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# Energy Conservation and Optimization Programs Report

Pursuant to Minn. Stat. § 216B.241, subd. 1e(d)

February 26, 2026

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As requested by Minnesota Statutes, section 3.197: This report cost approximately \$1,100.00 to prepare, including staff time, printing and mailing expenses.

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## 2025 Legislative Report for ECO Energy Programs

Minn. Stat. § 216B.241 established funding for the Clean Energy Resource Teams (CERTs), Conservation Applied Research and Development program (CARD), and Sustainable Buildings 2030 (SB2030.)

The funding originates from utility assessments that provide resources to the Minnesota Department of Commerce (the Department) and other legislatively named entities to support achievement of Minnesota's statewide energy policy goals. Each of these programs is uniquely positioned to help continuously achieve energy efficiency and renewable energy project implementation throughout the state. The following report details the activities of each of these programs.

### **Pursuant to Minnesota Statutes, section 216B.241, subdivision 1e.**

*(a) The commissioner may, by order, approve and make grants for applied research and development projects of general applicability that identify new technologies or strategies to maximize energy savings, improve the effectiveness of energy conservation programs, or document the carbon dioxide reductions from energy conservation programs. When approving projects, the commissioner shall consider proposals and comments from utilities and other interested parties. The commissioner may assess up to \$3,600,000 annually for the purposes of this subdivision. The assessments must be deposited in the state treasury and credited to the energy and conservation account created under subdivision 2a. An assessment made under this subdivision is not subject to the cap on assessments provided by section 216B.62, or any other law.*

*(b) The commissioner, as part of the assessment authorized under paragraph (a), shall annually assess and grant up to \$500,000 for the purpose of subdivision 9.<sup>1</sup>*

*(c) The commissioner, as part of the assessment authorized under paragraph (a), each state fiscal year shall assess \$500,000 for a grant to the partnership created by section 216C.385, subdivision 2.<sup>2</sup> The grant must be used to exercise the powers and perform the duties specified in section 216C.385, subdivision 3.*

*(d) By February 15 annually, the commissioner shall report to the chairs and ranking minority members of the committees of the legislature with primary jurisdiction over energy policy and energy finance on the assessments made under this subdivision for the previous calendar year and the use of the assessment. The report must clearly describe the activities supported by the assessment and the parties that engaged in those activities.*

## Overview of Clean Energy Resource Teams

The Clean Energy Resource Teams (CERTs) are a statewide partnership of the University of Minnesota Extension's Regional Sustainable Development Partnerships, the Great Plains Institute, the Southwest Regional Development Commission, and the Minnesota Department of Commerce. CERTs' mission is to connect individuals and their communities to the resources they need to identify and implement community based clean energy projects. CERTs supports communities and the individuals within them in adopting energy efficiency and renewable energy for their homes, businesses, and local institutions, and, increasingly, in shifting some transportation and heating applications to electric. Through stories and decision tools, educational forums, program cohorts, one-on-one assistance, and seed grants, CERTs helps move clean energy projects forward. CERTs' programs are developed and adapted to respond to the needs and interests expressed by Minnesota's varied communities.

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<sup>1</sup> Subdivision 9 refers to Building performance standards; Sustainable Building 2030.

<sup>2</sup> Section 216C.385 refers to the Clean Energy Resource Teams.

Key metrics from CERTs' 2025 activities include:

- Sharing reliable clean energy information with the 89,147 individuals who accessed stories, clean energy guides, job opportunities, and events on the CERTs website 241,121 times. CERTs' most popular webpages included the Clean Energy Job Board, Clean Energy Stories, Pay for Your Projects tool, and our Community Energy Ambassadors program.
- Hosting a total of 74 events, both online and in person across the state, with more than 2,500 attendees representing a variety of audiences: energy-burdened households, utilities, businesses, nonprofits, and local and Tribal governments. CERTs also connected with greater than 4,800 additional community members through more than 860 meetings, presentations, and other engagement activities. Through these forums, CERTs builds relationships within and among networks and provides learning opportunities to spark action.
- Reaching more than 11,200 highly engaged people through the MN Energy Stories email newsletter, through which CERTs shared 89 unique clean energy stories and news pieces published this year ([on.mncerts.org/stories](https://on.mncerts.org/stories)). CERTs extended its reach to broader audiences through 90+ media stories featuring CERTs' programs and partnerships.
- Engaging 96 Regional Steering Committee members from across CERTs' seven regions ([on.mncerts.org/about](https://on.mncerts.org/about)). Steering committee members inform programming, serve as key connectors in and to their communities, and drive the seed grant process, from priority setting to reviewing and awarding funds.
- Connecting directly with 323 communities across the state, including 200 local governments, 10 Tribal governments, 17 school districts, and 36 electric and gas utilities and their associations, as well as businesses and other organizations, establishing and strengthening the long-term, cross-sector relationships that enable CERTs to help communities implement their clean energy projects.
- Saving or offsetting 64.1 billion BTUs. CERTs provides hands-on assistance to spur Minnesotans to move forward on clean energy action. Table 1 details actions that resulted in quantified energy savings and renewable generation in 2025.

## CERTs 2025 Activities

### Connecting with Minnesota Communities

In 2025, CERTs connected with Minnesotans at numerous community events around the state, presenting on clean energy topics, sharing resources, answering questions, and learning about community members' energy concerns and priorities, which in turn continue to inform CERTs' programming. A few of those events were Night to Unite in Crookston, Empowering Your Home in Bemidji, Healthy Earth Healthy Kids in Willmar, and the Department of Commerce's Energy Information Center exhibit at the State Fair. In April, the Metro CERT Annual Event brought together more than 280 people, highlighting past projects and sharing visions of community-based clean energy for the future ([z.umn.edu/axp2](https://z.umn.edu/axp2)). CERTs staff also presented to a wide range of professional audiences, such as Otter Tail Power's contractor workshops, Kandiyohi County's Economic Development Committee, the Minnesota CDFI Coalition annual meeting, the State of Energy Summit in Mankato, and the MN Rural Electric Association.

CERTs' regional steering committees – with members from utilities, local governments, community-based organizations, and other stakeholders – continue to provide key cross-sectoral connections to communities throughout Minnesota ([on.mncerts.org/about](https://on.mncerts.org/about)). In addition to regular regional meetings that help guide CERTs' work, virtual Lunch & Learns brought together members from across the state, and CERTs also hosted a steering committee tour of biodigesters in Waseca and Le Sueur.

### Building Capacity through the Community Energy Ambassadors Program

During 2025, CERTs' Community Energy Ambassadors program continued to build momentum. The program works to strengthen Minnesotans' capacity to help their communities advance the clean energy projects that the communities themselves have identified. Minnesotans aspiring to become Ambassadors participate in training (either virtual or in-person) that grounds them in the fundamentals of home energy efficiency, renewable energy, and related clean energy topics, then they complete a community-oriented project to become CERTified Ambassadors ([z.umn.edu/axny](https://z.umn.edu/axny)).

CERTs provides opportunities for Ambassadors to connect with each other and continue to learn, such as virtual coffee chats and in-person events ([z.umn.edu/axnz](https://z.umn.edu/axnz)). In addition, cohorts emerged as an important form of program participation, starting with a CERTs-organized cohort of community-based organizations from Duluth, Northfield, and Minneapolis. This model expanded to include both organized and organically emerging cohorts in communities like St. James, Fergus Falls, and Rochester ([z.umn.edu/axo0](https://z.umn.edu/axo0)). In the Metro region, the Energy Verde cohort completed a project engaging renters, multifamily building owners, and Realtors ([z.umn.edu/axp4](https://z.umn.edu/axp4)).

In 2025, the CERTified Ambassador program engaged 147 people, with 79 individuals in the training process, 44 who are working on their projects, and 24 who completed their projects to become CERTified in 2025 ([z.umn.edu/axo1](https://z.umn.edu/axo1)). Many more engage with the program in other ways, such as through event attendance and the Ambassador newsletter, which has a reach of more than 1,300 people across 76 of Minnesota's 87 counties. One of the key resources CERTs developed and shared this year was the Pay for Your Projects tool, which helps Minnesotans identify potential funding sources in an evolving funding landscape ([z.umn.edu/axo2](https://z.umn.edu/axo2)). Both the Ambassador newsletter and the new Pay for Your Projects tool have very high engagement rates.

See line A of Table 1 for energy savings and generation from Ambassador projects.

### **Supporting School Solar with Project Implementation and Clean Energy Education**

CERTs provided ongoing assistance to schools around the state: 69 Solar for Schools projects were completed and 16 other K-12 schools and 3 colleges and universities have received CERTs' assistance as they move forward on planned projects ([z.umn.edu/axo3](https://z.umn.edu/axo3)). CERTs also provided assistance on school efficiency improvements, hosting a webinar on the Minnesota Air Ventilation Pilot grant program and providing additional support.

