

Office of ENERGY EFFICIENCY & RENEWABLE ENERGY

NASEO 2020 Midwest Regional Meeting

Amy Royden-Bloom, State Energy Program Manager

June 16, 2020



Today's Topics

- WIP Mission
- SEP Midwest Update
- Initiatives Seeking State Feedback
- Resources:
 - SEP Appendix
 - WIP Technical Assistance Resources

Weatherization and Intergovernmental Programs (WIP) Office



We enable STRATEGIC INVESTMENTS in energy efficiency and renewable energy technologies through the use of INNOVATIVE PRACTICES across the United States and a wide range of stakeholders, in PARTNERSHIP with state and local organizations and community-based nonprofits.

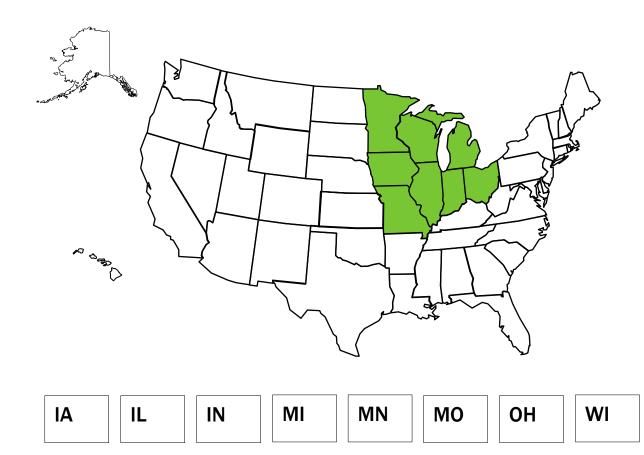




Furthering the development of energy infrastructure

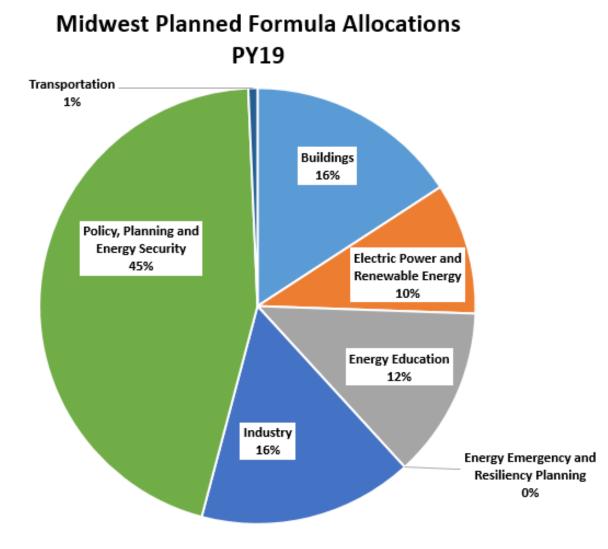
U.S. DEPARTMENT OF ENERGY OFFICE OF ENERGY EFFICIENCY & RENEWABLE ENERGY

NASEO Midwest Region



NASEO Midwest : PY19 Formula Market Allocation

Breakdown



NASEO Midwest – Formula Work

SEP Creates Jobs

1 job created for every \$2,500 invested

SEP is Cost-Effective

• \$4.50 saved for every \$1 federal invested

• Examples: Michigan, Missouri

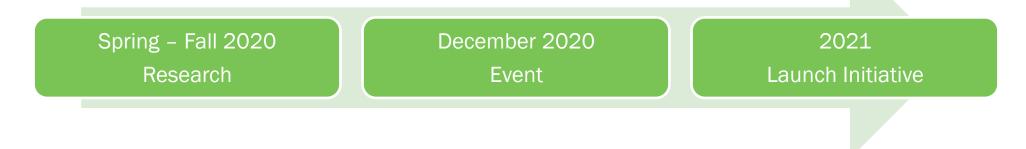
Note: All data are from the Oak Ridge National Laboratory State Energy Program National Evaluation

