COMMERCE DEPARTMENT

Local Energy Efficiency Program & Energy Savings Partnership Report

Pursuant to Minnesota Statutes, section 216C.43, subd.12

January 15, 2025

Report Prepared By

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As requested by Minnesota Statutes, section 3.197: This report cost approximately $1,410.00 to prepare, including staff time, printing and mailing expenses.

Contents

Executive Summary

Pursuant to Minnesota Statutes, section 216C.43, subd. 12, the Commissioner of Commerce submits this annual report regarding the Local Energy Efficiency Program and the Energy Savings Partnership including:

- The total number of projects;
- The amount of calculated and, if available, actual energy savings for each project;
- The cost of each project; and
- The total amount paid for technical services for each project.

The Minnesota Department of Commerce (Commerce) operates both the Energy Savings Partnership (ESP) and the Local Energy Efficiency Program (LEEP). The Wastewater Treatment Plant Cohort Energy Efficiency Training (WWTP Cohort Training) is administered by the University of Minnesota Technical Assistance Program (MnTAP) in partnership with Commerce as part of the LEEP portfolio. The ESP is a standard energy project financing agreement for local units of government managed by the Saint Paul Port Authority through a contract with Commerce. The LEEP provides local units of government with technical services to conduct energy project studies and initiate energy efficiency and renewable energy projects within their community.

The WWTP Cohort Training provides local government wastewater treatment plants with technical services to identify and support implementation of cost-effective energy improvement projects. These combined programs enable local governments to easily identify and implement energy conservation measures that help meet locally identified energy and greenhouse gas emission reduction goals as well as reduce the financial burden from both utility bills and operations and maintenance costs.

Since inception, ESP has funded several energy projects through lease-purchase financing. ESP continued a portfolio of nine financed projects through 2024 totaling over $5.6 million. The projects included three cities and seven school districts, ranging from $500,000 to $1.8 million. Commerce reports on high-level metrics of the ESP to the U.S. Department of Energy (DOE) on a quarterly basis. Cumulatively, the ESP loan loss reserve has leveraged over $5.3M in private capital with an estimated annual energy savings of over $300,000. LEEP administered a total of 20 new projects in 2024 in coordination with technical partners. Technical assistance costs through the third quarter of 2024 totaled $51,600 (project specific details are listed in Table 3 below).

History

Minnesota Statutes § 216C.42 and 216C.43 authorize the Department of Commerce to provide local units of government technical services, standard project financing agreements, and supplemental cash flow agreements for technical services in conducting energy project studies and qualifying energy improvement projects. Local units of government are defined as a Minnesota county, statutory or home rule charter city, town, school district, park district or any combination of those units operating under an agreement to exercise powers jointly.

Energy Savings Partnership (ESP)

In addition to the authority to offer energy project studies to local units of government, Commerce provides a standard project financing agreement through private financial institutions for local units of government wishing

to implement energy improvement projects. Under this authority, Commerce reviews projects to determine eligibility.

The ESP offers lower interest rates for a wide range of project sizes, which makes smaller projects in cities, counties, and school districts viable across Greater Minnesota. To protect the loan loss reserve (LLR) funds dedicated by Commerce and ensure that high-quality projects leverage other existing state energy programs, Commerce and the US Bank Underwriting Department reviews and approves projects seeking financing through established criteria..ESP is most attractive to small cities, counties, and school districts with smaller projects. The LLR is key to financing these small projects. Public entities with larger projects are able to secure financing at competitive rates without the need for an LLR.

Local Energy Efficiency Program (LEEP)

The Local Energy Efficiency Program (LEEP), an energy efficiency improvement program for local units of government, was launched in 2016. The purpose of the program is to support implementation of energy project studies and technical review of projects.

Commerce offers a robust collection of programs and technical services as well as financing and project planning services to local units of government across the state. Services include:

- Project development support including:
    - Needs and Opportunity Assessment
    - Project Development and Contracting Process Selection
    - Energy Project Study Provider Selection
    - Energy Project Financing
    - Energy Project Performance Period Review
- Research allowed use of Exxon Funds by local governments, school districts and Indian tribes.
- Use and guidance of tools developed for LEEP and GESP for energy project study and project development.
- Leveraged support of CERTs tools and website for Solar PV project development.
- Coordinated outreach services with strategic partners including CERTs, Green Step Cities and Schools, State Agency Tribal Liaison and industry associations.