One school taking a multifaceted approach to their energy usage with CERTs' support is Red Lake Public Schools, which completed solar projects at their middle school and one of their elementary schools, and they have another solar project on the way. They have also improved their HVAC, which provides a range of benefits: savings, comfort, and preservation of cultural artifacts. To support student learning, they are using clean energy curriculum originally developed as part of a past CERTs Seed Grant project. Finally, they recently added two electric buses to their fleet ([z.umn.edu/axo4](https://z.umn.edu/axo4)).

In addition to providing assistance on energy projects, CERTs engaged youth and adult learners through workshops with Royalton and Crosslake schools, the TriDistrict Career & College Readiness Initiative (serving south Metro school districts), White Earth Tribal and Community College, and Leech Lake Tribal College.

See line B of Table 1 for energy savings and generation from school projects.

### **Advancing Local and Tribal Government Projects and Collaboration**

In 2025, CERTs provided assistance to 57 cities, 9 counties, 1 Tribal nation, and 8 other government entities on the Solar on Public Buildings grant program. Through the program this year, 9 governments completed arrays on 11 buildings. Many more are scheduled for completion in 2026 in communities across the state, including in the City of Lindstrom, where CERTs staff collaborated with a local community member who provided assistance as part of his CERTified Ambassador project.

CERTs staff continued to co-lead the Community Energy Network (CEN), a peer-learning network for local and Tribal government staff advancing action in communities across the state. CEN's elective pay workgroup helped more than 50 local governments learn about federal elective pay funds, and a new geothermal workgroup was launched with more than 20 local governments deepening knowledge on geothermal project implementation.

CERTs also continued to support communities across the state participating in the GreenStep Cities and Tribal Nations program, providing on-the-ground assistance on energy-related best practices. CERTs partnered on GreenStep events with the Bois Forte Band of Chippewa, and with the cities of Crosslake ([z.umn.edu/axp8](https://z.umn.edu/axp8)) and Long Beach. After joining the program in 2024, the City of Long Beach achieved Step 3 in 2025, completing and reporting 30 best practice actions with CERTs' support. Their GreenStep event took place in their new resilience hub ([z.umn.edu/axo5](https://z.umn.edu/axo5)). Resilience hubs have emerged in response to the challenge of extreme weather and other events affecting communities ([z.umn.edu/axo6](https://z.umn.edu/axo6)). That concern is front and center in communities like Comfrey, which experienced severe flooding and which used a CERTs Seed Grant to improve energy efficiency as part of a broader effort to increase resilience ([z.umn.edu/axob](https://z.umn.edu/axob)). In a similar vein, in the Northeast, the Grand Portage Band of Lake Superior Chippewa worked with CERTs to identify and procure energy saving materials and resources for residents to use in case of brownouts and blackouts ([z.umn.edu/axp0](https://z.umn.edu/axp0)), while in the Southeast, CERTs partnered with Prairie Island Indian Community to host an event highlighting their extensive clean energy accomplishments ([z.umn.edu/axoh](https://z.umn.edu/axoh)).

See line C of Table 1 for energy savings and generation from public sector projects.

### **Enhancing Community Benefits from Renewable Energy Development**

As Minnesota pursues its clean energy goals, issues relating to energy project siting become increasingly relevant to communities. As such, in 2025, CERTs partnered with the Great Plains Institute, Department of Commerce, Midwest Tribal Energy Resources Association, and others on the PV-SuCCCESS project (Photovoltaics Supporting Cultural and Community EcoSystem Services). This DOE-funded project was designed to increase understanding of how utility- and community-scale solar development affects communities and the landscape, with the goal of developing tools that communities can use for planning, better aligning projects with local priorities, and increasing local benefits.

As part of this project, and to increase community knowledge about project siting, CERTs hosted community workshops in five counties: Lyon, Martin, Polk, Houston, and Nobles. Local partners in each county helped recruit community members with a range of perspectives on solar development, including farmers, business association members, local government staff and elected officials, and other interested residents. Common workshop topics included community values, landscape uses, solar development concerns and priorities, and participation in decision making processes.

### **Partnering with Utilities to Advance Innovation**

In addition to collaborations to serve specific audiences, CERTs engaged and partnered with utilities on multiple events, communications, and initiatives to advance program innovation, including:

- Stevens County Air Source Heat Pump Uptake Working Group – CERTs brought together local, regional, and statewide organizations seeking to develop more effective ways to stimulate heat pump adoption in rural

communities. Project partners are pursuing a multi-phase approach, including contractor engagement, homeowner engagement, and identification of innovative funding and financing arrangements. A significant emphasis in 2025 was on evaluating the impact of utility rates on heat pump financials.

- Lake Crystal Local Energy Action Plan – an Empowering Small Minnesota Communities project to develop a long-term energy plan for Lake Crystal’s municipal utility.
- A Window of Opportunity: Value of Window Measures for MN Utilities – webinar for utilities on high performance windows ([z.umn.edu/axoi](https://z.umn.edu/axoi)).
- “How wind and solar saved Minnesotans over \$1M and counting” – story highlighting key elements of Lake Region’s Wind Solar Hybrid Project and Thermal Storage Pilot Project ([z.umn.edu/axoj](https://z.umn.edu/axoj)).
- “Inspiring Innovators: MN Valley Electric Cooperative” – story on innovative time of use program for electric vehicles ([z.umn.edu/axok](https://z.umn.edu/axok)).

Finally, CERTs convened two virtual peer-to-peer sessions as part of its Northwest Minnesota Utility Innovation Group, each with utility presentations followed by facilitated conversation among staff from cooperative, municipal, and investor-owned utilities. The battery storage session featured presentations by Connexus Energy and Missouri River Energy Services, while the demand-side management session featured presentations by Lake Country Power and Peoples Energy Cooperative.

### **Reducing Minnesota Households’ Energy Burden**

Reducing home energy burden – the share of household income spent on energy – continued to be an important focus of CERTs’ efforts in 2025. CERTs worked with utilities, community action agencies, local and Tribal governments, and nonprofits to bring energy conservation kits and educational materials to 2,850 manufactured home park residents ([z.umn.edu/axpb](https://z.umn.edu/axpb)), food shelf shoppers, and other community members with high energy burden in 35 communities across the state, from Alexandria to Red Wing. In Duluth, CERTs staff partnered with Minnesota Energy Resources and Minnesota Power to engage manufactured home park residents – answering energy efficiency questions, sharing rebate information, and hand-delivering energy-saving kits. In Shakopee, CERTs co-hosted a workshop that helped residents link home comfort with financial savings while providing weatherization materials, hands-on installation training, and information about advanced weatherization programs

Working to make a greater impact at the intersection of energy burden and affordable housing, CERTs was a catalyst for the City of Burnsville and three large manufactured home parks to participate in the national Residential Retrofits for Energy Equity (R2E2) program, which provides deep technical assistance to jumpstart energy upgrades. CERTs also collaborated with numerous partners to coordinate energy savings programming in zip code 55106 in East Saint Paul, which has the highest energy shutoff rate in Xcel territory, and CERTs staff supported planning efforts associated with the launch of Community Power’s “Good Energy Connections” program, which helps households navigate energy saving programs available to them. Results from these ongoing efforts will be available in future years.

CERTs Seed Grants ([z.umn.edu/axpd](https://z.umn.edu/axpd)) supported a variety of projects that aimed to reduce the energy burden of residents, including air source heat pump retrofits in community housing in Halstad ([z.umn.edu/axpc](https://z.umn.edu/axpc)) and a program in Robbinsdale to buy down the costs of energy assessments and then provide the resident with an in-depth “Energy Fitness Plan” to further reduce energy costs ([z.umn.edu/axol](https://z.umn.edu/axol)).

See lines D-F of Table 1 for savings from energy burden projects.

## Assisting Businesses, Farms, and Nonprofits

Energy can be a significant expense for small businesses, farms, and nonprofits, so CERTs continued to engage and assist them in multiple ways. For instance, CERTs collaborated with local utilities to conduct door-to-door business blasts in the cities of Austin, Burnsville, and Eagan, identifying new energy efficiency projects, and signing up businesses for voluntary conservation efforts during peak energy hours ([z.umn.edu/axom](https://z.umn.edu/axom)).

CERTs also continued its USDA-funded assistance to rural small businesses and farms, sharing information through presentations – such as at the Women in Agriculture Conference ([z.umn.edu/axpe](https://z.umn.edu/axpe)), St. Louis County Valley Livestock Association, and a webinar for rural groceries – connecting them to energy audits, conducting renewable energy assessments, helping them identify funding options, and guiding them through the project implementation process. Multiple projects were completed, including heat pumps for a small retail store in Cook County and solar projects on a hazelnut farm in Wabasha County and a construction company in Frost.

In the Metro region, the **Small Business Equitable Energy Decarbonization Initiative** (SBEE Di) moved into the implementation phase. A partnership of CERTs and four community-based organizations, SBEE Di works to expand the use of clean energy among small businesses, with a focus on underserved commercial corridors. In 2025, 34 businesses received energy assessments, 12 projects have been completed so far, and 17 projects are currently underway.

