



Environment and Natural Resources Trust Fund

M.L. 2025 Approved Work Plan

General Information

ID Number: 2025-313

Staff Lead: Michael Varien

Date this document submitted to LCCMR: June 18, 2025

Project Title: Fueling the Future: Decarbonizing Regional Transportation Project

Project Budget: \$3,155,000

Project Manager Information

Name: Tracy Hodel

Organization: City of St. Cloud

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Project Reporting

Date Work Plan Approved by LCCMR: June 24, 2025

Reporting Schedule: October 1 / April 1 of each year.

Project Completion: June 30, 2029

Final Report Due Date: August 14, 2029

Legal Information

Legal Citation: M.L. 2025, First Special Session, Chp. 1, Art. 2, Sec. 2, Subd. 07g

Appropriation Language: \$3,155,000 the first year is from the trust fund to the commissioner of natural resources for an agreement with the city of St. Cloud to install a green hydrogen production, storage, and fueling station that provides a renewable, carbon-free, alternate fuel source to decarbonize community transportation and manufacturing sectors. This appropriation may also be used to convert city fleet and public transit vehicles to hydrogen fuel. Net income generated as part of this appropriation may be reinvested in the project if a plan for reinvestment is approved in the work plan as provided under Minnesota Statutes, section 116P.10. This appropriation is available until June 30, 2029, by which time the project must be completed and final products delivered.

Appropriation End Date: June 30, 2029

Narrative

Project Summary: Utilizing green hydrogen as a renewable, carbon-free, alternate fuel source: decarbonizing city fleet, public transit, manufacturing and transportation sectors within the community; improving air quality and enhancing energy resiliency.

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

The current health and safety impacts of climate change on Minnesotans are clear. The urgency of and need for adopting innovative technologies to expand renewable energy production and produce community-wide, compounding benefits is increasing. Transportation is a traditionally difficult to decarbonize sector, and transportation accounts for around a quarter of the state's greenhouse gas emissions. The emissions contribute to poor air quality and human health, as well as significant climate impacts. Green hydrogen as a fuel source is created with clean energy and can generate significant energy without the use of fossil fuels or a fossil-fuel powered electric grid. With the use of green hydrogen as fuel, emissions from transportation could be cut significantly. St. Cloud's project can demonstrate not only that onsite green hydrogen is a viable and useful pairing with the wastewater treatment process, but that green hydrogen can serve as a valuable resource for the entire community – expanding green energy jobs, creating greener public transit, and decarbonizing vehicle emissions. Reduction of greenhouse gas emissions comes from systematic resource transformation. If cutting-edge technology is implemented in industries that are traditionally energy consumers, they can be transformed into renewable resource producers.

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.

St. Cloud is in the process of a Renewable Energy Improvements Project. One phase of this project includes the installation of a green hydrogen generation process at the St. Cloud NEW Recovery Facility. This process will use clean water to generate clean hydrogen and oxygen. St. Cloud has realized that the opportunities for this renewable energy source can extend beyond the facility and City services, to benefit the entire St. Cloud regional community and beyond. St. Cloud is planning a "Fueling the Future: Decarbonizing Regional Transportation" project to facilitate community use of green hydrogen fuels for transportation in the City fleet, public transit and other transportation sectors in St. Cloud. Hydrogen is a versatile energy source that can be used to decarbonize sectors including heating and transportation. St. Cloud plans to utilize any funds awarded through the LCCMR to research, design, purchase and install compression, storage, transport and fueling equipment for public transit and City service vehicles that can be used by local manufacturers and the region's public transit agency.

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?

Transportation accounts for around a quarter of the state's greenhouse gas emissions. By utilizing green hydrogen fuel sources, regional transportation emissions can be reduced. This innovative approach to reducing transportation emissions, especially from heavy-duty vehicles, will greatly impact on public health and climate safety, as well as improving air quality. This project will facilitate the expansion of sustainable transportation manufacturing. This research can serve as a basis for how other cities in Minnesota and across the nation could use hydrogen to transition to a clean energy economy. This transition could lower operating costs, create new jobs, technologies and markets.

