



Environment and Natural Resources Trust Fund

M.L. 2025 Final Work Plan

General Information

ID Number: 2025-306

Staff Lead: Michael Varien

Date this document submitted to LCCMR: July 11, 2025

Project Title: Innovative Solution to Renewable Energy from Food Waste

Project Budget: \$5,167,000

Project Manager Information

Name: Melissa Finnegan

Organization: Ramsey/Washington Recycling & Energy Board

Office Telephone: (651) 515-0817

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Web Address: www.recyclingandenergy.org

Project Reporting

Reporting Schedule: March 1 / September 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. [07#07 \(f\)](#)

Appropriation Language: \$5,167,000 the first year is from the trust fund to the commissioner of natural resources for an agreement with the Ramsey/Washington Recycling and Energy Board to provide reimbursements to offset the processing fees for the public to divert organic materials from landfills and produce renewable natural gas through anaerobic digestion and sequestration of carbon into biochar. 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: A partnership supporting State climate and renewable energy goals by diverting organic materials from landfills and producing renewable natural gas (RNG) through anaerobic digestion and sequestering carbon into biochar.

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

The connection between food waste and climate change is increasingly recognized as impactful on our environment. According to the USEPA, food waste results in 170 million metric tons of carbon dioxide equivalent (CO₂e) annually. Production, transportation and handling of food generates significant CO₂e emissions, and when the food ends up in a landfill, it generates methane.

This project offers a powerful opportunity to make investments that will reduce our reliance on fossil fuels and decrease methane and CO₂ emissions. This project leverages innovative food waste recovery processes, an established public-private partnership (PPP) with a 20-year feedstock supply agreement, along with public and private funding, all for the long-term benefit of Minnesota residents.

This recycling facility project will divert organic materials from landfills and produce valuable recycled products. In order to be competitive with other waste options the project uses over \$31 million in state and federal grant funding to keep the tipping fee at a reasonable level. The \$5.167 million requested will leverage state dollars along with federal and private funding, maximizing benefits to Minnesota.

We are proposing a unique PPP with Dem-Con HZI Bioenergy, LLC (DC/HZI), in collaboration with the Shakopee Mdewakanton Sioux Community (SMSC).

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.

~~We are proposing a unique PPP with Dem-Con HZI Bioenergy, LLC (DC/HZI), in collaboration with the Shakopee Mdewakanton Sioux Community (SMSC).~~ This partnership will provide renewable energy, reduce GHG emissions and produce a valuable biochar soil amendment while helping Minnesota meet ~~our~~ climate change, recycling, renewable energy and circular economy goals. This innovative approach produces RNG through anaerobic digestion of food waste/organics and creates a biochar product, which sequesters carbon and is used for remediation projects, filtration and in compost as a soil amendment, helping to achieve state GHG emission reduction initiatives.

The project's anaerobic digester will be constructed starting October 2025 and will be operational by December 31, 2027. Once operational, it will process 75k tons of organic waste annually, increasing organics processing capacity by more than 60% from the 114k tons of source-separated organics collected state-wide in 2022. The project will also create 200,000 MMBtu of RNG, generating 8,000 tons of biochar and reduce CO₂e by 30k tons per year, or 900k tons of CO₂e over the life of the project.

Public funds contributed to construction will offset processing fees by bringing the cost of the project down.

An end-markets feasibility study was completed, demonstrating ample demand for RNG and biochar. CenterPoint and Xcel Energy have prioritized this project in their Innovation Plans being developed/approved as part of the Natural Gas Innovation Act.

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?

Affordable food waste recycling for residents of Ramsey & Washington Counties: The funds from this grant will reimburse R&E for digestion facility tipping/construction costs, which will in turn reduce processing fees at an amount of \$83.52/ton for 61,866 tons of organics throughout the grant period/20-year contract agreement, making diversion of

organic materials more affordable for county residents.

Contribution to clean transportation, recycling, & clean energy goals: RNG from the facility can be used as a transportation fuel, heating source, and for electricity generation, aligning with Minnesota's clean energy objectives and reducing reliance on fossil fuels. This project promotes the counties’ efforts to achieve 75% recycling by 2030.

Project Location

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

Region(s): Metro

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: Distribution of Organics to the Anaerobic Digestion Facility for Processing into RNG and Biochar.

