

Compliance Playbook for the EU Methane Regulation

PICARRO

The EU Methane Regulation is now in effect and contains numerous provisions for the precise measurement, quantification, monitoring, reporting, and verification of methane emissions, as well as for emission reduction through LDAR (Leak Detection and Repair) activities, repair obligations, and restrictions on venting and flaring. Methodologically, the regulation is based on key components of the OGMP 2.0 framework (Oil and Gas Methane Partnership) but also includes additional requirements. However, the regulation still lacks guidelines about the reporting templates, minimum detection limits, and thresholds, which are only to be introduced through an implementing act by August 5, 2025.

Given these circumstances, gas distribution network operators must act now and develop an LDAR program by May 5, 2025, including a detailed description of LDAR as well as information about the deployed equipment and methods (Article 14 (1)/Annex I, Part 2).

Picarro's EU Methane Regulation Compliance Playbook offers a streamlined, data-driven approach to meet these requirements through an advanced LDAR solution tailored for distribution operators. The playbook features a three-step strategy focusing on planning, executing, and reporting in alignment with the regulation.

EU Methane Regulation

Timeline

Submit LDAR Program	May 2025
LDAR Activity Finalized	August 2025
First Data Collection	in year 2025
First Emission Quantification with measurements reported	February 2026

Picarro's Compliance Playbook




Step 1: Planning the LDAR Program

- Define objectives and compliance targets based on EU mandates and alignment with business objectives such as increasing network safety, reduction of odor calls, and emissions reduction.
- Develop an asset based survey schedule with optimized abatement boundaries considering the complexity of pipeline material mix in distribution grids which need to be surveyed under different timelines.
- Manage resources and workflows for efficient coverage of large areas and prioritize high-impact leaks.

1

STEP 1



Planning the LDAR Program

-  Define Compliance Targets
-  Develop Asset Based Schedule
-  Establish Workflows

2

STEP 2

Data Collection (LDAR, article 14)

-  Survey with Picarro's AMLD
-  On-Foot Leak Confirmation & Repair

3

STEP 3

Monitoring, Reporting, and Verification (MRV, article 12)

-  Produce LDAR and Emissions Report
-  Maintain Logs for Verification

Note: LDAR is an abbreviation for "Leak Detection and Repair"

Step 2: Data Collection (LDAR article 14)

When implementing an LDAR data collection program, it is important to align the program to corporate objectives: ensure network safety, reduce methane emissions, ensure regulatory compliance. This can be readily achieved with one frequent data collection over the entire gas system. More value is extracted from the LDAR program and all initiative use the same source of truth.

Concentration measurements are not useful to quantify and reduce emissions. Only direct flow rate measurements are leading to a meaningful emission quantification.

- **Vehicle-Based Leak Detection:** Vehicles equipped with the Picarro technology quickly and effectively survey vast network areas. The system detects and quantifies the leaks by measuring their emission flow rates. This data allows operators to detect and prioritize large leaks for accelerated repair and form the basis for emissions reporting. In contrast, traditional methods allow only for concentration measurements and fail to correlate their readings with leak size, which renders the data useless for emission quantification.
- **On-Foot Leak Confirmation and Repair:** Following the vehicle detection, on-foot investigations are conducted using Picarro's handheld devices. Technicians use these tools to localize leaks at their source for accurate confirmation and repair, meeting the regulation's strict timelines (e.g., repair within 5 days for leaks over 1,000 ppm).



Figure 1. Picarro's solution enables seamless leak detection with both vehicle-mounted (1a) and handheld sensors, ensuring efficient on-foot leak confirmation and repair (1b).

Step 3: Monitoring, Reporting and Verification (MRV article 12)

- Provide LDAR and Emissions Quantification reports, complying with EU and OGMP requirements for transparency and data reconciliation.
- Provide verification logs and insights that allow authorities to validate each step of the LDAR and emissions quantification process, document compliance, and prepare for the mandatory reports.