Project Location

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

Region(s): Metro, Central,

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

Activities and Milestones

Activity 1: Technical Assistance, Design, Communication and Publishing

Activity Budget: \$410,000

Activity Description:

Utilize subject matter experts and consultants to determine most efficient equipment sizes and types as well as installation requirements and most efficient number and types of fueling stations. Investigate and identify regulatory and safety requirements of this project prior to beginning. City will enter into professional service agreements with industry experts for design and bidding services for equipment required. After project is completed, the remainder of the activity is to share information with other communities and within the water resource recovery industry about community use of green hydrogen fuels produced at wastewater treatment facilities. Sharing lessons learned and information gathered regarding green hydrogen as a renewable, carbon-free, alternate fuel source: decarbonizing city fleet, public transit, manufacturing and transportation sectors within communities; improving air quality and enhancing energy resiliency. This could include materials for printing or publishing research findings through various channels, community partners, commercialization partners or industry conferences. It would also include NEW Recovery Facility and equipment signs and printed materials for community public education and tours.

Activity Milestones:

Description	Approximate Completion Date
Execute professional services agreement(s) for research and technical assistance	October 31, 2025
Findings report, executive summary or technical memorandum issued	March 31, 2026
Graphic Design and printing of project logo and graphics of process diagrams for public education	June 30, 2026
Printing of educational materials for public and industry dissemination	October 31, 2027
Completion of minimum 2 industry presentations and 3 community presentations or tours	December 31, 2027

Activity 2: Purchase and install hydrogen compression, storage and transport equipment and vehicle conversion kits.

Activity Budget: \$890,000

Activity Description:

Compression and storage equipment will be needed to compress green hydrogen from the electrolyzer to a state suitable for vehicle fueling. Compression and storage equipment will be purchased and installed, likely onsite at the NEW Recovery Facility or via a portable system. Hydrogen transport trailers will be purchased to store and transport green hydrogen fuel. Trailers are the most cost-effective method for green hydrogen fuel storage and transportation for the project and site. The City has a portion of fleet vehicles that run on compressed natural gas, including heavy-duty vehicles like garbage and recycling trucks. The local public transit agency also has vehicles that can be converted to hydrogen fuel. These vehicles can be converted to green hydrogen fuel use vehicles with the use of conversion kits. Once converted, these vehicles can run on city-generated green hydrogen fuel, rather than natural gas. The purchase and installation of the vehicle conversion kits will reduce emissions from local heavy-duty vehicles and public transit vehicles. This new, innovative approach to reducing transportation emissions, especially from heavy-duty vehicles, will have a huge impact on public health, air quality and the climate. This will also progress St. Cloud's goals towards carbon neutral transportation.

Activity Milestones:

Description	Approximate Completion Date
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Purchase compression and storage equipment	March 31, 2026
Purchase vehicle conversion kits	March 31, 2026
Compression and storage equipment installation	December 31, 2026
Hydrogen trailer purchase	December 31, 2026
Installation of vehicle conversion kits	December 31, 2026

Activity 3: Purchase and installation of filling equipment as needed.

Activity Budget: \$1,855,000

Activity Description:

Filling station equipment will be installed and put into operation for vehicle fueling. Possibilities include installing a permanent filling station at the region's public transit agency's existing compressed natural gas filling station or purchasing a portable fueling station/trailer, depending on results of the technical memo and research. The region's public transit agency and a local manufacturer are interested in fueling green hydrogen busses manufactured at their facility using St. Cloud green hydrogen. This activity will include the design of the appropriate equipment configuration for the existing site layouts, installation of the filling station equipment, and monitoring equipment.

Activity Milestones:

Description	Approximate Completion Date
Filling station equipment engineering plans and design	June 30, 2026
Filling station equipment purchase	August 31, 2026
Filling station equipment installation	August 31, 2027

Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
Joe Francis	Central McGowan	Industrial supply distribution company and hydrogen fuel distributor. Central McGowan will help in any way possible with the installation, production, and transportation of Green Hydrogen alongside the City of St. Cloud. They will also assist in showing the value of Green Hydrogen production.	No
Ryan Daniel	St. Cloud Metropolitan Transit Commission	Metro Bus is committed to supporting the project to provide transportation equity, assist with demonstrating the value of green hydrogen and related impacts to the environment, quality of life, the increase of energy resiliency, all taking the nation one step closer to energy independence.	No
Kelsey Klucas	Minnesota Technical Assistance Program	The Minnesota Technical Assistance Program (MnTAP) is committed to supporting the aforementioned project to review and research the state of industrial green hydrogen and to share the results in order to further work towards the Biden Administration goal of achieving carbon free, pollution free electricity to deliver a clean energy	No
Michael McDonald	New Flyer of America	New Flyer of America is bringing the production of hydrogen fuel cell buses to their St. Cloud facility. New Flyer of America is interested in purchasing hydrogen fuel generated at the NEW Recovery Facility.	No

Dissemination

Describe your plans for dissemination, presentation, documentation, or sharing of data, results, samples, physical collections, and other products and how they will follow ENRTF Acknowledgement Requirements and Guidelines.

St. Cloud plans to utilize any funds awarded through the LCCMR to research, design, purchase and install compression, storage, transport and fueling equipment for public transit and City service vehicles that can be used by local manufacturers and the region's public transit agency. This innovative approach to reducing transportation emissions, especially from heavy-duty vehicles, will greatly impact on public health and climate safety, as well as improving air quality. This project will facilitate the expansion of sustainable transportation manufacturing. This research can serve as a basis for how other cities in Minnesota and across the nation could use hydrogen to transition to a clean energy economy. information with other communities and within the water resource recovery industry about community use of green hydrogen fuels produced at wastewater treatment facilities. Sharing lessons learned and information gathered regarding green hydrogen as a renewable, carbon-free, alternate fuel source: decarbonizing city fleet, public transit, manufacturing and transportation sectors within communities; improving air quality and enhancing energy resiliency. The City of St. Cloud will continue to share project details with the public. The City will follow all ENRTF Acknowledgement Guidelines including but not limited to; incorporation of the ENRTF logo and/or attribution language on all print and electronic materials. The City plans to hold press conferences, distribute press releases, hold open houses, provide updates on the City's website and share information via social media and at other community, water/energy industry meetings, conferences and events. Logos and/or language will be incorporated in all dissemination efforts.

St. Cloud will work with the Metropolitan Transit Commission on public education/ENRTF signage for any converted vehicles. The City will also add the ENRTF logo on any equipment that is city owned used for compression or transportation of the hydrogen produced.

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?

Partial funding has been procured for the generation of green hydrogen from the Minnesota Environment and Natural Resources Trust Fund as recommended by the Legislative-Citizen Commission on Minnesota Resources (LCCMR) as well as through an award from the US Department of Energy. This funding will enable full utilization of green hydrogen in the community. The equipment installed as part of the 'Fuels of the Future' project will enable the long-term use of this green hydrogen as a fuel source. Future production of green hydrogen fuel will be enabled with private-public partnerships and the sale of green hydrogen fuels.

Other ENRTF Appropriations Awarded in the Last Six Years

Name	Appropriation	Amount Awarded
Emerging Issues Account; Wastewater Renewable Energy Demonstration Grants	M.L. 2021, First Special Session, Chp. 6, Art. 5, Sec. 2, Subd. 10	\$1,095,000
Highbanks Ravine Bat Hibernaculum Project	M.L. 2021, First Special Session, Chp. 6, Art. 6, Sec. 2, Subd. 09t	\$825,000

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount
Personnel								
							Sub Total	-
Contracts and Services								
TBD	Service Contract	Technical Assistance and Design				1.88		\$400,000
							Sub Total	\$400,000
Equipment, Tools, and Supplies								
							Sub Total	-
Capital Expenditures								
		Hydrogen Refueling Station System	Hydrogen Refueling Station System will be fabricated and delivered to put into operation for vehicle fueling at the NEW Recovery Facility. The region's public transit agency, local manufacturers, and a local gas distributor are interested in fueling at the NEW Recovery Facility. The fueling system is built as a "system" and is bid this way. This is the same as the electrolyzer, although it has multiple "parts", it is one system. The bid we received has it all in one line item called "Hydrogen Refueling Station System."	X				\$1,245,000
		Hydrogen tube trailer rated to store compressed hydrogen gas.	Storage equipment will be needed to store compressed green hydrogen produced by the electrolyzer in a state suitable for vehicle fueling. A tube trailer will be purchased for storage at the NEW Recovery Facility. The	X				\$300,000

