

# Landfill Methane Recovery and Destruction

## Project type description

When organic waste is disposed in landfills it produces methane, a powerful greenhouse gas (GHG). Instead of allowing the methane to be released to the atmosphere, this project type involves installing and operating a system to actively recover landfill gas and destroy methane in an eligible destruction device. This reduces GHG emissions as it converts the methane in landfill gas into biogenic carbon dioxide, which has a lower warming impact on the climate. This project type can also generate GHG emission reductions by using eligible recovered landfill gas to replace fossil fuels.

## Eligibility

A project implemented following the protocol must meet the following conditions to register in Canada's GHG Offset Credit System:

- ▶ **Location:** The project takes place in any province or territory in Canada, except British Columbia, Alberta and Quebec
- ▶ **Additionality:** GHG emission reductions generated by the project:
  - Are not already incentivized by carbon pricing
  - Do not occur as a result of federal, provincial or territorial regulations, municipal by-laws, operating permits or any other legally binding mandates that may control the release of landfill gas, either as a safety precaution or to minimize odour
  - If the operating permit of a landfill is updated as a result of voluntarily implementing an offset project, additionality will not be affected
- ▶ **Baseline conditions:** Landfill gas is not actively recovered from within the project site (composed of one or more landfill cells or clearly delineated discrete sections of the landfill) and the methane not subsequently destroyed in any manner prior to the project start date
- ▶ **Eligible project activities:** Landfill gas is actively recovered from one or more landfill cells or clearly delineated discrete sections of the landfill and methane is destroyed in one or more eligible destruction devices; landfill gas may also be used to replace fossil fuels
- ▶ **Eligible destruction devices:**
  - Open and enclosed flares
  - The following devices for energy generation:
    - Boilers, turbines, and internal combustion engines
    - Stations for the direct injection of upgraded landfill gas into a natural gas network
    - Stations for the compression or liquefaction of upgraded landfill gas prior to its transport and injection into a natural gas network

► **Project start date:**

- The first day that landfill gas is actively recovered from within the project site and methane destroyed in an eligible destruction device is the project start date
- The project start date is on or after January 1, 2017

## **Quantification**

GHG emission reductions generated by a project are based on the difference between the emissions that would have been released to atmosphere from the landfill and from the combustion of fossil fuels in the absence of the project (baseline scenario) and the emissions associated with operating the landfill gas recovery system and eligible destruction devices, and the uncombusted methane from eligible destruction devices due to the implementation of the project (project scenario).

## **Measurement and data**

Landfill gas captured for methane destruction must be directly measured. Data must be collected using measuring devices, such as flow meters and methane analyzers, which must be operated and calibrated as per applicable requirements and standards.

## **Reporting and verification**

To be issued federal offset credits, the proponent must:

- Prepare a project report for each reporting period to demonstrate project compliance with requirements
  - The first reporting period is one year, and subsequent reporting periods can be up to three years
- Have the project report verified by an accredited verification body, who must prepare a verification report confirming the project meets all requirements

## **Other key requirements**

- GHG emission reductions must be unique
  - The same reductions cannot earn credits under another offset system, program or other GHG reduction mechanism, including Government of *Canada's Clean Fuel Regulations*
- The proponent must have exclusive entitlement to claim the credits issued for the GHG emission reductions generated by the project
- Projects can be aggregated, but they must be located in the same province or territory
- 3% of credits issued for a project are deposited into the environmental integrity account
- A project can generate credits for ten years; however, eligibility for credit issuance stops if the GHG emission reductions become required by law. There is a potential to renew the crediting period twice

### **Disclaimer**

The information in this document is intended for communication purposes only. It reflects the latest version of the *Landfill Methane Recovery and Destruction* federal offset protocol. It does not replace the requirements set out in the protocol or the *Canadian Greenhouse Gas Offset Credit System Regulations*. Please refer to these documents for a complete list of rules and requirements. In the event of any conflict or difference between this protocol overview and any legal requirements, the latter prevail.

Cat. No.: En4-461/1-2026E-PDF  
ISBN: 978-1-100-00106-7  
EC26149.006

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