



Adnan Zainol Abidin
 Chief Operating Officer,
 Executive Vice President and
 Chief Executive Officer, Gas

Gas business achieved significant milestones and demonstrated resilience in 2023. We continued to strengthen our position as a one-stop-centre for lower carbon energy solutions and a reliable provider of natural gas.

We capitalised on favourable market conditions to increase our liquefied natural gas (LNG) sales volume and value. We also demonstrated our unwavering commitment to our customers by navigating operational challenges with resilience to fulfill our delivery commitments.

Leveraging on our robust LNG portfolio, we overcame obstacles and continued delivering stable LNG supply, going above and beyond to fulfil our commitments. Internationally, we made progress with the completion of Phase 1 of our LNG project in Canada and locally, with the development of Malaysia's first nearshore floating LNG facility in Sabah. In the longer term, we will continue to mature opportunities to grow our supply nodes in other regions of the world to ensure a robust portfolio.

Most importantly, we recorded zero fatalities in occupational health and safety, an improvement from the previous year and a testament to our commitment to protect the well-being of our workforce.

In line with PETRONAS' Net Zero Carbon Emissions by 2050 Pathway, we remain committed to reducing greenhouse gas (GHG) emissions across our natural gas value chain. We aim to reduce emissions from our operations, focusing on decarbonisation and electrification initiatives while ensuring natural gas continues to provide energy security as the world shifts toward cleaner energy sources.

Gas



Delivered **403** LNG cargoes from PETRONAS LNG Complex and **38** LNG cargoes from PFLNG SATU and PFLNG DUA to meet customers' energy needs.



Completed **2,214** million standard cubic feet per day (MMscfd) of average sales gas volume delivered in Peninsular Malaysia.







Achieved Overall Equipment Effectiveness (OEE) of **95.1%** across all business segments under Gas business.



Achieved gross LNG sales of **32.9** million metric tonnes (MMT) while driving for commercial excellence.

Key Focus Areas and Results

Focus Area	What We Did in 2023	Results	Stakeholders
Core Business	Secured Natural Gas and LNG Sales <ul style="list-style-type: none"> Sustained our position as a preferred and leading natural gas and LNG producer and supplier. 	<ul style="list-style-type: none"> Achieved gross LNG sales of 32.9 MMT. Delivered 2,214 MMscfd of average sales gas volume in Peninsular Malaysia. 	
	Achieved World-Class Operational Efficiency and Portfolio Growth <ul style="list-style-type: none"> Ensured safe and reliable natural gas and LNG production while pursuing growth projects. 	<ul style="list-style-type: none"> Overall Equipment Efficiency (OEE) of 99.7 per cent for PETRONAS Gas Berhad (PGB) and 93.5 per cent for PETRONAS LNG Complex (PLC). Developing Malaysia's first nearshore LNG production facility, located at the Sipitang Oil and Gas Park in Sabah. 	
	Leveraged Digitalisation for New Value Creation <ul style="list-style-type: none"> Unlocked additional value from existing natural gas production through plant modernisation initiatives. 	<ul style="list-style-type: none"> Introduced the first Enterprise Private 5G ecosystem at PETRONAS Gas Berhad's Regasification Terminal in Sungai Udang, with subsequent installations at Gas Processing Kertih, PETRONAS Petroleum Industries Complex and Malaysia LNG. Implemented PETRONAS LNG Complex (PLC) Project ARIES and Gas Processing and Utilities Playbook, leading to improvements in Recovery Factor (RF) and additional sales gas production respectively. Ensured reliable and uninterrupted gas supply across Peninsular Malaysia through live monitoring of the gas network at the PETRONAS Gas Control Centre. 	
	Delivered Innovative and Accessible LNG Solutions <ul style="list-style-type: none"> Ensured reliable supply of LNG deliveries to customers in Malaysia and across the globe while in line with our pursuit of commercial excellence. 	<ul style="list-style-type: none"> Delivered more than 12,900 LNG cargoes from PETRONAS LNG Complex to date, whilst sustaining contribution margins across the value chain. Completed 6,322 Virtual Pipeline System (VPS) and LNG bunkering deliveries, in line with commitment to promote greater usage of lower carbon energy. 	

Gas

Key Focus Areas and Results			
Focus Area	What We Did in 2023	Results	Stakeholders
New Business	<p>Grew CO₂ Business</p> <ul style="list-style-type: none"> Unlocked new value from the by-products of natural gas, achieved through sales of piped CO₂ from Gas Processing Plant in Kertih, Terengganu, to customers' plants in the vicinity. 	<ul style="list-style-type: none"> Secured 189,538 metric tonnes (MT) sales volume in 2023. 	<p>FG C SIC</p>
Net Zero Carbon Emissions	<p>Achieved Reduction in GHG Emissions</p> <ul style="list-style-type: none"> Reduced the GHG emissions of the LNG production process through fuel gas consumption optimisation and utilised digital solutions to monitor and reduce emissions. 	<ul style="list-style-type: none"> Conducted real-time monitoring of GHG emissions at our Gas Processing and Utility plants. 	<p>FG C SIC</p>

Highlights and Achievements

Highlights	What We Achieved
Zero Fatalities	<ul style="list-style-type: none"> Maintained the highest standards in Occupational Health and Safety with zero fatalities.
Financial Resilience	<ul style="list-style-type: none"> Surpassed revenue and profitability targets despite downward price challenges, demonstrating strong financial performance.
Portfolio Growth	<ul style="list-style-type: none"> Progressed ahead of schedule for the development of Malaysia's first nearshore LNG facility located in Sabah, which is planned for completion by the second half of 2027. Completed Phase 1 of LNG Canada with the plant startup planned to take place middle of 2025. Strengthened LNG trading capabilities by growing LNG storage capacity via an LNG floating storage unit (FSU) located at the PETRONAS LNG Regasification Terminal in Pengerang, Johor, Malaysia.

