

PETRONAS' Environmental Focus Areas

» Air Emissions

- Monitor, evaluate and address risks related to air emissions.
- Leverage on our online monitoring platform to provide early warning for increasing trends in emission load that will enable timely intervention.
- Measure Sulfur Oxides (SOx) and Nitrogen Oxides (NOx) emissions through continuous monitoring or periodic samplings.
- Ensure measurements are in accordance to host country requirements and internationally-accepted standards.

» Oil Spill Prevention

- Embed industry best practices on spill prevention into our facility design.
- Implement scheduled inspections and maintenance programmes.

» Decommissioning

- Adhere to Decommissioning Option Assessment (DOA) in disposing petroleum facilities.
- Conduct feasibility studies on transforming decommissioned oil and gas platforms into artificial reefs to maximise the lifecycle of decommissioned structures and protect marine biodiversity.

» Water Management

- Implement internal standards, policies and practices to optimise freshwater withdrawal.
- Focus on three pillars – conduct water accounting, understand water availability and increase water use efficiency.
- Carry out regular tracking of freshwater withdrawal in water stress areas.
- Monitor, evaluate and address risks from waste water discharge from our facilities.

2022 Environmental Quality Performance

1 Water

Freshwater Withdrawal	2021	2022
Malaysia (million cubic metres per year)	70.2	76.8
International (million cubic metres per year)	1.0	4.8
Total (million cubic metres per year)	71.2	81.6
Discharges to Water (tonnes of hydrocarbon)	452	487

In 2022, our total freshwater withdrawal was 81.6 million cubic metres as compared to 71.2 million cubic metres recorded in 2021. The increase in water withdrawal was attributed by two major new sources i.e. Pengerang Integrated Complex and new processing trains in Iraq operations.

2 Air Emissions

We continued to monitor air emissions from all our facilities.

	2021	2022
Total of Sulphur Oxides Emissions (tonnes)	47,954	60,116
Total of Nitrogen Oxides Emissions (tonnes)	133,962	62,790

In 2022, the Group's sulphur oxides emissions increased to 60,116 tonnes compared with 47,954 tonnes in 2021. The increase in emission load was attributable to higher gas production in Sarawak's Upstream asset and gas processing plant.

Total nitrogen oxides emissions for 2022 stood at 62,790 tonnes from 133,962 tonnes in 2021, mainly due to omission of emission load data from ships due to ongoing review of reporting method, and revision in calculation methodology for floating LNG and power plant.