# VALIDATION OF METHANE QUANTIFICATION TECHNOLOGIES

First peer-reviewed assessment of methane measurement technologies via controlled release in Europe.



DONOR:
**European Commission**

BENEFITTING COUNTRIES OR REGIONS:
**Worldwide**

SECTOR:
**Oil & Gas**

Subsector, if applicable:
**-**

STATUS:
**Analysis ongoing**

TIMELINE:
**Measurements 2024**

IMEO SCIENCE OBJECTIVE:

→ **Validation of measurement-based approaches.**

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## KEY FINDINGS

The study will assess the accuracy of various methane detection technologies.

## RATIONALE

Accurate quantification of methane emissions is crucial for both tracking mitigation and informing regulatory decision making. Therefore, methodologies claiming to quantify methane emissions require independent and rigorous validation to give confidence and reassurance that accurate reporting of emissions through measurement is viable. The research being undertaken is intended to evaluate and demonstrate these capabilities and their ability to support the EU's methane strategy and broader goals under the Global Methane Pledge.

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## RELATED PUBLICATIONS

*In progress*

## SIGNIFICANCE FOR DECISIONMAKERS

The results from this work will give vital insight into the capabilities of the commercial and academic methane quantification sector, which in turn will allow policy makers to understand the current state of the art and viability of regulatory aspects such as the EU methane regulations for the oil and gas sector.

## STUDY APPROACH/ACTIVITIES

The team has invited a range of commercial and academic methane quantification providers using a range of technologies at all scales. The technology tested will include ground based static sensors, vehicle and drone-based technologies, aircraft and satellites. Participants will be tested blind (without knowledge of release rates) and asked to quantify a range of controlled methane releases at the TADI site in France over a period of week. Each participant will pass over results to Stanford where performance metrics will be calculated. This work will provide an insight into the current ability of a range of technology providers to accurately detect, locate and quantify methane emissions at source level.

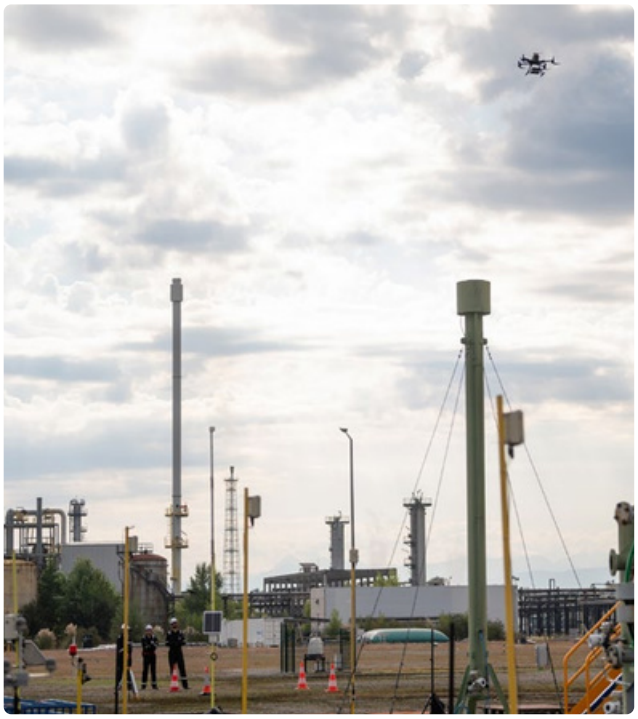
## CATALYZING ACTION

IMEO convened stakeholders from government, the oil and gas industry, academia and civil society to observe this research taking place and discuss pathways to leverage its findings and conduct similar validation studies in other parts of the world where they're needed.

## OTHER SUPPORTERS/STAKEHOLDERS

Principal Investigator: **Stanford University, US**

Revision History: **26 October 2024**



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The UN Environment Programme's International Methane Emissions Observatory (IMEO) exists to provide open, reliable, and actionable data to the individuals with the agency to reduce methane emissions. IMEO does this by integrating and reconciling data across sources, including its global methane science studies. IMEO supports measurement and research studies around the world to close the knowledge gap on methane emissions and provide policy-relevant insights to decisionmakers.

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