Challenges

Challenge	Mitigation Action	Results
<p>Managing Supply Ensuring sustainability of feedstock supply and plant performance affecting LNG production.</p>	<ul style="list-style-type: none"> • Stakeholder Engagement: Managed stakeholders and customers through courtesy calls and management visits. • Maintenance and Inspection Enhancement: Improved maintenance plans and intensified inspections at the LNG facility. • Continuous Refinement of Marketing Strategies: Optimised effectiveness of marketing efforts to secure sales. 	<ul style="list-style-type: none"> • Successfully delivered all LNG cargoes despite the affected supply from the Sabah-Sarawak Gas Pipeline. • Achieved higher revenue and profitability than budgeted. • Enhanced value from the LNG chain by leveraging on analytics and trading capabilities.
<p>Managing Domestic Demand Managing gas demands in Peninsular Malaysia and elevated gas costs affecting profitability.</p>	<ul style="list-style-type: none"> • Proactive Demand Handling: Handled feedgas demand effectively, especially from power sector customers. • Continuous Contract Negotiations: Engaged in ongoing contract discussions for price and volume offtake. 	<ul style="list-style-type: none"> • Streamlined and optimised gas and LNG production across all assets to mitigate production shortfalls and fulfil customer needs.
<p>Growth Risk Expanding supply nodes and entering new markets.</p>	<ul style="list-style-type: none"> • Investment Due Diligence: Instilled investment discipline with a robust stage approach. • Commercial Term Exploration: Ensured attractive commercial terms via bespoke customer value propositions. 	<ul style="list-style-type: none"> • Completed the Project Delivery of LNG Canada Phase I. • Progressed ahead of schedule for Malaysia's first nearshore LNG facility in Sabah. • In pursuit of new LNG supply nodes globally.


Opportunities

- **Expansion through New Supply Nodes:** Continue to progress on the joint feasibility study for an integrated LNG project in Argentina.
- **Leveraging Carbon Capture and Storage (CCS):** The National Energy Transition Roadmap (NETR) includes carbon capture, utilisation, and storage (CCUS) as a key component of Malaysia's energy transition strategy. PETRONAS' Gas Business is also actively shaping the energy transition landscape by looking into feasible opportunities for carbon abatement at our LNG production and gas processing facilities.

Gas

Our Approach to Sustainability

- **Decarbonisation Efforts:** Reduced GHG emissions from Gas operations through:
 - Flaring reduction.
 - Optimisation of fuel gas consumption through digital initiative.
 - Simulation modelling for efficient plant operations.
 - Reduce emissions from LNG cargo ships through fuel optimisation.
-
- **Operational Excellence:** Sustained world-class operational excellence to deliver reliable lower carbon energy.
 - **Customer-Centric Solutions:** Provided solutions to increase accessibility to lower-carbon energy to support the energy transition.

 For more information on our sustainability contributions, please refer to pages 108-197.



► **Our Outlook**

Short-Term Outlook

In the current challenging energy landscape, coupled with geopolitical uncertainties, Gas business is focused on reinforcing its role as a reliable and customer-centric provider of lower carbon energy solutions. By embracing innovation and new technologies, we are committed to growing our supply portfolio while maximising the value of our existing assets and infrastructures.

Key focus areas for the short-term

Asset Value Maximisation

LNG Supply Expansion

Customised Market Solutions

Details

Enhancing the value of our assets through operational and commercial excellence, with a strong emphasis on health, safety, security and environment (HSSE).

Efforts are underway to expand our LNG portfolio, which include growth projects like LNG Canada Phase 1, and the nearshore LNG facility in Sabah.

Actively exploring new business opportunities by tailoring solutions to meet customer needs, expanding our market reach.

Medium- to Long-Term Outlook

As we look towards the medium- and long-term future, the demand for gas and LNG is expected to remain robust across various energy transition scenarios. This sustained demand, supported by resilient prices, is likely to drive new investments and growth in the sector.

Key focus areas for the medium- to long-term

Global LNG Portfolio Growth

Expansion into Adjacent Gas Value Pools

Emissions Reduction Solutions

Details

Anticipating continued growth in global LNG demand, we aim to maintain market leadership by enhancing our customer-centricity and by leveraging on our robust LNG track record in reliability and commercial excellence.

With the growth in gas-based power generation, we are expanding our power generation business and exploring opportunities emerging from the energy transition.

Initiatives to decarbonise our operations are underway, with various carbon abatement solutions being explored to future-proof our business.