With respect to nonprofits, CERTs facilitated efficiency improvements to buildings of 19 nonprofits by connecting them to no-cost programs like EnerChange and Xcel's Nonprofit Energy Savings Program. CERTs staff also assisted with other nonprofit projects, like the installation of a heat pump at a food shelf in rural Otter Tail County and solar at a church in Shoreview. Multiple seed grants supported nonprofit projects, such as for water heating efficiency improvements at the Care and Share shelter in Crookston ([z.umn.edu/axon](https://z.umn.edu/axon)).

See lines G-I of Table 1 for energy savings and generation from business, farm, and nonprofit projects.

## Strengthening Coordination among Technical Assistance Providers

CERTs' **Minnesota Technical Assistance Collaborative** (MN TA Collaborative) is a statewide network of TA providers and organizations focused on helping Minnesota local governments, Tribes, and nonprofits plan, fund, and implement projects. The core principle underlying the work of the Collaborative is “no wrong door” – regardless of how a community comes to the Collaborative, the Collaborative will work to get them to the TA provider who can best help them.

Over the past year, the **Minnesota TA Provider Directory** was expanded to include 144 TA providers (92 are new in the past year) and a database of 38 pro bono TA programs was created. The Collaborative also manages a public **Minnesota Grants Database** of federal, state, and philanthropic grants for climate and clean energy projects. In the past year, 289 funding opportunities and 141 webinars and events have been shared via the Directory and through regular newsletters. The Collaborative also hosted 3 informational webinars on navigating federal funding disruptions ([z.umn.edu/axoo](https://z.umn.edu/axoo)).

The Collaborative also supported **networking among TA providers** through monthly virtual convenings – attendance at which has grown organically – and a one-day in-person convening of 61 TA providers.

## Allocation of Legislative Funding Resources and Leveraged Resources

CERTs has 19 staff members (17 FTE), all of whom are paid in part via this legislative allocation. Staff are based across three of CERTs' four partner organizations and include both statewide staff and staff in each of CERTs' seven regions.

Given the people- and relationship-focused nature of CERTs’ work, staff members are essential to carrying out CERTs’ clean energy work across the state and thus represent the largest share of CERTs spending, followed by seed grants. Seed grants catalyze local projects, connect communities to clean energy efforts, and attract other dollars to further clean energy around the state ([z.umn.edu/axpg](http://z.umn.edu/axpg)).

See line J of Table 1 for energy savings and generation from seed grant projects.

Beyond the legislatively appropriated dollars, CERTs continued to leverage additional support for its work. Funding and related programmatic efforts included U.S. Department of Agriculture Rural Development funding to assist farms and rural small businesses with energy efficiency and renewable energy, McKnight Foundation and Energy Foundation funding to support Ambassadors, storytelling and solar programming, Initiative Foundation funding for work with food shelves, U.S. Department of Energy and Carolyn Foundation funding for community engagement on siting, Morgan Family Foundation funding for additional seed grants, and Mortenson Foundation funding for energy burden work.

These leveraged dollars reflect the value of the Conservation Applied Research and Development CARD and General Fund investment in CERTs and demonstrate how those core dollars have spurred and accelerated additional programming through complementary investments.

**Table 1: CERTs Quantified Impacts Summary**

ID	Effort Description	BTUs
A	<b>CERTified Ambassadors:</b> 24 individuals were CERTified as part of the Ambassador program, (17 in cohorts and 7 as individuals). Of the 11 projects completed, 7 focused on clean energy outreach, messaging, education, 1 focused on solar planning, 2 on home electrification and/or solar, and 1 on weatherization. Collectively these projects reached 6,900 adults and 1,800 youth and supported 3 home energy audits, 1 solar array, 1 heat pump, and 1 home weatherization effort.	<b>84,200,000 Saved</b>
		<b>18,000,000 Generated</b>
B	<b>Schools:</b> 3 schools made efficiency upgrades, saving 10,455 therms and 9,800 kWh annually. 67 schools in 37 districts and 2 colleges and universities installed 30-500 kW arrays, generating an estimated 11,032,854 kWh annually through the Solar for Schools grant. The University of Minnesota also installed a 95kW and 250 kW array, generating 445,000 kWh.	<b>1,079,000,000 Saved</b>
		<b>39,164,000,000 Generated</b>
C	<b>Local Governments:</b> 3 local governments implemented efficiency projects, including a geothermal system, heat pumps, and weatherization collectively saving 1,538,000 kWh and 26.9 billion BTUs. 1 installed a DC fast charger and 2 governments added 9 electric vehicles to their fleet, resulting in an estimated 9,200 gallons of gasoline avoided and \$7400 annual savings. Provided direct assistance to 11 local governments as well as 10 communities (with West Central Initiative) to install 23 arrays, collectively generating 1,383,000 kWh annually. 4 WCI cohort members – Ogema, New York Mills, and Ashby – also installed battery storage, totaling 215 kW.	<b>3,232,000,000 Saved</b>
		<b>2,837,000,000 Generated</b>

D	<p><b>Energy Burden - Manufactured Home Parks:</b> Distributed 13,600 energy-saving items (light bulbs, showerheads, faucet aerators, and do-it-yourself weatherization) and catalyzed 26 home energy assessments with Home Energy Squad. Partnered with 7 utilities and 14 organizations to reach 1,341 units across 23 manufactured home parks. In total, generating savings of 140,100 kWh, 37,700 therms, and \$55,600 annually.</p>	<p><b>4,246,000,000 Saved</b></p>
E	<p><b>Energy Burden - Food Shelves:</b> Distributed over 11,100 energy efficiency items to 1,168 shoppers at 19 food shelves across the state, saving 234,600 kWh, 16,900 therms, 430 gal of propane, and \$48,000 annually.</p>	<p><b>2,530,000,000 Saved</b></p>
F	<p><b>Other Energy Burden:</b> Distributed 2,237 energy efficiency items, including 78 Xcel kits, to low income residents in the Grand Portage Reservation, St. Cloud, Saint Paul and Minneapolis, collectively saving 56,800 kWh and 410 therms and \$8,100.</p>	<p><b>235,000,000 Saved</b></p>
G	<p><b>Business Projects:</b> Supported 2 farms and 2 businesses in financing 11 kW - 13.2 MW solar projects (1,828,800 kWh) and one business in financing 2 ASHPs through REGM, PACE and tax credits. Through SPEEDi, partnered with 4 CBOs to complete 12 efficiency projects with businesses through Energy Smart, saving \$16,930 annually.</p>	<p><b>507,000,000 Saved</b></p>
		<p><b>6,240,000,000 Generated</b></p>
H	<p><b>Property Assessed Clean Energy (PACE) Financing:</b> Engaged communities and businesses in PACE programs, which resulted in 2 solar and 4 energy efficiency projects being financed by PACE. Projects included upgrades to boilers, lighting, heating systems, and refrigeration, and are saving \$21,590 annually.</p>	<p><b>650,000,000 Saved</b></p>
I	<p><b>Nonprofit Projects:</b> Connected 19 nonprofits to NESF and Enerchange for energy efficiency upgrades that collectively save 4,320 therms and 14,870 kWh annually. Supported 1 food shelf with an air source heat pump installation saving 2,620 kWh annually, and 1 church with installing a 100 kW solar array generating 170,000 kWh annually.</p>	<p><b>942,000,000 Saved</b></p>
		<p><b>580,000,000 Generated</b></p>
J	<p><b>Completed 2024 Seed Grants Projects:</b> 43 seed grant projects have now been completed, including 35 this year. Projects completed in 2025 involved or reached over 61,000 Minnesotans, including 1,700 youth, and leveraged over \$2,800,000 in funding from other sources. 22 of these 35 projects focused on clean energy outreach, research and capacity building while 13 projects involved clean energy project installations, with 10 energy efficiency projects (saving \$44,500 annually), 1 solar PV project (generating 3,500 kWh), 1 solar thermal project (generating 190 therms), and 1 electrification project (saving 54.5 million BTUs).</p>	<p><b>1,464,000,000 Saved</b></p>
		<p><b>31,000,000 Generated</b></p>

<b>K</b>	<b>Other Projects:</b> Supported the Solar United West Central Cohort, in which Fergus Falls residents installed 52 kW of solar (68,400 kWh) and 13 kW of battery storage. Advised 2 households on installing and financing air source heat pumps (saving 2,400 kWh).	<b>54,000,000 Saved</b>
		<b>233,000,000 Generated</b>
<b>Total Quantified CERTs Program Savings</b>		<b>64.1 Billion</b>

## Overview of Conservation Applied Research & Development Program

The Conservation Applied Research and Development (CARD) grant program is administered by the Department of Commerce (the Department). Approximately \$2.6 million is available annually for the program. CARD funds projects to help Minnesota utilities identify new technologies or strategies to maximize energy savings, improve the effectiveness of energy conservation programs, or document the carbon dioxide reductions from energy conservation projects to enhance Energy Conservation and Optimization programs. The grant funds benefit the State of Minnesota and Minnesota ratepayers through the Energy Conservation and Optimization (ECO) programs that utilities operate. The Department provides fair and efficient oversight of the program. Department ECO staff manage the program, oversee each contract as a project manager, participate in workgroups and advisory committees as applicable and in various forms, and support dissemination of research results to ECO stakeholders.

