

Climate Change and Greenhouse Gas (GHG) Emissions

Why Is It Important?

Climate science plays a significant role in driving the transition to renewable energy sources and low-carbon technologies. As awareness of the need to mitigate climate change grows, there is increasing demand for cleaner, sustainable energy. This shift creates both risks and opportunities for PETRONAS.

We risk being left behind as the world transitions to a low-carbon economy, leading to stranded assets, lost revenue streams and reputational damage. However, we see opportunity to lead in the energy transition, leveraging our legacy, expertise and resources to develop greener technologies and business models.

What Is Our Approach?

PETRONAS is dedicated to our role as custodian of Malaysia’s hydrocarbon resources and to meet customer energy demands, while contributing towards the climate ambitions of the Paris Agreement. Our NZCE 2050 Pathway was launched in November 2022, outlining the actions needed to achieve our net-zero ambitions. The

development of the NZCE 2050 Pathway was informed by our business context, national policies, international frameworks, and scientific consensus on climate change.

In driving a focused delivery of the NZCE 2050 Pathway, 20 per cent of total capital expenditure will be allocated for decarbonisation projects and expansion into cleaner energy solutions from 2022 to 2026. We will also track our GHG emissions to ensure we are on the right trajectory to meet the targets.

We aspire to proactively strengthen transparency in reporting while shaping the national climate-related risk disclosure practice in Malaysia. We have commenced to apply the framework recommendations put forward by the Task Force on Climate-related Financial Disclosures (TCFD) to our assessment of climate risk. By aligning our strategic assessment of risk with TCFD, we strive to effectively manage and capitalise on climate-related risks and opportunities and accelerate progress towards our path to net zero.

1 Governance

We recognise that climate change is a critical business issue, contributing to a set of risks and opportunities. We are taking more deliberate actions to elevate sustainability, especially climate-related discussions at the Board, to shape the long-term strategic direction of the company.

[The role of the Board in climate-related matters can be referred to in the Sustainability Statement section on page 155]

2 Addressing Climate-Related Risks and Opportunities

In November 2022, we defined our NZCE 2050 to accelerate and advance groupwide actions and commitment. The NZCE 2050 Pathway – with its short-, medium- and long term targets – will steer the group towards realising our ambitions.

The Pathway is two-pronged, reducing operational GHG emissions and increasing investments in business growth opportunities in the low carbon economy. PETRONAS will implement activities through four main decarbonisation levers – zero routine flaring and venting, energy efficiency, electrification and carbon capture and storage (CCS) – to reduce operational emissions as far as possible and offset remaining hard-to-abate emissions with nature-based climate solutions.

Safeguard the Environment

PETRONAS Energy Transition Strategy is Shaped In Response to Expectations of Changes in Customer Demand and Climate Risk Considerations

Core Business >>	➤ Operate oil and gas in a differentiated manner, with targets in place to produce carbon abated volumes at competitive cost to ensure asset portfolio is resilient to changes in demand.		
New Business >>	➤ Capture growth opportunities in renewables and cleaner, less emission-intensive energy solutions, including wind and solar, hydrogen and green mobility.		
Specialty Chemicals ➤ Strengthen presence in the specialty chemicals business segment, with an emphasis on strong sustainability attributes.	Carbon Capture and Storage (CCS) ➤ Position Malaysia as a leading CCS hub in Asia by offering CCS as a service for high emitting industries around the region.	Bio-based Value Chain ➤ Scale up bio-based products and offerings to meet changing customer preference.	Renewable Energy, Hydrogen and Green Mobility ➤ Establish Gentari as our clean energy solutions arm with strong growth portfolio in renewables, hydrogen and green mobility.
Net Zero Carbon Emissions (Operational Levers) >>	➤ Ongoing emissions reduction of our portfolio delivered through key abatement levers, based on their abatement potential and doability to ensure a credible Pathway to Net Zero Carbon Emissions by 2050.		
Zero Routine Flaring and Venting ➤ Flare gas recovery projects, improved compressor capacity, vent-to-flare conversion and vent recovery projects. ➤ Delivery in support of the World Bank's Zero Routine Flaring by 2030 Initiative. ➤ Pledged to avoid routine flaring in new oil field developments and end routine flaring at existing oil production sites by 2030.	Energy Efficiency ➤ Digital solutions and process equipment advancement to uplift process optimisation initiatives, by optimising gas turbine operations, superior heat transfer, furnace, and boiler efficiency.	Electrification ➤ Renewable energy infrastructure to power our operations and processes, which include fuel gas replacement with electricity, where feasible.	Carbon Capture and Storage (CCS) ➤ CCS solutions delivered through technology partnerships.

[Details of Risks and Opportunities Quantification on Financial Performance can be referred on page 165]