Global Methane Hub

ASEAN CENTRE FOR ENERGY ACE



ASEAN Methane Insights

Vol. 1 – 2025



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About

ASEAN Methane Insights serve as a compilation of status, news, and updates related to methane abatement project in energy sector in ASEAN. Each volume will be published in every six months. It has benefitted from the overall guidance of ACE's Executive Director, Dato' Ir. Ts. Razib Dawood and the Fossil Fuels, Hydrocarbon and Minerals (FOM) Department's Head, Suwanto.

The publication was led by Shania Esmeralda Manaloe, prepared by Muhammad Anis Zhafran Al Anwary and Lintang Ambar Pramesti with support from Bayu Jamalullael from FOM Department. **Publication** also supported by ACE Communications Department: Amara Zahra Djamil, Fadhiel Handira Ishaq, and Firdaus Fadhlullah Designerindy.

This first volume of ASEAN Methane Insights is developed by ASEAN Centre for Energy (ACE) under the HORIZONS project which is funded by Global Methane Hub (GMH). Photo on the cover page is credited to Ulises Castillo from Pexels.

Horizons
The ASEAN Hub for Methane Action

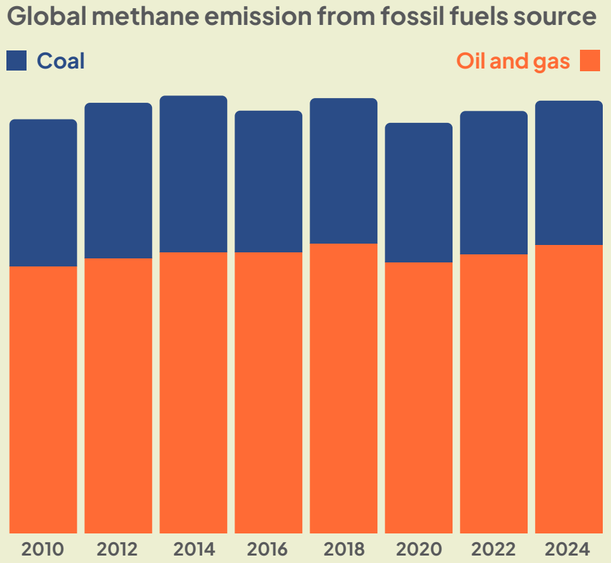
About **HORIZONS Project**

The Innovative and Harmonised Methane Emission Mitigation in the ASEAN's Energy Sector (HORIZONS) initiative seeks to address key methane mitigation challenges in ASEAN's energy sector, by establishing a dedicated **regional hub**.

This hub will focus on **both the oil and gas, and coal sectors**, providing a comprehensive platform to advance methane emission reduction efforts through **four main pillars**, including policy, database, research and capacity building, and financial.

Global Highlight

Methane emission is a persistent challenge



In 2024, methane emissions from the fossil fuel sector remained above **120 Mt**, nearing the record levels of 2019.

Total missions from **abandoned oil and gas wells and coal mines** contributed to **8 Mt**, is the fourth-largest source of fossil methane emissions globally.

Source: IEA Global Methane Tracker 2025

Global Methane Pledge

160 countries

have participated

at least 30%

of global methane emission reduction from 2020 levels by 2030

Several countries are appointed as GMP Champion to advocate, accelerate, and assemble methane abatement progress by GMP participants.

However, major emitter countries like China, India, and Russia **have yet to join the pledge.**

Source: Global Methane Pledge

GMP Champions



Oil and Gas Sector: Underreporting Issue

26.8%



Satellite data reveals **significant underreporting** of methane emissions by oil and gas companies. In a recent analysis, only **75 out of 279 firms** reported emissions averaging only one-third of satellite-based estimates.

Source: Financial Times

Findings from the recent OGMP2.0 reporting data showed firms that reached the **most advanced** level of reporting, generally show an **increase in methane intensity**, **known as a u-curve pattern**, indicating that as operators reach Level 5, they are finding more methane emissions.

Source: Environmental Defense Fund (EDF)

Coal Sector: Significant Emission



Regulation Advancement: EU and China



The European Union has implemented regulations requiring **oil and gas companies** to **monitor, report, and reduce methane emissions**, including mandates to **stop routine flaring and utilize satellite data for leak detection**, potentially starting in **2027.**

Source: European Commission



China has recently revised its **coal mine methane emission standard**, requiring the **capture and utilisation** (or destruction if not utilised) of coal mine gas with a methane concentration of **8% or higher,** much **stricter** than ones in previous standard, **>30%.**

Source: Reuters

New Tools and Resources: Trackers

There are several interactive methane databases that are accessible for public. The major ones are provided by the **International Energy Agency (IEA)** and the University of Maryland's School of Public Policy's **Center for Global Sustainability.**

Methane Tracker

- Filter by region and country
- Sector: energy, agriculture, waste, others
- Detail on O&G and coal sector
- Policies, MACC, initiatives mapping

