THE PIONEER

THE MAGAZINE OF QATARGAS OPERATING COMPANY LIMITED

ISSUE 162, QUARTER 3, 2022

A NEW ERA OF PROSPERITY

INAUGURATION OF THE BARZAN GAS PLANT

قطرغاز
QATARGAS

Committed to sustainable premier environmental performance

We operate one of the region's largest carbon sequestration facilities

Advanced wastewater treatment plant that recycles and reuses more than 65% of wastewater generated

Jetty Boil Off Gas (JBOG) Recovery facility that reduced flaring at LNG berths by more than 90%

Qatargas has developed an Environmental Strategy which outlines our proactive and forward-looking position on emerging environmental risks and our vision to achieving sustainable premier environmental performance.

The World's Premier LNG Company

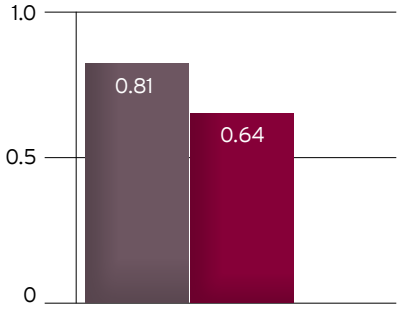
قطـرغـاز
QATARGAS

QATARGAS CORPORATE SCORECARD

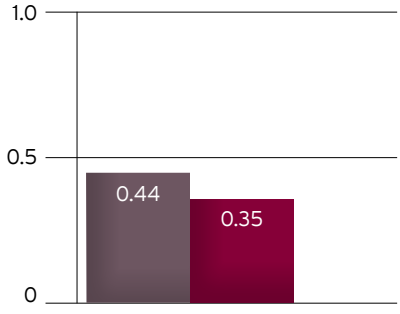
YEAR TO DATE THIRD QUARTER 2022

SAFETY, HEALTH AND ENVIRONMENTAL PERFORMANCE

TRIR



Flaring (Onshore)
{% of Sweet Gas}



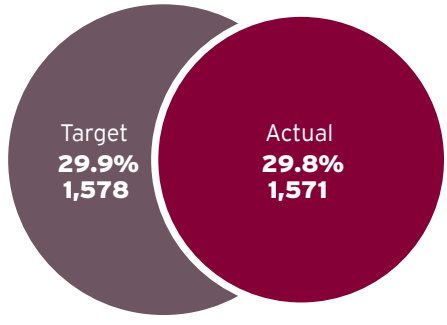
EFFICIENT AND RELIABLE OPERATIONS

	Target	Actual
LNG Reliability	98.0%	98.4%
LR Reliability	98.4%	99.1%

CUSTOMER SATISFACTION

	Target	Actual
Late deliveries - LNG	0%	0%
Positive Responses to Customer Change Requests	100%	98%

QATARIZATION
A High Calibre and Diverse Workforce
{Total Headcount}



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THE MAGAZINE OF QATARGAS OPERATING COMPANY LIMITED

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CULTIVATING A LEGACY FOR FUTURE GENERATIONS.

A STEP FORWARD TOGETHER

At the time of writing this, Qatar is less than two months from the start of the 2022 FIFA World Cup™, a historic moment not just for our country, but for our region and for the sport of football itself.

It is a fitting time to think about legacy.

As the world's largest liquefied natural gas company, Qatargas' legacy is abundantly clear. Yet over and above providing a secure source of cleaner and reliable energy for businesses, homes and cities around the world, the onus is also on us to cast a critical eye on how we operate, what we contribute, and where we can minimise our environmental impact.

As such, we invest significantly in projects, technology, innovation, and our people, not only to grow as a company, but to ensure that future generations will live in a better world.

The inauguration of the Barzan Gas Plant by His Highness Sheikh Tamim bin Hamad Al Thani, the Amir of the State of Qatar, represented a substantial step forward in this respect, as the project will produce and process natural gas to meet the needs of Qatar's local power generation and water desalination.

Noted as "one of the most important energy projects in the State of Qatar", Barzan is a critical lever for national growth, and the road to the plant's inauguration has been an astounding one, employing as many as 30,000 people at its peak, all of whom achieved 130 million manhours worked without a single Lost-Time Incident. Many of these were early-career Qatari nationals, who were able to build crucial skills while working on the challenging, yet rewarding, project.

Notable too is Barzan's environmental performance, which utilised advanced technology and state-of-the-art controls to minimise its flaring intensity, treat and rescue wastewater, and even relocate and preserve Qatar's live coral.

The design and decisions behind Barzan represent the very best of what a company such as Qatargas can achieve. Indeed, when we embrace our responsibilities to our stakeholders, invest in and believe in our shared intellectual capital, and commit to our priorities, we all take a step forward together.

With this in mind, I extend warm thanks to all who commit and contribute to building this legacy with us and encourage you to continue to think boldly on this path of continuous improvement.

KHALID BIN KHALIFA AL THANI
CHIEF EXECUTIVE OFFICER,
QATARGAS

QATAR'S AMIR, HH SHEIKH TAMIM BIN HAMAD AL THANI, INAUGURATES BARZAN GAS PLANT

Providing the nation with a reliable source of natural gas, Barzan Gas Plant is considered one of Qatar's most important energy projects.

His Highness the Amir Sheikh Tamim bin Hamad Al Thani inaugurated the Barzan Gas Plant in a special ceremony held on 15 March 2022 at Ras Laffan Industrial City. Also present were: His Excellency the Prime Minister and Minister of Interior Sheikh Khalid bin Khalifa bin Abdulaziz Al Thani, His Excellency Abdullah Bin Hamad Al-Attiyah, Former Deputy Prime Minister & Minister of Energy and Industry, His Excellency the Speaker of Shura Council Hassan bin Abdullah Al Ghanim, His Excellency Saad Sherida Al-Kaabi the Minister of State for Energy Affairs and President and CEO of QatarEnergy and Chairman of Barzan Board of Directors, as well as several distinguished guests and high officials of companies involved in the project.

In a spectacular inauguration ceremony held in Ras Laffan on 15 March 2022, dignitaries gathered to witness the inauguration of the Barzan Gas Plant by His Highness Sheikh Tamim bin Hamad Al Thani, the Amir of the State of Qatar. The event started with a reading from the Holy Quran and a keynote speech delivered by His Excellency Mr. Saad Sherida Al-Kaabi, the Minister of State for Energy Affairs, the President and CEO of QatarEnergy, A film was showcased illustrating the Barzan Project with interviews from all project stakeholders.

The Inauguration proceedings involved the presentation of a specially designed replica of Barzan Tower which was presented to His Highness the Amir on which a symbolic piece was placed on top of the towers, marking the Barzan Project's completion. The event concluded with a site visit to the Barzan facilities and a group photo was taken with His Highness the Amir, His Excellency the Prime Minister, His Excellency the Minister Al-Kaabi and Khalid bin Khalifa Al Thani, CEO of Qatargas along with members of the Barzan Board of Directors.

