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ANALYSIS WARNS OIL AND GAS PROJECTS WILL INCREASE MALAYSIA'S GREENHOUSE GAS EMISSIONS BY 4 BILLION TONS

FIRST-OF-ITS-KIND REPORT FINDS LOCAL OIL AND GAS EXPANSION WILL EMIT 4 BILLION TONS OF CARBON EMISSIONS, IMPACTING GLOBAL EMISSIONS AND PUBLIC HEALTH

Executive Summary:

- This first-of-its-kind analysis identifies the impacts of Malaysia's oil and gas expansion on global emissions.
- This analysis estimates that 28 proposed oil and gas projects will emit 4.15 billion tons of carbon dioxide equivalent (CO_2e). This amount is equivalent to 13 years of annual emissions for Malaysia, or to the emissions from cutting down a rainforest twice the size of Peninsular Malaysia.
- These emissions will consist of nearly 11 million tons of methane emissions, which is a potent greenhouse gas with 82.5 times the global warming potential (GWP) of carbon dioxide.
- Methane emissions are linked to serious public health impacts. The cumulative health impacts of methane emissions from Malaysia's oil and gas projects are projected to cause over 8,200 premature deaths globally due to their contribution to ground-level ozone pollution, a harmful air pollutant linked to respiratory and cardiovascular disease.
- Malaysia's oil and gas projects are inconsistent with scientific consensus on the need to phase-out fossil fuels to achieve net-zero by 2050, which is significant given Malaysia's significant historical and current contribution to global emissions.
- To align with net-zero by 2050, we call on the Government of Malaysia to establish a fair-share carbon budget, define interim emissions reductions targets for the sector, and join calls for a global Fossil Fuel Non-Proliferation Treaty.

Since 1974, Malaysia has produced more than 9 billion barrels of oil and 50 trillion cubic feet of fossil gas. Today, Malaysia's economy is strongly linked to fossil fuels and as of 2024, more than 80% of Malaysia's energy production was from fossil fuels. Yet, Malaysia ratified the Paris Agreement in 2016 and, as outlined in Malaysia's Climate Change Policy 2.0, has an explicit commitment to achieve net-zero emissions by 2050. Despite these commitments, Malaysia's national oil company has plans to move forward with plans for gas expansion.

Today, RimbaWatch published an analysis, "**Fossil Fuel Emissions Outlook Report 2025**", which finds that Malaysia's gas expansion plans will have significant impacts on global emissions, which is inconsistent with the need to phase out fossil fuels to achieve net-zero emissions by 2050 and meet the Paris Agreement.

Finding 1: Malaysia has Committed to Extracting 9.83boe of Reserves

To conduct this analysis, we collected data on 28 proposed oil and gas projects in Malaysia, including only projects with proven (1P) reserves that are covered by a production commitment, such as through a production sharing contract, inclusion in a Bid Round, or where geotechnical studies are being conducted to enhance production. We excluded projects which are in the discovery or exploration phases, where no 1P reserves have been identified. Based on this methodology, we found 28 such projects, with a combined 9.84 billion barrels of oil equivalent (boe) of reserves, of which 82% of reserves are gas.

Finding 2: These Oil and Gas Projects Will Emit 4 Billion Tons of Carbon Emissions

To estimate the emissions from these projects, we utilised methodologies derived from the IPCC and the GHG Protocol was applied to publicly available data. Based on these methodologies, we estimate that the total amount of greenhouse gases (GHG) that will be emitted by these projects is 4.15 billion tons of carbon dioxide equivalent (CO_2e). This amount is equivalent to 13 times Malaysia's annual emissions, or to India's emissions in 2023. India was the third largest source of greenhouse gas emissions for that year. Further, this is equivalent to the CO_2e that would be emitted from hypothetically deforesting an area of rainforest twice the size of Peninsular Malaysia[1].

Finding 3: These Emissions Will Excacerbate Methane Emissions and Public Health Issues

Methane is a particularly potent greenhouse gas, with a global warming potential (GWP) far higher than CO_2. Over a 20-year period, the IPCC estimates that methane's GWP is 82.5 times higher than CO_2, or 29.8 times higher over a 100-year period. This analysis estimates that these projects will emit 10.9 million tons of methane. This figure is equivalent to 9% of global fossil fuel-related methane emissions in 2023.

In addition to driving global warming, methane emissions from these projects are expected to cause an estimated 8,234 premature deaths worldwide due to increased exposure to ground-level ozone. Ozone pollution, formed when methane reacts in the atmosphere, is linked to increased risk of chronic respiratory diseases, cardiovascular problems, and premature mortality. Children, the elderly, and those with pre-existing conditions are especially vulnerable. The health burden associated with Malaysia's methane emissions is therefore both significant and global in scale.

[1] Based on an estimate of 157.5tCO_2e/hectare.