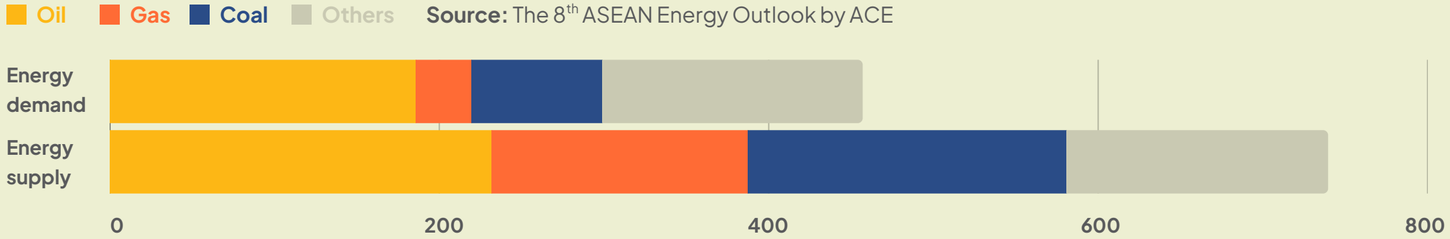
Methane Mitigation Database

- Sector: coal mining, oil and gas, landfills, wastewater management, rice cultivation, livestocks
- Reduction technology
- Reduction/recovery efficiency and cost

Regional Highlight

Significant emissions in the energy landscape

Fossil fuels in ASEAN energy demand and supply in 2025 (Mt)



Methane emissions from **coal (seam coal and coking coal)** account for **44%** of the total in ASEAN's energy sector, whereas **oil and gas** contribute 56%.

Source: Coal Mine Methane Largely Overlooked in ASEAN Report by ACE

In 2023, methane emissions from ASEAN's **oil and gas sector** were estimated at **0.32 Mt**, which is equivalent to **9 $MtCO_2$** in global warming potential.

This loss also represents an economic setback, amounting to roughly **0.5 billion cubic metres** of gas, about **7%** of **Singapore's liquefied natural gas (LNG) imports** for the same year.

Source: Scoping Methane Emission in ASEAN Oil and Gas Sector Report by ACE

COP29 Baku Azerbaijan

ACE

joins

ASEAN energy players

call for progressive methane emission reduction trough signed

Joint Statement

to call for a progressive, collaborative, and inclusive approach to methane emissions reduction in ASEAN's energy sector as part of a just energy transition which puts nature, people lives and livelihoods at the heart of climate action, alongside with several NOCs from the region.

PERTAMINA PETRONAS M.O.G.E. PNOC SLNG SINGAPORE LNG ptt Group ASEAN CENTRE FOR ENERGY ACE

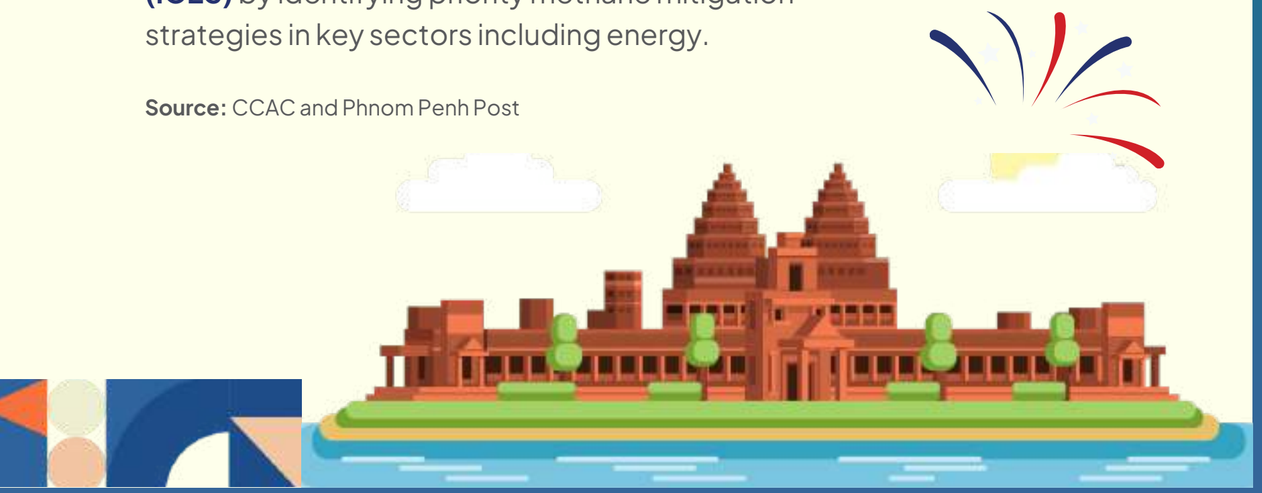
Cambodia: National Methane Roadmap



In May 2025, Cambodia officially prepared and submitted its **National Methane Roadmap** to the **Global Methane Initiative (GMI)** and **Climate and Clean Air Coalition (CCAC)**, becoming one of the first least-developed countries to do so.