Named after the historic Barzan Towers, which were built in the early 20th century and are also known as the Umm Salal Mohammed Fort Towers, the Barzan Gas Plant produces and processes natural gas from the North Field to meet the needs of local power generation and water desalination.

It also produces associated hydrocarbon products for supply to local refinery and petrochemical industries, available too for export to international markets.

A NEW ERA OF PROSPERITY

Speaking at the inauguration ceremony at Ras Laffan Industrial City, His Excellency the Minister Al-Kaabi said, "This is one of the most important energy projects in the State of Qatar, which adds a high and qualitative value in the effort to meet our domestic natural gas needs, and in supporting Qatar's comprehensive development and economic growth."

The Barzan Gas Plant is capable of producing almost 1.4 billion standard cubic feet of sales gas per day for local power generation and water desalination; 2,000 tonnes of ethane per day as feedstock for the local petrochemicals industry; 1,500 tonnes per day of liquid petroleum gas for export to international markets; 30,000 barrels of condensate per day for processing in the Laffan Refinery and export to international markets; and 3,500 tonnes of sulfur per day for export to international markets.

Barzan also comprises three unmanned well head platforms with 30 gas wells, and one of the world's longest cladded pipelines consisting of two 32-inch pipes, each 77 kilometres long.

The Plant is considered a core element of Qatar's energy infrastructure, providing the nation with a secure and reliable source of natural gas.

30,000

The number of workers on the Barzan Plant at its peak

"With the Barzan Plant's products, we have achieved our objective of the optimal exploitation of our resources from the North Field, providing energy for electricity and water desalination."

His Excellency Mr. Saad Sherida Al-Kaabi, the Minister of State for Energy Affairs, the President and CEO of QatarEnergy.

His Highness the Amir Sheikh Tamim bin Hamad Al Thani along with senior officials of QatarEnergy, Qatargas and companies participating in Barzan Gas Project. **Back row:** Hamad Al Qayed, Chief Internal Audit; Jagir Baxi - Vice President & Ventures Manager, GM of AKG - ExxonMobil Qatar Inc.; Jassim Abdulla Al-Mohannadi - Chief Shared Services Officer -Qatargas; Alaa Abu Jbara - Chief Commercial & Shipping Officer - Qatargas; Abdulaziz MohdAl-Mannai - Executive VP, Human Capital - QatarEnergy; Ahmad Helal Al-Mohannadi - Chief Onshore & Operations Support Officer - Qatargas; Sheikh Khalid Abdullah Al-Thani - Chief Engineering & Projects Officer-Qatargas; Haytham Abdulaziz Al-Meer - Chief Subsurface Officer - Qatargas; Murray Done - General Counsel & Company Secretary - Qatargas; Dominic Genetti; President & General Manager - ExxonMobil Qatar Inc.; **Front row:** Nafez Bseiso, Chief Major Projects Officer - Qatargas; Liam Martin Mallon, President ExxonMobil Upstream; Khalid bin Khalifa Al Thani, Chief Executive Officer - Qatargas; His Excellency Saad Sherida Al-Kaabi, the Minister of State for Energy Affairs and President & CEO of QatarEnergy and Chairman of Barzan Board of Directors; His Excellency Sheikh Khalid bin Khalifa bin Abdulaziz Al Thani, Prime Minister and Minister of Interior; His Highness Sheikh Tamim bin Hamad Al Thani, Emiri of the State of Qatar; His Excellency Abdullah Bin Hamad Al-Attiyah, Former Deputy Prime Minister & Minister of Energy and Industry, and Chairman of The Al-Attiyah Foundation; Khalid Mohammed Al-Hitmi, Executive VP, Subsurface Development & Exploration - QatarEnergy; Ahmed Saeed Al-Amoodi, Executive VP, Surface Development & Sustainability; Fahad Mohd. A. Al-Khater, Chief Offshore, Terminals & Refining Officer - Qatargas; Ghanim M Al Kuwari, Chief Human Capital Officer - Qatargas

Barzan stakeholders are pictured with Khalid bin Khalifa Al Thani, Chief Executive Officer of Qatargas.

BARZAN'S END PRODUCTS:

- **1.4** billion standard cubic feet/day of sales gas, mostly for domestic power generation
- **1,900** tonnes/day of ethane for local industries' feedstock
- **860** tonnes/day of LPG, propane for international export
- **680** tonnes/day of butane
- **5,600** barrels/day of plant condensate for international export
- **24,200** barrels/day of untreated field condensate for the Ras Laffan Refinery
- **4,000** tonnes/day molten sulfur capacity

> "This is one of the most important energy projects in the State of Qatar...to meet our domestic natural gas needs, and to support our development and economic growth."
>
> His Excellency Mr. Saad Sherida Al-Kaabi, the Minister of State for Energy Affairs, the President and CEO of QatarEnergy.

His Excellency the Minister continued, "With the Barzan Plant's various products, we have achieved our important objective of the optimal exploitation of our resources from the North Field, and provided the energy needed for electricity production and water desalination, in addition to the large development projects in the country, including the facilities for hosting the 2022 FIFA World Cup™ and other strategic projects."

A TEAM EFFORT

During the Plant's construction phase, 30,000 workers were employed on-site at its peak, representing some 45 different nationalities. Given the sheer number of workers, it's particularly astounding that 130 million man-hours were worked during this time without a single Lost-Time Incident, an industry-leading safety record.

The Plant also provided a unique, challenging and professionally rewarding experience for early-career Qatari employees, who were recognised with pride by His Excellency Minister Al-Kaabi: "I would like to single out the Qatari youth and project managers and others who have exerted great effort and gained the knowledge, experience and skill to become the future leaders of the oil and gas sector."

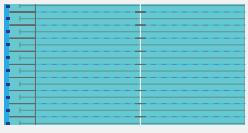
His Excellency Minister Al-Kaabi extended a special note of appreciation to His Highness Sheikh Tamim bin Hamad Al Thani, the Amir of the State of Qatar, for his limitless guidance and support of the energy sector and thanked all the executive management and teams involved in the delivery of this important project.