			hydrogen transport trailer will be purchased to store and transport green hydrogen fuel. Trailers are the most cost-effective method for green hydrogen fuel storage and transportation for our project and site. Trailer use will also make it possible to potentially transport fuel to a variety of sites and partners, rather than a dedicated pipe. The purchase will be of one (1) hydrogen tube trailer.					
		Vehicle Conversion Kits (4)	The City has a portion of fleet vehicles that run on compressed natural gas, including heavy-duty vehicles like garbage and recycling trucks. The local public transit agency also has vehicles that can be converted to hydrogen fuel. These vehicles can be converted to green hydrogen fuel use with the use of conversion kits. Once converted, these vehicles can run on city-generated green hydrogen fuel, rather than natural gas. The purchase and installation of 4 vehicle conversion kits will reduce emissions from local heavy-duty vehicles and public transit vehicles. This new, innovative approach to reducing transportation emissions, especially from heavy-duty vehicles, will have a huge impact on public health and climate safety, as well as improving air quality. This will also progress St. Cloud's goals towards carbon neutral transportation. The vehicle conversion kits would come as one unit, we would not be able to just purchase part of a conversion kit.	X				\$200,000
		Hydrogen Compression System	A Hydrogen Compression System will be needed to compress green hydrogen from the electrolyzer to a state suitable for vehicle fueling. Compression system will be purchased	X				\$1,000,000

			and installed. This compression system was bid as a single unit, as a "system", not as separate pieces of equipment, and comes as a whole.					
							Sub Total	\$2,745,000
Acquisitions and Stewardship								
							Sub Total	-
Travel In Minnesota								
							Sub Total	-
Travel Outside Minnesota								
							Sub Total	-
Printing and Publication								
	Printing	Permanent vehicle and equipment labels, permanent facility signage and printing of public education materials	Printing of logo and process diagrams for the project, Printing and installation of hydrogen transport equipment signage or messaging and Printing of educational materials for public and industry dissemination					\$10,000
							Sub Total	\$10,000
Other Expenses								
							Sub Total	-
							Grand Total	\$3,155,000

Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request
Capital Expenditures		Hydrogen Refueling Station System	<p>The hydrogen fueling station unit is required to fuel vehicles with compressed green hydrogen from the electrolyzer, enabling the project goals of utilizing green hydrogen as a renewable, carbon-free, alternate fuel source and decarbonizing city fleet, public transit, manufacturing and transportation sectors within the community. The fueling station will not require construction activities, as it is a skid-mounted system.</p> <p>Additional Explanation : The hydrogen fueling station will remain in use throughout its useful lifespan. The fueling station will be required to fuel vehicles and fulfill the goals of the project through the entirety of the Green Hydrogen Project, and will not be taken out of use and will not be put into any alternate use in City operations.</p>
Capital Expenditures		Hydrogen tube trailer rated to store compressed hydrogen gas.	<p>The hydrogen tube trailer is required to store and transport hydrogen fuel that has gone through the compression system and that is suitable for vehicle fuel. Storing and transporting the fuel enables the project goals of utilizing green hydrogen as a renewable, carbon-free, alternate fuel source and decarbonizing city fleet, public transit, manufacturing and transportation sectors within the community.</p> <p>Additional Explanation : The hydrogen tube trailer will be continue to be required for storage and transportation use throughout the lifetime of the project and the trailer's useful life. The trailer will not be put into any alternate use in City operations and will not be taken out of operation throughout the equipment's useful lifespan.</p>
Capital Expenditures		Vehicle Conversion Kits (4)	<p>The vehicle conversion kits are required to convert city vehicles to run on green hydrogen enabling the project goals of utilizing green hydrogen as a renewable, carbon-free, alternate fuel source and decarbonizing city fleet, public transit, manufacturing and transportation sectors within the community. The kits will be used throughout the lifetime of the project and their useful life.</p> <p>Additional Explanation : The vehicle conversion kits will be installed in City-owned vehicles, in order to allow them to run on green hydrogen fuel. The kits will remain installed on the City vehicles throughout the useful lifespan of the conversion kits, or the useful lifespan of the vehicles themselves, depending on whichever ends sooner. The kits will not be taken out of use and will not be put into any alternate use in City operations.</p>
Capital Expenditures		Hydrogen Compression System	<p>The compression system unit is required to compress hydrogen from the electrolyzer into a state suitable for vehicle fueling, enabling the project goals of utilizing green hydrogen as a renewable, carbon-free, alternate fuel source and decarbonizing city fleet, public transit, manufacturing and transportation sectors within the community.</p> <p>Additional Explanation : The hydrogen compression system will be continue to be required for hydrogen compression into a state suitable for storage and vehicle use throughout the lifetime of the project and the compression system's useful life. This</p>

