Compendium of Federal Offset Protocols

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Canada's Greenhouse Gas Offset Credit System

Environment and Climate Change Canada
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Canada

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Environment and Climate Change Canada
Public Information Centre
Place Vincent Massey building
351 St-Joseph Boulevard
Gatineau, Quebec K1A 0H3
Toll free: 1-800-668-6767
Email: enviroinfo@ec.gc.ca

Aussi disponible en français

Document revision history

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7.0	October 24, 2025	Inclusion of *Reducing Enteric Methane Emissions from Beef Cattle*, *Version 1.0*
6.0	January 27, 2025	Inclusion of *Reducing Greenhouse Gas Emissions from Refrigeration Systems*, *Version 1.2*
5.0	October 15, 2024	Inclusion of *Improved Forest Management on Private Land*, *Version 1.1*
4.0	May 6, 2024	Inclusion of *Improved Forest Management on Private Land*, *Version 1.0*
3.0	December 8, 2023	Inclusion of *Reducing Greenhouse Gas Emissions from Refrigeration Systems*, *Version 1.1*
2.0	February 24, 2023	Inclusion of: • *Reducing Greenhouse Gas Emissions from Refrigeration Systems*, *Version 1.0*; and • *Landfill Methane Recovery and Destruction, Version 1.1*
1.0	June 8, 2022	Initial version including *Landfill Methane Recovery and Destruction*, *Version 1.0*

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1.0 Introduction

Canada's Greenhouse Gas (GHG) Offset Credit System is established under Part 2 of the *Greenhouse Gas Pollution Pricing Act* to provide an incentive to implement projects that result in domestic GHG reductions that would not have been generated in the absence of the project, that go beyond legal requirements and that are not subject to carbon pollution pricing mechanisms.

Canada's GHG Offset Credit System consists of:

- the *Canadian Greenhouse Gas Offset Credit System Regulations* (the Regulations), which establish the system, implement the operational aspects and set the general requirements applicable to all project types
- federal offset protocols, included in the *Compendium of Federal Offset Protocols* (the Compendium), each containing requirements for project implementation and methods for quantifying GHG reductions for a given project type, and
- the Credit and Tracking System (CATS) to register offset projects, issue and track offset credits, and share key information through Canada's GHG Offset Credit System Public Registry

The Regulations apply to a proponent of a project which is of a type for which a protocol has been included in the Compendium; that aims to generate GHG reductions by preventing GHG emissions or removing GHGs from the atmosphere; and with respect to which the GHG reductions are real, additional, quantified, verified, unique and permanent. Offset credits will be issued to a proponent of a project for the period covered by a project report in the amount determined in accordance with subsection 29(2) of the Regulations if requirements of subsection 29(1) of the Regulations are met.

2.0 Protocols

The Regulations require a proponent to register their project using the most recent version of a federal offset protocol that applies to the project when the application for registration is submitted. This version of the protocol will apply to the project for the duration of its crediting period unless after an update to a protocol, the proponent opts to use the new version of the protocol. The proponent using the new version of the protocol must ensure their project meets all requirements of this new version and must specify any updates to the registration information in the project report. Note that only one version of a protocol may be used per reporting period.

The proponent must meet requirements set out in the applicable protocol and the Regulations, including those to quantify and report GHG reductions generated from eligible project activities. The federal offset protocols are designed to ensure projects generate GHG reductions that are real, additional, quantified, verified, unique and permanent. The protocols are also developed in accordance with the principles of ISO 14064-2:2019 *Greenhouse gases – Part 2 – Specification with guidance at the project level for quantification, monitoring and reporting greenhouse gas emission reductions or removal enhancements* to ensure reported GHG reductions generated as a result of implementing a project are relevant, complete, consistent, accurate, transparent, and conservative.

2.1 Landfill methane recovery and destruction

Methane emissions from landfills are generated by the anaerobic decomposition of organic material in the buried waste. The installation of a landfill gas (LFG) recovery and destruction system enables the landfill methane to be converted into biogenic carbon dioxide instead of allowing it to be passively released to the atmosphere.

The *Landfill Methane Recovery and Destruction* federal offset protocol is intended for use by a proponent implementing a project that actively recovers and destroys LFG to generate GHG emission reductions for which federal offset credits may be issued under the Regulations.

GHG emission reductions generated by a project under this protocol can only result from avoided methane emissions achieved through active recovery of LFG from within the project site and its destruction in an eligible destruction device. Devices can be open and enclosed flares, boilers, turbines, internal combustion engines, stations for the direct injection of upgraded LFG into a natural gas network, or stations for the compression or liquefaction of upgraded LFG prior to its transport and injection into a natural gas network.