130 million

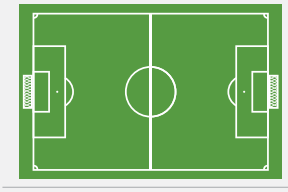
The number of man-hours worked on Barzan without a Lost-Time Incident

CONSTRUCTION FACTS:

x6 — **42,151** tonnes of **steel** were used to build Barzan, the equivalent of **6 Eiffel Towers**



x28 — **100,423m³** of **concrete** was used to build Barzan, which could cast **28 Olympic-sized swimming pools**



x55 — **418,487m²** of **concrete paving**, the equivalent of **55 football fields**

Qatargas operates the Barzan Gas Plant on behalf of its shareholders, QatarEnergy (93%) and ExxonMobil (7%)

BARZAN AND THE ENVIRONMENT

- Designed to meet 0.1% flaring intensity, which is 66% lower than the regulatory target for existing LNG and gas facilities.
- State-of-the-art emission controls to meet 9-15 ppm nitrogen oxides level. This is 40% lower than regulatory standards.
- Advanced technology guaranteed to meet a 99.6% recovery efficiency – higher than the 99% standard in the State of Qatar's regulations.
- Equipped with a high-tech membrane bioreactor to treat wastewater for irrigation
- Relocation and preservation of over 1,600 live corals from nearshore pipeline corridors to offshore protected areas and deployment of 200 artificial coral reefs.

4,140km

The cumulative length of electric and instrument cables used on Barzan, 33 times the distance between Ras Laffan and Mesaieed.

NFE PROJECT EPC CONTRACTS AWARDED

EPC contract for the North Field East project marks a major milestone.

QatarEnergy's award of the major Engineering, Procurement and Construction (EPC) contract for four mega trains for the North Field East (NFE) Expansion Project brings to a culmination the tendering for currently the largest project of its kind in the Liquefied Natural Gas (LNG) industry.

The project, which aims to boost Qatar's LNG production capacity to 110 million tonnes per annum (MTPA), is "part of our journey for the sustainable development of our massive natural gas resources", as noted by His Excellency Mr. Saad Sherida Al-Kaabi, the Minister of State for Energy Affairs, President and Chief Executive Officer (CEO) of QatarEnergy.

LUMP-SUM CONTRACT FOR TÉCNICAS REUNIDAS-WISON ENGINEERING JOINT VENTURE

A joint venture between Técnicas Reunidas S.A. and Wison Engineering (TWJV) was selected as the EPC contractor and awarded a lump-sum contract for the expansion of the sulfur handling, storage, and loading facilities within Ras Laffan Industrial City.

These facilities will support the NFE's four new LNG trains, which are scheduled to start by year-end 2025. H.E. Minister Al-Kaabi confirmed that the contract with TWJV "includes options for the North Field South (NFS) project, as well as any future requirements for the handling, storage and loading of sulfur."

OTHER NFE EXPANSION CONTRACT NEWS

This new contract follows QatarEnergy's awarding of the Engineering, Procurement, Construction and Installation (EPCI) contract for the offshore scope of the NFE project to McDermott Middle East Inc.

This includes 13 normally unmanned wellhead platforms' topsides (eight for NFE and five for NFS), as well as various connecting pipelines and the shore approaches for the NFE pipelines, beach valve stations and buildings.

The only remaining major EPC contract for the delivery of the NFE project is for the NFS two onshore processing and liquefaction trains, which is planned to be awarded by the end of 2022.

H.E. Minister Al-Kaabi thanked Sheikh Khalid bin Khalifa Al Thani, the CEO of Qatargas, and the working teams from QatarEnergy and Qatargas for their significant efforts and contributions in successfully concluding the contracts.

SHIPPING PROGRAMME ON TRACK

QatarEnergy kickstarts massive LNG shipping programme with first series of TCPs.

QatarEnergy has signed its first batch of time-charter parties (TCPs) under the company's massive liquefied natural gas (LNG) shipping programme.

The series of TCPs were recently agreed to with a subsidiary of Mitsui O.S.K Lines (MOL) for the long-term charter and operation of four LNG ships.

Additionally, back-to-back LNG carrier shipbuilding contracts were signed between MOL and Hudong-Zhonghua Shipbuilding Group (Hudong), a subsidiary of China State Shipbuilding Corporation (CSSC), for the construction of four new LNG carriers to serve QatarEnergy's growth projects and future fleet requirements.

The contracts mark the start of the construction phase of QatarEnergy's fleet expansion programme in support of the company's LNG expansion projects, noted His Excellency Mr. Saad Sherida Al-Kaabi the Minister of State for Energy Affairs, the President and CEO of QatarEnergy.

He confirmed, "We are pleased to be working with our reliable business partners from China and Japan, namely, MOL, Hudong, and CSSC to take this important step together. We look forward to announcing many more such contracts in the near future in our relentless pursuit to ensure a reliable supply of additional clean energy to the world."

The contracts mark the commencement of design and construction of the first four new LNG carriers from Hudong, announced in October 2021.

In preparation for QatarEnergy's future carrier fleet requirements in light of the North Field expansion projects, the company had earlier entered into an agreement with Hudong to reserve LNG ship construction capacity in China.

The signing of the first LNG ship-owner contract marks the successful conclusion of the ship-owner invitation to tender that was launched by QatarEnergy in March 2021, and other successful bids will be announced by QatarEnergy in due course.

"We are pleased to be working with our reliable business partners from China and Japan, namely, MOL, Hudong, and CSSC to take this important step together. We look forward to announcing many more such contracts in the near future in our relentless pursuit to ensure a reliable supply of additional clean energy to the world."

His Excellency Mr. Saad Sherida Al-Kaabi, the Minister of State for Energy Affairs, the President and CEO of QatarEnergy

The TCPs mark the start of the construction phase of QatarEnergy's fleet expansion programme in support of the company's North Field expansion projects

SHAPING THE GLOBAL ENERGY AGENDA AT WGC 2022

Qatar's delegation to the WGC 2022. This year's event drew 9,500 attendees from across the gas and energy industry.

Qatargas joined QatarEnergy and Nakilat as part of the Qatar delegation attending this year's 28th World Gas Conference (WGC 2022), held in Daegu, South Korea.

The event, which is one of the world's largest gas and energy conferences, was held over four days and drew some 9,500 attendees, including policy-makers, business leaders, technical experts and decision-makers within the gas and energy industry.

Qatargas Chief Executive Officer (CEO), Khalid bin Khalifa Al Thani, led the Qatar delegation, and was joined by Nakilat CEO, Abdulla Al Sulaiti, Qatar's Ambassador to South Korea, His Excellency Khalid bin Ebrahim Al-Hamar, and other senior officials, in welcoming South Korea's President, His Excellency Yoon Suk-yeol, to the QatarEnergy pavilion.

Several experts from Qatargas participated at the conference as speakers and delivered technical papers, while key Company representatives attended numerous sessions and met with customers.

1931

The World Gas Conference has been held every three years since 1931

75

WGC 2022 attracted 9,500 participants from 75 countries

South Korea's President, His Excellency Yoon Suk-yeol, is welcomed to the QatarEnergy pavilion by Qatargas CEO, Khalid bin Khalifa Al Thani, on the first day of WGC 2022.

Maryam Al-Kaabi, Laboratory Quality Specialist, Qatargas, speaks at a session discussing the application of circular economy concept to improve environmental performance.