Major activities from the past year included working with existing research projects to integrate proposed Technical Reference Manual recommendations into final project findings. This process and effort ensures the strong connection between research and utility program implementation. In addition, staff launched the most recent general topics Request for Proposals (RFP) which seeks proposals on a range of topics. Significant CARD program metrics for calendar year 2025 are summarized in Table 2. As noted below, there was significant interest in the RFP round with both high levels of proposals and unique applicants and partners.

**Table 2. CARD program metrics for Calendar Year 2025**

Description of Metric	For Calendar Year 2025 <sup>a</sup>
<b>Administration and Program Management</b>	
Successful CARD grant funding cycles	1 <sup>b</sup>
Request for Proposals (RFP) issued by Department	2
Request for Information (RFI) issued by Department	0
Notice of Intent (NOI) to Propose submitted by Responders	116
Organizations represented in NOIs	34
Full proposals submitted by Responders and evaluated by Department staff	45
Stakeholders and community members involved in evaluation processes	24
Project contracts executed through the CARD grant program	3
CARD projects awarded, pending contract execution	1
<b>Project Management</b>	
New or ongoing contracted CARD projects	20
Organizations represented in completed or ongoing CARD Projects	12
Active CARD project's sites visited by ECO Staff	2

CARD project advisory committees or workgroups ECO staff participated or led	4 <sup>c</sup>
Completed CARD grant projects	8

Research Dissemination & Impact	
CARD Webinar Registrants	717 for five webinars
National and local presentations	3

- Includes activities through December 1, 2025, when this report was compiled.
- This funding cycle is currently in process and won't close out until 2026.
- CARD projects have advisory committees or workgroups depending on the RFP and/or scope of work. Only a subset of CARD projects have advisory committees or workgroups.

## 2025 CARD Activities

Completed CARD projects provide utilities with informative and timely information to enhance energy efficiency program designs within their ECO portfolios.<sup>3</sup> Since the beginning of the CARD program through 2025, the CARD program has funded 177 projects totaling over \$40 million. These projects received (or will receive) an additional \$8.3 million in matching funds.

CARD projects:

- quantify the savings, cost-effectiveness, and field performance of advanced technologies;
- characterize market potential of products or technologies within the state for all building sectors such as residential including multifamily, commercial, industrial and agricultural, as well as transportation;
- study and characterize hard-to-reach market sectors;
- investigate and pilot innovative program strategies; convene working groups, and review and analyze relevant policy issues.

The vast majority of CARD grants are funded through a competitive Request for Proposal (RFP) process. Based on a review of current Energy Conservation and Optimization (ECO) needs with input from utilities and other stakeholders, the Department issues an RFP, and reviews and evaluates each submitted proposal based on specific criteria within the RFP, which typically includes:

- ECO priorities;
- Proposal's content, scope of work and work plan;

<sup>3</sup> Award amounts shown in Table 3 are based on initial awards and does not include additional amounts or amounts reduced that might be added through amendments. Additional funds added through amendments to initial awards has been minimal. Amounts shown in the table also do not reflect funds left unspent after the close of contracts. When last analyzed, unspent money returned to the CARD fund has been about 2% of initially awarded funds. In addition, matches shown in Table 4 are based on match commitments in initial grant contracts; collected matches often exceed what was committed in the contract. When last analyzed on average, matching funds are approximately 17% **higher** than initially estimated.

- Responder’s qualifications, skills and experience;
- Anticipated impacts of the project outcomes; and
- Project budget (which often includes matching funds from the responder).

Since late 2024 and through 2025, there have been two requests for proposals. The ECO Income-Eligible Working Group has a fully executed contract because of one of the RFPs. The other RFP solicited for field study, market study, and white paper full proposals which are currently under review; resulting contracts are anticipated to be fully executed in 2026.

Occasionally, the Department will fund a CARD project outside of the competitive RFP process. This is typically in cases where a necessary project/service requires a sole source provider, or when the Department has the opportunity to leverage CARD funds for a project already underway or being funded from multiple sources. In 2025, one such project was awarded by this means, representing \$1,700 of total funds (Table 3).

**Table 3. CARD program RFP & Non-RFP Contracts in 2025**

Solicitation Type	Number	Dollars Awarded	Estimated Match
All RFP Funded CARD Projects	3	\$2,178,951	\$0
Non-RFP Funded	1	\$1,700	\$0
All CARD Projects	4	\$2,180,651	\$0

Table 4 lists the eight completed CARD projects in 2025, including details on each project.

**Table 4. CARD projects completed in 2025**

RFP Year	Fund Cycle	Grantee	Project Description	Dollars Awarded	Estimated Match
2020	12	Slipstream Group, Inc.	Cold-Climate Variable Refrigerant Flow Demonstration and Market Research	\$378,957	\$44,864
2020	12	Slipstream Group, Inc.	Equity, Empowerment, and Energy Reduction through Community Engagement and Behavioral Interventions	\$473,895	\$24,010
2022	13	Synapse Energy Economics, Inc.	Advancing and Optimizing Electric Vehicle Adoption in Minnesota through Utility Energy Conservation and Optimization (ECO) Programs	\$60,000	\$0

RFP Year	Fund Cycle	Grantee	Project Description	Dollars Awarded	Estimated Match
2022	13	2050 Partners, Inc.	Right-Sizing Water Distribution Pipes and Water Heating Systems to Save Energy and Reduce Building Costs	\$299,110	\$0
2022	13	Center for Energy and Environment	Industrial Process Electrification Through Air Source Heat Pump Adoption for Process Loads	\$225,071	\$32,721
2024	14	The Cadmus Group, Inc.	Economic Impact Analysis of the Energy Conservation and Optimization (ECO) Program	\$249,695	\$0
2020	12	ThermoLift Inc.	Installation/use of patented thermal compression heat pump (TCHP) a refrigerant-free cold-climate natural-gas heating, cooling, and hot water system	\$100,000	\$74,125
N/A	N/A	Nighthawk Marketing	Webinar editing and closed captioning for ADA Compliance	\$1,700	N/A
-	-	<b>Totals:</b>	<b>8 projects</b>	\$ 1,788,428	\$ 175,720

## Example of Completed CARD Research Projects

Right-Sizing Water Distribution Pipes and Water Heating Systems to Save Energy and Reduce Building Costs<sup>4</sup>

2050 Partners, Inc. led a field study aimed to address the following research and development goals:

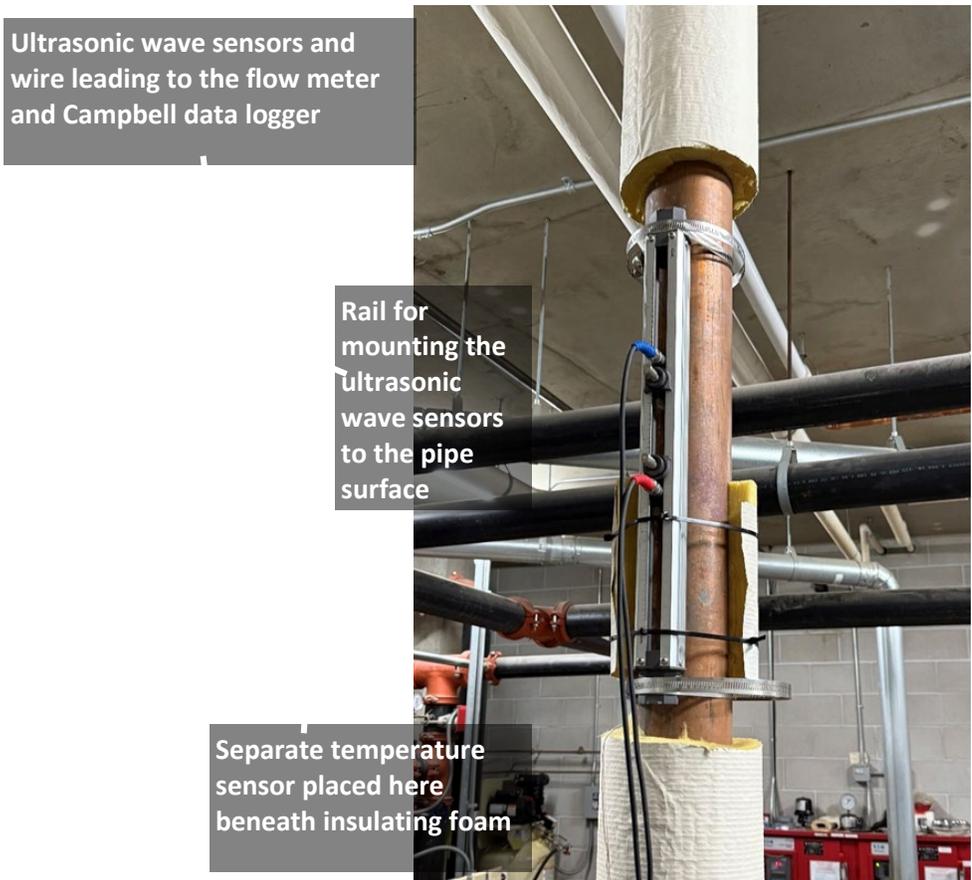
1. Validate the Water Demand Calculator (WDC) for Minnesota multifamily buildings.
2. Estimate per dwelling unit and statewide savings (i.e., water, natural gas, carbon, and cost savings in the multifamily new construction sector).
3. Inform a code change proposal to adopt the UPC Appendix M (the WDC) into the Minnesota Plumbing Code (MPC).
4. Evaluate sizing guidance for water heater systems.