Upcoming Initiatives

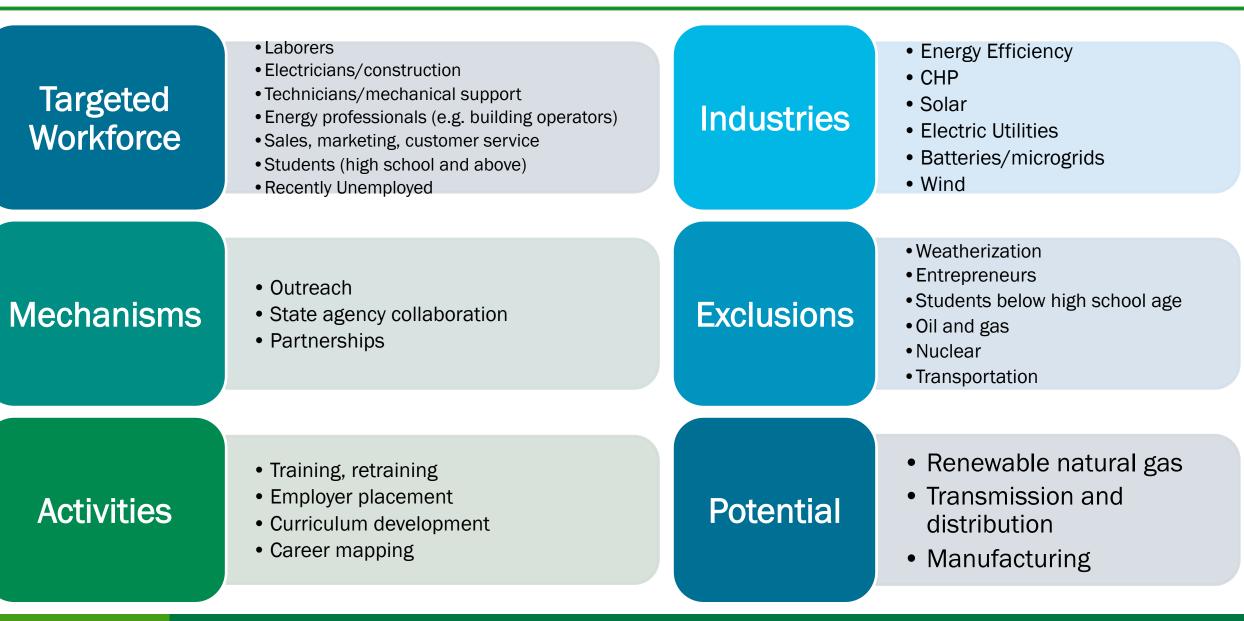


Workforce Development

- SEP is considering launching a workforce development initiative in early 2021, for SEOs to address specific workforce development challenges collaboratively.
- SEP staff is researching SEO workforce development activities and has engaged NASEO to collect additional data to analyze what is working and what gaps exist in state programs that might benefit from DOE support.
- SEP is engaging a national lab to forecast regional workforce needs for the next five to ten years.
- WIP plans host an event to convene SEOs and relevant stakeholders in Washington, D.C. in early December 2020 to share research results, facilitate peer exchange, and solicit input on the upcoming workforce development initiative.



Workforce Development Scoping



Technology Action Group (TAG) Model

- In FY21 Grant Application Instructions, DOE would provide option to states to participate in a group collaboration (TAG) in *one* of the 2-3 topics.
 - Requirements for membership in a TAG:
 - Dedication of SEP formula funds to topic of interest
 - 1% of formula allocation
 - OR At least \$10,000
 - Whichever is greater
 - Agreement that participation will involve
 - Set of metrics on which to report, jointly identified by DOE and states
 - Identification of goals to meet in two years (this is usual length of an Accelerator, and is also more likely to align with SEP 3-year grant period).
- DOE and states would jointly identify 2-3 topics of interest in which states would invest their SEP formula funds.
- DOE would organize Technology Action Groups (TAGs) of states around these topics of interest and provide technical assistance.

Possible TAG Topics for Discussion

Supporting energy storage deployment

• SEOs analyze their states' storage industry landscape and opportunities and collaborate on identifying and developing policies and programs to better support energy deployment in their states.

Managing peak demand with energy storage

• SEOs collaborate on studies to determine the level of energy storage necessary to reduce the amount of additional energy reserve input needed during peak demand.

Creating holistic energy assurance plans

• SEOs work together to find the best ways to leverage existing activities to create all-inclusive energy assurance plans that eliminate the need for additional plans.

Onsite energy systems at critical facilities

• States work together to develop plans for onsite energy systems that can power critical facilities during grid outages and normal operation using lab-designed tools.

Main Street revitalization

• SEOs work together to identify successful strategies for targeting Main Street communities and small businesses to stimulate local energy efficiency projects performed by local professionals that reduce energy bills.