(from left) Qatargas' Ahmed Benhamidcha (Lead Process Engineer), Mustafa Chelghoum (Lead Inst & Control) and Afzal Azizullah Subedar (Environmental Specialist), speak at the session, 'GHG Reduction Through Operational Excellence', which presented new and efficient developments which are reducing emissions.

QATARGAS IS FUTURE-FOCUSED AT WGC 2022

Qatargas' subject matter experts participate at WGC 2022, the highly-anticipated event that aims to promote the role of natural gas in a sustainable future.

The WGC 2022 programme featured tracks on Technology and Innovation, Current Debates, and Industry Insights, which included featured Qatargas speakers, Noora Saad Al-Qahtani, Head of Maintenance (Materials), Senior LNG Marketer, Nayef Al-Shammari, and Commercial Analysis Lead, Amine Yacef, who also moderated the session, 'GHG Reduction Through Operational Excellence'.

Industry Insights, a more technical part of the programme, provided attendees with an opportunity to share knowledge on the most relevant industry information. Areas of interest included Exploration and Production, Storage, Transmission, Distribution, Utilisation, Sustainability, Strategy, Gas Markets, LNG, Marketing and Communication, and R&D and Innovation.

Nayef Al-Shammari, Qatargas Senior LNG Marketer, in discussion at the session, 'Future Gas E&P Technologies And Demand In The Global Energy Mix'.

Qatargas' Noora Saad Al-Qahtani, Head of Maintenance (Materials), a speaker at the session, 'Positioning Disruptive Business Models'.

DISRUPTIVE ICT IN THE GAS SECTOR

A speaker at the session titled, 'Positioning Disruptive Business Models', Al-Qahtani joined fellow experts to discuss best practices, barriers, and the development of the use of information and communication technologies (ICT) in the gas sector.

The session focused specifically on ICT strategies such as business intelligence, big data customer relationship management, mobile marketing, geographic information systems, and tactics to encourage a culture of innovation and technology adoption and to promote new digital thinking.

TECHNOLOGY AND GLOBAL ENERGY DEMAND

The session, 'Future Gas E&P Technologies And Demand In The Global Energy Mix', hosted Nayef Al-Shammari among its speakers, with the panel focused on new demand in power generation, industry, transport, petrochemicals and domestic usage.

Central to the discussion was the competing role gas will play versus nuclear energy to displace coal and support renewable energy in electric generation.

Notably, Nayef Al-Shammari also submitted his technical paper, 'The Role of LNG In The Energy Transition', which took a bird's-eye view of the forecast growth in gas demand by region and sector, focusing on the main Asian LNG importing countries where gas is displacing coal and penetrating sectors such as transportation.

Al-Shammari identified the factors that could lead to a decline or curbed demand in the forecasts (see highlighted box), and noted, "Asia represents more than 80% of overall incremental LNG demand from 2022 to 2040. South Asia (India and Pakistan in particular) is projected to add 95 MT of LNG imports over the period, followed by Southeast Asia with 81 MT, and China with 62 MT of incremental imports."

> **"The recent trends in long-term contracts (LTCs), observed between 2016 and 2020, have created a dissuasive environment for projects yet to reach Final Investment Decision."**
>
> Amine Yacef, Qatargas Commercial Analysis Lead.

AT-A-GLANCE LOOK AT FACTORS IMPACTING GAS DEMAND

Qatargas' Nayef Al-Shammari highlights these positives and risks in his paper 'The Role of LNG In The Energy Transition'.

Positives:

- Stricter decarbonisation agenda to accelerate the coal phase-out
- Development of gas and LNG infrastructure in emerging markets
- Adoption of carbon tax frameworks in big economies
- Development of Carbon Capture and Sequestration technologies
- Rapid development of niche sectors such as transportation.

Risks:

- Long-lasting LNG price volatility impacting its competitiveness against alternative fossil and non-fossil fuels
- Decline in costs and improvement in technology that allows for wider penetration of renewables
- Cost reduction in green hydrogen production
- Innovative energy efficiency technologies across all sectors and markets.

SHIFTS IN THE LTC LANDSCAPE

Also looking at the future of LNG, but with an eye on assessing the past, was the session, 'Evolution of Gas/LNG Contracts – Where Do Things Stand Today?', which drew on the insights of speakers including Qatargas' Amine Yacef.

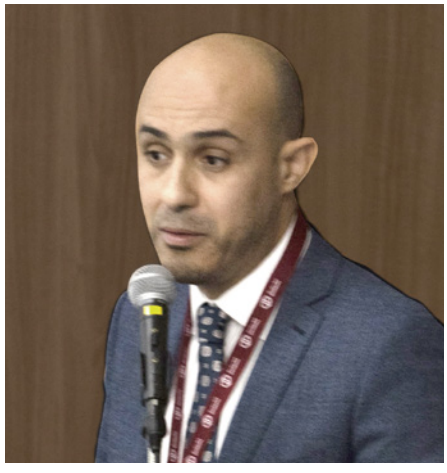
The panel examined the evolution of gas and LNG contracts, delving into the clauses that have changed in past years, unpacking the reasons for them, and questioning whether these change are indeed sustainable.

A member of Qatargas' Economic Evaluation and Business Excellence team, Amine also authored the paper, 'Long-Term Contracts Key to the Development of New Liquefaction Capacity', in which he posits that, "Additional liquefaction capacity is needed to fill the supply/demand gap set to increase due to incremental demand and ageing plants. The recent trends in long-term contracts (LTCs), observed between 2016 and 2020, have created a dissuasive environment for projects yet to reach Final Investment Decision."

Pointing to the slowdown in contracting activity, Amine noted, "[The slowdown] and the relative reduction in contract size is attributable to the strategy of certain buyers to reduce their exposure to LTCs while introducing more spot volumes in their supply portfolios as prices on the spot market were seen to be generally lower."

Inevitably, wrote Amine, this signalled producers to stall new projects, "and as sustainable spot volumes arise from mature facilities in general, this, in turn, chokes the short-term market progressively over a period of time leading to lower prices."

He also highlighted the pattern of the sharp reduction in recent LTCs,



Commercial Analysis Lead, Amine Yacef, shares his insights at the session, 'Evolution of Gas/LNG Contracts – Where Do Things Stand Today?'

emphasising that projects under development will require higher price levels to achieve profitability, especially in light of construction costs being driven higher by inflation, as well as the additional investments sellers need to make related to environmental mitigations.

"Usually, LNG LTCs include some flexibility, allowing the buyer to tackle demand variability in the form of quantity tolerance as discussed earlier... As buyers started to face increasing demand uncertainty, due to fundamental changes in some cases, such as market liberalisation, higher competition on the downstream markets, shifts in local energy policies, etc...sellers have introduced additional flexibilities into some legacy LTCs and new LTCs."

