

European Union Methane Regulations & CBAM Overview



OIL & GAS COMPANIES

**Prepare for the
EU 2024/1787 Methane Rule**

**Carbon Border Adjustment
Mechanism (CBAM)**



Envana

Envana is a joint venture of Siguler Guff and Halliburton

European Union Methane Regulations & CBAM Overview

Introduction

The **European Union (EU) 2024/1787** regulation has operators racing to meet new compliance timelines. Oil and gas companies with European operations – or exporting to the EU – are against the clock to understand the implications and promptly establish the **detection, measurement, and reporting best practices** to adapt for each use case.

This guide is designed to help you gain a clearer understanding of the implications of the new EU regulations, as well as the Carbon Border Adjustment Mechanism (CBAM) environmental policy.

Knowing how the rules apply to your business will help you **establish a practical plan to detect, measure, and mitigate the methane resulting from your operations, reducing your risks while setting you up for success.**



European Union Methane Regulations & CBAM Overview

Table of Contents

Main Considerations

- 1 *Target 30% Methane Reduction by 2030 with a 2020 baseline*
- 2 *Quarterly LDAR (Leak Detection and Repair)*
- 3 *Continuous Monitoring Required at High-Risk Facilities with Satellite Verification*
- 4 *Retrofits: Infrastructure Upgrades to High-Emission Components*
- 5 *European Carbon Border Adjustment Mechanism (CBAM) Import Law*

CBAM Preparation Steps

Key Implications for Oil and Gas Companies

Critical Timeline and Next Steps



Main Considerations

1 Target 30% Methane Reduction by 2030 with a 2020 Baseline

This specific target for methane reduction is aligned with the broader EU climate goals under the European Green Deal, yet is not directly specified in the EU Methane Regulation itself.

The regulation introduces a legal framework dedicated to enhancing methane emissions monitoring, reporting, and verification within the energy sector. It establishes clear measures aimed at reducing methane emissions by mandating the detection and repair of leaks, as well as limiting practices like flaring and venting.



This regulation represents the world's first effort to regulate methane emissions from imports.

2

Quarterly LDAR (Leak Detection and Repair)



Type 1 (larger leaks): ≥ 7000 ppm or 17 (g/h) of methane

Type 2 (smaller leaks): ≥ 500 ppm or 1 (g/h) of methane

The regulation introduces a risk-based approach requiring regular LDAR (Leak Detection and Repair) programs to detect and repair leaks in oil and gas facilities.

Operators must implement two levels of LDAR surveys —referred to as “Type 1” and “Type 2” **by May 5, 2025** to detect methane leaks in their assets. Upon detection, immediate action must be taken to repair leaks.

Repairs or replacements of components must be made as soon as possible, with an initial attempt required within **5 days of detection** and a full repair completed **within 30 days**.

European Union Methane Regulations & CBAM Overview

Leak Detection and Repair Considerations:

Operators need to submit an LDAR program for approval by **May 5, 2025**, for existing sites and within six months from the start date of operations for new sites.