Version number	Publication date	Eligible for project registration	Protocol download
1.1	February 24, 2023	February 24, 2023 – present	• Landfill Methane Recovery and Destruction, Version 1.1 [HTML] • Landfill Methane Recovery and Destruction, Version 1.1 [PDF, 646 KB]
1.0	June 8, 2022	June 8, 2022 – February 23, 2023	• Landfill Methane Recovery and Destruction, Version 1.0 [HTML] • Landfill Methane Recovery and Destruction, Version 1.0 [PDF, 1.37 MB]

2.2 Reducing greenhouse gas emissions from refrigeration systems

Emissions of hydrofluorocarbons (HFCs) from commercial and industrial refrigeration or air conditioning systems are caused by releases during equipment installation, when charging equipment with refrigerant, either initially or when re-filling (top-up), and leaks from equipment operations. Lowering the global warming potential (GWP) of refrigerants used in these systems in Canada ensures that the associated impacts on climate change from unavoidable equipment leaks are minimized to the extent possible.

The *Reducing Greenhouse Gas Emissions from Refrigeration Systems* federal offset protocol is intended for use by a proponent implementing a project to transition away from refrigerants with high GWP values in their commercial and industrial refrigeration or air conditioning systems, in order to generate GHG emission reductions for which federal offset credits may be issued under the Regulations, from the following eligible project activities:

1. retrofitting a pre-existing refrigeration or air conditioning system to use an eligible refrigerant, or
2. installing a new refrigeration or air conditioning system containing an eligible refrigerant

The high-GWP refrigerant from a pre-existing system must be sent to an authorized destruction or reclamation facility in Canada. GHG emission reductions can be generated by destroying HFCs contained within the high-GWP refrigerant from a pre-existing system, but for a project to be eligible, HFC destruction must occur in Canada.

GHG emission reductions generated from destroying, reducing or replacing ozone-depleting substances are not eligible under this protocol.

Version number	Publication date	Eligible for project registration	Protocol download
1.2	January 27, 2025	January 27, 2025 – present	• Reducing Greenhouse Gas Emissions from Refrigeration Systems, Version 1.2 [HTML] • Reducing Greenhouse Gas Emissions from Refrigeration Systems, Version 1.2 [PDF, 494 KB]
1.1	December 8, 2023	December 8, 2023 – January 26, 2025	• Reducing Greenhouse Gas Emissions from Refrigeration Systems, Version 1.1 [HTML] • Reducing Greenhouse Gas Emissions from Refrigeration Systems, Version 1.1 [PDF, 461 KB]
1.0	February 24, 2023	February 24, 2023 – December 7, 2023	• Reducing Greenhouse Gas Emissions from Refrigeration Systems, Version 1.0 [HTML] • Reducing Greenhouse Gas Emissions from Refrigeration Systems, Version 1.0 [PDF, 1.44 MB]

2.3 Improved forest management on private land

Forests have a large capacity to sequester carbon by removing carbon dioxide from the atmosphere and converting it into biomass through photosynthesis. This carbon is stored in the forest as live biomass as well as dead organic matter and forest soil. The implementation of improved forest management relative to the baseline can reduce the amount of carbon lost from managed forests and/or increase the rate of carbon sequestration in forest biomass.

The *Improved Forest Management on Private Land* federal offset protocol is intended for use by a proponent implementing a project to carry out forest management activities on managed forestlands that go beyond a business-as-usual management scenario in order to generate GHG emission reductions and removals (GHG reductions) for which federal offset credits may be issued under the Regulations.

GHG reductions generated by a project under this protocol can only result from the implementation of improved forest management. GHG reductions under this protocol cannot be generated from afforestation/reforestation or avoided conversion of forestlands.

This protocol is applicable to projects on private land and is not applicable to projects on provincial and federal Crown lands and public lands in the territories. This protocol is also applicable on provincial and federal Crown lands where a First Nation has exclusive use and occupation.

Version number	Publication date	Eligible for project registration	Protocol download
1.1	October 15, 2024	October 15, 2024 – present	• Improved Forest Management on Private Land, Version 1.1 [HTML] • Improved Forest Management on Private Land, Version 1.1 [PDF, 961 KB]
1.0	May 6, 2024	May 6, 2024 – October 14, 2024	• Improved Forest Management on Private Land, Version 1.0 [HTML] • Improved Forest Management on Private Land, Version 1.0 [PDF, 911 KB]

2.4 Reducing enteric methane emissions from beef cattle

Enteric methane emissions are a by-product of a natural digestive process in ruminants such as cattle. As part of this process, a portion of the feed is converted into methane and released back into the atmosphere by the cattle as an enteric methane emission.

The *Reducing Enteric Methane Emissions from Beef Cattle* federal offset protocol is intended for use by a proponent implementing a project to reduce enteric methane emissions in confined beef cattle feeding operations through improved management, diet reformulation, the use of feed additives, growth promotors or other innovative strategies.

Carrying out eligible project activities will reduce the quantity of GHGs emitted per unit mass of beef produced by improving animal performance or directly reducing enteric methane emissions, for which federal offset credits may be issued under the Regulations.

A project implemented under this protocol cannot generate GHG emission reductions during cattle grazing, from dairy cattle or from the use of novel anti-methanogenic feed additives or gut modifiers.

Version number	Publication date	Eligible for project registration	Protocol download
1.0	October 24, 2025	October 24, 2025 – present	• Reducing Enteric Methane Emissions from Beef Cattle, Version 1.0 [HTML] • Reducing Enteric Methane Emissions from Beef Cattle, Version 1.0 [PDF, 553 KB]