GLOBAL ANALYSIS OF EMISSIONS FROM ABANDONED WELLS

Assessing global emissions from abandoned oil and gas wells.

DONOR:
Oil and Gas Climate Initiative

BENEFITTING COUNTRIES OR REGIONS:
All

SECTOR:
Oil & Gas

Subsector, if applicable:
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STATUS:
Submitted to Journal

TIMELINE:
Measurements 2023-2025

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 provide data on abandoned well emissions from regions around the world and reconcile currently available data to provide an estimate of abandoned wells' total emissions. The results will contribute to understanding the conditions that lead to high-emitting abandoned oil and gas wells.

RATIONALE

Globally, there are millions of abandoned oil and gas wells, but methane emissions have been measured at only a very small number of them outside North America. These wells have the potential to collectively emit significant methane emissions, but additional data is needed to understand their impact in regions beyond North America so that inventories can effectively account for them and mitigation resources can be effectively deployed.

UN environment programme | International Methane Emissions Observatory

United Nations Environment Programme | International Methane Emissions Observatory
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SIGNIFICANCE FOR DECISIONMAKERS

The uncertainty in the scale of abandoned well emissions makes for very challenging adoption of policy, especially outside of North America. The study will shed light on whether countries require plans for well plugging efforts (such as seen in North America) and will also guide as to whether more sophisticated emission factors are required for national inventory reporting.

STUDY APPROACH/ACTIVITIES

This study entails a comprehensive review of current knowledge on abandoned well emissions. This will enable the development of a number of models in order to best estimate current global methane emissions from abandoned oil and gas infrastructure. In addition, a suite of new measurement studies outside of North America will be conducted. This measurement campaign is currently focused on regions in Romania, Italy and Germany. Further campaigns may be possible in Colombia and Argentina, subject to site access and safety agreements.

CATALYZING ACTION

Scientists have engaged North American and global stakeholders through various presentations and panel discussions on practices and standards for plugging abandoned wells.

OTHER SUPPORTERS/STAKEHOLDERS

Principal Investigator: **McGill University**

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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.