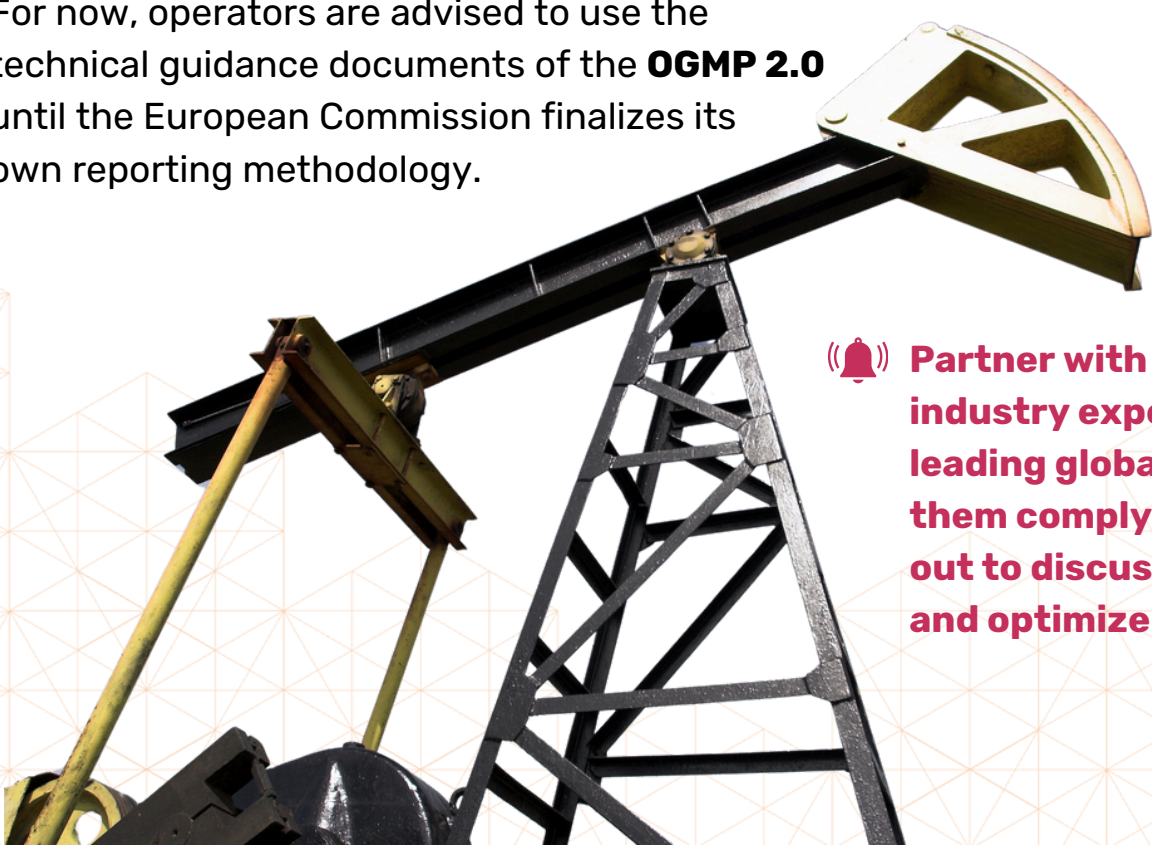
Ban on Routine Venting and Flaring:


The regulation prohibits routine venting and flaring with some exceptions. Operators are required to submit annual reports detailing controlled flaring or venting activities and notify authorities of any additional non-routine flaring or venting activities. Compliance must be achieved by **February 5, 2026** for existing sites and within 12 months for new sites.

Monitoring, Reporting and Verification:

- From entry of the regulation into force, quantification of **source-level** methane emissions must be carried out within 18 months for *operated* assets and within 30 months for *non-operated assets*.
- **Site-level** measurement must be carried out within 30 months for *operated* assets & within 48 months for *non-operated* assets.

For now, operators are advised to use the technical guidance documents of the **OGMP 2.0** until the European Commission finalizes its own reporting methodology.



 **Partner with Envana – the industry expert trusted by leading global NOCs – to help them comply on time. Reach out to discuss your roadmap and optimize your timeline.**

Leak Thresholds

Type 1 (larger leaks) surveys have a leak threshold of 7,000 ppm in volume of methane or 17 grams/hr of methane.

Type 2 (smaller leaks) surveys can meet one of several leak definitions, including:

- 1 500 ppm in volume of methane or 1 gram/hr of methane for above-ground components and for offshore components.
- 2 1,000 ppm in volume of methane or 5 grams/hr of methane for underground and offshore components above sea level.
- 3 7,000 ppm in volume of methane or 17 grams/hr applies for offshore components below sea level or below the seabed.



3 Continuous Monitoring Required at High-Risk Facilities with Satellite Verification

The continuous monitoring requirement at high-risk facilities is a core aspect of the 2024 EU methane regulations, especially related to high-emission sites.

While the EU strongly emphasizes improved monitoring, it does not mandate the exclusive use of satellite verification. Rather, it supports combining methods, including satellite data, remote sensing, and on-site measurements. Satellite verification is part of the EU's broader strategy to monitor and verify methane emissions but isn't mandated as the sole approach.

Operators are required to submit a verified annual report containing details of source-level methane emissions **by August 5, 2025.**

Reach out to the oil and gas experts at Envana to discuss the most efficient technology mix for your company.

