up until April 2021.

> We engaged Det Norske Veritas (DNV) to provide limited assurance of **all** 2021 reported data. In 2020 only our emissions data was assured by PricewaterhouseCoopers LLP (PwC). DNV's assurance opinion for all 2021 data can be found on our website

Genera	l Opera	tion data
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Description		Unit	2018	2019	2020	2021	Footnotes
Total number of vess	els in operation	Number	23	24	22	24	-
- LNGC		Number	16	17	15	15	1
- FSRU		Number	6	6	6	8	1
- FLNG		Number	1	1	1	1	-
Total number of em	ployees	Number	1,404	1,661	1,643	1489	-
Office employee		Number	203	247	240	190	-
Seafarer & offshore	staff	Number	1,201	1,414	1,403	1,299	-

## Health, Safety and Security

Description	Unit	2018	2019	2020	2021	Footnotes
Number of serious marine incidents	Number	0	0	0	0	2
Fatalities	Number	0	0	0	0	-
Lost time injury frequency (LTIF)	Number	0.73	0.86	0.89	0.16	3
Total recordable case frequency (TRCF)	Number	0.91	1.72	1.49	1.56	4
Number of hours per seafarer/ offshore worker spent on safety training in the year	Avrg Hours	61	56	53	66	5

## Environment

Description	Unit
Total Greenhouse Gas emission (CO2) (Scope 1) for LNGC and FSRU	Metric tons
- LNGC CO2 emissions	Metric tons
- FSRU CO2 emissions	Metric tons
FLNG CO2e emissions (scope 1)	Metric tons
FLNG NOx for all fleet	Metric tons
- LNGC NOx emissions	Metric tons
- FSRU NOx emissions	Metric tons
- FLNG NOx emissions	Metric tons
Total SOx for all fleet	Metric tons
- LNGC SOx emissions	Metric tons
- FSRU SOx emissions	Metric tons
- FLNG SOx emissions	Metric tons
Total PM (Particulate Matter) for all fleet	Metric tons
- LNGC PM emissions	Metric tons
- FSRU PM emissions	Metric tons
- FLNG PM emissions	Metric tons
Total general and oily waste (hazardous and non hazardous waste) for all fleet	m3
Total general waste for all fleet	m3
- LNGC general Waste	m3
- FSRU general Waste	m3
- FLNG general Waste	m3
Total oily waste for all fleet	m3
- LNGC oily waste	m3
- FSRU oily waste	m3
- FLNG oily waste	m3
Total oil spills for all fleet	Metric tons

2018	2019	2020	2021	Footnotes
1,361,921	1,506,884	1,557,284	991,993	6
1,059,217	1,071,380	1,136,382	909,160	7
302,704	435,504	420,901	82,774	7
332,422	382,078	387,736	371,936	8
7,954	8,143	7,087	6,347	-
6,545	6,094	5,168	5,691	7
1,081	1,694	1,561	315	7
328	355	358	341	8
4,052	3,788	260	403	-
3,794	3,492	240	398	7
249	290	18	3	7
9	6	2.1	2.4	8
683	673	239	262	-
604	578	173	222	7
56	70	31	7	7
23	26	35	33	8
3,838	4,307	3,223	3,007	
2,010	1,983	1,809	2,015	-
1,187	1,232	1,068	1,070	9
549	610	536	750	9
275	141	205	194	9
1,828	2,324	1,414	993	-
1,354	1,778	1,1335	792	10
314	478	247	171	10
160	68	32	30	10
0	0	0	0	-

## **Energy efficiency**

Description		Unit	2018	2019	2020	2021	Footnotes
LNGC % of energy co from heavy fuel oil	onsumed	Percentage	17%	14%	0%	0%	12
FSRU % of energy con from heavy fuel oil	sumed	Percentage	4%	3%	0%	0%	12
Intensity measure							
lngc - Eeoi			21.74	24.74	20.88	20.44	12, 15
LNGC - AER*			9.00	9.86	8.62	8.48	12
FSRU - Emission per to	nne LNG send out		-	0.04	0.05	0.08	12
FLNG -Emissions per t	onne produced		0.46	0.30	0.30	0.29	13

## **People and community**

Description		Unit	2018	2019	2020	2021	Footnotes
Employee Retention Rate (%) for Off	fice staff	Percentage	87.29%	86.05%	86.20%	84.96%	14
Employee Retention Rate (%) for Sec	a based staff	Percentage	97.10%	96.70%	97.10%	93.02%	14
Diversity - Number of nationalities c	on board	Number	26	27	30	28	-

\* Restated figures. Due to improvements in our data collection and reporting processes, we have restated these figures to facilitate comparison between the reporting years.

We have robust internal reporting procedures in place to ensure the fleet is routinely scored against key environmental indicators. This data is regularly shared with our Environmental Committee and shapes our overarching strategy.