Examples of SEP formula funds dedicated to a TAG Topic (energy storage)

- \$75,000 in formula grant funds to conduct an analysis in partnership with the state economic development office and academia to identify the energy storage systems currently being manufactured and deployed both in the state and out of state.
- \$20,000 in the formula grant funds to develop an education and outreach guide directed at critical infrastructure and emergency shelters to inform decision makers on what forms of energy storage exist, how they work, and how to accurately estimate the economic benefits of energy storage and resiliency.
- \$10,000 in formula grant funds to hire a part-time graduate student to model ways to utilize energy storage assets, existing or new, to reduce the top 100 hours of peak demand in the state.

- DOE
 - Organize the TAG and associated activities (calls, webinars, etc.)
 - Facilitate technical assistance (National Labs, others)
 - In collaboration with the participating states, identify TAG goals and metrics
- Participating States
 - Dedicate formula funds to the TAG topic
 - Participate in development and execution of the TAG
 - Track staff time spent on the TAG
 - Track progress towards TAG goals
 - In collaboration with DOE, identify TAG goals and metrics
- Observers/Mentors
 - Contribute to TAG discussions

Field Technology Validation – Seeking State Partners!

- SEP is seeking SEO partners to field test DOE-supported energy-saving technologies
 - Building energy management system, spray-foam insulation, and thin-film triplepane windows.
- SEP and NASEO hosted joint webinars in March and April to review technologies and site requirements.
 - Thank you to all the states that participated: AL, CA, FL, HI, ID, IL, ME, MN, NJ, SC, VA, WA. Illinois is in ongoing discussion SEP/labs about site hosts.
- Effort is part of a broader collaboration between DOE EERE and states
 - EERE Offices are WIP, Building Technologies Office, Advanced Manufacturing Office, Federal Energy Management Program) and multiple National Labs
 - Stay tuned for more information

GOAL: Achieve greater consistency in the use of **Market Titles** or **Activities** so that the SEOs and WIP are better positioned to share the impacts of SEP with state legislators and governors, U.S. DOE leadership, other federal agencies, the U.S. Congress, and others.

- State-led effort, coordinated by the Tennessee SEO and NASEO with DOE's guidance and participation. Reporting system (i.e., PAGE) last updated 10 years ago.
- Ensures that emerging policies and programs in such areas as **Energy Security** and **Workforce Development** are uniformly captured, and best practices and replicable models are shared.
- Reduces 595 self-named Market Titles to 8 consistent "Activities" while maintaining flexibility in choice of sector, community, fuel, technology, or application.
- Overview presentation for states held at 2019 NASEO Summer Conference and 2020 NASEO Winter Conferences, in addition to a Webinar for all SEO's.
- Pre-production or "beta" site developed for state working group testing underway.
- Next step is to develop "PAGE Application Instructions".



Energy Storage Grand Challenge

- The vision for the <u>Energy Storage Grand Challenge</u> (ESGC) is to create and sustain global leadership in energy storage utilization and exports, with a secure domestic manufacturing supply chain that is independent of foreign sources of critical materials, by 2030.
 - The ESGC set goals for the U.S. to reach by 2030 in: Technology Development and Transfer, Policy and Valuation, Manufacturing and Supply Chain, and Workforce.
 - The ESGC is managed by DOE's Research and Technology Investment Committee.

• White Paper on Policy and Valuation

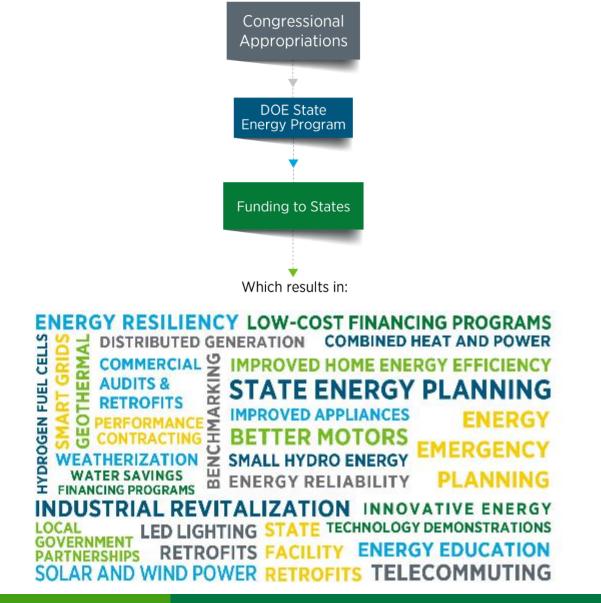
- SEP and NASEO solicited SEO input and received feedback from CA, CO, LA, MD, NM, NY, PR, TN and WA. Further input is welcome.
- ESGC Workshops
 - On May 13th a <u>workshop</u> summarized 6 energy storage use cases.
 - Regional <u>workshops</u> were held in May for the West/Southwest, Northwest, Midwest/ Northeast. Additional workshops may be held.

