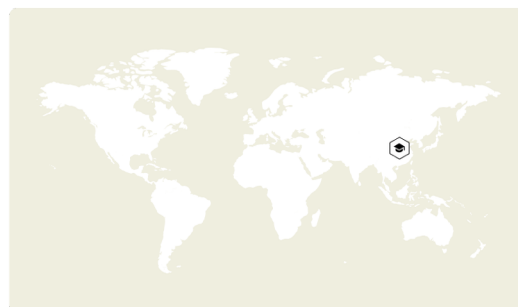


URBAN CONTROLLED METHANE RELEASE STUDIES

Assessment of approaches to detect and quantify ground-level methane emissions in a real-world urban setting.



DONOR:
Germany



**BENEFITTING COUNTRIES
OR REGIONS:**
China



SECTOR:
Oil & Gas



Subsector, if applicable:
Distribution

STATUS: **Project initiation**

TIMELINE: **Measurements expected 2026**



**IMEO SCIENCE
OBJECTIVE:**

→ **Validation of measurement-based
approaches**



KEY FINDINGS

In progress

RATIONALE

The detection and quantification of urban methane emissions using mobile measurements at ground level is a widely applied technique that has moved beyond the research sphere to commercial operation. However, there has been limited validation of the measurement technologies and approaches used to detect and quantify emissions in such settings. This study aims to address that by conducting a blind controlled release test in a real-world urban environment. Previous urban mobile measurement studies have been concentrated in Europe and North America, but few studies have been conducted in East Asian countries such as China, where natural gas consumption is growing rapidly. This study provides an opportunity not only to build measurement capacity in the region, but also to provide valuable insights on ways to monitor and mitigate emissions.



RELATED PUBLICATIONS

In progress



SIGNIFICANCE FOR DECISIONMAKERS

The expected results will provide valuable insights for natural gas providers, environmental agencies and policymakers to design effective measures to mitigate methane emissions, particularly within China, where natural gas consumption is surging.



STUDY APPROACH/ACTIVITIES

The study will involve controlled releases of methane in an urban area. Around 10 independent measurement groups will be asked to detect and quantify the emission rates in a blind experiment, in which participants do not have prior knowledge of source locations or release rates. The research team will evaluate the various source identification and quantification methods based on the success rate of detection and accurate quantification.



CATALYZING ACTION

The study will provide an opportunity for commercial entities, downstream gas distribution companies and academic researchers to test different measurement techniques. The work will support the accuracy of methane emissions reporting and help gas distribution companies adopt measurement strategies consistent with the UNEP's Oil and Gas Methane Partnership 2.0 framework, enabling emissions tracking and reductions.

OTHER SUPPORTERS/STAKEHOLDERS

Principal Investigator: **Nanjing University (NJU)**

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.