Below are a photo and an infographic to capture a field site and the equipment involved to take measurements to collect field data.

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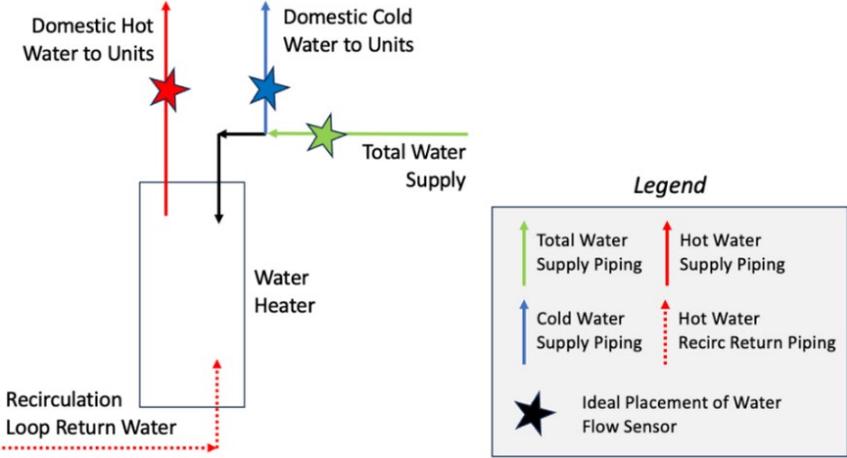
<sup>4</sup> Becking, Steffi, et al., 2025 “Right-Sizing Water Distribution Pipes and Water Heating Systems to Save Energy and Reduce Building Costs”. 2050 Partners, Inc. Prepared for the Minnesota Department of Commerce as final report for Conservation Applied Research and Development Project 240727. <https://mn.gov/commerce/energy/conserving-energy/applied-research-development/project-list.jsp>.

**Figure 1 Flow & temperature metering from distribution pipe of multifamily building field site**



*Photo courtesy of 2050 Partners, Inc.*

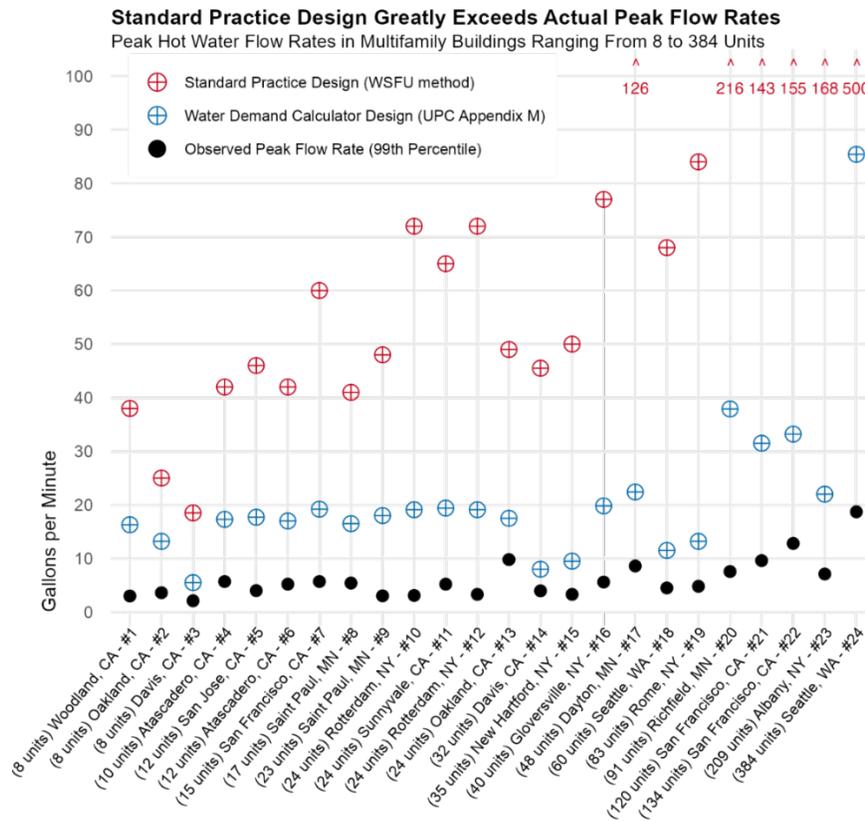
**Figure 2 Ideal Sensor Installation**



*Infographic courtesy of 2050 Partners, Inc.*

Analysis was completed to investigate actual peak flow rates related to the standard practice design. WDC design flow rates (blue crosshairs in the figure below) are 2 to 6 times larger than the observed peak flow rate (black dots) for the four Minnesota buildings analyzed in this project. The traditional method (red crosshairs) overestimated peak flow by up to 25x, leading to oversized pipes. This is consistent with other out of state buildings previously analyzed.

**Figure 3 Peak Hot Water Flow Rates in Multifamily Building Ranging from 8 to 384 Units**



Graph courtesy of 2050 Partners, Inc.

The research project produced the following recommendations:

- Monitor ongoing updates to the Minnesota Plumbing Code and provide support as needed related to request for action on allowing WDC as an alternative design practice.
- Launch education and outreach for plumbers, plumbing engineers, builders, architects, building developers, building owners, building managers, Chief Building Officials, plumbing plan checkers, plumbing inspectors, and water utilities.
- Consider incentive programs bundling the WDC demand sizing measure with HPWH installations.
- Include the 2027 IECC WDC energy credits in Minnesota Energy Codes.

Fund a research project evaluating the plumbing systems into which HPWHs are installed to help specifiers, suppliers, and installers better understand sizing HPWHs.

Table 5 lists the 20 contracted CARD projects that are new or were ongoing, including details on each project.

**Table 5. New and Ongoing CARD projects in 2025**

<b>RFP Year</b>	<b>Fund Cycle</b>	<b>Grantee</b>	<b>Project Description</b>	<b>Dollars Awarded</b>	<b>Estimated Match</b>	<b>Anticipated Completion</b>
2020	12	Slipstream Group, Inc.	Refrigeration Thermal Storage for Energy Efficiency	\$266,650	\$16,272	2026
2020	12	U of MN – Center for Sustainable Building Research	The Market for Passive House Multifamily Projects in Minnesota	\$255,580	\$33,747	2026
2020	12	Michaels Energy, Inc.	A Field Study of Ground Source Technology in Retrofit Applications in Urban (space constrained) Commercial Buildings	\$295,894	\$28,920	2026
2020	12	Slipstream Group, Inc.	Field Demonstration of ASHRAE Guideline 36-2018 High-Performance Sequences of Operation for HVAC Systems	\$364,710	\$30,225	2026
2022	13	Slipstream Group, Inc.	Indigenous Communities and Residential Electrification Pathway Demonstration	\$362,426	\$18,059	2026
2022	13	Slipstream Group, Inc.	Mapping Electrical Barriers, Motivations, and Perceptions about Efficient Fuel Switching	\$343,684	\$13,404	2027
2022	13	Frontier Energy, Inc.	District Geothermal Site Selection & Feasibility Study	\$182,060	\$0	2026
2022	13	Center for Energy and Environment	Establishing Protocols for a Commercial ERV Tune-Up Service	\$251,883	\$25,530	2027

