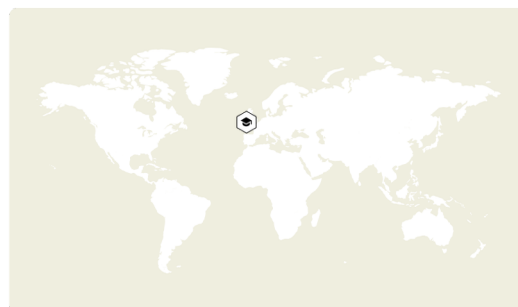


QUANTIFICATION OF EMISSIONS FROM FLOATING PRODUCTION STORAGE OFFLOADING SITE

First direct measurement of emissions from offshore oil production storage facilities.



DONOR:
European Commission



BENEFITTING COUNTRIES OR REGIONS:
European countries



SECTOR:
Oil & Gas



Subsector, if applicable:
Offshore

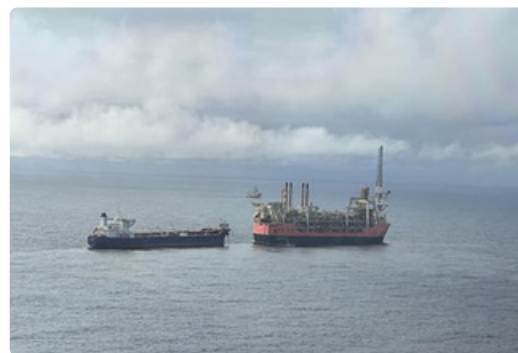
STATUS:
Submitted to journal

TIMELINE:
Measurements 2024



IMEO SCIENCE OBJECTIVE:

→ **Initiate scientific studies in support of data assurance and to characterize regions/sources with high uncertainty or discrepancies in the integrated data.**



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KEY FINDINGS

This work will compare methane emission quantifications of a FPSO site before, after and during an offloading event at Glen Lyon, Shetland using aerial, drone and bottom-up quantification methods.

RATIONALE

Floating Production Storage and Offloading (FPSO) vessels are widely used in the global offshore oil industry to process hydrocarbons and store oil before it is offloaded to a shuttle tanker for export. There is currently no direct measurement data for FPSOs' emissions and there is a lack of multi-scale offshore measurements in existing scientific literature from oil and gas facilities.



RELATED PUBLICATIONS

In progress



CATALYZING ACTION

Results presented at the [European Geosciences Union meeting](#).



SIGNIFICANCE FOR DECISIONMAKERS

The results are expected to aid operators in understanding the magnitude and sources of methane emissions for Floating Production Storage and Offloading vessels during unloading events. It will also give a real-world intercomparison of bottom up and top down methods for reconciliation in an offshore environment.



STUDY APPROACH/ACTIVITIES

The study uses a multiscale approach. This includes estimating emissions using a drone-based platform, building a bottom-up estimate using industry-provided data, and the UK Facility for Airborne Atmospheric Measurement (FAAM) conducting downwind “fly-by” transects using a BAE-146 aircraft as a measurement platform. Measurements were performed before, during and after the offloading event.

OTHER SUPPORTERS/STAKEHOLDERS

Principal Investigator: **University of York, UK**

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.