Consequently, notes Amine, sellers assume an additional risk linked to offtakes besides the risk linked to price shifts.

How to move forward, then? He recommends, "Closer cooperation between LNG producers and consumers will stimulate investments' momentum in much-needed liquefaction capacity, to ensure timely supplies, stabilise markets, and avoid disruptions and price volatility."

QATARGAS' COVID-19 TASKFORCE "WORLD-CLASS...REMARKABLE"

ExxonMobil Qatar recognises taskforce's exemplary performance and response.

Qatargas' COVID-19 Taskforce was recently presented with a recognition award by ExxonMobil Qatar for its exemplary performance in responding to the global pandemic.

A delegation, led by Dominic Genetti, President and General Manager of ExxonMobil Qatar, visited Qatargas earlier this year to present the award, and was received by Chief Executive Officer (CEO), Khalid bin Khalifa Al Thani.

Noting the sudden and unprecedented challenges brought on by the global pandemic, Mr Genetti highlighted the taskforce's world-class leadership and response at both an operational and human level.

"We are humbled by the remarkable resilience, inspirational care for their teams' wellbeing and outstanding focus on business continuity," Mr Genetti said. "We realise that without the taskforce's guidance to ensure the safety of employees and the workplace, Qatargas would not have been able to keep operations running as smoothly and effectively in the face of the challenges that arose, or set the leading example it has for our industry since."

Qatargas' COVID-19 Taskforce played a crucial role in helping the Company respond to the pandemic, directing its strategic thinking and ensuring that a comprehensive risk management approach was adopted, allowing for sustained business continuity, reliable and safe operations, and the delivery of energy around the world.

It was "a daunting responsibility", acknowledged the Qatargas CEO. He told the gathering, "Protecting our workforce and their families while maintaining business continuity has been a daunting responsibility, but the taskforce fulfilled their mission and exceeded the expectations of our company's management and shareholders."

Dominic Genetti and Khalid bin Khalifa Al Thani jointly presented a token of recognition to Ziad Yehya, Qatargas' Corporate Planning and Enterprise Risk Manager and Leader of the Qatargas' COVID-19 Taskforce.

Mr Yehya noted that the taskforce's success was enabled by the trust placed in it by the Company's CEO and Management Leadership Team, as well as employees and stakeholders.

"During this critical phase and despite all the challenges, Qatargas maintained its production, delivered all the committed cargoes, and carried out all scheduled maintenance works, while industry peers either suspended or cut short all or most of such activities," he said. "This has been an unprecedented accomplishment made possible by our unwavering commitment to the values the Company stands for."

> **"Protecting our workforce and their families while maintaining business continuity has been a daunting responsibility, but the taskforce exceeded expectations."**
>
> Khalid bin Khalifa Al Thani, Qatargas Chief Executive Officer.

Qatargas CEO, Khalid bin Khalifa Al Thani, and ExxonMobil Qatar President and General Manager, Dominic Genetti, present Leader of the Qatargas COVID-19 Taskforce, Ziad Yehya, with an award to recognise the taskforce's exemplary performance and commitment during the global pandemic.

TOTALENERGIES HONOURS LAFFAN REFINERY SAFETY MILESTONE

Safety award recognises 10 years without a lost-time incident.

From left: Pierre Seghezzi (former Asset Manager - Refining and Chemicals Ventures Qatar, TotalEnergies), Khalifa Ahmed Al-Sulaiti (Chief HSEQ Officer, Qatargas), Meshal Al-Saoud (Refining Asset Manager, Qatargas), Ghazi Shahin (Managing Director Refining and Chemicals Qatar, TotalEnergies) and Fahad Mohammed Al-Khater (Chief Operations Officer – Offshore, Terminals and Refining, Qatargas).

For more than a decade, Qatargas' Laffan Refinery has demonstrated remarkable leadership and commitment to safety, so much so that it has incurred zero lost-time incidents (LTI) during that time, including the 2019 turnaround operations.

This massive achievement was recognised in April this year by shareholder, TotalEnergies, with the company's Managing Director Refining and Chemicals Qatar, Ghazi Shahin, presenting Qatargas with a Safety Award.

"At TotalEnergies, safety is our core value and at the cornerstone of our operations and activities," said Mr Shahin. "It is a great honour to share these values with Qatargas, our esteemed partner, who have maintained a safety culture at the forefront of their people and operations."

The award, which recognises specific technologies, approaches, methods and projects with direct and demonstrable impacts on improving safety, was received by Qatargas Refining Asset Manager, Meshal Al-Saoud, who confirmed, "This is a significant achievement and proves the dedication of all people involved. This milestone underscores Qatargas' commitment to creating and sustaining an incident- and injury-free culture."

From occupational safety to process safety, Laffan Refinery has indeed displayed a steadfast commitment to implementing far-reaching methods to reach this 10-year LTI-free achievement.

TotalEnergies noted hand injury awareness programmes, safety observations, a high level of ownership and hazards analysis as just some of the processes contributing to the award.

"We work closely with our joint venture (JV) partners and observe operational excellence activities," the company stated. "We have a formal programme that evaluates these JVs against certain criteria and provides recognition to those with high standards. Laffan Refinery demonstrates these standards and, as long-term partners, we wanted to provide this recognition."

"This is a significant achievement and proves the dedication of all people involved."

Qatargas Refining Asset Manager, Meshal Al-Saoud.

QATARGAS SPONSORS HIGH-PROFILE CARBON MANAGEMENT WORKSHOP

Experts gather to address serious challenges in managing carbon emissions.

Qatargas, like many responsible operators in the energy sector, has invested considerably in implementing state-of-the-art solutions to minimise its environmental impact and tackle the fundamental challenge of climate change.

Recently, the Company sponsored the workshop, 'Carbon Management and Climate Change: CO_2 Conversion/ Mineralization', an event that brought together industry, academia and government experts to address the issue.

Organised by the Gas Processing Center (GPC), College of Engineering, Qatar University (CENG-QU), the two-day workshop was divided into four sessions and hosted international keynote speakers, including from the Ministry of Environment and Climate Change (MOECC - Qatar), providing an ideal platform for the exchange of knowledge and experiences between the various institutions.

Commenting on the workshop, Dr. Khalid Kamal Naji, Dean of CENG-QU, emphasised the importance of gathering such stakeholders, saying, "The Carbon Management Workshop is a national initiative that aims to highlight the main research activities related to the management of carbon dioxide emissions in Qatar, and evaluate how to contribute to the national efforts to manage carbon emissions and confront global warming."

Dr Naji joined Sheikh Khalid bin Abdullah Al-Thani, Chief Engineering & Projects Officer, Qatargas, Mr Abdelhadi Al-Marri, Director of Climate Change, MOECC - Qatar, Mr Arnoud Lust, Chief Executive Officer, VITO Middle East, and Dr Mohammad Ali Saad, GPC Director, Qatar University, in inaugurating the workshop.