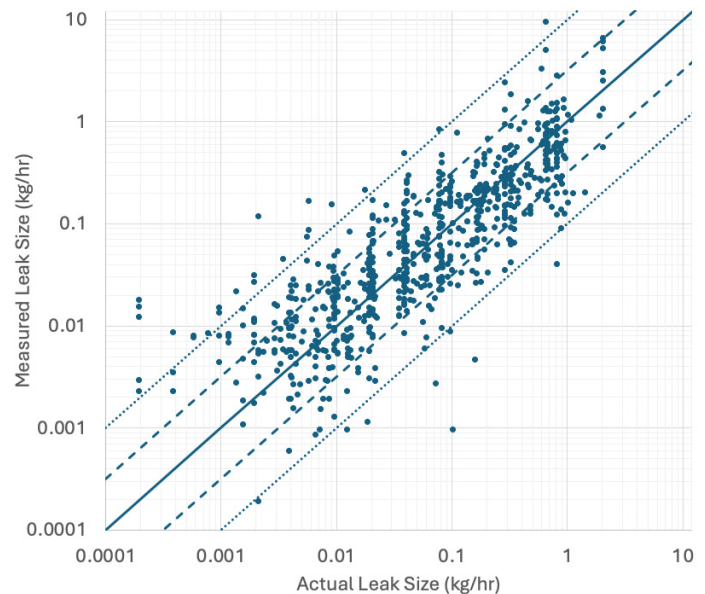


Figure 2. Picarro's emission measurement method has undergone external validation, where hundreds of validation points have been collected in order to establish the performance and accuracy of the method.

With this playbook, Picarro equips operators with the tools and insights needed to navigate the EU's stringent methane regulations, ultimately helping them to reduce emissions efficiently, enhance safety, and improve operational performance.

Key Focus: Direct Emission Measurements and Prioritization of Large Emitters

The EU methane regulation mandates the repair of leaks within stringent timelines and requires that larger leaks are prioritized. Picarro's technology allows operators to prioritize leaks based on emission rate rather than concentration, a critical distinction for efficient emission reduction.

- **Efficient Resource Allocation:** Picarro's vehicle-based solution provides a comprehensive survey of the gas distribution network. This approach often identifies leaks that remain undetected during conventional close-to-pipeline inspections, such as migrating emissions through channels, empty conduits, cable ducts, or decommissioned pipelines. The Picarro solution is also more cost effective allowing for qualified personal to be deployed more effectively, to significantly increase their efficiency and aligning them more closely with their core competencies. This alleviates personnel constraints to practically manage the EU Methane Regulation's short LDAR inspection intervals.



Figure 3. With Picarro's advanced leak detection technology, customers efficiently survey over 500,000 km of main pipes annually, optimizing resource allocation and operational coverage.

- **Data-Driven Abatement:** Picarro's data-driven method extends far beyond compliance with the EU Methane Regulation. It supports other important corporate goals, such as faster methane emission reduction or increased system safety, e.g. in preparation for a hydrogen future.

Best Available Technology

Picarro has a proven innovation track record and our ability to adapt to new regulatory requirements makes our solution future-proof. High precision methane measurements, real-time wind- and GPS-data combined through powerful Data Analytics are crucial for ensuring the accuracy of detections, emission measurements, and to compute accurate coverage areas (Field of View). External studies and scientifically published evidence are essential for third party verification, fostering confidence in a validated method, and preempting public complaints about the methodology used by the operator.

Picarro's data lake contains one of the most extensive collections of leak data globally, allowing operators to benchmark against industry norms and make informed decisions based on vast comparative insights.

The software environment (for drivers, analysts, and investigators) significantly impacts productivity and ensures quality assurance, documentation, auditability, and reporting standards. Seamless integration of handheld devices further enables automatic reconciliation or attribution of site-level measurements to sources.