



# Environment and Natural Resources Trust Fund

2023 Request for Proposal

## General Information

**Proposal ID:** 2023-034

**Proposal Title:** Cool It! Reducing Refrigerant Emissions in Retail Refrigeration

## Project Manager Information

**Name:** Jennifer Theodore

**Organization:** Minnesota Pollution Control Agency

**Office Telephone:** (651) 757-2644

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## Project Basic Information

**Project Summary:** Expand technical and financial assistance to reduce high global warming potential (GWP) refrigerant emissions at small retailers. Promote adoption of low-GWP refrigerants and educate on system best management practices (BMPs).

**Funds Requested:** \$471,000

**Proposed Project Completion:** June 30, 2027

**LCCMR Funding Category:** Air Quality, Climate Change, and Renewable Energy (E)

## Project Location

**What is the best scale for describing where your work will take place?**

Statewide

**What is the best scale to describe the area impacted by your work?**

Statewide

**When will the work impact occur?**

During the Project and In the Future

## Narrative

### **Describe the opportunity or problem your proposal seeks to address. Include any relevant background information.**

Hydrofluorocarbons (HFCs) are commonly used as refrigerants and have high global warming potentials (GWP). When leaked, HFCs contribute to a warming climate and cause refrigerant systems to use more electricity. A typical food retail store's refrigeration system leaks about one-quarter of its refrigerant charge each year.

It is common for small businesses to manage refrigeration systems with short-term solutions, like fixing the same leak year after year, because capital is not available for new equipment. There is lack of guidance on natural refrigerant alternatives for smaller systems, in part because additional knowledge and training is needed to service natural refrigerants.

Many large retailers are aware of BMPs to address refrigerant leaks and have resources to investigate alternative refrigerants. Small business owners often juggle many tasks and are typically not refrigeration experts. They depend on salespeople and technicians to help them make informed decisions.

The federal 2020 American Innovation and Manufacturing Act and the Significant New Alternatives Policy provide authority to phasedown production and consumption of HFCs and facilitate the transition to better alternatives. Small businesses will begin to see the effects in refrigerant choices and prices, spurring some owners to consider updating systems sooner. Our proposal capitalizes on this timing.

### **What is your proposed solution to the problem or opportunity discussed above? Introduce us to the work you are seeking funding to do. You will be asked to expand on this proposed solution in Activities & Milestones.**

This project would promote the adoption of low-GWP refrigerants to reduce the environmental impact of refrigerant systems. Grants will assist small grocery, liquor, and convenience stores in making the switch.

We will educate on best management practices for small businesses that use high GWP-refrigerants to reduce climate change impacts from refrigerant leaks and electricity use.

We aim to expand technical assistance to reach more businesses in greater Minnesota, businesses not affiliated with a trade association, and to develop partnerships with new trade associations. The Small Business Assistance Program at the MPCA typically focuses on environmental compliance. With additional funds we can hire staff to help businesses identify where going beyond compliance is beneficial.

Our project will:

- Promote adoption of next generation, low-GWP refrigerants.
- Develop guidance around natural refrigerants for smaller systems, such as propane, carbon dioxide, and ammonia.
- Offer grants and loans to help businesses upgrade to low GWP-refrigerants.
- Provide one-on-one technical assistance to educate on BMPs for systems that use high GWP-refrigerants.
- Help businesses perform cost benefit analysis to inform purchasing
- Update and promote the Best Management Practices for Commercial Refrigeration Guide.
- Facilitate business-to-business learning about solutions in refrigeration management.

### **What are the specific project outcomes as they relate to the public purpose of protection, conservation, preservation, and enhancement of the state's natural resources?**

Small businesses will learn best management practices that reduce refrigerant emissions and energy-demand, thus conserving resources and reducing the contribution to climate change impacts.