Mr Arnoud Lust, CEO of VITO Middle East noted that workshop created a platform for communication that would have a positive impact on CO_2 management in Qatar.

Sheikh Khalid bin Abdullah Al Thani, Chief Engineering & Projects Officer, Qatargas, inaugurated the workshop.

Invited speakers discussed different aspects of carbon management, including carbon dioxide capture, conversion, utilisation, and storage, while the subjects discussed reflected on the technical, environmental and economic aspects and policies related to carbon management.

Participants were drawn from QAFAC, QAFCO, HBKU QEERI, Qatar Steel, Al-Attiyah Foundation, Future First Energy, Shell Qatar, TotalEnergies, ExxonMobil, Rosneft, Abo Akademki and colleagues from Qatar University.

The 'Carbon Management and Climate Change: CO_2 Conversion/ Mineralization' workshop brought together industry, academia and government experts share research, experience and innovations in carbon management.

CULTURE OF VIGILANCE IS KEY TO PROCESS SAFETY

Safety leaders share insights at 12th Qatar Process Safety Symposium.

What does it take to ensure a robust process safety culture?

According those who attended the recent Qatar Process Safety Symposium (QPSS), it's 'Vigilance', the apt theme of the event held in late-June 2022, and hosted by Qatargas, Texas A&M University at Qatar, and ConocoPhillips Qatar Ltd.

More than 700 participants, including industry experts and academia, gathered virtually for the invaluable opportunity to share challenges and discuss solutions to process safety issues.

Khalid bin Khalifa Al Thani, Chief Executive Officer of Qatargas, confirmed, "QPSS provides an exceptional forum for process safety leaders, both within Qatar and internationally, to share challenges and solutions to our industry's process safety issues. We at Qatargas are eager to share insights from our own process safety-focused initiatives while also learning from our peers' experience."

The event provided the ideal platform for attendees to interact on critical topics in process safety, and talks highlighted the essential role of leadership, the importance of fostering an effective and open safety culture, identifying organisational blindspots, anticipating future challenges, and maintaining alertness to potential process safety risks.

QATARGAS CONTRIBUTIONS

Qatargas' Chief Health, Safety, Environment and Quality Officer, Khalifa Ahmed Al-Sulaiti, commenced proceedings with the opening address, followed by the keynote speech, 'Mindful Leadership', presented by Fahad Mohammed Al-Khater, Qatargas Chief Operations Officer – Offshore, Terminals and Refining, who also received the QPSS Process Safety Excellence Award in recognition of his exceptional contribution to the industry.

Fawaz Matar Al-Shammari, Qatargas Process Safety and Risk Manager, delivered a presentation on Qatargas' new corporate initiative for managing process safety and barrier integrity, covering a spectrum of issues, from process safety awareness and culture and safety case operationalisation, to hardware and human barrier management and safety critical element field effectiveness.

Mr. Al-Shammari also chaired a panel discussion, 'Vigilance', alongside Dr. Katherine Andrea Lemos, Former Chairperson of the United States Chemical Safety Board on Human and Organizational Performance, Dr. Sydney Dekker, Professor at Griffith University in Brisbane, Australia, and Professor Faisal Khan, Director of the Mary Kay O'Connor Process Safety Center at Texas A&M Qatar.

2022 QATAR PROCESS SAFETY SYMPOSIUM - VIGILANCE

Khalifa Ahmed Al-Sulaiti | Fahad Mohammed Al-Khater | Wahyu Hidayat | Fawaz Matar Al-Shammari | Sadiq Azeez

Dr. Katherine Lemos | Trond-Erik Johansen | Dr. Sydney Dekker | Brandon Viator | Dr. Luc Vechot

QATARGAS PRESENTATIONS & POSTERS AT QPSS

- **'A Paradigm Shift – Step Change in Process Safety and Barrier Management'**: Fawaz Al-Shammari, Sadiq Azeez
- **'Turning Process Safety Events Data into Actionable Insights'**: Wahyu Hidayat
- **'Influence of Human Factors in Safety Culture'**: Joe Diotte
- **'Managing Process Safety in the North Field Expansion Project'**: Weng Hoong Lim
- **'Train 3 Extended Turnaround Planned Shutdown due to Regeneration Tubes Failure'**: Saad Al-Merikhi
- **'Process Safety Event Loss of Primary Containment Incident Modeling – Guidelines and Methodologies to Support Incident Investigation'**: Ellen Nurul Fitrie
- **Posters by:** Nasser Al-Karbi and Ahmed Barakat

QATARGAS AWARDS WINNERS OF 18TH PLANT DESIGN COMPETITION

Stand-out projects show great promise for Qatar's future engineers.

Prizes were distributed to the three winning teams at a special ceremony held at Qatargas' Doha headquarters by Sheikh Khalid bin Abdullah Al-Thani, Chief Engineering and Projects Officer, and Dr. Rashid Sultan Al-Kuwari, Asset and Surveillance Engineering Manager, Qatargas.

This year's 18th Plant Design Competition was highly competitive, showcasing the very best innovative design solutions put forward by 12 women's teams and three men's teams.

The contest, which enjoys a rich history stretching back to 2004, is organised by Qatar University's Chemical Engineering Department to provide students with the opportunity to gain practical, world-class engineering experience.

Qatargas sponsored the Best Overall Award to the 1st, 2nd and 3rd place winning teams, each unanimously selected by a judging panel that included the Company's Mubarak Al-Hajri, Head of Process Engineering Onshore South (Chief Judge), Ahmed Salem, a process engineer at the Qatar Chemical Company, and Abdulla Hussein Al-Ishaq, a process engineer at the Qatar Fertilizer Company.

THE WINNING TEAMS

Projects were evaluated on criteria such as technical content, calculation and analysis, presentation quality, visual aids, verbal communication skills and teamwork.

The winning project, titled 'Methanol Plant Design-Methanol Production Pioneer Company (MPPC)' included the concept, design and construction of a methanol manufacturing company, along with a detailed business plan. The team, overseen by Dr. Donghyun Kim, was comprised of Lujain Aljohi, Sali Hamze, Nora Mohamed and Sara Rarisi.

In second place was the concept and design of an ethylene plant in compliance with Qatar's regulations. The team, which included Naba Ali, Sara Al-Kuwari and Sama Abdullah, worked under the supervision of Dr. Fadwa Eljack.

Third place was taken by a project that showcased the design of a Gas-To-Liquid process plant that converted natural gas to produce approximately 140,000 barrels of high-demand liquid hydrocarbon fuels per day. The design consisted of three stages – the reforming reaction, the Fischer-Tropsch reaction, and the final hydrocracking and separation stage. The team included Anas Ahmed, Mhd Kher Al Alami, and Ali Ibrahim, working under the supervision of Dr. Mohammed Al-Marri.