			system will not be put into any alternate use in City operations. The system will not include any construction activities, as skid-mounted system within an enclosure.
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Non ENRTF Funds

Category	Specific Source	Use	Status	\$ Amount
State				
			State Sub Total	-
Non-State				
Cash	City Funding	Funding to procure equipment or pay for contract services above the appropriated 2025 LCCMR ENTRF funding.	Secured	\$1,145,000
			Non State Sub Total	\$1,145,000
			Funds Total	\$1,145,000

Total Project Cost: \$4,300,000

This amount accurately reflects total project cost?

Yes

Attachments

Required Attachments

Visual Component

File: [daac19e2-82e.pdf](#)

Alternate Text for Visual Component

Timeline of St. Cloud's history of energy and sustainability work, graphic reflecting project benefits (green jobs, reduced emissions, improved air quality and public health, progress towards climate goals) and diagram reflecting the benefits of green hydrogen fuel use: green manufacturing, lower transportation emissions and the creation of green energy jobs...

Financial Capacity

Title	File
St. Cloud 2022 Annual Comprehensive Financial Report	40eb2835-0d1.pdf
2022 St Cloud Audit of Financial Statements Report	69ef1858-f7a.pdf

Board Resolution or Letter

Title	File
Certified Resolution from St. Cloud City Council	ba9a19e6-621.pdf

Supplemental Attachments

Capital Project Questionnaire, Budget Supplements, Support Letter, Photos, Media, Other

Title	File
MnTAP Letter of Support	6c2cebba-4f6.pdf
Metro Bus Letter of Support	f4fc1181-b6a.pdf
Central McGowan Letter of Support	531c3673-ca9.pdf

Difference between Proposal and Work Plan

Describe changes from Proposal to Work Plan Stage

New Flyer of America was added as a Project Collaborator.

Additional Acknowledgements and Conditions:

The following are acknowledgements and conditions beyond those already included in the above workplan:

Do you understand and acknowledge the ENRTF repayment requirements if the use of capital equipment changes?

Yes

Do you understand that travel expenses are only approved if they follow the "Commissioner's Plan" promulgated by the Commissioner of Management of Budget or, for University of Minnesota projects, the University of Minnesota plan?

N/A

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

Yes

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

Yes

Do you wish to request reinvestment of any revenues into your project instead of returning revenue to the ENRTF? If so, describe here (1) the source and estimated amounts of any revenue and (2) how you propose to use those revenues:

Yes, There may be revenue sourced from selling green hydrogen fuel to manufacturing or transportation companies, depending on market demand. These revenue funds will be used to re-invest in the operations and maintenance involved with operating this system.

Does your project include original, hypothesis-driven research?

No

Does the organization have a fiscal agent for this project?

No

Does your project include the pre-design, design, construction, or renovation of a building, trail, campground, or other fixed capital asset costing \$10,000 or more or large-scale stream or wetland restoration?

No

Do you propose using an appropriation from the Environment and Natural Resources Trust Fund to conduct a project that provides children's services (as defined in Minnesota Statutes section 299C.61 Subd.7 as "the provision of care, treatment, education, training, instruction, or recreation to children")?

No

Provide the name(s) and organization(s) of additional individuals assisting in the completion of this project:

Tracy Hodel, Liz Kramer - City of St. Cloud

Do you understand that a named service contract does not constitute a funder-designated subrecipient or approval of a sole-source contract? In other words, a service contract entity is only approved if it has been selected according to the contracting rules identified in state law and policy for organizations that receive ENRTF funds through direct appropriations, or in the DNR's reimbursement manual for non-state organizations. These rules may include competitive bidding and prevailing wage requirements

Yes, I understand