Finding 4: These Projects Will Impede Malaysia's Net-Zero Goals

Malaysia ratified the Paris Agreement in 2016 and, as outlined in Malaysia's Climate Change Policy 2.0, has an explicit commitment to achieve net-zero emissions by 2050. To reach net-zero by 2050, Malaysia would need to reduce its emissions by 45% by 2030. Further, scientific consensus from the IPCC's Sixth Assessment Report (2022) and studies from the International Energy Agency have found that all new oil and gas projects are inconsistent with a global target to limit warming to 1.5 degrees.

Despite this, industry officials have promoted the expansion of gas as a sustainable strategy to decarbonise Malaysia's energy system while growing revenue streams. Referring to gas as sustainable, and claiming that Malaysia can achieve net-zero emissions through growing gas, are oxymorons.

According to the IPCC, gas is the third most emitting source of energy in the world, with lifecycle emissions more than 10 times higher than those of renewables such as solar power. Further, gas infrastructure is highly prone to difficult-to-detect leakages, and at a leakage rate of just 0.2%, the emissions of fossil gas become higher than that of coal. Additionally, Malaysia is a significant contributor to global emissions, both historically and currently, with PETRONAS being the 36th highest CO2 emitting entity in the world since the Industrial Revolution began in 1750.

Despite all this, there have been no meaningful regulatory actions to address the environmental impact of the fossil fuel industry. The National Energy Transition Roadmap (NETR) plans to increase the share of gas in the total primary energy supply (TPES) by 16% from 2023, to 57% in 2050, aiming for gas to become the primary energy source for the country. Spurred on by such counterproductive policy positions, instead of reducing emissions from the oil and gas industry, Malaysia's 28 proposed projects will result in billions of tons of CO2e emissions to the global atmosphere.

Conclusions

Emissions of 4.15 billion tons of CO2e are not easy to mitigate. Removing such a large amount of emissions would require nearly 1,300 times the advertised annual capacity of the Kasawari Carbon Capture and Storage (CCS) project. Conversely, it would require planting a new tropical rainforest the size of 85 million hectares, or 2.5 times the size of Malaysia, and protecting such a forest for at least 10 years. This, therefore, is a problem which requires actions far beyond the scope of currently-proposed false solutions, such as fossil fuel-industry led CCS and voluntary carbon markets.

This problem warrants coordinated and science-based action from responsible bodies to create enforcement mechanisms to act on fossil fuel emissions, which are by far the largest contributor to Malaysia's emissions.

We recommend the following immediate actions be taken to align the country's energy transition strategy with a net-zero by 2050 pathway:

1. The Ministry of Natural Resources and Environmental Sustainability must define a carbon budget for Malaysia, aligned to 1.5°C targets and Malaysia's 2050 net-zero commitment, based on our fair-share contribution to climate change. A fair-share allocation takes into account equity, and can be defined based on a number of factors, including historical emissions responsibility and proportion of global population. Based on this carbon budget, the Ministry should set a sectoral carbon budget for the domestic energy sector, taking into account both production and consumption, and cement this budget in the upcoming Climate Change Act.
2. The upcoming Climate Change Act should further define interim emissions targets for the energy sector by establishing gradually reducing carbon budgets for the sector with the aim of gradually reducing emissions from the sector until it reaches zero by 2050. This can be achieved by setting, for example, milestone targets, such as a 25% reduction in budget by 2030, 50% by 2040, 75% by 2045 and 100% by 2050. To monitor performance against these targets, a regulatory authority should be established, with powers to enforce such targets.
3. Malaysia should join the global call for a Fossil Fuel Non-Proliferation Treaty (Fossil Fuel Treaty). This is a proposed international mechanism to complement meeting the Paris Agreement's goal of 1.5°C, through fostering a global effort to accelerate and finance a just transition to renewable energy sources, end fossil fuel expansion, and support an equitable phase out of existing production. Echoing past treaties such as the Nuclear Non-Proliferation Treaty, this initiative is centered around three pillars:
    a. A global just transition for every country, worker and community, including support to transition away from fossil fuel dependence and scaling up access to renewable energy.
    b. Non-Proliferation, preventing the proliferation of coal, oil and gas by ending all new exploration and production.
    c. A fair phase out, to phase-out existing production of fossil fuels in line with the 1.5°C global climate goal in a manner that is fair and equitable, where wealthy producers with the capacity and historical responsibility for emissions transition fastest.

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About RimbaWatch

RimbaWatch is an environmental think-tank conducting research and advocacy on climate-related issues in the Maritime Southeast Asian region.

About CREA

The Centre for Research on Energy and Clean Air (CREA) is an independent research organisation focused on revealing the trends, causes, and health impacts, as well as the solutions to air pollution.

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Notes to Editor

This press release accompanies an analysis, titled "**Fossil Fuel Emissions Outlook Report 2025**", available on our website here. This analysis has figures in more detail, citations for all claims made in this press release, and describes the methodologies, emissions factors and assumptions used to develop the estimations here.

We previously wrote to Petronas requesting data on emissions estimates for all fields currently undergoing development. We did not receive a response. All figures produced in this press release are estimations based on best available data in lieu of official reporting.

This press release makes no claims of wrongdoing against any group, organization, entity or individual.