## Footnotes

- 1. The figures indicate the total vessels operated as a LNGC as at year end. Golar have in addition three vessels in layup and one under conversion to FLNG that are not included in the ESG reporting.
  - For emissions we report only for owned vessels. 1 st April Golar sold 5 LNGC's and 7 FRSU's to New Fortress Energy. One FSRU has in 2021 been trading as a LNGC and her emissions are included in the LNGC's emission figures.
- 2. Standard used: SASB "TR-MT-540a.1. Number of marine casualties, percentage classified as very serious" and also the IMO (RESOLUTION MSC 255(84))
- 3. Calculation: LTIs x (1,000,000/ Exposure hours). Standard used: OCIMF standards.
- 4. Calculation: (LTIs + Restricted Work Cases (RWCs) + Medical Treatment Cases (MTCs)) x (1.000.000/ Exposure hours).Standard used: OCIMF standards.
- 5. Calculation: (hours spent on safety training)/number of offshore workers.
  - The number of hours spent on safety training are based on the recommended amount of hours to complete the training module and includes both mandatory and non-mandatory training per year. An average will be calculated where training modules have to be repeated every few years.
- 6. Scope 1 emissions are direct emissions and Scope 2 are indirect emissions. We report only on Scope 1 emissions as Scope 2 would only be emissions from our offices as we do not purchase any electricity, steam, heat, or cooling for use by any of our fleet (LNGC, FSRUs or FLNGs). Therefore, our Scope 2 figure is highly immaterial compared to our operations.
- 7. Our emissions figures, including GHG emissions and other air emissions, are based on fuel consumption. A detailed description of our calculation and methodology used can be seen in our Methodology statement ("Golar LNG methodology statement"), located on our website.

Conversion factors used: Third IMO GHG Study 2014 - final.

- 8. Our emissions figures, including GHG emissions and other air emissions, are based on fuel combustion. flaring, amine treating and venting. A detailed description of our calculation and methodology used can be seen in our Methodology statement ("Golar LNG methodology statement"), located on our website
- 9. The sum of all waste generated throughout the reporting year which falls under the "general waste" type category within the MARPOL standards.

- 10. The sum of all waste generated throughout the reporting year which falls under the "Oily waste" type category , within the MARPOL standards.
- 11. Calculation: Total HFO energy consumed/ Total energy consumed.

12. Calculations:

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- (volume) [g CO2 / (MT x miles)]. Standard used = IMO Calculation MEPC.1/
- Average Efficiency Ratio ("AER") = CO2 emissions divided by design deadweight of the vessels multiplied by distance travelled.
- Standard used = Fourth IMO GHG Study 2020
- CO2 emissions divided by total LNG sent out ("production"). We only included the vessels that operated as FSRUs and excluded vessels that operated as FSUs during the reporting period

A detailed description of our calculation and methodology used can be seen in our Methodology statement ("Golar LNG methodology statement"), located on our website

NOTE: The historical AER factor has been updated due to correction in deadweight for Golar Kelvin and Golar Glacier.

13. Calculation: Total CO2e excluding CO2e emission from Amine treating system / Total tonnes LNG produced.

A detailed description of our calculation and methodology used can be seen in our Methodology statement ("Golar LNG methodology statement"), located on our website.

- 14. Calculated based on the INTERTANKO methodology which is set out by the TMSA. The calculation takes into account all terminations excluding unavoidable (retirements or long-term illness) and beneficial (staff whose departure benefits the company, e.g. underperformers) terminations divided by the average number of employees working for the company during the same period.
- 15. We have updated the standards that we use to we followed EU MRV guidance but are now applying IMO guidance. The difference between the calcul is the unit in which you measure transport work (M3 vs MT). We have restated our 2019 figure.

• Energy Efficiency Operational Indicator (EEOI)= Annual average CO2 emissions per transport work

• FSRU - Emission per tonne LNG send out = Total

calculate our EEOI during this reporting year. Previously

## CLIMATE RELATED RISKS APPENDIX 2 AND OPPORTUNITIES

We support the aims of the Taskforce for Climaterelated Financial Disclosures ("TCFD") to improve the transparency and reporting of climate related risks and opportunities. We are working towards full disclosure in line with the TCFD requirements, and relevant disclosures can be found throughout our report, specifically:

- Governance ESG governance and materiality section
- Strategy Our sustainability strategy and Climate and LNG
- Risk management ESG governance and materiality section, and the risks and opportunities outlined in this Appendix
- Metrics and targets Our ambitions, focus areas and Appendix 1 Key Facts and Figures

As recommended by the TCFD, the following section outlines potential climate related risks and opportunities that we identified for our business.

## Risks

The TCFD divides climate risks into two categories, physical and transition risks, both of which are addressed below;

Physical risks The potential risks related to the physical impacts of climate change.

We have identified 3 main physical climate risks with the potential to significantly effect the performance of our assets, namely:

- Increased severe weather events, causing operational downtime or damage
- Increased sea temperatures leading to reduced efficiency, and

• Increased air temperatures leading to reduced efficiency.

Our assets and vessels are designed according to current regulations to withstand extreme environmental conditions. For our permanently moored assets (FLNGs and FSRUs) detailed assessments have been performed to identify possible conditions over the course of the contract life, ensuring that our vessels can operate under those conditions.