<b>RFP Year</b>	<b>Fund Cycle</b>	<b>Grantee</b>	<b>Project Description</b>	<b>Dollars Awarded</b>	<b>Estimated Match</b>	<b>Anticipated Completion</b>
2022	13	Center for Energy and Environment	Heat pumps with thermal storage: Efficient and resilient electric space heating	\$413,321	\$21,314	2027
2022	13	Center for Energy and Environment	Packaged Terminal Air Conditioner Replacement Field Study	\$360,370	\$28,041	2027
2022	13	Center for Energy and Environment	Realizing the Potential Savings from Floating Suction Pressure Control in Minnesota's Existing Grocery Stores	\$451,678	\$42,883	2027
2022	13	Slipstream Group, Inc.	Strategic Decarbonization for Larger Utility Customers	\$184,974	\$14,997	2026
2022	13	Michaels Energy, Inc.	Ventilation Control Using Occupancy Counters	\$334,180	\$24,880	2027
2022	13	Center for Energy and Environment	CO2 Heat Pump Water Heaters for Multifamily Buildings	\$332,603	\$26,989	2027
2022	13	The Cadmus Group, Inc.	Consistent Load Shapes for Fuel-Switching Tests and Assessing Flexible Load Potential	\$219,927	\$2,408	2026
2022	13	Center for Energy and Environment	Continuous Exterior Insulation: A cold climate solution for deep savings and a pathway to cost-effective decarbonization	\$417,338	\$27,050	2026
2022	13	Slipstream Group, Inc.	Advanced Connected Diagnostics for Commissioning Residential Heat Pumps and Central Air Conditioners	\$226,816	\$12,775	2025

RFP Year	Fund Cycle	Grantee	Project Description	Dollars Awarded	Estimated Match	Anticipated Completion
2022	13	Center for Sustainable Building Research	Unlocking the Potential for Safe Energy Retrofits Over Inaccessible Crawlspace	\$370,658	\$37,125	2027
2024	14	ICF Resources LLC	Statewide Natural Gas and Electric Energy-Efficiency, Efficient Fuel Switching, Load Management, and Carbon - Saving Potential Study	\$1,849,256	\$0	2027
2024	15	EcoHealth Strategies	ECO Income-Eligible Working Group	\$80,000	\$0	2028
-	-	<b>Totals:</b>	<b>20 Ongoing projects</b>	<b>\$7,564,008</b>	<b>\$404,619</b>	-

**ECO and Energy Industry Impact Examples**

A comprehensive program evaluation to assess the CARD program’s impact has not yet been conducted. Therefore, this section does not capture all CARD impacts from 2025 or recent years. Instead, this section highlights how CARD projects have informed ECO through the Minnesota Technical Reference Manual (TRM) and its advisory committee (TRMAC), influenced other regulatory activities, supported utility ECO programs, and engaged the broader energy industry.<sup>5</sup>

The Minnesota TRM is a standard set of methodologies, inputs, and assumptions that ECO program administrators may reference when developing, implementing, and reporting on ECO programs as outlined in Minnesota Statute 216B.215, subd. 1d. CARD projects can inform specific measures and are referenced within the Technical Reference Advisory Committee. Projects completed since 2022 which have informed TRM measures or discourse in the TRMAC include:

- Demonstration of packaged central condensing tankless water heating systems in multifamily buildings (Gas Technology Institute)
- Energy Savings Potential of Networked Lighting Control Systems in Small Businesses (Franklin Energy Services, LLC)
- Heat Pump for ACs: Energy Savings and Modernization of Single-Family Cooling Systems (Center for Energy and Environment)
- Air-to-Water Heat Pumps: The cold climate solution for high-efficiency cooling, space heating, and water heating (Center for Energy and Environment)
- Overcoming the Market Barriers for RTU Retrofit Enhancements (Center for Energy and Environment)

<sup>5</sup> Reference tables 4 and 5 to review the grantee that conducted the research project listed below, if the grantee is not listed by the project

- Measuring the Equivalent Full Load Heating and Cooling Hours for Residential HVAC Equipment in Minnesota (The Cadmus Group, Inc.)
- Measuring the Savings from Smart Thermostats Installed in Minnesota Homes (The Cadmus Group, Inc.)
- Ductless cold climate heat pumps for multifamily applications (Center for Energy and Environment)
- Optimized Installations of Air Source Heat Pumps for Single Family Homes (Center for Energy and Environment)
- Optimizing the New Generation of Grocery Refrigeration Equipment (Center for Energy and Environment)
- Cold-Climate Variable Refrigerant Flow Demonstration and Market Research (Slipstream Group, Inc.)

CARD studies are referenced during the ECO and Public Utility Commission regulatory processes. For example, the 2018 Potential Study<sup>6</sup> has been referenced during the ECO Triennial planning and filings and within public utility commission dockets. The 2018 Minnesota CIP Potential Study was referenced in docket 08-133 in relation to calculating an achievement goal using the total insulation and air sealing program potential.

Although not comprehensively surveyed, recent CARD projects that utilities have indicated informed their ECO planning and implementation include:

- Heat Pump for ACs: Energy Savings and Modernization of Single-Family Cooling Systems (Center for Energy and Environment)
- Air-to-Water Heat Pumps: The cold climate solution for high-efficiency cooling, space heating, and water heating (Center for Energy and Environment)
- Overcoming the Market Barriers for RTU Retrofit Enhancements (Center for Energy and Environment)
- Measuring the Equivalent Full Load Heating and Cooling Hours for Residential HVAC Equipment in Minnesota (The Cadmus Group, Inc.)
- Measuring the Savings from Smart Thermostats Installed in Minnesota Homes (The Cadmus Group, Inc.)
- Ductless cold climate heat pumps for multifamily applications (Center for Energy and Environment)
- Optimized Installations of Air Source Heat Pumps for Single Family Homes (Center for Energy and Environment)
- Optimizing the New Generation of Grocery Refrigeration Equipment (Center for Energy and Environment)
- Analysis of New or Modified Energy Efficiency Programs to Increase Energy Savings of Underserved Populations (Citizens Utility Board of Minnesota)

In terms of larger industry impact, below are examples of local and national conferences at which projects were presented in 2025:

- Association of Energy Service Professionals (AESP) Midwest Chapter Meeting - Statewide Natural Gas and Electric Energy-Efficiency, Efficient Fuel Switching, Load Management, and Carbon - Saving Potential Study (Presenter: ICF Resources LLC)

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<sup>6</sup> Nelson, Carl et al, 2018. "Minnesota Energy Efficiency Potential Study: 2020–2029," Center for Energy and Environment. Prepared for the Minnesota Department of Commerce as final report for Conservation Applied Research and Development Project 121430. <https://mn.gov/commerce/energy/conserving-energy/applied-research-development/>.

- Behavior, Energy & Climate Change (BECC) Conference led by American Council for an Energy-Efficient Economy (ACEEE); California Institute for Energy and Environment (CIEE) within the Center for Information Technology Research in the Interest of Society at U.C. Berkeley, and the Environment and Energy Policy Analysis Center (SEEPAC) at Stanford - Mapping Electrical Barriers, Motivations, and Perceptions about Efficient Fuel Switching (Presenter: Slipstream Group, Inc.)
- ACEEE Industrial Summer Study - Industrial Process Electrification through Heat Pump Adoption for Process Loads (Presenter: Center for Energy and Environment)

### **ECO Staff Management & Participation Examples**

Besides fair and efficient administration, Department ECO staff manage the program, oversee each contract as a project manager, participate in workgroups and advisory committees as applicable, and support dissemination of research results to ECO stakeholders.

Projects active or completed in 2025 that featured workshops or advisory committee meetings with Department staff involvement—ranging from leadership roles to observation—include:

- Industrial Process Electrification Through Air Source Heat Pump Adoption for Process Loads
- Statewide Natural Gas and Electric Energy-Efficiency, Efficient Fuel Switching, Load Management, and Carbon - Saving Potential Study
- Consistent Load Shapes for Fuel-Switching Tests and Assessing Flexible Load Potential
- ECO Income-Eligible Working Group

Projects active or completed in 2025 that included field site visits are:

- Right-Sizing Water Distribution Pipes and Water Heating Systems to Save Energy and Reduce Building Costs
- District Geothermal Site Selection & Feasibility Study

Department ECO staff coordinate to disseminate CARD research through Department and research partner communications channels, using a variety of formats based on RFP requirements, project scope, research goals, and stakeholder needs. Information is shared with stakeholders or the public through workshops, advisory committee meetings, conference presentations, and final deliverables such as fact sheets, articles, webinars and reports.

Department ECO staff typically manage and host webinars, coordinating with presenters, setting up broadcasts, facilitating practice sessions, and promoting webinars through Department email lists.

In 2025, Department staff hosted five webinars where research organizations presented CARD projects and answered stakeholder questions. These webinars drew more than 700 registrants. The five research broadcasts included:

- Cold-Climate Variable Refrigerant Flow Demonstration and Market Research
- Advancing and Optimizing Electric Vehicle Adoption in Minnesota through Utility Energy Conservation and Optimization (ECO) Programs

- Right-Sizing Water Distribution Pipes and Water Heating Systems to Save Energy and Reduce Building Costs
- Industrial Process Electrification Through Air Source Heat Pump Adoption for Process Loads
- Economic Impact Analysis of the Energy Conservation and Optimization (ECO) Program

Department ECO staff, along with other Department teams, share CARD research results on the Department’s [Applied Research and Development webpage](#).

- **Research before 2020:** Access final reports through the Department’s Commerce and Regulatory Documents archive and historical webpages. Additional resources, including some webinars, are available via the left webpage panel on the webpage above.
- **Research since 2020:** Explore the full repository of projects and final deliverables here: [CARD Project List](#).