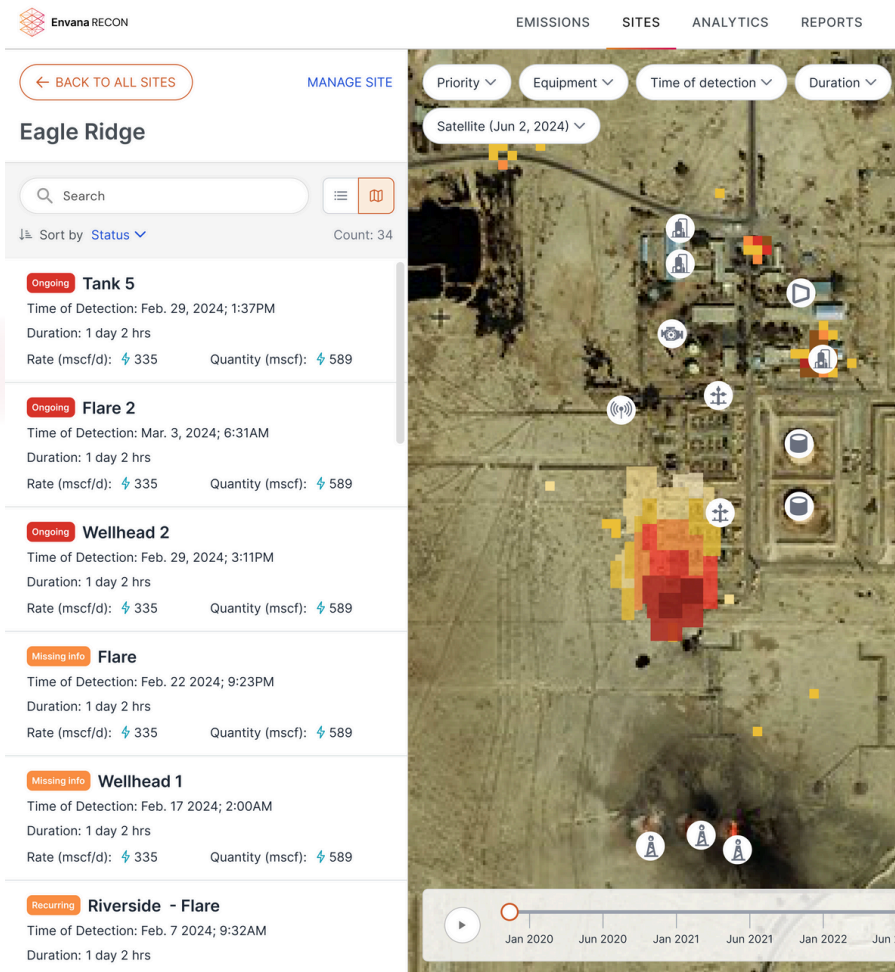


Image from the Envana Software Solutions platform

4

Retrofits: Infrastructure Upgrades to High-Emission Components



The need for retrofits or infrastructure upgrades is not explicitly stated in the new EU methane regulations.

The regulations emphasize monitoring, reporting, and repairing leaks but does not set a specific deadline for mandatory retrofits or infrastructure upgrades.

The requirement to implement retrofits and upgrades could be inferred from the need to meet emission reduction goals, but this is not a specific, mandated requirement under the current regulation. The reduction targets and infrastructure upgrades are broader EU climate goals or inferred requirements but are not specifically outlined in the EU methane regulations as binding commitments.

5 European Carbon Border Adjustment Mechanism (CBAM) Import Law

For oil and gas companies, the European Union's Carbon Border Adjustment Mechanism (CBAM) represents a significant shift in how carbon-intensive goods, including those related to energy production, will be treated in international trade.

Although the immediate CBAM focus is on industries like steel, cement, and aluminum, **oil and gas companies will likely have indirect and direct impacts**, with possible future policy expansions to include their sectors. Projections indicate that **oil production and refining could be included by 2028** and fully covered by 2036.



CBAM Import Law Implications

The CBAM is a tool used by the EU to price the carbon emitted during the production of certain imports. The goal is to prevent "carbon leakage," which is when an industry relocates due to differences in carbon pricing policies between jurisdictions.

E&P companies typically purchase significant amounts of steel and cement. When commodities become more expensive due to tariffs, this impacts the entire supply chain, increasing the O&G's final product price.

CBAM could increase the price of crude and refined oil products by up to \$5 per barrel.¹

Many oil and gas downstream products, such as high-density polyethylene, low-density polyethylene, and methanol, could be included in the CBAM scope.



Potential CBAM Impacts on Oil and Gas:

Increased Costs: Once included, oil and gas imports into the EU will be subject to carbon pricing based on their embedded emissions, potentially raising operational costs.