A PARTNERSHIP FOR THE FUTURE

Sheikh Khalid bin Abdullah Al-Thani, Chief Engineering and Project Officer, Qatargas, confirmed that educational support and encouragement are key elements of the Company's corporate social responsibility initiative: "We believe that academia and industry partnerships will help students grow as professionals who can make a significant contribution to the industry and serve the greater interests of the country."

This too is the view of Qatar University, as emphasised by Dr. Majeda Khraisheh, Dean of the College of Chemical Engineering, who said, "We thank Qatargas and its leadership for the continued support it has provided over the last 18 years. This plant design competition is the flagship of the department in which senior chemical engineering students strive to participate each year. It is the industry's involvement in senior design projects that provides students with the opportunity to communicate with experts in their respective fields while gaining insight into technical and operational challenges."

QATARGAS SHARPENS FOCUS ON GROUNDWATER MANAGEMENT WITH QATARENERGY AND RLIC INDUSTRIES

Qatargas and ExxonMobil co-host best practices workshop.

Representatives from QatarEnergy and Ras Laffan-based energy companies recently participated in a comprehensive Groundwater Management Workshop.

The one-day event was co-hosted by Qatargas and ExxonMobil to encourage knowledge-sharing around Qatar's coastal aquifers related to Ras Laffan Industrial City (RLIC) and Northern Qatar.

Groundwater in RLIC occurs primarily in the Damman aquifer, which is an unconfined coastal aquifer comprised of variable materials, including gypsum (sabkha) – a natural source of sulfates. With a very shallow water table influenced by seawater intrusion, the groundwater in RLIC has a significant potential to interact and contact with subsurface facilities, including electrical cables, piping and other underground structures. A sound understanding of groundwater flows and characteristics, including soil conditions, is an essential first step in identifying and mitigating potential impacts to these important subsurface facilities.

Proactive measures such as the groundwater workshop provide stakeholders with an opportunity to gather insights from Qatargas' ongoing environmental research collaboration with ExxonMobil in this key focus area.

The workshop was led by experts from Qatargas and the ExxonMobil Research Center Qatar and comprised participants from QatarEnergy and major RLIC industries.

WORKING TOGETHER TO ENHANCE GROUNDWATER MANAGEMENT IN RLIC

A joint team comprising environmental experts from Qatargas and ExxonMobil Research Qatar (EMRQ) led discussions with workshop participants from the QatarEnergy Industrial Cities Directorate, Shell GTL, Oryx GTL, Q-Chem, Dolphin Energy and Ras Laffan power companies. The workshop was conducted under the auspices of the Laffan Environmental Society (LES) of which Qatargas is a founding member.

Qatargas showcased early results and real-time examples from its Soil and Groundwater Management Roadmap being implemented in collaboration with EMRQ, to strengthen overall understanding of subsurface and aquifer conditions and highlight the risks and opportunities this poses for operations and facilities in RLIC.

Other topics covered in the workshop included surface/near-surface geology, the hydrologic cycle, processes driving groundwater movement, best practices for groundwater well design, sampling, data management and contaminant rate and transport.

LEVERAGING APPLIED ENVIRONMENTAL RESEARCH

The Soil and Groundwater Roadmap, developed as part of Qatargas' Long-Term Environmental Strategy, prioritises collaborative environmental research to undertake comprehensive soil and groundwater mapping of Qatargas facilities, and formulate a long-term plan to address existing and emerging soil and groundwater related issues and risks.

Knowledge-sharing and networking with industry partners is crucial to enhance environmental culture and awareness, which is a key objective of both Qatargas' Environmental Strategy and the Qatar National Vision (QNV) 2030.

"Qatargas was proud to host this environmental event to share insights, best practice, and experience on groundwater management from its joint collaborative research with EMRQ with QatarEnergy and other RLIC companies. Applied environmental research is a key element of Qatargas' Environmental Strategy which seeks to leverage the world class facilities and resources available in Qatar through our shareholder research centres and other national institutions to develop value-added environmental solutions for Qatargas operations and facilities."

Khalifa Ahmed Al-Sulaiti, Qatargas Chief Health, Safety, Environment and Quality Officer.

LEVERAGING RESEARCH FOR SUSTAINABLE ENVIRONMENTAL SOLUTIONS

Qatargas' Environmental Strategy builds a firm framework for action through research-based collaborations.

Qatargas' Environmental Strategy is a comprehensive roadmap that includes the implementation of innovative environmental solutions across the Company's value-chain.

SEEKING SOLUTIONS TOGETHER

The Company has prioritised research collaboration to enhance capacity-building, raise environmental awareness, and, most importantly, to establish research-based solutions to enhance Qatargas' long-term environmental performance.

Qatargas' Environmental Research Collaboration Framework partners the Company with shareholder research centres, namely, ExxonMobil Research Qatar (EMRQ), ConocoPhillips Global Water Sustainability Center (GWSC) and TotalEnergies Research Qatar (TRCQ), as well as with national research centres at Qatar University, Texas A&M University and the Aquatic Fisheries Research Center (AFRC).

Khalifa Ahmed Al-Sulaiti, Qatargas Chief Health, Safety and Environment Officer said, "We are proud to partner with our shareholder and national research centres to create Qatargas' Environmental Research Collaboration Framework. This will leverage their state-of-the-art resources and expertise in implementing our strategic environmental objectives, while also providing a strong platform for learning and capacity-building, especially for our young national employees."