Activity Budget: \$1

Activity Description:

The proposed DC/HZI anaerobic digestion and biochar system will process organic materials, producing RNG and biochar, while preventing GHG emissions. MPCA has permitted the facility for operation as a recycling facility making recycled products (RNG and biochar). It is not a waste disposal facility. The facility will be operational by the end of 2027.

R&E will provide organic materials, collected from Ramsey and Washington county residents as feedstock for the digester, to be located in Scott County. The counties' innovative food scrap bag model has residents put their food scraps into specialized durable compostable bags and place them in their regular trash can for pickup. Those bags are sorted out of the waste stream at the R&E Center and partner transfer facilities. In the first year, R&E will send 18,720 tons of food scraps to the anaerobic digester and 26,292 tons in the 2nd year. An additional 20,000 tons/year of organic rich material will be collected from the processing lines at the R&E Center.

Activity Milestones:

Description	Approximate Completion Date
Anaerobic digestion facility operational	December 31, 2027
200,000 MMBTus/year of RNG Produced	December 31, 2028
8,000 tons/year of biochar produced	December 31, 2028
38,720 tons of organic material delivered to the DemCon-DC/HZI anaerobic digester	December 31, 2028
23,146 tons of organic material delivered to the DemCon-DC/HZI anaerobic digester (6 mos.)	June 30, 2029

Activity 2: [Construction Reimbursement of the Recycling Organics Processing Fee](#)

Activity Budget: \$5,166,999

Activity Description:

Without mitigation from federal and state funding, Ramsey and Washington County residents would need to support an unaffordable tipping fee beyond \$200/ton to create renewable energy and reduce greenhouse gas emissions. However, with this and other grants, the amount supported by Ramsey and Washington county residents will be \$125/ton, [\(2023 numbers; indexed to the CPI\)](#), which is more economically competitive with composting, landfill, and other disposal options. [-\\$5.167 million in ENRTF funding reimburses \\$83.52/ton will be used to pay construction costs. This reduces capital outlay and therefore the processing/tipping fee payments born by the residents. No ENRTF costs will be incurred until full funding for the construction is legally secured as certified by the MNDNR Grants Unit and documented in the workplan. A portion of reimbursements will be withheld until the digester is operational and offset of processing/tipping fees paid by R&E over the life of the during grant period are verified.](#)

Activity Milestones:

Description	Approximate Completion Date
Enrollment in Minnesota B3 Guidelines Tracking Tool	March 2023
Dept. of Administration Pre-design Review- exempt- see email.	September 11, 2025
Consultation with SHPO	October 31, 2023
All Construction Funds Legally Secured	October 2025
Costs incurred and reimbursements requested	Q4 2025

Anaerobic digestion facility operational	December 31, 2027
Notice of Funding Restriction Recorded	TBD
Signage Installed with ENRTF Language or Logo	December 31, 2027
Reimbursement of Recycling Organics Processing Fees fees offset confirmed	June 30, 2029 February 1, 2028
Final reimbursements of eligible costs	March 1, 2028

Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
Bill Keegan, P.E.	Dem-Con CompaniesDC/HZI	President, Dem-Con-Companies DC/HZI	Yes

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.
Ramsey/Washington Recycling & Energy (R&E) and Dem-Con HZI Bioenergy, LLC (DC/HZI) Dissemination Plan

Purpose
The Innovative Solution to Renewable Energy from Food Waste Project supports the State’s climate and renewable energy goals by diverting organic materials from landfills and producing renewable natural gas (RNG) through anaerobic digestion and sequestering carbon into biochar. Ramsey/Washington Recycling & Energy (R&E) and ~~Dem-Con~~DC/HZI Bioenergy, LLC (DC/HZI) have established a public/private partnership that will demonstrate the beneficial applicability of food waste recovery processes used to create both a renewable negative biogas and a biochar product.

As the project progresses towards fruition, R&E and DC/HZI will keep interested parties – the residents of Ramsey and Washington counties, as well as the local recycling sector – abreast of the progress we are making. We also intend to continue providing information about this innovative project to the broader environmental sector to demonstrate its viability for local, state and regional recycling, clean energy and carbon reduction initiatives.

