CLIMATE SMART COMMUNITIES GRANTS

NEW YORK STATE OF OPPORTUNITY | Office of Climate Change

Part of the New York State Environmental Protection Fund

Reduction of Refrigerant Use and Leakage

Fluorinated greenhouse gases are the most potent and persistent of the greenhouse gases, generally thousands of times more effective than carbon dioxide at trapping heat in the atmosphere. One of the most common sources of fluorinated greenhouse gases are the refrigerants used in air-conditioning and refrigeration systems. The potential emission reductions depend on the type of equipment; the best opportunities often lie in making improvements to large systems.

The Climate Smart Communities (CSC) Grant Program includes a category for projects that mitigate the impacts of fluorinated greenhouse gases used in air-conditioning and refrigeration systems. If your local government is interested in applying for a CSC grant, please refer to this link for full information about the program: https://www.dec.ny.gov/energy/109181.html#CSC

How does this grant category apply to my community?

Reducing Refrigerant Emissions from Local Government Operations

As a starting point, local governments should evaluate the opportunities for reducing refrigerant emissions from equipment that is under their direct control. The potential benefit will depend on the type of refrigerant, its Global Warming Potential (GWP), and how much refrigerant is leaked every year. The higher the GWP, the more effective the gas is at trapping heat in the atmosphere. The most common refrigerants (R-22, R-134a, and R-410a) have a high GWP of over 1,400. The leak rate depends on various factors including system type, age, and maintenance history.

The first step is to gather the information in the bulleted list below. To do this, work with municipal facilities staff (and/or with contractors) and refer to the technical documentation for the equipment and its refrigerant (such documentation is usually available on the manufacturer's website).

- Identify equipment that contains refrigerants (e.g., HVAC systems, food storage, ice rinks).
- Determine the approximate age of equipment, the refrigerant used, its GWP, and the charge (in pounds).
- Determine the likelihood that the equipment is leaking, how often is it serviced, how leaks are monitored and addressed, and how much refrigerant is added on an annual basis.

If the equipment is old, in poor operating condition, or uses a high-GWP refrigerant, consider replacing the equipment with a model that uses a refrigerant with a lower GWP or retrofitting the system to use an alternative refrigerant[1] or less refrigerant.

[1] NOTE: Implementation of a leak management system will be required for any CSC grant project that involves installing a system that uses a refrigerant with a GWP greater than 700.

If replacing or retrofitting municipal equipment is not an option, consider implementing a leak management system. If the equipment is maintained by municipal staff, consider procuring a hand-held leak detector to identify where repairs are needed. If the equipment is maintained by another entity, work with your service provider to develop new protocols for regular leak testing and repair along with record keeping so the municipality can monitor and calculate emissions from refrigerants.

Reducing Refrigerant Emissions from Other Sources in the Community

Another opportunity for reducing emissions is to work with other entities in the community to, for example, improve overall awareness, enable the adoption of low-GWP alternatives, or encourage proper disposal of refrigerants.

- Evaluate and improve local disposal programs to ensure that equipment (such as household appliances) is being properly disposed of and that refrigerants are being recovered and recycled or destroyed. This project type could include evaluating the level of local compliance with existing laws regarding refrigerant disposal.
- Review local ordinances to identify opportunities to reduce emissions from refrigerants and encourage the use of alternatives. Examine local and state building codes to confirm they enable the safe use of alternative refrigerants. Adopt new regulations, incentives, or other programs to ensure that businesses are monitoring, repairing, and disposing of their equipment and refrigerants as appropriate.
- Establish education and outreach programs for residents and/or businesses within the community about the climate change impacts of refrigerants and options for reducing these emissions.

Where can I find additional information?

Refer to the United States Environmental Protection Agency (EPA) website for additional information on fluorinated greenhouse gases and the mitigation of refrigerant emissions, including the following:

- Overview of Greenhouse Gases: https://www.epa.gov/ghgemissions/overview-greenhouse-gases
- Guidance on available refrigerants and their GWP: https://www.epa.gov/snap
- Specific guidance for certain types of equipment that may exist in the community, e.g., best practices for supermarkets: https://www.epa.gov/greenchill

The New York State Pollution Prevention Institute is available to offer technical support to municipalities applying for Climate Smart Communities grants for projects focused on reducing refrigerant emissions. **For assistance, email nysp2i@rit.edu or call 585-475-2512.**

CONTACT INFORMATION

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