Wastewater Treatment Plant Cohort Energy Efficiency Training, a sub-program of LEEP

Energy efficiency in the wastewater treatment sector is one way to help communities reduce cost associated with critical infrastructure, particularly for local governments with mechanical wastewater treatment plants. The Minnesota Department of Commerce, in partnership with University of Minnesota's MnTAP, developed a program based on a related 2018 Conservation and Applied Research and Development and study to address and overcome barriers to energy efficiency at small to mid-sized mechanical WWTPs. Since 2021, the program uses a cohort training model[1], which aims to capitalize on strong regional and state networks of operations staff

[1] Driving Wastewater Treatment Energy Efficiency, A Cohort Training and Implementation Plan, Contract 136952, 6/28/2019, https://mn.gov/commerce-stat/pdfs/card-wastewater-treatment.pdf

and encourage peer interactions, information sharing, technical training, and collaboration. The program is scheduled to sunset by June 30, 2025, by which time a total of 9 cohort modules will be completed.

2024 Annual Summary and Metrics

Energy Savings Partnership (ESP)

The ESP contract between the SPPA and Commerce was last amended in May 2024. This amendment maintained the terms and conditions of the previous year's amendment but extended the terms through Fiscal Year 2025. Commerce worked with the SPPA to develop a tool and process for loan application intake, including a checklist for local governments, to ensure smooth technical review and implementation. Commerce also hired an additional staff program coordinator to support the management of this contract and provide additional technical assistance to regional partners wishing to expand financing options for communities who are implementing energy efficiency or renewable energy projects.

Of the $2 million in Commerce funds originally dedicated to the ESP, all program funds remain as no loan defaults have occurred since program inception. Further, Commerce and SPPA negotiated a program account interest change in 2019. Program funds now return a 1% interest income rate which is added quarterly to the reserve funds that support the private capital. This means that while LLR programs typically are designed to facilitate losses in support of program activity, the ESP demonstrated modest growth over the year, providing further longevity for these funds. All the loans provided are on schedule and many are over 50% repaid.

The ESP has leveraged projects valued at over 250% of the LLR dedicated funds, which has given it the ability to make a greater impact than a revolving loan fund (RLF). While projects financed under the ESP do not increase the total program capacity through project interest income, the leverage in the ESP has been successful in supporting private capital capacity for a range of project types and continues to preserve program capacity to support the use of more private capital in upcoming program years. Since 2012, the ESP has financed energy projects at local governments with a total project cost of over five million dollars. The building space impacted by the program projects total over one million square feet.

Metrics

Commerce reports on high-level metrics of the ESP to the U.S. DOE on a quarterly basis. Project information as a cumulative summary of all projects to date can be found on Table 1.

Table 1. 2024 ESP Metrics Overview

ESP State Program funds spent ($)	ESP Private Funding Leveraged ($)	Buildings	Total Square Footage	Calculated Energy Savings (kWh)	Estimated annual Energy Savings ($)
$0.00	$5,647,415	22	1,143,424	831,146	$296,381.26

Local Energy Efficiency Program

In 2024, Commerce continued outreach efforts to promote LEEP with local governments and schools as a tool to help them achieve their goals for reduced energy use, adoption of renewable energy systems and reduction in Greenhouse Gas Emissions. Commerce continued to focus its development efforts on stakeholder engagement to identify barriers, potential solutions, and strategies to overcome issues that prevent local entities from initiating projects.