Message
Project information materials distributed will inform our local communities, government officials, lawmakers and all other interested parties about the benefits of collecting and processing food scraps and other organic wastes to not only remove them from the landfill but to produce, via anaerobic digestion (AD), a valuable energy source from waste. Not only will renewable natural gas (RNG) be produced, but the digestate byproduct of AD will be further processed into biochar, which is used as a soil amendment, filtration medium, carbon sequestration tactic and remediation tool, particularly as a potential PFAS mitigation solution. R&E and DC/HZI will be able to share experience and guidance, from planning, funding and construction through operations, to other organizations considering a move to include organic wastes with their collection services.

Our communications will be targeted to be approachable by our various interested parties so that the matter is clear and informative to each sector. R&E will share the outcome of any research or studies that may be conducted with the targeted audience. R&E’s goals include 1) to be a leader in the sector across the country, 2) to demonstrate the circularity achieved by this project and 3) to inspire other entities to replicate the project for its environmental, economic and community benefits.

Audiences
The dissemination plan has several audiences. It applies to all interested parties to the project to ensure equitable access to project learnings and outcomes. Interested parties include 1) Ramsey County and Washington County residents and businesses, including those that participate in R&E’s food waste recycling program (the Food Scraps Pickup Program), 2) local and state public agencies, 3) solid waste sector partners and 4) the broader environmental sector.

More specifically, an important audience for this project includes entities that oversee solid waste, food waste, green

energy and carbon reduction strategies, such as local, state and regional governments. This project serves as a demonstration project for this audience to consider the development of similar projects in their jurisdictions.

Method

Communications will be shared through the following platforms to ensure all interested parties have access to project updates and can participate throughout the project lifecycle. The communication methods include websites, e-mail, print media such as handouts, presentations (virtual or in-person), and social media. Examples of communication types include, but are not limited to, the following:

Targeted group emailing list: e-newsletters describing the progress of project will be sent to members of a subscriber list, such as the Food Scraps Pickup Program participant e-newsletter.

Social media: updates may be posted on platforms such as LinkedIn, Instagram, and Facebook.

Press releases: prepared and disseminated at project start and for important milestones.

Project handout: A handout containing project description and objectives will be prepared to be distributed at conference, events and any public gathering regarding the project.

Presentations: R&E staff will prepare presentations for various audiences about the project, including findings and outcomes as they become available.

Web content will be made available in English, Hmong, Somali and Spanish as a part of Food Scraps Pickup Program communications. Requests for persons with disabilities who need assistance to participate in a meeting, presentation or tour may contact us in advance to arrange for accommodation.

All communications documents will include either the Environment and Natural Resources Trust Fund logo or attribution language, as appropriate, per the ENTRF Acknowledgement Guidelines.

Timing

The Dissemination Plan will be active for the project's entirety to ensure all interested parties receive communications related to the project. The communication schedule includes, but is not limited to, the following: groundbreaking, construction, construction completed, startup, opening day, and points throughout operations.

Impact will be evaluated in several ways. First, traffic to web content will be analyzed. Secondly, social media post traffic will be recorded on any project communications. Third, in-person presentations will provide a sign-in sheet to record attendance and participation, and virtual presentations will have attendance recorded when possible.

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?

The 20-year organic materials feedstock agreement already completed by R&E and DC/HZI provides long-term project stability and financial certainty to support the ENTRF investment with a pioneering new materials management strategy for Minnesota. [Revenues from tipping fees and sale of renewable natural gas \(RNG\) and biochar will be used to maintain the digester infrastructure and operations as well as to support the organics collection program at R&E.](#) This project

demonstrates and verifies processes replicable throughout the state to reduce reliance on fossil fuels and end food waste to landfills, while improving the quality of human health and our natural resources through [greenhouse gas \(GHG\)](#) reduction and carbon sequestration.