Businesses will have full-cost information needed to make decisions about replacing or repairing equipment and can

make replacements in a timelier manner. Technical guidance will be developed to help businesses select the best alternative refrigerants and reduce refrigerants' contribution to climate change impacts.

## Activities and Milestones

### Activity 1: Grant funds for low GWP-refrigerants

**Activity Budget:** \$200,000

**Activity Description:**

The MPCA will provide \$200,000 in grants to small businesses to install new refrigerant systems that use low-GWP refrigerants. Eligible projects will reduce GWP by at least 50%. Small businesses are independently owned and operated and have fewer than 100 employees. Grantees will provide a cash contribution to their project.

Grant funding includes creating a Request For Proposals (RFP), promoting the RFP, reviewing applications through a review team and selecting a recipient(s) based on criteria developed by contracts staff and the MPCA project manager, writing a contract to award funds, and vetting project implementation. All grants will meet the capital expenditure requirements of the appropriation language.

We will develop a plan to market grant funds concurrent with technical assistance to help businesses weigh their options.

**Activity Milestones:**

Description	Completion Date
Develop marketing plan for loan and grant funds	June 30, 2024
First RFP goes live	August 31, 2024
Second RFP Goes Live	August 31, 2025
Close first grant round	December 31, 2025
Market success stories: Grants and loans for refrigerant upgrades	December 31, 2025
Final grant reimbursement	December 31, 2026

### Activity 2: Technical assistance: Reducing refrigerant emissions

**Activity Budget:** \$271,000

**Activity Description:**

The Small Business Assistance Program at the MPCA typically focuses on environmental compliance. A small component of our program supports grant and loan funding for projects with environmental benefits. With additional funding, the MPCA and partners will be able to devote staff time for individual assistance and to create a marketing plan and guidance materials.

- Develop relationships with Black, Indigenous, and people of color-owned businesses, business organizations, and businesses in greater Minnesota.
- Small business assistance via site visits by Minnesota Technical Assistance Program (MnTAP) staff and interns (estimate conducting at least 20 visits over the course of the project) and the Retiree Environmental Technical Assistance Program (RETAP).
- Educate business owners and staff on best management practices, refrigerant management plans for reducing refrigerant emissions, and alternative refrigerants. Assess for leaks and opportunities to improve energy efficiency of refrigeration systems.
- Training interns and RETAP consultants prior to doing assessments. MnTAP staff may require more time to develop

guidance around natural refrigerants, such as propane, carbon dioxide, and ammonia, for smaller systems.

- Promote a business-to-business event where owners and staff can share about their experiences with refrigerant best management practices and alternatives.

**Activity Milestones:**

Description	Completion Date
Develop and Implement Marketing Plan for Technical Assistance	October 31, 2023
Internal training for RETAP staff	December 31, 2023
Refrigerant webpage updated for small scale solutions	December 31, 2023
Business to business event	June 30, 2024
MNTap and RETAP Individual Site Visits	June 30, 2025
2 Minnesota Technical Assistance Internships for business assistance	August 31, 2025

## Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
Jane Paulson	Minnesota Technical Assistance Program	Lead for one-on-one technical assistance to grocery, liquor, and convenience stores. Mentor interns doing refrigerant assessments. Train Retiree Environmental Technical Assistance Program staff on refrigerant assessments. Develop guidance around natural refrigerants, such as propane, carbon dioxide, and ammonia, for smaller systems.	Yes
Unknown- may be multiple retirees	Retiree Environmental Technical Assistance Program	Assess refrigerant systems at small businesses for opportunities to implement best management practices to reduce refrigerant emissions and increase energy efficiency of refrigeration system.	Yes

## Long-Term Implementation and Funding

**Describe how the results will be implemented and how any ongoing effort will be funded. If not already addressed as part of the project, how will findings, results, and products developed be implemented after project completion? If additional work is needed, how will this work be funded?**

Technical assistance documents developed during the project, such as an updated Best Management Practices Guide and refrigerant selection guide, will continue to be available. MnTap staff can continue to use assessment skills they've developed during the project in future pollution prevention work with businesses. MPCA's Retiree Environmental Technical Assistance Program can add refrigerant assessments as an option during their assessments.