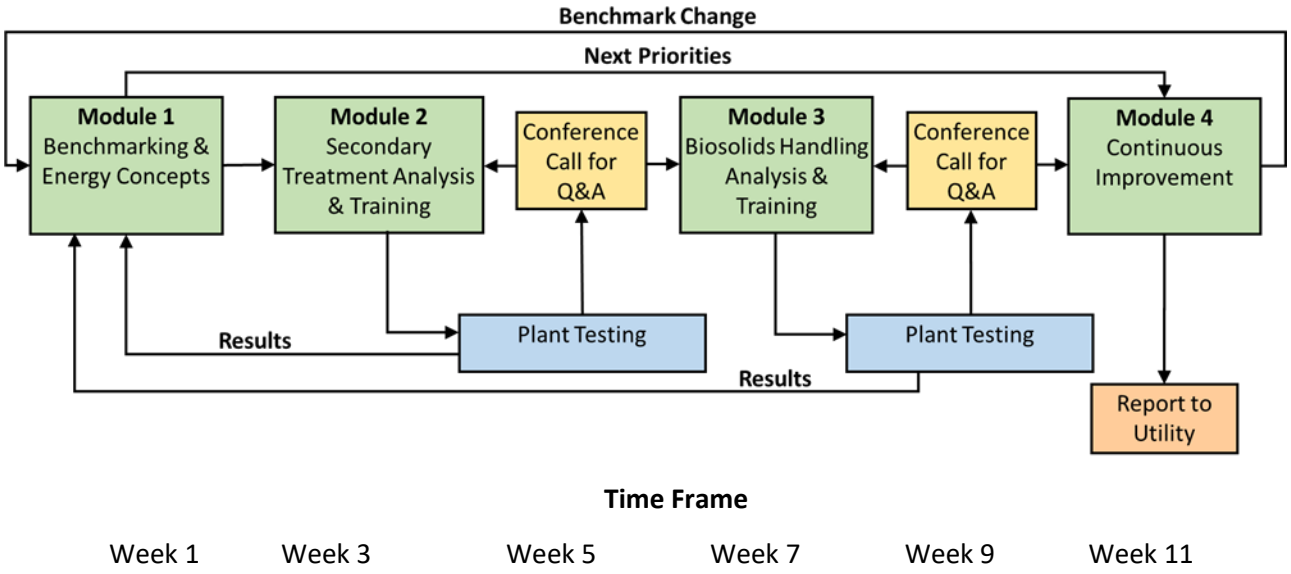
Existing initiatives and programs were leveraged for new program development and made possible through the 2023 Minnesota Clean Energy Bill, as well as the Federal Inflation Reduction Act and the Bipartisan Infrastructure Bill. Staff also built new relationships with community energy partners through the State Competitiveness Fund Local Capacity Building program. As a result of these engagement efforts, Commerce has implemented new and increased outreach processes to expand to more local units of government throughout the state to assist them in reaching their building efficiency and energy savings goals and ensure they are aware of federal funding and technical assistance opportunities. Commerce also invested in systems to support data tracking and project administration along with efforts to enhance and coordinate information sharing and response to Minnesota consumers.

Wastewater Treatment Plant Cohort Energy Efficiency Training

The cohort training approach provides key foundational information and concepts on energy use and conservation in the wastewater sector. Participants use data from their own facilities in active learning and collaborative exercises related to benchmarking, creating a site energy footprint, evaluating energy use in aeration operations, developing improvement strategies and testing these strategies to identify and implement energy efficiency targets for their facility. The Minnesota Pollution Control Agency authorized 16 hours of continuing education credit for the Wastewater Treatment Plant Cohort Energy Efficiency Training (WWTP) operators to receive who participate in the cohorts.

The cohort program uses four training modules and two interim team calls as outlined in Figure 1. In 2024, the program shortened the timeframe between modules for user accessibility, condensing the overall program duration to a three month schedule. Follow up occurs after participation in the WWTP Cohort Training to track impacts of the WWTP Cohort Training Program; this follow-up is planned to continue through summer 2025.

Figure 1. Cohort Training Model



While outreach for Cohort 7 was completed in October 2023, the training was completed in January 2024. Cohorts 8 and 9 were initiated in January 2024, with training completed in April 2024. As outreach for the final two geographical areas that could support in-person cohorts was completed in 2024, there was little recorded interest from the participants for further training. Discussions continue toward shifting the rest of the training to complete five to ten one-on-one assessments over the next program year to provide efficiency guidance to remote plants and plants unable to block out four days of training.

Metrics

Commerce reports on high-level milestones to the U.S. DOE on a quarterly basis. At the time this report was written, Commerce had completed reporting through October 2024. Key metrics for the LEEP and sub WWTP are summarized in Table 2. For project technical assistance implementation, MnTAP invoiced Commerce $51,600 year to date through September 2024. Table 3 includes the number of specific project recommendations and implementations in 2024, along with projected actual energy and cost savings.