Market Competitiveness:

Companies with higher carbon-intensive production processes may find their products less competitive in the EU market due to added carbon costs.

Regulatory Compliance:

Firms must adhere to stringent reporting and verification requirements concerning their products' carbon content.



Efficiently track, analyze, forecast, and report accurate emissions data leveraging Envana's bespoke oil and gas data management platform. Avoid carbon taxes and benefit from demand for responsibly-sourced gas.



CBAM Preparation Steps

Monitor Regulatory Developments:

Stay informed about CBAM's expansion plans and timelines to anticipate when oil and gas sectors might be included.

Assess Carbon Footprint: Conduct comprehensive evaluations of greenhouse gas emissions across all operations to understand potential liabilities.

Enhance Emission Reporting:

Develop robust systems for accurate emissions tracking and reporting, ensuring compliance with future CBAM requirements.

Invest in Emission Reduction

Technologies: Adopt technologies such as carbon capture, utilization, and storage (CCUS) to lower the carbon intensity of production processes.

Engage with Policymakers:

Participate in industry discussions and consultations to stay updated on policy changes and advocate for feasible implementation strategies.

By proactively addressing these areas, oil and gas companies can mitigate potential risks associated with CBAM and maintain their competitiveness in the evolving regulatory landscape. Reach out to Envana to find out how our team can help yours establish a clear roadmap to track your emissions data.



Summary: Key Implications for Oil and Gas Companies

Indirect Effects on Energy-Intensive

Sectors: Oil and gas are critical inputs for energy-intensive industries like steel, aluminum, and cement, which are already covered by the CBAM. As these sectors adjust to the carbon cost of their products, there could be reduced demand for oil and gas, or a shift toward lower-carbon energy alternatives, which would affect suppliers in these industries.



Future Expansion: Although the current CBAM does not directly cover oil and gas products, there is potential for expansion. As the EU tightens its climate policies, including sectors like fossil fuels in future CBAM updates is possible, meaning oil and gas companies may eventually need to account for the carbon intensity of their exports to the EU.



Pressure to Decarbonize

Operations: Oil and gas companies that export refined products or provide energy to industries exporting to the EU may face increased pressure to reduce their carbon emissions, likely needing to invest in cleaner technologies, carbon capture, or alternative energy sources to remain competitive.



European Union Methane Regulations & CBAM Overview

Global Shift Toward Carbon Pricing:

The CBAM could encourage other countries to adopt similar carbon pricing mechanisms, increasing compliance costs for oil and gas companies on a global scale. This could lead to higher operational costs and drive further shifts toward decarbonization in the oil and gas industry.



Competitiveness Risks: For oil and gas companies operating in regions with less stringent environmental regulations, the CBAM could create competitive disadvantages in the EU market, as their products would become more expensive due to the carbon price applied at the border.



*Even though CBAM policy does not directly cover oil and gas now, the industry is affected by CBAM, as companies face increasing value chain pressures to reduce emissions and adopt cleaner practices as the mechanism evolves and expands. **Optimize international trade opportunities by sharing auditable carbon footprint data with buyers. Reach out to learn how the Envana Catalyst platform can help you track, measure, forecast, and disclose your emissions efficiently.***



Command higher “responsibly sourced gas” premiums and trade in global carbon markets, leveraging value chain transparency. Find out how you can issue “Quantified Emissions Tokens” with Envana and EarnDLT.



European Union Methane Regulations & CBAM Overview



Critical Timeline and Next Steps

*Oil and gas timeline to navigate
EU Regulation 2024-1787 and CBAM*

2024

Q4

2025

Q1

Q2

May 5

- **Familiarize with Regulation Details:** Review EU Regulation 2024-1787 and CBAM documentation to understand compliance requirements, emissions thresholds, and data transparency mandates
- **Compliance Assessment:** Gap analysis to identify emissions tracking, reporting, and reduction efforts areas of non-compliance
- **Stakeholder Alignment:** Engage with internal stakeholders (sustainability, legal, and operations teams) to set clear roles for regulatory compliance and CBAM expectations
- **Measuring Emissions:** Assess current capabilities for directly measuring and quantifying methane emissions aligned with OGMP 2.0 Level 4. Review methane detection and quantification vendors, identify OGMP L4 feasibility