Resources

State Energy Program WIP Technical Assistance Resources

Breakdown	FY 2017 Enacted	FY 2018 Enacted	FY 2019 Enacted	FY 2020 Enacted
State Energy Program	\$50M	\$55M	\$55M	\$62.5M
Weatherization Assistance Program	\$225M	\$248M	\$257M	\$305M
Total, Weatherization and Intergovernmental	\$275M	\$303M	\$312M	\$371M

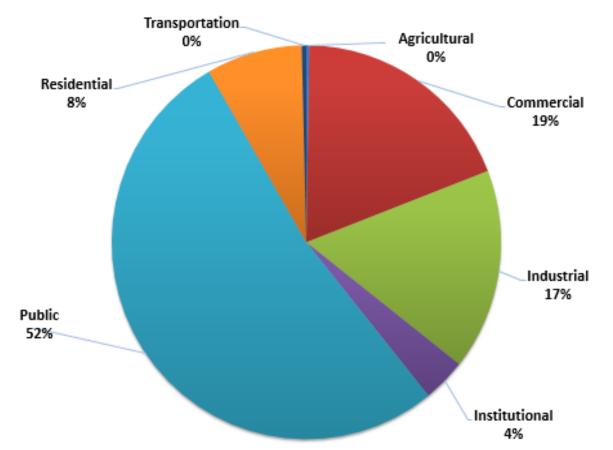
SEP FY20 Formula Funding



- FY20 Grant Application Instructions and the Administrative and Legal Requirements Document (ALRD) were released on February 3, 2020, including 2020 allocations at \$56M.
- Application due dates:

SEP Program Year Ending June 30, 2020 August 31, 2020 September 30, 2020 Application Due Date April 7, 2020 April 21, 2020 May 5, 2020

Status of SEP National Revolving Loan Funds (RLF)



Loan Recipient Sector, by Loan Value

- \$690 million in ARRA funding has been budgeted to 37 state-run financing programs
- \$578 million of available funds for RLF Programs
- 130.41% of available RLF funds have been loaned out to date

National SEP Successes Since 2017



Increased energy efficiency in 22,000+ buildings (87M square feet)

Installed 27,000+ renewable energy systems

(783,000 kilowatt hours)

Educated >1,385,000 people in performing energy audits and upgrades





- States implemented energy security, resiliency, and emergency preparedness plans;
- Developed state-led strategic energy initiatives;
- Invested in expanded use of energy resources abundant in states;
- Piloted innovative energy projects within the private sector, K-12 schools and universities; and
 - Developed 12 Implementation Models that serve as "how-to" guides for states who wish to replicate the programs achieving energy efficiency savings.



NASEO Midwest: New Success Stories

EERE Success Story – Eliminating Energy Waste in the Heartland: Clarifying the CHP Permitting Process in Iowa

AUGUST 19, 2019

2

Ƴ in ©



lows, knewn for its rolling farmland, is a leader in the highly energy-intensive, food processing and production industry. In an effort to help its food production and industrial acctors reduce energy waste, the lower Economic Development Authority and lows Department of Natural Resources sought to streamline the permitting process for combined heat and power (CHP) systems. With financial assistance from the U.S. Department of Energy's (DDE) Office of Energy Efficiency and Renewable Energy's (CERE) State Energy Program, and collaboration with DDE's Midwest Technical Assistance Partnership, lows launched a collaborative process to address questions from business and industry on how to permit and finance CHP systems.

According to Debi Durham, director of the lowa Sconomic Development Authority and Iowa Finance Authority, "lowa is both a preeminent agricultural product producer and national manufacturing leader. The fact that we can power an industrial economy with reliable, affordable, and in a lot of cases, renewable, energy is a big selling point for business in our state. We believe that CIIP applications can provide further efficiencies and economical results for our production facilities." EERE Success Story—Reducing Energy Costs in Kansas Food Markets and Grocery Stores

MAY 13, 2019

22



The Kanasa State Energy Office, with an investment from the U.S. Department of Energy's State Energy Program, is helping to mitigate operating cost burdens for rural food markets and grocery stores by providing energy audits to help store owners better understand how they can reduce energy costs.