Table 2. 2024 LEEP Metrics Overview

Metric Description	2024
LEEP Technical Assistance Contacts	
Number of detailed engagement contacts	15,342
Number of technical assistance training cohort events	39
Number of new projects included	11
Number of cohort or program event participants	420

Table 3: 2024 WWTP Cohort Training Energy Project Study Recommendations and Implemented Items

Recommendation	Status	Calculated Energy Savings (kWh/yr)	Calculated Power Savings (kW)	Calculated Cost Savings ($/yr)	Implemented Energy Savings (kWh/yr)	Implemented Power Savings (kW)	Implemented Cost Savings ($/yr)
Prioritize main Lift Pumps #3 and #4 over #1 and #2	Proposed	7,300	0	$700	0	0	$0
Operate Aerobic Digesters with Two instead of Three Blowers.	Implemented	141,500	11	$11,200	141,500	11	$11,200
Reduce Oxidation Ditch Dissolved Oxygen from 7 to 2 mg/L	Implemented	97,000	16	$7,600	97,000	16	$7,600
Operate ATAD Foam Pumps Based on Foam Level and During Transfers	Proposed	417,300	0	$12,100	0	0	$0
Reduce SNDR Foam Pump Speed from 100% to 78% in Winter Only	Implemented	34,100	7.8	$1,400	34,100	7.8	$1,400
Reduce Aeration Basin Dissolved Oxygen Setpoint from 6 to 4 mg/L	Implemented	304,000	0	$24,400	304,000	0	$24,400
Reduce Jet Pump Setpoint from 100% to 95% and Use Valve to Direct More Flow to Foam Control	Proposed	36,800	0	$1,100	0	0	$0
Reduce DO setpoint from 2 to 1 mg/L	Planned	390,900	44.7	$43,300	0	0	$0
Alternate between the two 15 HP mixers in each of the two holding basins instead of running both simultaneously.	Proposed	162,900	22.4	$18,400	0	0	$0
Reduce aerated holding setpoint from 500 to 400 CFM	Proposed	26,000	3	$2,900	0	0	$0

Recommendation	Status	Calculated Energy Savings (kWh/yr)	Calculated Power Savings (kW)	Calculated Cost Savings ($/yr)	Implemented Energy Savings (kWh/yr)	Implemented Power Savings (kW)	Implemented Cost Savings ($/yr)
Maintain air scour blower	Proposed	24,400	1.9	$1,600	0	0	$0
Reduce DO setpoint from 2 to 1.5 mg/L	Proposed	45,600	5.2	$5,000	0	0	$0
Remove 1 UV Train from service	Implemented	35,643	0	$5,000	35,643	0	$5,000
Lower pressure setpoint from 9.7 to 9 psi and DO setpoint from 2.5 to 2 mg/L	Proposed	599,300	0	$59,900	0	0	$0
Reset odor control fans to produce 80% of current airflow	Proposed	254,300	29.1	$27,100	0	0	$0
Invite MRWA for Water Plant Audit	Planned	0	0	$0	0	0	$0
Explore Reducing Waste Tank Blower Cycle Time	Proposed	48,900	0	$4,200	0	0	$0
Turn off one of two digester pond aerators	Implemented	97,700	11	$11,000	97,700	11	$11,000
Trial EQ pond to 6' and turn off blower	Planned	48,900	5.6	$5,500	0	0	$0
Savings Totals for 2024 Projects		**2,772,543**	**157.7**	**$242,400**	**709,943**	**45.8**	**$60,600**

Conclusions & Next Steps

Commerce will continue to develop the Energy Savings Partnership with the SPPA in the coming year through specifically identified improvements to the program. This includes better aligning ESP marketing with Commerce energy programs and incorporating targeted outreach into the agency's broader initiatives as the state's Energy Information Center as it develops outreach campaign strategies; increasing outreach for the program through improved tools and event presence; building new external-facing program documents to better integrate with local government projects and finance flows; and improving reporting information and internal review processes.

Commerce will continue with the LEEP Technical Assistance, increasing marketing efforts to better reach local governments and provide additional value toward their local project development. LEEP will continue as part of Commerce's technical assistance portfolio for local governments and will be utilized to support the implementation of local government clean energy project developments. LEEP will leverage new funding and project resources that have been secured from other Federal funds.

Commerce will continue to partner with and provide funding to the University of Minnesota's MnTAP Program on the WWTP Cohort Training Program. Currently, Commerce and MnTAP plan to continue to work together on the Cohort WWTP Training through July 2025 to implement opportunities to achieve authorities and goals. The final phase of the project may include targeted work with municipalities to greater extend the reach of the successful training program.

Commerce staff will continue to refine these programs, identify and deploy the resources necessary to support their success and reach, and work with outside organizations and utilities on outreach efforts that drive energy efficiency projects across the State.