- **Data Infrastructure Preparation:** Invest in or upgrade monitoring infrastructure and data systems capable of ensuring accurate carbon and methane emissions tracking and analysis per OGMP and CBAM standards
- **Begin Pilot Reporting:** Start pilot data collection and reporting for internal review, focusing on methane and other greenhouse gas (GHG) emissions. Leverage Envana Catalyst or similar software for tracking and insights
- **Third-Party Verification:** Identify potential third-party verifiers or certifiers to validate emissions data, a likely 2024-1787 requirement
- **Gap analysis:** Personnel, software, and vendors for alignment calculation and reporting measurement-based methane intensity

May 5 Deadline: Submit LDAR Program

Existing Sites:

- Submit an LDAR program by May 5, 2025, detailing approved methodologies in your plan and timelines
- Start Type 1 and Type 2 surveys by this date

New Sites:

- For facilities starting operations after the regulation's enforcement, operators must submit an LDAR program within six months of the operation start date and begin both types of surveys accordingly
- **Solid Data:** Leverage a solid data analytics platform to report OGMP L4 source-level measurement-informed methane data. Calculate CBAM exports' potential methane intensity tax

European Union Methane Regulations & CBAM Overview



Critical Timeline and Next Steps

Continued...

2025: Complete Type 2 asset measurements, annual LDAR, & Measurement, Reporting and Verification (MRV) reports

2025

2026

2027

Q3

August 5

Full Readiness

Continuous Learning and Improvement

- **August 5 Deadline: Type 2 and General Emission Factors Quantification:** Report granular, accurate emissions factor data
- **Implementing Monitoring Technologies:** Deploy automated, real-time emissions monitoring systems
- **Stakeholder Training and Education:** Train staff on using the monitoring systems and understanding EU compliance requirements, particularly around operational adjustments for emissions management
- **Vendor Optimization:** Fill gaps through vendor outreach and procurement for additional solutions and resources aligned with achieving OGMP 2.0 Levels 4-5

- **February Deadline:** Source-level methane emissions quantification and ban on routine flaring and venting.
- **May Deadline:** Routine and non-routine inspections
- **Data Reporting and Verification:** Begin official emissions data reporting to the EU as per 2024-1787 requirements, with data validated by third-party auditors
- **Emissions Reduction Action Plan:** Develop and implement emissions reduction strategies targeting methane, carbon, and other GHGs, adhering to EU thresholds and CBAM reduction targets


- **February Deadline:** Source-level and site-level methane emissions results' quantification and reconciliation assessed by a verifier (operated assets)
- **Annual Reporting:** Maintain regular emissions reporting, meeting EU deadlines and CBAM standards. Review annual reports and make adjustments to emissions management plans based on reported data
- **Ongoing Compliance and Adjustments:** Monitor regulatory updates and adjust compliance strategies, apply EU and CBAM review feedback, update stakeholders, and revise reduction targets

European Union Methane Regulations & CBAM Overview

Critical Timeline and Next Steps

The new **EU Methane Regulation** introduces numerous changes and requirements for the industry. Operators who choose to comply with the new regulations by proactively addressing the deadlines will benefit from enhanced market opportunities and reduced risks.

Companies supplying raw materials or fuels to **CBAM**-covered industries should take notice now. **Oil and gas companies with the foresight to provide value chain GHG transparency and granularity will benefit** once EU importers dealing products derived from oil and gas request the calculations to report embedded emissions.

 ***Now is the time to fully assess the options available for your company to comply with the EU methane laws and CBAM import requirements. Learn how Envana can help you establish a practical roadmap to quantify your emissions, meet the requirements, and optimize your commercial opportunities.***

Preparing for the regulations may be challenging, considering the variety of technological options and the intricacies of the data. **Methane calculations are numerous, complex, and time-intensive.**

Making decisions based on clear, transparent, timely data is as critical as creating an efficient plan to respond to incidents.

As our industry faces increasing regulatory pressures, proactive emissions management and strategic planning become essential for compliance and cost mitigation. Decrease your risks, and increase operational efficiencies and return on investment with actionable emissions data to meet your sustainability goals.

The Envana Software Solutions team is here to help you navigate these challenges with precision and expertise. With over a century of combined oilfield knowledge, we'll help you come up with a tailored plan to help you manage emissions effectively, align with evolving regulations, and optimize your market opportunities.

Contact us to build a robust emissions strategy:

www.envana.com | sales@envana.com



Envana