The roadmap was developed by **Cambodia's Ministry of Environment** with support from **CCAC** and **Institute for Global Environment Strategies (IGES)** by identifying priority methane mitigation strategies in key sectors including energy.

Source: CCAC and Phnom Penh Post



Indonesia: Coal Mine Methane Concerns



Indonesia's energy-related methane emissions have been **declining** since **2016**, coinciding with a **decrease in oil and gas production**. However, overall methane emissions **have risen** by **7% between 2020 and 2023**, indicating challenges in other sectors.

Source: Climate Analytics

Emissions from **abandoned and active underground coal mines** are **underreported**, with current estimates lacking clarity and detail.

Source: Climate Analytics



Out of **ten major coal mining companies** in Indonesia, **only four** include coal mine methane **(CMM) emissions** in their emissions inventories.

Source: Ember

Malaysia: Successful Initiatives

Malaysia has **yet to establish** binding targets for methane reduction, relying instead on measures like **venting and flaring control.** Broader national efforts remain limited and are primarily supported through **voluntary initiatives**.

Source: PETRONAS

However, **by 2023**, PETRONAS reduced methane emissions from its **natural gas operations** by **58%, exceeding its 2025 target of 50%** compared with 2019 baseline, through **flare and vent reduction projects, advanced detection technologies**, and adherence to international standards.

Source: Climate Analytics



Thailand: O&G Emission Warning

Thailand **has not committed** to the Global Methane Pledge. Approximately **25%** of its GHG emissions are **attributed to methane**, with roughly **50%** originating from agriculture and **25% from the energy** and waste sectors.

Source: Climate Action Tracker

A **natural gas platform** in the Gulf of Thailand, has been emitting methane at an average rate of **4,650 kg/hour** over the past decade, as observed by satellite at least **60 times since 2013**. The platform's flare is intermittent and often blowing out, and has **attracted fresh warnings** by the **International Methane Emission Observatory (IMEO).**

Source: Energy Connects



Viet Nam: Action Plan for Reduction

Vietnam's **Action Plan for Methane Emissions Reduction** by **2030** aims to reduce overall methane emissions by at least **30% below 2020 levels** by 2030. Specific methane emission limits are set as below.

Total	From oil and gas	From coal mining
By 2025, to not exceed **96.4 $MtCO_2e$** (↓13%)	Limited to **10.6 $MtCO_2e$**	Limited to **3.5 $MtCO_2e$**
By 2030, to not exceed **77.9 $MtCO_2e$** (↓30%)	Limited to **8.1 $MtCO_2e$**	Limited to **2.0 $MtCO_2e$**

Source: UN LEAP



AMS in International Commitments

Country	GMP	OGMP 2.0	OGDC
• Brunei Darussalam	✗	✗	✗
• Cambodia	✓	✗	✗
• Indonesia	✓	✓	✓
• Lao PDR	✗	✗	✗
• Malaysia	✓	✓	✓
• Myanmar	✗	✗	✗
• Philippines	✓	✗	✗
• Singapore	✓	✗	✗
• Thailand	✗	✓	✓
• Viet Nam	✓	✗	✗

Note: Indonesia, Malaysia, and Thailand's participation in OGMP 2.0 and OGDC were represented by their NOCs: Pertamina, PETRONAS, and PTTEP.

Regional Initiatives and Collabs

Ongoing actions are making progress…

ASEAN Energy Sector Methane Leadership Program (MLP)

Launched by PETRONAS in collaboration with ASEAN energy operators, governmental agencies, and IOs, the MLP is an 18 month capacity building initiative program that aims to strengthen ASEAN energy companies' plans, targets, and financing options for reducing methane emissions.

Southeast Asia Methane Emissions Technology Evaluation Centre (METEC)

JOGMEC and PETRONAS have launched METEC under ASEAN MLP 2.0 to enhance regional cooperation on methane emissions reduction. It will support measurement, monitoring, and verification in line with ASEAN's offshore gas needs, aligning with Japan and Korea's CLEAN Initiative for a transparent LNG value chain .

ASEAN Oil and Gas Methane Emission Dashboard (MAESTRO)

Developed by ACE and The World Bank's Global Flaring and Methane Reduction Partnership, this tool enables stakeholders to track emissions and progress, helping drive effective, data-informed strategies for climate resilience.

ASEAN Methane High Level Policy Dialogue (HLPD)

The first regional convening on methane as part of the initial activities under the Hub for Innovative and Harmonized Methane Emissions Mitigation in ASEAN's Energy Sector (HORIZONS). It aimed to raise awareness, catalyse dialogue, and garner support for methane emissions abatement in ASEAN's energy sector.



Credits: PETRONAS

. . . and many more to come.

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