

U.S. DEPARTMENT OF  
**ENERGY**

Office of  
**ENERGY EFFICIENCY &  
RENEWABLE ENERGY**

# Weatherization and Intergovernmental Programs Office Update

2018 NASEO Annual Meeting  
Detroit, MI

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# Today's Topics

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- **WIP Mission**
- **WIP Budget**
- **State Energy Program**
- **Partnerships & Technical Assistance Resources**
- **Strategic & Interagency Initiatives**

# WIP Mission

- WIP is part of EERE's national energy strategy to create greater energy affordability, security and resiliency.
- WIP's mission is to 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.



# WIP Budget Summary

Breakdown	FY 2016 Enacted	FY 2017 Request	FY 2017 Omnibus	FY18 Omnibus	FY19 Minibus
State Energy Program	\$50M	\$70M	\$50M	\$55M	\$55M
Weatherization Assistance Program	\$215M	\$230M	\$228M	\$251M	\$257M
Total, Weatherization and Intergovernmental	\$265M	\$300M	\$278M	\$306M	\$312M

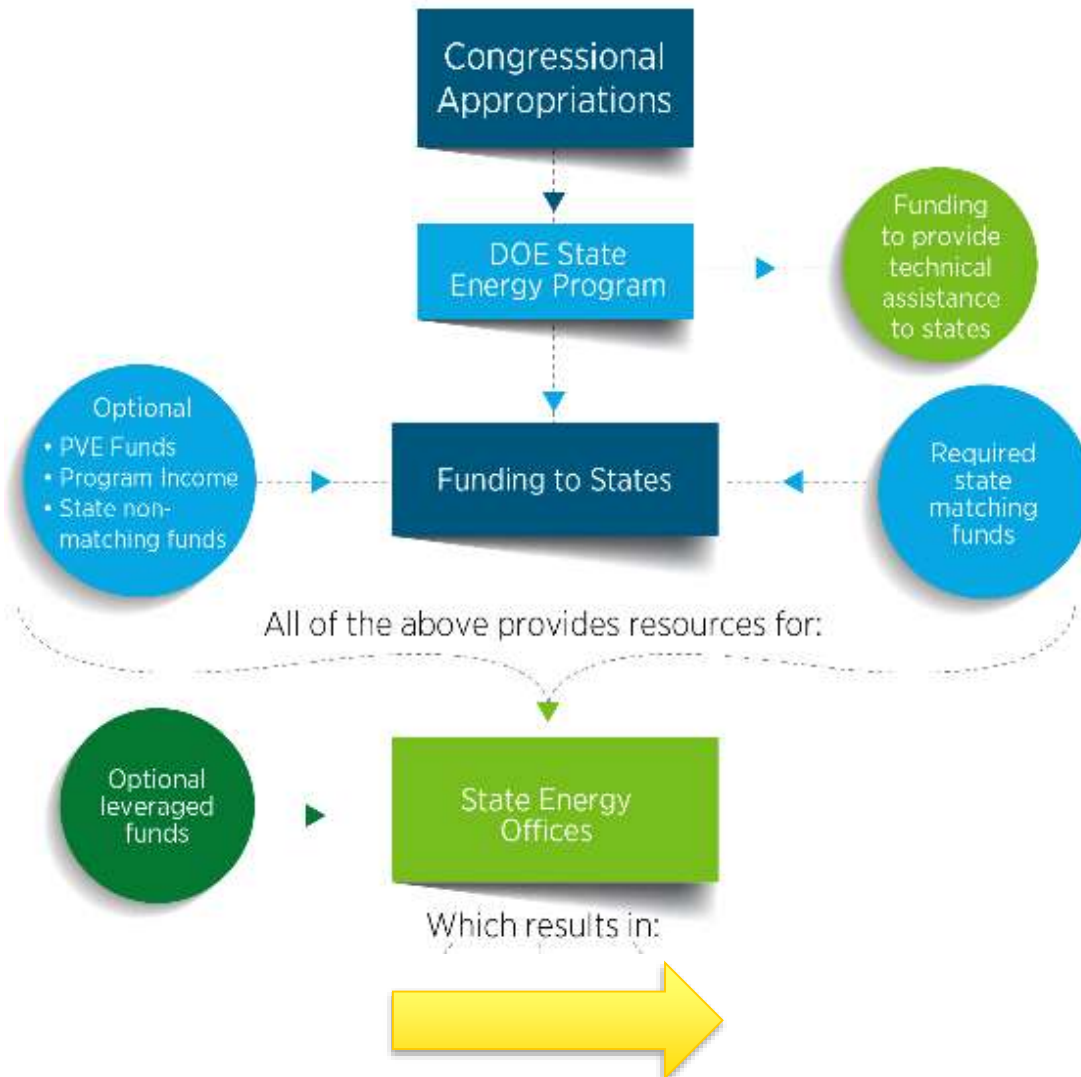
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# **State Energy Program (SEP)**