Rural communities sometimes lack options when it comes to the services they need from local businesses. In Kanses, if a local grocery store in a rural community closes, customers may have to travel 50 miles until they reach the next grocery store. Because of this unique challenge, it is important for local businesses to reduce costs wherever possible in order to stay profitable.

In partnership with the Kanzas State Energy Office, the Kanzas State University Engineering Extension performed the energy audits and helped identify potential energy efficiency measures in several stores across the state. The stores that received audits outlined the findings in applications for financial assistance from the U.S. Department of Agriculture's Rural Energy Assistance Program to implement the energy efficiency measures.

NASEO Midwest: Competitive Award Breakdown (2013-2017)

17 Competitive Awards totaling \$4.5M

Awards by Topic Area (2013-2017)

СНР	IA, MN, WI	
Evaluation, measurement, verification	МО	
Clean Energy Economic Opportunity Roadmaps	MI	
Driving Demand for Public Facility Retrofits	IA, WI	
Resilience	MO, WI	
State Energy Planning	IL, MI, MN	
Wastewater	MN	
Working with Local Governments	MN	

Outcomes so far (select examples)

- Minnesota developed an Action Plan with 15 major recommendations for stakeholders to follow to identify and capture electric utility infrastructure (EUI) efficiency in the state. MN also issued formal guidance documents to clarify the existing Conservation Improvement Program (CIP) regulatory framework as it pertains to EUI projects, and created technical tools to help stakeholders understand the value of EUI efficiency as a component of CIP.
- Missouri is investigating and benchmarking communities' resiliency planning efforts and best practices to identify the opportunities, barriers, and constraints they face. Missouri has used its research to develop a draft comprehensive Resilience Roadmap.
- ✓ Wisconsin is collaborating with local governments and fostering improvements in their energy emergency resiliency, mitigation and response in order to improve the efficacy of its Energy Assurance Plan. Virtual tabletop exercises will take place this fall.

NASEO Midwest: SEP Implementation Models (IM)



Minnesota's Combined Heat and Power (CHP) Action Plan

Ā

Solution

Ċ

Outcome

Minnesota's Department of Commerce (COM) created a Combined Heat and Power (CHP) Action Plan that has the potential to double the state's CHP capacity help. the state achieve its target of 1.5% annual energy savings, and improve the resilience of the distribution grid. A total of 1.1 gigawatts (GW) of CHP generating capacity is currently installed in 56 locations throughout the state.1 but nearly another full GW of new CHP is possible at industrial, institutional, and commercial facilities across Minnesota. COM's CHP Action Plan, developed under a competitive award from the Department of Energy's (DOE) State Energy Program, charts a path to unlocking the savings and other benefits of this more efficient energy technology

If realized, CHP would play a major role in achieving Minnesota's energy savings target with an estimated economic payback of less than 10 years. With the capacity to provide power in the event of supply disruptions, CHP improves grid resilience while also offering multiple additional benefits for end users. The key will be to implement policies that specifically support the increased use of CHP, as outlined in the action plan developed by an engaged network of stakeholders. Goal Expand the use of CHP systems for commercial and industrial applications in Minnesota.

Existing energy efficiency policies and regulations do not explicitly support CHP

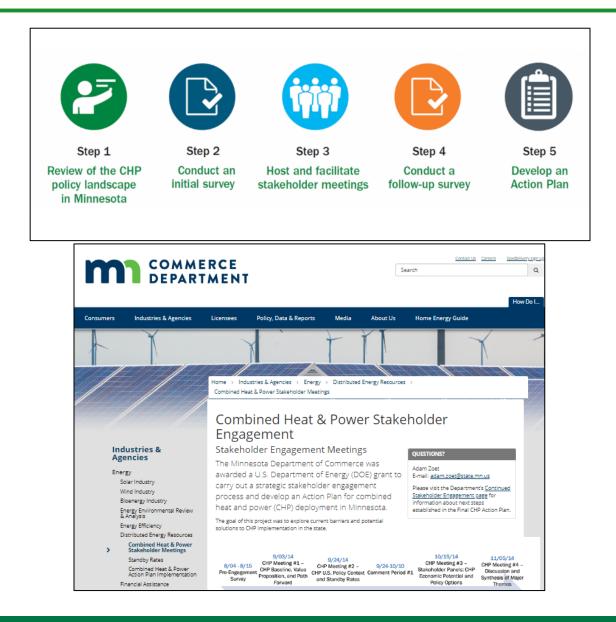
COM created a comprehensive CHP Action Plan that identified changes to existing Minnesota energy efficiency policies and regulations to encourage more CHP deployment, including more equitable standby rates and modifications to energy conservation rules. The CHP Action Plan included six action items: 1. Estables a CHP energy savings designation for use in its

