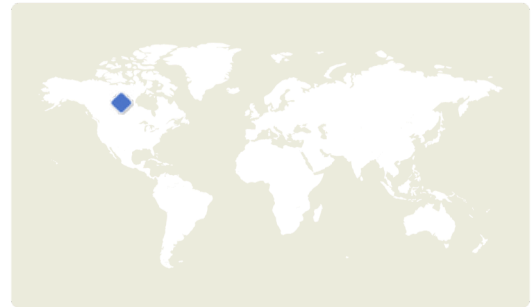


MEASURING EMISSIONS FROM CANADIAN LANDFILLS



Aircraft measurements of 21 landfills across Canada found emissions to be lower than official estimates, but within the range of expected values.



DONOR:
European Commission



BENEFITTING COUNTRIES OR REGIONS:
Canada



SECTOR:
Waste



Subsector, if applicable:
Municipal Solid Waste

STATUS:
Manuscript Drafted

TIMELINE:
Measurements 2022



IMEO SCIENCE OBJECTIVE:

→ Validation of measurement-based approaches.



KEY FINDINGS

Modelled landfill emissions for national reporting overestimated methane emissions by 1.4x relative to the measurements obtained for Canadian landfills.

RATIONALE

The waste sector is a significant source of methane emissions and measurement data is needed to assess the accuracy of emissions modelling that often forms the basis of policy decisions and mitigation action. Canada has committed to developing and implementing regulations to halve methane emissions from large municipal solid waste landfills from 2019 levels by 2030.



RELATED PUBLICATIONS

- ▶ Draft manuscript: *Estimating Canadian Landfill Methane Emissions from Aircraft Measurements* by Fougère et al.



SIGNIFICANCE FOR DECISIONMAKERS

For Policymakers: This study can inform improvement of modelled landfill emissions and understanding of mitigation opportunities.



STUDY APPROACH/ACTIVITIES

An aircraft measurement campaign was performed at 16 individual landfills across Ontario and Quebec and 5 in Alberta. Methane flux rates were estimated using mass balance equations for ascending loop measurements and an inverted Gaussian dispersion model for downwind transect data.



CATALYZING ACTION

The study's findings will inform discussion on modelled landfill emissions and identification of mitigation opportunities.

OTHER SUPPORTERS/STAKEHOLDERS

Government of Canada

Principal Investigator:
St Francis University, US

Revision History: **25 October 2024**



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.