# SEP Outcome and Benefits

SEP FUNDING AND RESULTS DIAGRAM



- ✓ Reduced energy waste in **20,000 buildings** (125 million square feet)
- ✓ **60,000 renewable energy systems** installed
- ✓ **2,000,000 people** educated in energy efficiency and energy audits
- ✓ **ESPCs** executed for public facility retrofits
- ✓ **Coordination with utilities** to implement complementary efficiency programs
- ✓ **Innovative pilot projects** with the private sector, K-12 schools and universities
- ✓ **Implementation models** for replicable programs that achieve energy efficiency savings

# SEP 2018 Funding

- **FY 2018 Formula Grants**

- **FY18 Grant Guidance and Administrative Legal Requirements Document (ALRD) based on FY17 allocations released on February 7, 2018.**
- **Issued ALRD in near record time in 2018!**
- **Revised ALRD issued June 26, 2018, with FY18 allocations based on \$49M.**



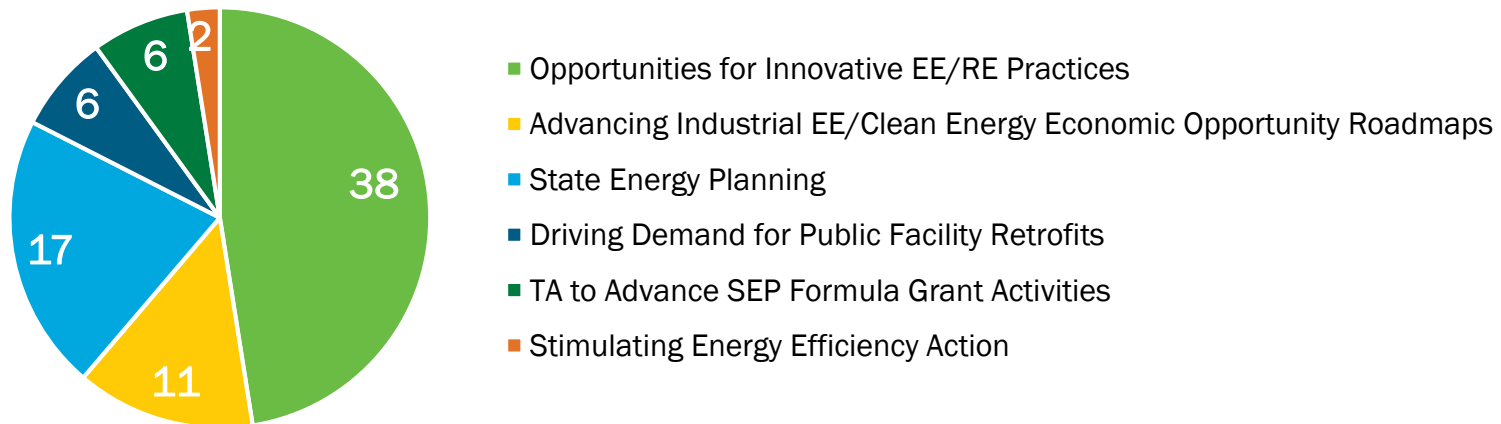
# SEP Competitive Awards (2013-2017)