## Other ENRTF Appropriations Awarded in the Last Six Years

Name	Appropriation	Amount Awarded
Groundwater Contamination Mapping	M.L. 2017, Chp. 96, Sec. 2, Subd. 03h	\$400,000
Assessment of Urban Air Pollution	M.L. 2017, Chp. 96, Sec. 2, Subd. 07b	\$700,000
Pilot Program to Optimize Local Mechanical and Pond Wastewater-Treatment Plants	M.L. 2018, Chp. 214, Art. 4, Sec. 2, Subd. 04a	\$700,000
Reducing Municipal Wastewater Mercury Pollution to Lake Superior	M.L. 2019, First Special Session, Chp. 4, Art. 2, Sec. 2, Subd. 04h	\$250,000
Optimizing Local Mechanical and Pond Wastewater-Treatment Plants	M.L. 2019, First Special Session, Chp. 4, Art. 2, Sec. 2, Subd. 11b	\$500,000
Groundwater Contamination Mapping Project - Phase II	M.L. 2021, First Special Session, Chp. 6, Art. 6, Sec. 2, Subd. 03f	\$800,000
Developing Strategies To Manage PFAS In Land-Applied Biosolids	M.L. 2021, First Special Session, Chp. 6, Art. 5, Sec. 2, Subd. 04d	\$1,404,000
Wastewater Pond Optimization Implementation	M.L. 2021, First Special Session, Chp. 6, Art. 5, Sec. 2, Subd. 20a2	\$700,000
Chloride Pollution Reduction	M.L. 2021, First Special Session, Chp. 6, Art. 5, Sec. 2, Subd. 20a4	\$500,000

## Project Manager and Organization Qualifications

**Project Manager Name:** Jennifer Theodore

**Job Title:** Environmental Specialist 3

**Provide description of the project manager's qualifications to manage the proposed project.**

- Experience with air quality, hazardous waste, or stormwater regulations, energy efficiency, environmental best management practices, or pollution prevention issues is required.

- Experience developing grant initiatives.
- Possesses strong oral and written communication skills to effectively communicate technical information that is easily understood by all audiences. Able to write clearly and in plain language about environmental concepts and agency policies.
- Able to work with the business community and explain regulatory requirements and pollution prevention opportunities in a forthright manner so clients understand the environmental, financial, and business benefits of their efforts.
- Communicate with different levels of staff and participate successfully in conferences and meetings with a variety of internal and external stakeholders.
- Initiative to research and seek out expertise so that small businesses receive proper and coordinated assistance.
- Sensitive to business concerns and able to structure solutions that balance these concerns within the framework of environmental protection and improvement.
- Able to analyze environmental issues on a multi-program level and recommend solutions. The individual will need to demonstrate creativity and problem solving skills to work with businesses and partners on a variety of regulatory and non-regulatory issues and to identify emerging issues. The position requires the ability to review, research, and evaluate complex problems, and develop appropriate implementation plans.
- Able to tolerate ambiguity, manage conflict, and work independently with limited direct supervision while remaining within general policy guidelines. The individual must be able to quickly grasp new concepts and work effectively within time constraints. The person in this position must be a self-starter who can initiate cooperative and independent projects, manage them, and lead them to conclusion; projects will vary in type from long-range planning and analysis projects to short-term consultations.

**Organization:** Minnesota Pollution Control Agency

**Organization Description:**

Through the authority of state and federal statutes and guidelines, the MPCA focuses on preventing and reducing the pollution of air, land, and water. We work with regulated parties, businesses, governments, organizations, and Minnesota's 11 tribal nations to develop approaches that protect our natural resources, improve human health, and foster strong economic growth.

