Methane and GHG Emissions Management Issues in LNG - Policy, markets, and companies - October 2025

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Introduction

As usual, the brief monthly report for October 2025 covers global and domestic efforts to manage methane and greenhouse gas emissions in the LNG and energy sectors. The report highlights a project aimed at reducing methane emissions from rice paddies in the Philippines and mentions a coalition of investors urging the EU to maintain its methane emissions regulation. Other international developments include corporate collaborations for methane measurement, technological trials to reduce methane slip from LNG-fuelled vessels, and the withdrawal of Nestlé from a dairy methane alliance. Domestically, the report notes Japan's progress in Carbon Capture and Storage (CCS), including the designation of new storage zones, and advancements in developing a liquefied hydrogen supply chain and commercializing hydrogen co-firing gas engines.

[Global Developments]

Green Carbon and Toho Gas launched, in late September, a demonstration project in Bohol Province, the Philippines, to generate carbon credits from rice paddies under the JCM (Joint Crediting Mechanism). By introducing the Alternate Wetting and Drying (AWD) method in rice cultivation, the project aims to reduce methane emissions. The generated credits are planned to be utilized for carbon-offset city gas and other applications.

42 investors managing over €4.5 trillion in assets have reportedly urged the EU (European Union) not to bow to pressure to weaken its methane emissions regulation. The EU Methane Regulation is set to introduce mandatory reporting from 2025, followed by stricter measures starting in 2027. The European Commission maintains that the regulation does not constitute a trade barrier.

TotalEnergies and Veolia signed, in early October, an MoU (memorandum of understanding) to collaborate in key areas of the energy transition and circular economy. Veolia is considering adopting TotalEnergies' drone-based methane measurement technology, AUSEA. Initial tests have demonstrated that the technology provides reliable measurements, effectively detects leaks, and identifies high-emission areas.

Mitsui O.S.K. Lines, Kanadevia, and Yanmar Power Solutions have been conducting onboard trials of methane slip reduction technology for LNG-fueled vessels since May 2025 under NEDO's Green Innovation Fund project, "Development of

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Next-Generation Ships." Tests conducted on routes such as between Japan and Australia achieved a 98% reduction rate, the companies claimed.

Nestlé announced, in early October, its withdrawal from the Dairy Methane Action Alliance. Nestlé reaffirmed its commitment to reducing GHG emissions and maintaining its goal of achieving net zero by 2050. Nestlé had already achieved a 21% reduction in methane emissions from 2018 levels by the end of 2024. Nestlé plans to collaborate with the World Farmers' Organisation to help build climate-resilient food systems.

New Zealand government announced in the middle of October a new target to reduce biogenic methane emissions by 14% - 24% by 2050 compared to 2017 levels. The government plans to achieve reductions through collaboration with the agricultural sector and technological innovation rather than taxation. The government will invest more than NZD 400 million to advance methane-reduction technologies.

The World Meteorological Organization (WMO) reported in the middle of October that atmospheric CO_2 concentrations have reached a record high, rising by 3.5 ppm between 2023 and 2024. The increase was mainly driven by fossil fuel combustion and forest fires in South America. Concentrations of CH_4 and N_2O also hit new record levels, standing 16% and 25% higher, respectively, than pre-industrial levels, while CO_2 has risen by 52%.

Kanematsu Corporation announced in the middle of October the launch of a demonstration project with Green Carbon in Bukidnon Province, the Philippines, to test methane reduction technologies in rice paddies. The project aims to be implemented under the JCM (Joint Crediting Mechanism). Targeting rice paddy methane, which accounts for about 70% of the Philippines' GHG emissions, the project introduces Japan's Alternate Wetting and Drying (AWD) irrigation technique.

[Developments in Japan]

Under Japan's CCS Business Act, METI (Ministry of Economy, Trade and Industry) has designated part of the offshore Kujūkuri, Chiba, as a specific CO_2 storage zone. The designation allows for exploratory drilling in the area. METI has begun accepting applications for drilling permits. This marks the second such designation following the area off Tomakomai, Hokkaido, which was designated on 21 February 2025.

JAPEX has obtained approval from METI to conduct exploratory drilling in a designated area off Tomakomai as part of efforts to advance its CCS project. The drilling, scheduled to begin around November 2025, aims to confirm the presence of geological formations suitable for CCS. JAPEX plans to drill two exploratory wells and intends to make an FID (final investment decision) within FY2026 (fiscal year ending in

March 2027).

Woodside Energy, Japan Suiso Energy (JSE), and Kansai Electric Power announced in late September an MoU (Memorandum of Understanding) on developing a liquefied hydrogen supply chain between Japan and Australia. The three companies will explore the establishment of a supply chain in which liquefied hydrogen produced at Woodside's H2Perth project will be transported by specialized liquefied hydrogen carriers to Japan.

KHI (Kawasaki Heavy Industries) announced in late September the commercial launch of a large gas engine capable of co-firing up to 30% hydrogen. Since October 2024, KHI has been conducting operational verification at its Kobe Works, using an 8 MW-class gas engine power generation system fuelled by city gas blended with up to 30% hydrogen by volume.

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