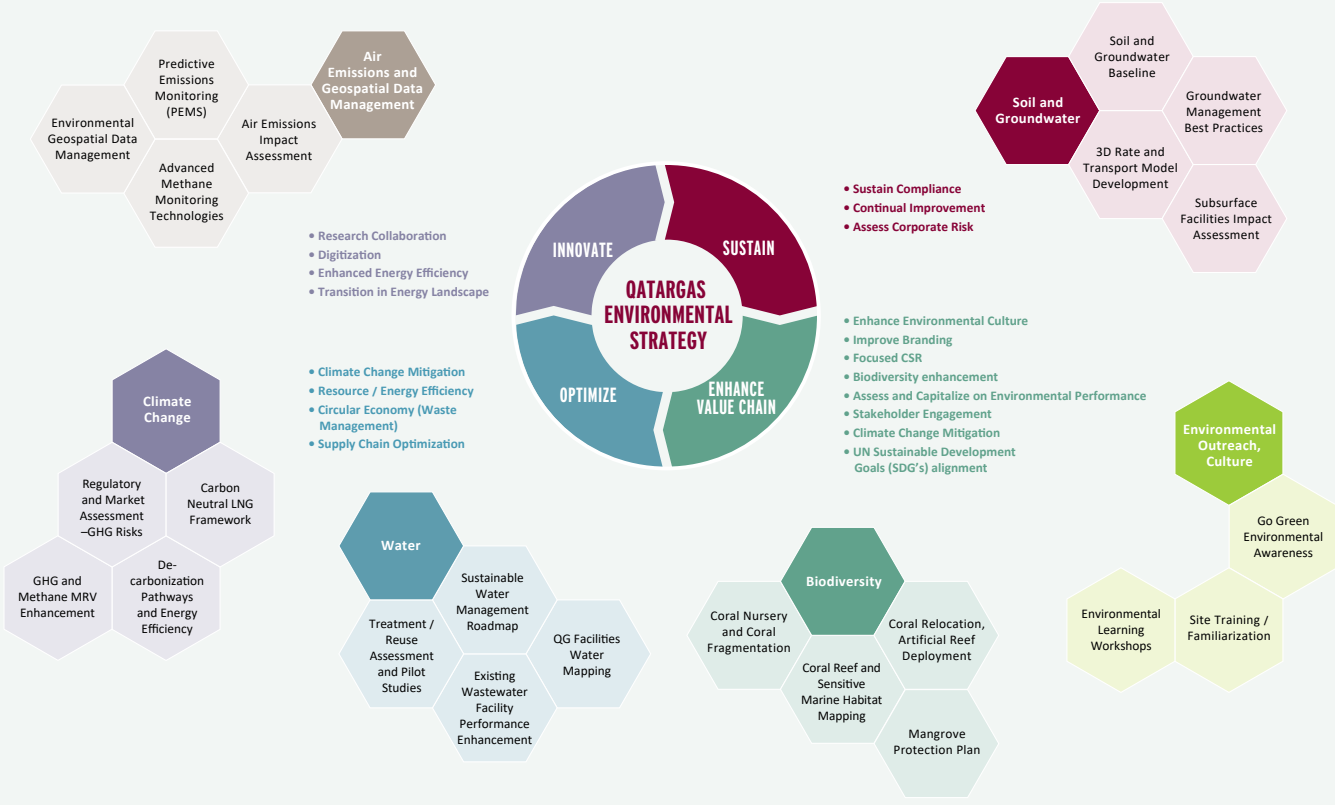
AREAS OF FOCUS

A range of environmental projects and initiatives are being implemented as part of this framework which include:

- **Sustainable Water Use:** A long-term roadmap to achieve excellence in sustainable water-use practices, focused on enhancing the performance of the Company's existing wastewater treatment facilities, and implementing innovative reuse opportunities for treated wastewater and reject streams. Initiatives include water mapping, the benchmarking of Qatargas facilities, and the use of emerging technologies and pilot projects.
- **Soil and Groundwater Management:** This collaboration provides an enhanced understanding of the potential soil and groundwater impacts on important subsurface facilities, such as electric cabling, piping, and other below-ground structures. This includes a long-term approach to address emerging soil and groundwater risks, including a comprehensive soil and groundwater baseline, hydrodynamics and water chemistry, and groundwater rate and transport.
- **Biodiversity Initiatives and Studies:** This includes the continued implementation of Qatargas' Coral Management Program, which has already successfully relocated 12,000 live corals and deployed 1,200 artificial coral reefs to conservation areas across Qatar. Additionally, the Company recently established a Coral Nursery, the first of its kind in Qatar, and will continue to collaborate on major studies related to marine habitat mapping, and coral and sensitive habitat rehabilitation to support the State's national biodiversity plans.
- **Geospatial Data Management:** Comprehensive environmental data from Qatargas' diverse portfolio of operations at Ras Laffan Industrial City will be utilised and leveraged into geographic information systems for data management, enhancing visualisation and geospatial reporting.
- **Climate Change Impact Assessments:** These include technical studies that focus on addressing emerging risks from Greenhouse Gas (GHG) related market requirements, such as the Impact of Carbon Neutral LNG; Measurement, Reporting and Verification system enhancement to meet value-chain and lifecycle reporting requirements, and the assessment of decarbonisation pathways – from technology to operational and process opportunities helping reduce Qatargas' GHG footprint.
- **Air Emissions and Methane:** Advanced modelling studies will determine the potential impacts of Criteria Air Contaminant (CAC) emissions from Qatargas' existing facilities and future expansions on surrounding communities and local air quality. Advanced technologies will be implemented to measure and monitor methane emissions, and long-term operational and process mitigation options be assessed, to support the State's commitments to the Oil and Gas Methane Partnership.
- **Learning and Awareness:** In terms of capacity-building, this collaboration will deliver learning and opportunities to Qatargas employees. Outcomes will help raise awareness of national and global environmental issues such as climate change among employees, students and Qatar's communities.

Launched in 2021, Qatargas' Environmental Strategy (2021-2030) encompasses the Company's full value-chain and aims to ensure that Qatargas achieves sustainable environmental performance, while simultaneously addressing existing and emerging environmental issues, risks and opportunities. The Strategy is aligned with Qatargas' Direction Statement and the Environmental Pillar of the Qatar National Vision (QNV) 2030.

Qatargas Environmental Research Collaboration Framework



Qatargas Environmental Collaboration with ExxonMobil Research Qatar (EMRQ).

Qatargas Collaboration with ConocoPhillips Global Water Sustainability Center (GWSC).

Qatargas-TotalEnergies Environmental Strategy Workshop.

Qatargas-AFRC Coral Nursery.

"Qatargas' Environmental Strategy recognises the important role of research, innovation and industry collaboration in addressing national and global environmental challenges and in promoting LNG in the energy transition."

- Khalifa Ahmed Al-Sulaiti, Chief Health, Safety and Environment Officer, Qatargas.

RECORD SUPPORT FOR BLOOD DONATION DRIVE

Qatargas' first blood drive in two years is an unprecedented success.

Despite a two-year, COVID-induced pause on Qatargas' regular blood donation drives, employees, contractors and their families showed record support for the initiative in mid-2022.

The drive, which was organised by the Company's Medical Department in cooperation with Hamad Medical Corporation (HMC), saw as many as 366 people donate blood over the two-month drive at the Doha Headquarters, Al Khor Community Medical Centre, Qatargas Navigation Tower Offices, and the North and South Qatargas Plants in Ras Laffan.

More than 25 HMC and Qatargas Medical Services staff members were on hand to assist with the drive, which has been part of the Company's Corporate Social Responsibility agenda for an astounding 20 years.

Says Qatargas' Medical Services Manager, Dr. Mohamad Hamad Al-Naemi, "This initiative is aimed at engaging employees in a wide range of health awareness programmes and support for local health organisations. These drives help save the lives of thousands of patients every year, as well as foster a greater culture of voluntary blood donation within society."

The Medical Services Department also held a Company-wide hand hygiene campaign to mark World Hand Hygiene Day, providing expertise and information to employees at select locations.

366

The record number of blood donors for Qatargas' first blood donation drive in two years.

Qatargas employees, contractors and their families lined up to support Company's first blood donation drive in two years.