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount
Personnel								
							Sub Total	-
Contracts and Services								
	DCHZI	Funds will be used to pay for anaerobic digester construction costs incurred by DC/HZI. DC/HZI was selected thru a public competitive bid process to construct, own, and operate an anaerobic digester that will be supplied with organics by R&E to produce RNG and biochar and help meet the state's waste, recycling, and renewable energy goals. DC/HZI has selected a construction contractor through competitive bid.					Sub Total	5,167,000-
Equipment, Tools, and Supplies								
							Sub Total	-
Capital Expenditures								
							Sub Total	-
Acquisitions and Stewardship								
							Sub Total	-
Travel In Minnesota								
							Sub Total	-
Travel Outside Minnesota								

							Sub Total	-
Printing and Publication								
							Sub Total	-
Other Expenses								
		Tipping Fee Offset	Funds will be to reimburse the recycling organic processing fee paid by R&E at the Dem-Con HZI anaerobic digester facility by \$83.52/ton. The ENTRF funds reduce the burden carried by Ramsey and Washington County residents to support this new technology by reducing the tipping fees paid by garbage haulers that get passed on to their customers.	×				\$5,167,000
							Sub Total	\$5,167,000
							Grand Total	\$5,167,000

~~Classified Staff or Generally Ineligible Expenses~~

Non ENRTF Funds for Construction

Category/Name	Subcategory or Type	Specific Source	Description/Use	Justification Ineligible Expense or Classified Staff Request/Status	\$ Amount
State					
Other Expenses/Cash	Renewable Development Account (Laws 2024, Ch. 127, Art. 41, Sec. 2, Subd. 5)	Tipping Fee Offset	<p>Demcon HZI will invoice R&E for the monthly amount of tons received. The R&E Strategic Partnerships Manager will work with the R&E Accounting Manager to develop and implement internal accounts receivable system to review documentation, verify, process, and pay the facility partner and then send an invoice to the ENRTF grant manager for reimbursement. R&E staff will provide quarterly financial progress reports from finalized contract through end of grant award.</p> <p>DemCon HZI will report to the R&E Strategic Partnerships Manager the amount of renewable natural gas and biochar produced for each operational month. The R&E Strategic Partnerships Manager will report that to the ENRTF grant manager.</p> <p>Construction of the Anaerobic Digester Facility</p> <ul style="list-style-type: none"> - Engineering, Design, Excavation, Backfill and Grading (\$930,000) - Prefabricated Steel Building Materials (\$1,700,000) - Digester Feedstock Pretreatment Equipment (\$1,700,000) - Continuous Emission Monitoring System (\$500,000) 	Secured	\$4,830,000

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<u>Cash</u>	<u>Minnesota Forward Fund</u>	<u>Construction of the Anaerobic Digester Facility</u> - Transformer and distribution cabinets (\$793,500) - Digester Core Modules (\$2,652,000) - Biogas Upgrader (\$2,652,000) - Main Compressor (\$1,326,000) - Biochar System (\$2,576,500)	<u>Secured</u>	<u>\$10,000,000</u>
			<u>State Sub Total</u>	<u>\$14,830,000</u>
<u>Non-State</u>				
<u>Cash</u>	<u>Bank Financing via DC/HZI</u>	<u>Construction of the Anaerobic Digester Facility</u>	<u>Pending</u>	<u>\$65,632,000</u>
<u>Cash</u>	<u>Equity Financing via DC/HZI</u>	<u>Construction of the Anaerobic Digester</u>	<u>Pending</u>	<u>\$16,408,000</u>
			<u>Non State Sub Total</u>	<u>\$82,040,000</u>
			<u>Funds Total</u>	<u>\$96,870,000</u>

Total Project Construction Cost: \$102,037,000

This amount accurately reflects total project cost?

Yes

Non-ENRTF Funds Non-Construction (For Reference)

Category	Specific Source	Use			Status	\$ Amount
State						
Cash	State Competitiveness Fund (M.S. 216C.391)	Tipping Fee Support Reduction			Secured	\$1,000,000 999,999
Cash	Renewable Development Account (Laws 2024, Ch. 127, Art. 41, Sec. 2, Subd. 5)	Construction of the Anaerobic Digester	Secured	\$5,000,000		
					State Sub Total	\$6,000,000 999,999
Non-State						
Cash	Climate Pollution Reduction Grant Funds (EPA), MPCA Subaward	Tipping Fee Support Reduction			Secured	\$10,000,000
Cash	Solid Waste Infrastructure for Recycling (SWIFR)—EPAR&E Grant Funding TBD	Tipping Fee Support Reduction			Potential Pending	\$5 10,000,000
Cash Tax Credit	FY2026 Congressionally Directed SpendingFederal Inflation Reduction Act Tax Credit	Tipping Fee Support Tax Credit to DC/HZI			Potential Secured	\$5,000 15,900,000
					Non State Sub Total	\$20,000 35,900,000
					Funds Total	\$26,000,000 36,899,999

Total Project Cost: \$31,167,000

~~This amount accurately reflects total project cost?~~

~~Yes~~

Attachments

Required Attachments

Visual Component

File: [730479f3-4a5.pdf](#)

Alternate Text for Visual Component

Graphic design showing the process of using anaerobic digestion to turn food waste and organic rich material into renewable natural gas. The solids from this process are then put through a 2nd process to create biochar....