## Overview of Sustainable Buildings 2030 (SB 2030)

Reporting requirements were re-established in 2013, requiring an annual report to the legislature every January. The 2010 report concluded that SB 2030 would be cost-effective when meeting the targets for projects during the first phase of the program (between 2010 and 2015). Conclusions were verified with data from the first 40 projects in the program designed to the SB 2030 Energy Standard. As data have come in from projects, the following savings have been reported; this trend continues for the subsequent phase of the project:

**Table 6: SB 2030 Estimated Savings**

Report year	Number of reporting projects	Estimated energy savings per year, mmBtu	Estimated cost savings per year, million \$	Estimated energy savings to-date, mmBtu*	Estimated cost savings to-date, million \$*
2013	40	250	3.25	--	--
2014	66	327	5.24	--	--
2015	78	490	7.04	--	--
2016	93	534	8.3	--	--
2017	126	634	9.8	--	--
2018	154	867	12.6	1,765	25.7
2019	166	923	14.8	1,817	29.1
2020	185	1,023	15.7	2,893	44.4
2021	197	1,067	17.5	4,581	75.0
2022	217	1,083	20.0	5,140	94.9

<b>2023**</b>	244	919	16.7	4,594	83.5
<b>2024</b>	253	924	18.0	5,257	102.4
<b>2025***</b>	321	1,072	20.1	7,373	138.3
<b>2026</b>	371	1,139	20.8	8,315	151.6

*\*Note that savings to-date were not estimated prior to the 2018 report.*

*\*\*The US Bank Stadium, although having gone through design and construction SB 2030 review and approval, has been removed from our tracking between the 2022 and 2023 reporting years and resulted in a reduction in reported annual and to-date savings metrics between those years. Prior year metrics have not been updated to remove this project.*

*\*\*\*Database updates in 2024 permitted a number of additional projects to be included in the summary table (in addition to projects that have progressed through the program).*

### **History of Minnesota Sustainable Building 2030**

The Minnesota Sustainable Building 2030 (SB 2030) standards were enacted in 2008 by the Minnesota Legislature which designated the Center for Sustainable Research (CSBR) at the University of Minnesota as the lead to develop a Minnesota program reflecting the goals of the National Architecture 2030 program.

Architecture 2030 establishes the goal of achieving net-zero energy use in buildings by 2030 and outlines specific incremental performance targets to meet this goal. Every five years, total carbon output due to energy use in buildings is to be reduced by an additional 10% compared to the average energy use of existing buildings in 2003. Reflecting this national program, the Minnesota Sustainable Building 2030 program requires all state-bonded projects that began schematic design after August 1, 2009, to meet an energy reduction of 60% compared to the average building. Starting in 2015, projects were required to meet the 70% reduction standard. In 2020, this target moved to 80% better than a reference building and has shifted to a 90% reduction for projects starting design in 2025.

The SB 2030 legislation requires CSBR, in cooperation with Commerce, to “establish cost-effective energy-efficiency performance standards for new and substantially reconstructed commercial, industrial, and institutional buildings that can significantly reduce carbon dioxide emissions by lowering energy use in new and substantially reconstructed buildings.” All program elements are to be based on scientific or real-world experience in building energy conservation, and all buildings are to be scientifically benchmarked and real reduction in energy consumption measured.

The energy standards for all types of buildings are to be comprehensive, reliable, and equitable, providing procedures for the ongoing monitoring of energy use in buildings that have adopted the performance standards. Minnesota Statutes 216B.241 also require that utilities develop and implement programs that help building owners achieve the energy savings goals through design assistance, incentives, and verification.

Finally, continuing education and training programs for Minnesota designers, engineers, and building operators are fundamental to the initiation of the SB 2030 standards and the law made education and training a primary goal.

## SB 2030 Impacts

- 371 buildings designed to the SB 2030 Energy Standard are predicted to save approximately 1,139 million kBtu/year.
- To date, 92% of all building projects enrolled in the SB 2030 program have documented designs that met or exceeded the SB 2030 Energy Standard.
- Buildings designed to the SB 2030 Energy Standard are predicted to save approximately \$20.8 million per year assuming an average cost of \$18.24 per mmBtu.
- Buildings designed to the SB 2030 Energy Standard anticipate a reduction in carbon emissions of 161,000 tons of CO<sub>2</sub>e annually.
- Projects have reported anticipated energy consumption of 25% less than their 2030 Energy Standard.
- 325 completed SB 2030 projects are estimated to have saved 8,315 million kBtus, a reduction of 1,017,000 tons of CO<sub>2</sub>e and a savings of \$151.7 million to-date.

### Expected Cost-Effectiveness of the Sustainable Building 2030 Program

The significant improvements in building performance required by the SB 2030 energy performance standards must be achieved in a cost-effective manner. Projects and activities are generally considered cost-effective if the project or activity results in a net benefit to the project, to the consumer, or to society. In the case of utility-administered conservation programs, benefits are based on the energy savings over the assumed lifetime of a particular measure.

The Center for Energy and the Environment (CEE) performed a preliminary cost-effectiveness analysis in 2009<sup>7</sup> on a set of 115 buildings in the region. This initial review shows that the energy performance level required by the SB 2030 standards can be achieved cost-effectively for the overwhelming majority of building types and situations. This analysis was updated in 2019 to reflect changes in utility pricing and will inform further implementation of cost-effectiveness for projects in the program.

Through 2019, a 15-year simple payback period was also used as a measure of cost-effectiveness after an in-depth evaluation of societal, participant, and utility costs and using methodology consistent with Conservation Improvement Program (CIP) calculations. The measure was developed as a metric to be used by design teams and by the SB 2030 Review Team when evaluating cost-effectiveness because implementing CIP-style calculations for individual strategies is not a viable approach. In 2019, the cost-effectiveness evaluation was updated and concluded that a payback period of 12 years is an appropriate cost-effective boundary for measures under the SB 2030 program. This test was updated again in 2024 (and went into effect in 2025) in consideration of the changes the 2021 ECO Act had on utility program evaluations. This shift is noted in more detail below as part of the 90%-better program updates.

Projects that demonstrate that they cannot meet the SB 2030 standards cost-effectively using on-site measures (efficiency and renewable energy) are permitted to provide sufficient carbon-neutral renewable energy through off-site development or procurement of renewable energy sufficient to meet the SB 2030 Target. Projects may access these methods only after a project team demonstrates that appropriate energy saving design options and energy efficiency upgrades were investigated to achieve the SB 2030 performance level and shown that on-site only options

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<sup>7</sup> This document is available online through the Minnesota Legislative Reference Library at <http://www.leg.state.mn.us/docs/2009/mandated/090892.pdf>

to meet the SB 2030 Standard are not cost-effective for the particular project.

An appropriate on-site Energy Standard is then set by evaluating the set of all cost-effective measures for that project. This path has been used more to include on-site renewable generation as the cost-effectiveness of this strategy is improving. To ensure this cost-effectiveness is also present for projects where energy modeling may place a significant burden, smaller projects and those with limited mechanical upgrades are afforded a path to compliance through comprehensive prescriptive efficiency requirements. Wastewater treatment facilities are also provided a pathway to document energy efficiency measures pursued and anticipated performance metrics.

### **State-Bonded Project Cost Effectiveness Actual Results**

As of December 2025, 371 building projects have been involved in the SB 2030 process and have reported Energy Standard and Design Energy Consumption values. Of these 371 projects, 218 of the 234 state-required building projects and 125 of 137 volunteer building projects have reported as on track to meet the required SB 2030 Energy Standard. To date, 92% of all buildings project enrolled in the SB 2030 program have reported meeting or exceeded the SB 2030 Energy Standard in design. On average, these projects have reported anticipated energy consumption of 25% less than their 2030 Energy Standard.

When compared to buildings that just met the minimum energy code requirements, the buildings designed to the SB 2030 Energy Standard are predicted to save approximately 1,139 million kBtu/year, a reduction in Carbon emissions of 161,000 tons of CO<sub>2</sub>e, and a savings of \$20.8 million per year assuming an average cost of \$18.24 per mmBtu.<sup>8</sup> As new projects are added each year, ongoing annual savings to the State and other building owners will increase. Based on submitted anticipated performance the 325 completed SB 2030 projects are estimated to have saved 8,315 million kBtu, avoided 1,017,000 tons of CO<sub>2</sub>e, and saved \$151.7 million as of January 1, 2025. The total cost of the program using CIP funds is approximately \$8.85 million between June 2008 and December 2025.

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<sup>8</sup> The average cost per kBtu from the B3 Benchmarking database is \$0.0182380 for the most recent available estimate (assuming a mix of electricity, gas, and other fuels). Beginning in the 2019 report the data used to estimate program savings was improved from prior years – restricting the evaluation to only Minnesota buildings in the B3 Benchmarking program and eliminating outliers that skewed this rate. Earlier reports have not been amended to reflect this change.