The Small Business Assistance Unit at the MPCA helps businesses understand and comply with environmental rules and go beyond compliance. Grants, loans and our Retiree Environmental Technical Assistance Program (RETAP) are several ways we help businesses go beyond compliance and reduce waste, emissions, and regulatory requirements.

Our focus is on small businesses that are independently owned and operated and have fewer than 100 employees. Businesses can contact us for confidential assistance remotely or through site visits. SBEAP staff develop resources such as training videos, emission calculators, and decision tools that make it easier to understand requirements.

Our grants have funded projects to reduce air pollutants from landscaping equipment, dry cleaners, solvents and coatings, and other industrial processes.

We provide loans at zero-percent interest to small businesses for capital equipment purchases that help the company meet or exceed environmental regulations.



## Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount
<b>Personnel</b>								
Temporary Unclassified Environmental Specialist 3		Project Manager			34%	2.5		\$155,000
							<b>Sub Total</b>	<b>\$155,000</b>
<b>Contracts and Services</b>								
Minnesota Technical Assistance Program	Sub award	Assess refrigerant systems for leaks and opportunities to reduce energy use through one on one technical assistance at small businesses. Research best alternative refrigerants and equipment for small systems. Mentoring two summer interns.				0.4		\$100,000
Small grocery, convenience, and liquor stores (currently unknown)	Professional or Technical Service Contract	Business will use grant funds to replace refrigerant systems that use high GWP-refrigerants with equipment that uses low-GWP refrigerants. Grant funds will be competitively awarded; projects with the greatest reductions in carbon dioxide equivalent (CO2E) will be more competitive.				-		\$200,000
Retiree Technical Environmental Assistance Program	Professional or Technical Service Contract	Consultants will receive training on assessing refrigerant systems for leaks and opportunities for making the refrigerant system more energy efficient. After initial training they'll be able to offer this service to clients.				2		\$16,000
							<b>Sub Total</b>	<b>\$316,000</b>
<b>Equipment, Tools, and Supplies</b>								
							<b>Sub Total</b>	<b>-</b>
<b>Capital Expenditures</b>								
							<b>Sub Total</b>	<b>-</b>

<b>Acquisitions and Stewardship</b>								
							<b>Sub Total</b>	-
<b>Travel In Minnesota</b>								
							<b>Sub Total</b>	-
<b>Travel Outside Minnesota</b>								
							<b>Sub Total</b>	-
<b>Printing and Publication</b>								
							<b>Sub Total</b>	-
<b>Other Expenses</b>								
							<b>Sub Total</b>	-
							<b>Grand Total</b>	<b>\$471,000</b>

Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request
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## Non ENRTF Funds

Category	Specific Source	Use	Status	Amount
<b>State</b>				
In-Kind	2800 Fund	Classified MPCA staff to oversee grant reimbursement.	Secured	\$750
			<b>State Sub Total</b>	<b>\$750</b>
<b>Non-State</b>				
Cash	Grantee cash match	Grantees are responsible for a cash match for their grant project. Estimate is based on previous grand round with 25% match; average match was \$11,000. We may fund around 10 projects.	Potential	\$110,000
			<b>Non State Sub Total</b>	<b>\$110,000</b>
			<b>Funds Total</b>	<b>\$110,750</b>

## Attachments

### Required Attachments

*Visual Component*

File: [Ocd67145-338.docx](#)

*Alternate Text for Visual Component*

Not applicable....

### Administrative Use

**Does your project include restoration or acquisition of land rights?**

No

**Does your project have potential for royalties, copyrights, patents, or sale of products and assets?**

No

**Do you understand and acknowledge IP and revenue-return and sharing requirements in 116P.10?**

N/A

**Do you wish to request reinvestment of any revenues into your project instead of returning revenue to the ENRTF?**

N/A

**Does your project include original, hypothesis-driven research?**

No

**Does the organization have a fiscal agent for this project?**

No

Not applicable.