Since 2013, 38 states received SEP Competitive Awards totaling nearly \$24.5 million

## Examples of Impact:

- ✓ Hawaii is utilizing its award to create visualizations to assist decision makers and the public in understanding the dynamics of the interrelated energy systems (e.g. electricity, water, natural gas).
- ✓ Minnesota, Tennessee, Nebraska, and New Hampshire have identified energy savings for water and wastewater treatment facilities. Based on audits and benchmarking data, facilities have upgraded lighting and pumps and conducted CHP and solar screenings. The states also shared best practices and lessons learned.
- ✓ Michigan worked with Ohio to develop a Regional Roadmap that assessed market opportunities for energy efficiency (EE) services, including manufacturing process to support technology clusters for advanced lighting, energy storage, power electronics, HVAC, and building automation.

## Number of Competitive Awards by Topic Area (2013-2017)





# 2017 Competitive Award Topics

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The FY17 opportunity had three Areas of Interest: (1) State Energy Planning; (2) Innovative Opportunities for Energy Efficiency and Renewable Energy Practices that Improve Energy Affordability, Reliability and Resiliency; and (3) Technical Assistance to Advance SEP Formula Grant EE/RE Activities.

## Project selections include the following topics:

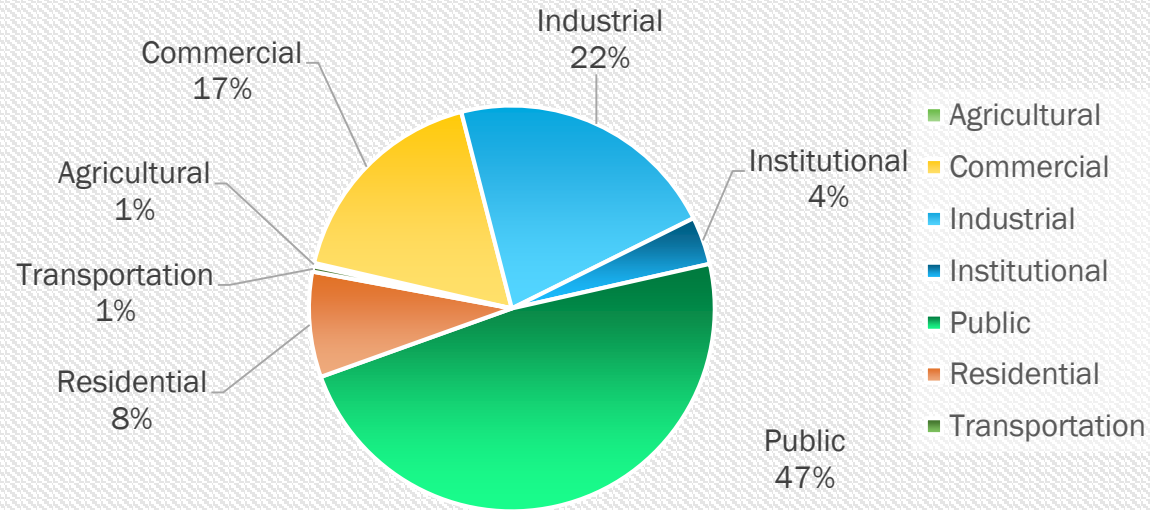
- Energy efficiency financing
- Energy resilience roadmaps
- Advancing energy affordability in rural communities
- State and local collaboration on energy-saving technologies
- Strategic electrification
- Thermal heating and cooling

# Status of SEP National Revolving Loan Funds

## STATISTICS:

- ❑ \$690M in ARRA funding has been budgeted to 40 state-run financing programs
- ❑ \$602M of available funds for RLF programs.
- ❑ 115% of available RLF funds have been loaned out to date.