Example projects recently participating in and contributing to this savings, and which were recognized as finalists at the 2025 Best of B3 Award Event include:



Figure 4 (left) & 5 (right) Battle Creek Winter Recreation Area: 4,143 sf building in Minnetonka. Annual savings over code are estimated at 68 mmBtu, \$1,100 and 20 tons of carbon.



Figure 6 (left) & 7 (right): Paradise Commons: 6,056 sf building in Waconia. Annual savings over code are estimated at 235 mmBtu, \$4,600 and 44 tons of carbon.



Figure 8 (left) & 9(right) Wakan Tipi Center. Annual savings over code are estimated at 290 mmBtu, \$5,300 and 49 tons of carbon.

## SB 2030 Program Progress

Ongoing efforts are focused on the continual improvement of the tool that will be used to establish customized Energy Standards and development of the administration of the program. Additional efforts include the creation of a case study database, the development of a sustainable building operations system, and the integration of SB 2030 with the utilities' CIP programs, hosting education classes for designers and building operators, and assisting design teams in the integration of the SB 2030 Energy Standards into projects. Below are listed details of these program components.

- **Case Studies Database**—as part of the program, predicted building performance has been documented for 241 B3 Guidelines projects. Reported metrics may include predicted energy use, carbon emissions and construction costs, along with several water, waste, and indoor environmental quality metrics. These case studies, which are in various stages of the design process or operation, are displayed online on the [B3 Case Studies Database](#), where owners and project teams can market their successes, and design teams can search for strategies that may help them reach the SB 2030 Standards. As operations data is collected for these projects the case studies database will update, allowing the evaluation of their actual performance.
- **Sustainable Building Operations**—Please note the SB 2030 Energy Efficient Operations (EEO) website ceased operations as of June 30, 2025, due to budgetary constraints. Building and user data entered into the tool will be retained for use if this element of the SB 2030 program returns.
- **SB 2030 Utility Programs**—as the SB 2030 energy performance standard has been implemented, the project team has worked cooperatively with utilities to develop and/or modify CIP programs to encourage new buildings to meet the SB 2030 standards. Priority items are listed below.
  - A) Comprehensive design assistance services.
  - B) Bonus incentives (per unit of savings) for achieving SB 2030 standards.
  - C) Comprehensive whole-building performance program for small buildings.

No utilities have yet provided financial incentives related specifically to achieving the SB 2030 Energy Standard. However, some new construction programs provide incentives based on energy savings performance that surpasses current energy code, as B3 buildings do. Other programs offer no-cost services for projects committing to a high level of savings, which can support or dovetail with reporting of the SB 2030 Energy Standard, and use of the B3 Guidelines tracking tool. This synergy between programs has assisted in streamlining submissions and program compliance verification.

- **Sustainable Building 2030 Education**—B3 and SB 2030 educational programs and outreach for designers continue to be delivered. In January, Center for Energy and the Environment and the CSBR published updated guidance intended to support SB 2030 project compliance. This resource provides updated details on the SB 2030 modeling and submission process, including an overview of the path of a project through the program, the tracking tool, specific simulation requirements, the considerations related to renewable energy, and other necessary documentation.

This updated resource can be found here: [Building Performance Evaluation Guide](#). In June the Annual “Best of B3” program celebration was held at the Minneapolis American Indian Center, a B3 and SB 2030 Project. B3 Staff presented at the AIA Minnesota Conference at a session entitled “From Goals to Performance: B3 in Practice.” This session highlighted the application of B3 and SB 2030 through case studies from four 2025 Best of B3 finalist projects: Paradise Commons, the Minneapolis American Indian Center, the Minnesota Veterans Home in Bemidji, and Wakan Tipi Center in Saint Paul. In December the annual Science Museum event was held, entitled “SB 2030: 90% Better = Efficiency + Renewables” featuring three panel discussions and communication of these program updates. The intent of this symposium was to explore the next phase of the program which will set targets for all buildings to combine energy efficiency at the limits of cost effectiveness with renewable energy supply.

Sessions demonstrated considerations in the relationship between high-performance buildings with renewables and the local utility. Several other resources have also recently been posted for on-demand access on [b3mn.org](#), including guides on the B3 Tracking Tool, Variances and Non-Compliance, and Daylighting design. Many presentations that were recorded are available online at the [B3 Guidelines Training page](#). Throughout the year a large number of individual team meetings were also held with design firms working on projects participating in the program—both to outline program requirements and to work through project-specific issues as they arise. For SB 2030 modeling discussions CSBR and CEE have instituted standing meeting times that are available for project teams to schedule when specific questions arise.

- **Shifting to 90%-Better** Starting January 1, 2025, buildings participating in the SB 2030 program are required to meet more stringent, 90% better-than-baseline requirements. This change is paired with several other significant program updates, driven by changes to Minnesota’s utility conservation program requirements, the carbon free electricity standard, and advancements in the treatment of off-site renewable energy resources. The program updates – which are applicable to projects starting schematic design on January 1, 2025 or later – are described in more detail here: [SB 2030 in 2025: Program Update](#). Some of the key changes include:

Cost effectiveness test—used to determine whether and to what extent off-site renewable energy may be used to help meet the SB 2030 Standard in addition to on-site measures:

- The payback periods used to evaluate whether measures are cost effective will now vary based on measure life, and range from 9 years to 24 years. Simple payback calculations must account for any available federal incentives.
- The expected effect of this update is that additional measures (in particular, those with federal incentives such as ground source heat pumps and solar photovoltaic systems and those with long measure lives, such as enclosure improvements) will be included in the establishment of an on-site target and the design of projects.

Renewable energy procurement factors for Renewable Energy Certificates (RECs)—applicable for projects that cannot cost-effectively meet their full SB 2030 Standard using on-site measures:

- To better reflect the additionality of various sources of renewable energy and align with National standards, unbundled RECs used to help projects meet their SB 2030 Standard will use a 0.20 procurement factor. This means that 5 kWh of unbundled RECs will be needed to offset 1 kWh of

energy use.

- The expected effect of this update is an increased use in alternatives to unbundled RECs for off-site renewable energy development.

Future-looking electricity emission rates:

- To better account for the expected carbon intensity of electricity during the lifetime of SB 2030 projects, the program is moving to the use of forecasted long-run, hourly, marginal CO<sub>2</sub>e rates, using the National Renewable Energy Laboratory's (NREL) Cambium dataset.
- The expected effect of this update is improved accounting for beneficial electrification, relative to the expected lifetime carbon emissions of that electricity use.

As during 2025, there was not a large influx of projects funded with General Obligation Bonds. We have seen only a small number of projects proceeding under the 90%-better rules—we expect subsequent annual reports to have additional information on the results of those projects.

## SB 2030 Next Steps

All work on the SB 2030 program completed to-date shows it is cost effective to meet the SB 2030 target. Ninety one percent of all buildings involved in the program were able to meet the SB 2030 Energy Standard with little additional cost to the overall projects. Total project costs are \$8.85 million through December 2025.

The 371 buildings designed to the SB 2030 Energy Standard are predicted to save approximately 1,139 million kBtu/year, 161,000 tons of CO<sub>2</sub>e and a savings of \$20.8 million per year. When new projects are added each year the annual savings to the State and other building owners will continue to grow. Savings from the 325 SB 2030 projects currently in operation are estimated at 8,315 million kBtu, 1,017,000 tons of avoided carbon at a cost savings of \$151.6 million.

The Sustainable Building 2030 Standards program should continue. The program has demonstrated the value of establishing customized performance targets early in the design process, which permits projects flexibility in how to best achieve those targets. The savings to-date reflect the significant energy, cost and carbon reductions achieved by the program. More educational opportunities are needed for architects and engineers to facilitate more SB 2030 designs. Two of the three largest electric investor-owned utilities have developed comprehensive design assistance services, but not all utilities have fully integrated SB 2030 programs.

Future areas of consideration in the SB 2030 Program development include the consideration of time-of-day CO<sub>2</sub> emissions factors, which could allow the SB 2030 Program to encourage strategies that decrease energy use when the grid is the most fossil fuel dependent, and could be used by design teams to accurately adjust the carbon intensity relative to the efficiency strategies that they select. To accommodate the shift to 90%-better buildings, a set of updates to the program have been implemented.

SB 2030 will continue to require projects to pursue a structured process of evaluation and cost-testing to develop custom project-specific targets; the 2025 updates will better prioritize on-site and longer-life measures and better

reflect project costs. It is also expected that additional measures, particularly those with federal incentives such as ground source heat pumps and solar photovoltaic systems, will be more often included in the design of projects. Furthermore, the shift to the use of marginal long-term emissions rates will improve the accounting for beneficial electrification relative to the forecasted carbon emissions of electricity use.

The rollout of these updates and other program development efforts will require continued research from the project team led by the Center for Sustainable Building Research at the University of Minnesota, to ensure that projects are able to comply in a cost-effective manner with the SB 2030 Standard while ensuring that the robust program goals are maintained.