- Conservation Improvement Program 2. Map CHP opportunities at wastewater treatment facilities
- and other infrastructure 3. Expand CHP education and training
- 4. Leverage existing financing programs
- Leverage existing trancing programs
 Find ways to count CHP as infrastructure investment.
- 6. Look at ways to improve standby rates

Policy guidance issued by Minnesota in late 2018 allow utilities to claim energy savings from new supply-side energy savings projects (e.g., investments that reduce energy use during power distribution and transmission), including CHIR As a result, COM has also seen an increase in CHP inquiries by utilities from a fee annually to a dozen since the Action Plan was finalized in 2017. In addition, a 22.8 MW CHP system was installed on the University of Minnesota's campus.

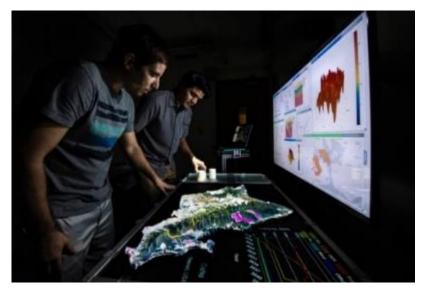
40.5. DOE Combined Heat and Power Installation Database, Installations as of November 20, 2019, https://energy.gov/chp-installs.

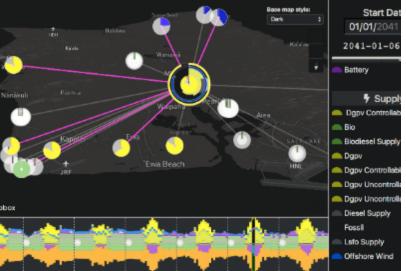
Re 2017, the Department of Commerce proposed new guidance for evice based on section 2168-241 subdivision is (d), stating that energy savings will be based on the utility's Conservation Improvement Program plane, not the results of those plane. More information here: http://ms.pov/commerce-stat/adh/final-tyse-dcip-17-856.adf



SEP Planning Tools and State-Specific Access to NREL

- Hawaii Advanced Visualization Energy Nexus (HAVEN) uses a 3D table top model to communicate the tradeoffs of state resource plans. (SEP Competitive Award).
- Engage is a web-based energy-transport optimization model for system capacity planning. (DOE Energy Transitions Initiative)
- Engage models plans; HAVEN visualizes them.
- Low-cost training for HAVEN/Engage is available using SEP or other funds through NREL's new streamlined contracting method.





SEP Training Resources for New Staff

• SEP Orientation and Training Module:

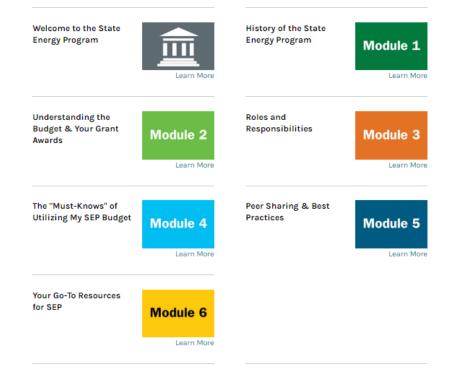
- A web-based training created specifically for new State Energy Office staff to provide a foundation and understanding of the key critical elements to managing and implementing the State Energy Program.
- Access it here:

https://www.energy.gov/eere/wipo/stateenergy-program-orientation-and-trainingmodules-new-staff

State Energy Program Orientation and Training Modules for New Staff

Home » State Energy Program Orientation and Training Modules for New Staff

Download presentations to learn more about the U.S. Department of Energy's (DOE) State Energy Program. Topics include history, budget, and resources.