Financial Capacity

Title	File
Recycling & Energy Board Financials & Audit Documentation	fd8024c9-aac.pdf

Board Resolution or Letter

Title	File
Ramsey/Washington Recycling & Energy Board Resolution	6260a841-d88.pdf
Ramsey/Washington Recycling & Energy Board Letter Signed by Chair	2d372926-da7.pdf

Supplemental Attachments

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

Title	File
CenterPoint Energy Letter of Support	ebee7561-419.pdf
Comerica Bank Reference Letter	9edca7ab-8f2.pdf
Dem-Con Companies Letter of Support	5622ffde-b3c.pdf
Minnesota Pollution Control Agency Letter	217ba440-b95.pdf
Olmsted County Letter of Support	4a98a104-45b.pdf
Partnership on Waste and Energy (Hennepin, Ramsey, Washington counties) Letter of Support	82d92d79-0b9.pdf
Ramsey County Letter of Support	b9dbc5c1-37d.pdf
Shakopee Mdewakanton Sioux Community Letter of Support	db926739-d7b.pdf
Washington County Letter of Support	9ec0843b-234.pdf
Xcel Energy Letter of Support	0e2f5dab-d90.pdf
Conservation Minnesota Letter of Support	1829b27d-b58.pdf
IUOE Local 49 Support Letter	d4c5d5c9-469.docx
Support Letter from Clean Energy Economy Minnesota	1ab7c94c-a38.pdf
Shakopee Mdewakanton Sioux Community Letter of Support 5/14/24	76423a39-72a.pdf

Difference between Proposal and Work Plan

Describe changes from Proposal to Work Plan Stage

In Project Collaborators section: Project Manager office phone number updated.

In Narrative, Activities and Milestones, and Budget (sub-section Professional/Technical Contracts) sections: Project Budget updated to \$5,167,000 to align with funding amount recommended by the commission.

In Attachments section: Added a file under “Board Resolution or Letter” to address LCCMR staff request for additional

compliance language (added document is titled “Ramsey/Washington Recycling & Energy Board Letter Signed by Chair”).

In Dissemination section: added description of dissemination efforts.

In Review/Submit section: Updated names/organizations of additional individuals assisting in the completion of this project (removed Michael Reed and replaced with Trista Martinson, removed Eugenia Manwelyan and replaced with Ashlea Smith).

[Changed costs to construction, added revenue reinvestment request](#)

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?

N/A

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?

~~No~~Yes

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

~~N/A~~Yes

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

~~N/A~~If so, describe here (1) the source and estimated amounts of any revenue and (2) how you propose to use those revenues:

Yes

Under the contract agreement between R&E and DC/HZI, the increased revenue from future commodity price increases for RNG and biochar produced would be split, with R&E receiving 80% of the additional revenues and DC/HZI receiving 20% of the additional revenues.

- a. The 5% ENRTF portion of R&E's 80% share will be reinvested in the operations of its organics program to reduce waste and generate renewable energy in a cost-effective manner for Minnesota taxpayers.
- b. The 5% ENRTF portion of DC/HZI's 20% will be reinvested in the operations and maintenance of the anaerobic digester.

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~~Yes

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:

Leigh Behrens, Ramsey/Washington Recycling & Energy Board; Sam Holl, Ramsey/Washington Recycling & Energy Board; Trista Martinson, Ramsey/Washington Recycling & Energy; Bill Keegan, Dem-Con; Ashlea Smith,

Gershman, Brickner & Bratton, Inc. (GBB); Nathan Klett, Foth Infrastructure & Environment, LLC.; Kevin Johnson, Husch Blackwell LLP.

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

N/A