

Reducing Greenhouse Gas Emissions from Refrigeration Systems

(Updated as of March 2024)



Project type description

Industrial and commercial refrigeration and air conditioning systems are found across Canada in retail food stores, malls, ice rinks and cold storage warehouses, among other facilities. These systems release refrigerant during routine operation and maintenance, equipment installation, initial refrigerant charging, or re-filling (top-up). The transition away from refrigerants containing hydrofluorocarbons (HFCs) with high global warming potentials (GWPs) used in these systems minimizes greenhouse gas (GHG) emissions from unavoidable equipment leaks.

Eligibility

A project may be eligible to register in Canada's GHG Offset Credit System if the following conditions are met:

- › **Location:** The project is located in any province or territory in Canada. If the project includes the destruction of HFCs, the destruction must occur in Canada to be eligible for credit issuance.
- › **Additionality:** GHG emission reductions generated by the project must not already be incentivized by carbon pricing and must not occur as a result of federal, provincial or territorial regulations. The proponent must not be required to retrofit or replace a pre-existing refrigeration system or its refrigerant.
- › **Baseline conditions:** There is no pre-existing system at the project site or there is a pre-existing system that is either a stand-alone medium or low temperature refrigeration system, centralized refrigeration system, condensing unit, chiller, commercial air conditioning system or a heat pump. The pre-existing refrigeration system must have been using the same refrigerant and operating on the project site for more than 3 years prior to the project start date and must not use a refrigerant which consists entirely of ozone-depleting substances.
- › **Eligible project activities:** The proponent can retrofit a pre-existing refrigeration system to use an eligible refrigerant, install a new refrigeration system containing an eligible refrigerant, and if applicable, destroy HFCs contained in refrigerant taken out of a pre-existing refrigeration system.
 - **Eligible refrigerant:** The refrigerant used in the project must have a GWP lower than values provided in the protocol or, if lower, the relevant GWP limit imposed by the province or territory in which the project is located. Eligible refrigerant GWP must be lower than a pre-existing refrigeration system's refrigerant GWP, if one exists. Ammonia is not an eligible refrigerant where a new refrigeration system is installed and there is no pre-existing system.
- › **Project start date:** The first day that a retrofitted or newly installed refrigeration system provides cooling to the project site must be on or after January 1, 2017.

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

Quantification

GHG emission reductions generated by a project are based on the difference between GHG emissions due to the leaks from a high GWP refrigerant system that would have occurred in the absence of the project (baseline scenario) and the GHG emissions due to the leaks from a low GWP refrigerant in a retrofitted or newly installed refrigeration system in the project (project scenario).

Monitoring and measurement

There is no direct measurement of refrigerants or system leaks required from a proponent. Default values and data from the manufacturer of systems are used in the quantification. The proponent is required to maintain records of all data and estimation methodologies used, including for refrigerant charge size and mass of refrigerant extracted from pre-existing refrigeration systems.

Reporting and verification

To be issued federal offset credits, a proponent must prepare a project report for each reporting period. The first reporting period is one year, and subsequent reporting periods can be up to three years. Project reports must be verified by an accredited verification body. If applicable, the proponent must provide an HFC destruction certificate from an authorized HFC destruction facility along with the first project report.

Other key requirements

- › GHG emission reductions must be unique, i.e., credits cannot be issued for the same reductions under another offset system, program or other GHG crediting mechanism.
- › A proponent must have exclusive entitlement to claim the credits issued for the GHG emission reductions generated by a 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 in the environmental integrity account.
- › A project can generate credits for 10 years; however, eligibility for credit issuance stops if the GHG emission reductions become required by law. There is no opportunity for crediting period renewal.

Disclaimer

The information in this document is intended for communication purposes only and does not replace the requirements set out in the [Reducing Greenhouse Gas Emissions from Refrigeration Systems](#) federal offset 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.: En4-461/4-2024E-PDF
ISBN: 978-0-660-70771-6
EC23040

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