WIP Technical Assistance Resources

WIP Technical Assistance

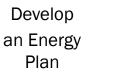
OUR GOAL: Maximize energy and cost savings WIP provides technical assistance that:

- 1. Offers TOOLS AND SOLUTIONS to barriers facing states, local governments, and K-12 schools
- 2. Convenes and creates PEER EXCHANGES to showcase publicsector leadership and effective public-private partnerships

3. Provides information from leading TECHNICAL EXPERTS

We help states, local governments, and K-12 schools:



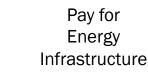




Design and

Implement

Energy Programs



IS-



Access and Use Energy Data

Sustainable Wastewater Infrastructure of the Future (SWIFt) Accelerator

70+ wastewater treatment facilities across 25 state, regional, and local partners collectively achieved more than 8% (86 million kWh) in energy savings and put in place plans to achieve long-term energy savings of 30%

Scoping for SWIFt Phase 2 is ongoing and will continue this momentum by leveraging the tools, resources, and lessons learned to benefit the broader wastewater sector

Coming Soon Wastewater Energy Management Toolkit (Summer 2020)



https://betterbuildingssolutioncenter.energy.gov/accelerators/wastewater-infrastructure



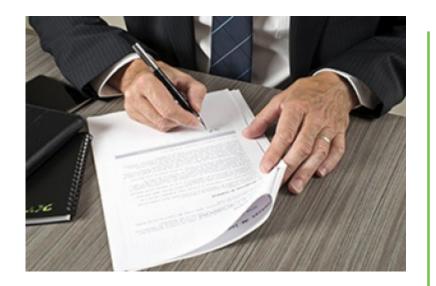
Sustainable Corrections Infrastructure Partnership (SCIP) Accelerator

State and federal agencies will work with DOE over three years to strive for portfolio-wide energy savings of 20% and collective cost savings of more than \$250 million a year

Formal launch TBD (potentially late 2020), based on COVID-19 and state considerations

For more information, contact <u>Alice.Dasek@ee.doe.gov</u> (Announced Summer 2020)

Available Toolkits



Energy Savings Performance Contracting (ESPC) Toolkit

Best practices that partners used to establish and implement ESPC, including a host of M&V resources

<u>https://</u> <u>betterbuildingssolutioncenter.energy.g</u> <u>ov/energy-savings-performance-</u> <u>contracting-espc-toolkit</u>

Clean Energy for Low Income Communities Accelerator (CELICA) Toolkit

Case studies, issue briefs, data tools, and templates on advancing energy affordability and equitability for lowincome households

<u>https://</u> betterbuildingsinitiative.energy.gov/ <u>CELICA-Toolkit</u>





Outdoor Lighting Toolkit

Decision tools, lessons learned, and other resources on upgrading street lights to modern, high-performance systems

<u>https://</u> betterbuildingssolutioncenter.energy.g ov/outdoor-lighting-toolkit

Resource Highlights

Commercial Property Assessed Clean Energy (C-PACE) Working Group

C-PACE Working Group: Year in Review

<u>C-PACE Financing and the Special Assessment Process</u>

Lessons in C-PACE Leadership: The Path from Legislation to Launch

Toolkit: C-PACE Financing for Resiliency



June 2019¹

Commercial PACE Financing and the Special Assessment Process: Understanding Roles and Managing Risks for Local Governments

Greg Leventis and Lisa Schwartz, Lawrence Berkeley National Laboratory

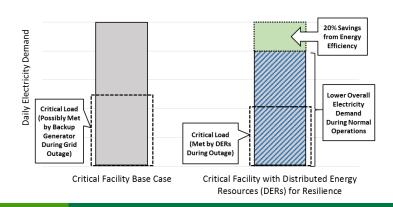
Executive Summary

This issue brief is for local governments that are well-positioned to participate in a commercial property assessed clean energy (C-PACE) program but are looking to inform a decision about whether to join or create a program. This resource addresses two specific barriers these local governments may face regarding C-PACE programs: (1) uncertainty about the likelihood of tax foreclosure on properties in default of C-PACE payments and the risks local governments bear, and (2) uncertainty about the staff labor commitment associated with administering the program, including the execution of the special tax assessment process.