Торіс	Brief risk description
GAL	<ul> <li>Increased environmental regulations which our existing infrastructure and new project would need to comply with.</li> </ul>
POLICY & LE	<ul> <li>Government policy changes, such as carbon policies and regulations and subsidies for low carbon or renewable energy sources, effects the attractiveness and cost competitiveness of LNG.</li> </ul>
	Enhanced ESG and climate related reporting obligations.
F	<ul> <li>Changing consumer preferences leading to reduction in global LNG demand.</li> </ul>
MARKE	<ul> <li>Uncertainty in the balance of LNG supply and demand leads to increasing volatility in energy prices.</li> </ul>
REPUTATIONAL	<ul> <li>Stigmatisation of the LNG industry as part of the fossil fuel sector.</li> <li>Negative stakeholder feedback on Golar and its contribution to the LNG supply chain.</li> </ul>
NOLOGY	<ul> <li>Technological advancements leading to market share of low carbon and renewable energy sources exceeding current expectations and models.</li> </ul>
TECH	<ul> <li>Golar infrastructure and ships become technologically obsolete through competitors improving performance or through Golar investing in the "wrong" technology.</li> </ul>

## **Opportunities**

Торіс	Brief opportunity description	Impact on our business, strategy and/or financials
RGY ITION	• The energy transition, in terms of reducing emissions whilst meeting rising demand, results in greater demand for natural gas to replace other more polluting fossil fuels in power, transportation and industrial use.	<ul> <li>Increase in demand and LNG prices, resulting in increased shipping revenue and infrastructure returns.</li> </ul>
ENE TRANS	<ul> <li>Integration of sustainability in our strategy, operations and reporting supports the energy transition.</li> </ul>	<ul> <li>Access to broader range of financing alternatives and lower cost of debt.</li> <li>Increased access to capital and other reputational benefits through stronger stakeholder relationships.</li> </ul>
MARKETS	<ul> <li>Growth in markets for LNG, with more countries importing gas to provide cheaper and cleaner energy.</li> </ul>	<ul> <li>Increased shipping rates leading to increased revenue.</li> <li>Opportunities for growth in floating liquefaction (to meet additional supply requirements) and gas to power projects.</li> </ul>
UCTS RVICES	<ul> <li>Deliver maritime infrastructure to support the development of alternative fuels, such as hydrogen and ammonia, by applying our skills, experiences and track record of innovation.</li> </ul>	<ul> <li>Growth opportunities, increased access to capital and reputational benefits.</li> </ul>
PROD AND SE	<ul> <li>Development of carbon capture, utilisation and storage services for gas maritime infrastructure reducing the carbon footprint for LNG even further resulting in an increase in demand.</li> </ul>	• Supporting increased growth in LNG through reduction of upstream emissions leading to increased demand and therefore higher shipping rates and infrastructure returns.
resource efficiency	<ul> <li>Reduced energy usage / retainage through engaging with charterers and wider industry drive towards greater efficiency.</li> </ul>	<ul> <li>Reduced operating costs, increase in operational efficiencies and reduced gap between the efficiency of current assets and new technology ultimately leading to greater profitability.</li> </ul>
TECHNOLOGY	<ul> <li>FLNG technology improvements lead to cheaper gas and an immediate pathway to global emissions reductions.</li> <li>Improvements in shipping efficiency.</li> </ul>	• Reduction in operational costs.

Transition risks Potential risks related to the transition to a lower carbon economy.



## Impact on our business, strategy and/or financials

- Increased project development costs and operating costs to ensure compliance in obtaining and maintaining permits.
- Increase administration and compliance costs.
- Higher costs for LNG and reduced global demand leading to lower shipping rates, infrastructure returns and opportunities for growth.
- Increase admin and compliance cost.
- Reduced global LNG demand leading to lower shipping rates and reduced opportunities for future infrastructure projects.
- Increased volatility in shipping rates leads to increased seasonality in revenue and greater challenges in obtaining market rates consistently.
- Uncertainty in energy prices and LNG demand could lead to delays in investment decisions on new gas projects.
- Challenges in obtaining financing for new projects or re-financing existing debt.
- Challenge to social right to operate and the ability to attract and retain talent. Increased cost of capital and reduced revenue.
- Reduced global LNG demand leading to lower shipping rates and reduced opportunities for future infrastructure projects.
- Reduced revenue through shipping rates and infrastructure returns, and reduced opportunities for future projects.
- Increase in cost through failed investments.

Golar was awarded Best 2021 North America ESG Energy Business Strategy by Capital Finance International.

We value your feedback. You can email our corporate reporting team at golarlng@golar.com

## **OTHER REPORTS**

## **Our 20F report**

Details of our financial performance in our 20F.

## Sustainability information

More ESG related information can be found on our website.

## Floating blue ammonia production: Creating a zero carbon emission fuel

Our first thought leadership paper through our collaboration agreement with Black & Veatch can be found on our website.



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