How Distributed Energy Resources Can Improve Resilience in Public Buildings: Three Case Studies and a Step-by-Step Guide





Energy Data Management Guide

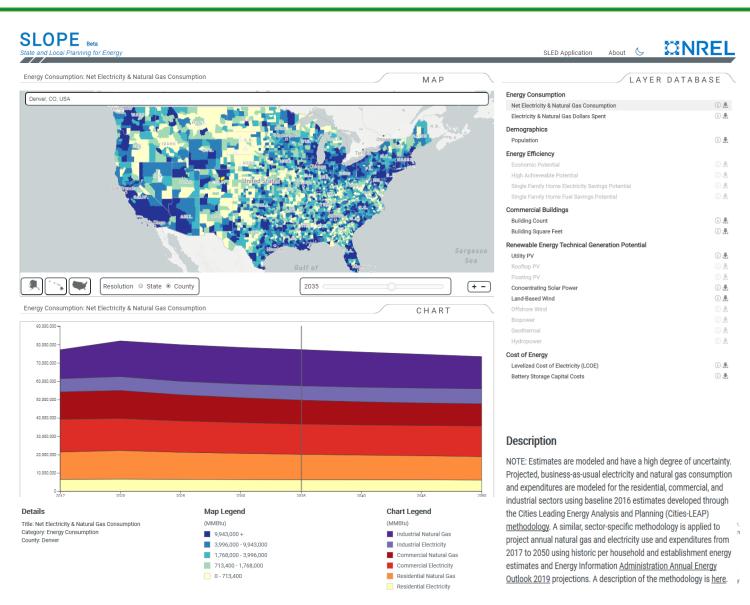


State and Local Planning for Energy (SLOPE) Platform

A DOE-led collaboration across 8 EERE technology offices and NREL to create a *dynamic, comprehensive energy planning platform* of integrated, localized data for state and local decision makers

- Phase I: Includes electricity and natural gas consumption, projected population, energy efficiency potential, renewable energy technical generation potential, and levelized cost of energy (Beta launched Jan. 2020)
- Phase II: Adding transportation and generation mix data; enabling user-saved settings (under development in 2020)

Access the Platform: https://gds.nrel.gov/slope Comments or Questions? slope@nrel.gov



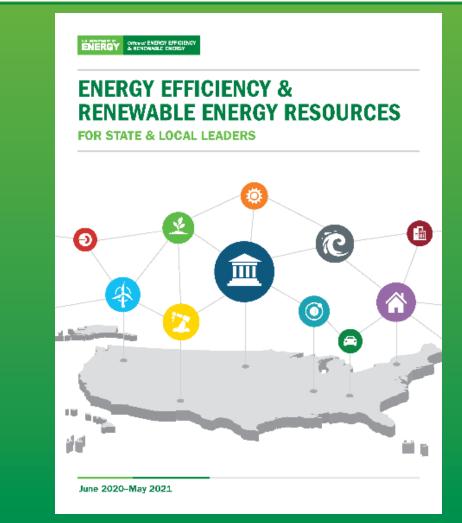
Stay Connected

State and Local Solution Center

- More than 400 tools,
 resources, and best practices
- State and Local Spotlight
 - Monthly newsletter with
 ~32,000 subscribers

Subscribe: http://energy.gov/eere/slsc

Contact WIP: stateandlocal@ee.doe.gov



https://www.energy.gov/eere/slsc/downloads/ energy-efficiency-and-renewable-energyresources-state-and-local-leaders-june

Clean Energy for Low-Income Communities Accelerator (CELICA) Toolkit

- Product of Better Buildings Initiative and 2year partnership with over 30 stakeholders from public, private, and non-profit sectors
- CELICA partners successfully leveraged resources to commit up to \$335 million to help 155,000 low income households access energy efficiency and renewable energy benefits, and demonstrated promising program models
- Types of resources in CELICA Toolkit:
 - Case Studies/Promising Practices
 - Issue Briefs
 - Data Tools
 - Templates

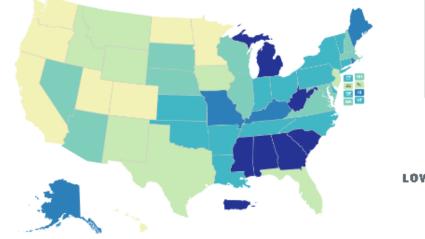
CELICA Toolkit: https://betterbuildingssolutioncenter.energy.gov/CELICA-Toolkit



Low-Income Energy Affordability Data (LEAD) Tool

- Goal: Help communities make data-driven decisions by improving understanding of lowand moderate-income household and energy characteristics
- A web-based interactive tool with national, state, city, census tract level maps, and data for all 50 states plus PR and DC
- Since its launch (Summer 2019) over 4,000 users, including:
 - National Grid utility (NY)
 - State of Kentucky
 - Texas Energy Poverty Institute







U.S. DEPARTMENT OF ENERGY

LEAD Tool: https://www.energy.gov/eere/slsc/maps/lead-tool