## Loan Recipient Sector, by loan value



Sector breakout of loans :	RLF Loans Given (#)	RLF Loans Given (\$)	Loans Fully Repaid (#)	Loans Fully Repaid (\$)
Agricultural	34	1,810,998	20	779,497
Commercial	298	116,228,810	86	24,545,903
Industrial	126	144,835,706	48	52,303,850
Institutional	24	25,492,512	5	774,335
Public	1,073	321,170,394	184	25,963,251
Residential	3,479	56,070,462	1,530	15,742,303
Transportation	2	2,817,430	1	2,334,430
<b>Total</b>	<b>5,036</b>	<b>668.4M</b>	<b>1,874</b>	<b>122.4M</b>

# Recently Published SEP Implementation Models!

U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

State Energy Program

IMPLEMENTATION MODEL: KENTUCKY

COMBINED HEAT AND POWER (CHP)

Kentucky's significant potential for combined heat and power (CHP) has remained untapped despite its energy-intensive manufacturing economy. Kentucky saw increased industrial energy efficiency through deployment of CHP as a way to reduce energy bills, protect jobs, and spur economic growth.

In 2014, Kentucky's Department of Energy Development and Independence (DEDI) launched a stakeholder engagement initiative to explore policy, regulatory, and market barriers that deter industry and facility owners and operators (end-users) from achieving the economic, energy reliability and other benefits of investments in CHP. With support from a State Energy Program (SEP) competitive award from the U.S. Department of Energy (DOE), Kentucky developed an Action Plan to stimulate the market for CHP project development throughout the state.

Goal

IMPROVE INDUSTRIAL ENERGY EFFICIENCY

Drive demand for CHP systems to improve industrial energy efficiency in public sector, industrial, and commercial facilities in Kentucky.

Barrier

LACK OF INFORMATION

Facility owners lack information on CHP technology, the benefits it can provide, and the regional market opportunities in Kentucky.

Solution



DEDI undertook a targeted stakeholder engagement process to highlight prime locations for the deployment of CHP.

Outcome



Through the stakeholder engagement process, DEDI developed an Action Plan that provides specific recommendations for future activities and actions to promote CHP in Kentucky. DEDI's stakeholder engagement efforts ultimately helped four industrial and public candidates take a crucial step in the complex CHP installation process. The four candidates pursued prequalification screenings, without which future CHP deployment could not occur.

## Kentucky's 2014 SEP-C Award: Stakeholder Engagement Initiative for CHP

Just Google "SEP Competitive" to find other IMs:



# Please Share Your Success Stories!

Office of Energy Efficiency & Renewable Energy

## Expanded Electric Vehicle Access in the American West

MARCH 5, 2018



## EERE Success Story—Utah Launched Greenpower Electric Car Challenge to Engage Students in STEM

SEPTEMBER 7, 2018



Office of Energy Efficiency & Renewable Energy

## Minnesota Increasing Building Efficiency with Proven ESPC Model

JANUARY 4, 2017

## EERE Success Story—Low-Cost, High Yield with Automated Building Monitoring in Alaska

JULY 3, 2018



# NEW! Guide for Incorporating EE into State Plans

- Describes 10 steps commonly taken by SEOs to add energy efficiency (EE) into state energy plans.
- Provides examples from 21 states on how energy planning has been used by SEOs to enhance EE projects.
- Summarizes DOE research on EE potential in each state.
- Provides links to reports and other DOE resources to help states looking to further low-cost EE options through state planning processes.
- [Guide](#) is located on the State and Local Solution Center.

**A Guide for Incorporating Energy Efficiency in State Energy Plans**

**INTRODUCTION**

**About this Guide**  
This guide, written for states, describes ten steps that are commonly incorporated into state energy plans. For each step, the guide provides tips and examples from state energy plans to help states support data-driven energy planning that can enhance energy efficiency. The guide is designed to inform state efforts; it is not meant to be a comprehensive review of how to conduct energy planning.<sup>1</sup>

**State Planning and Energy Efficiency**  
Implementing energy efficiency measures and technologies has significant potential for energy and cost savings.<sup>2</sup> The U.S. Department of Energy (DOE) estimates that energy efficiency improvements could cost-effectively save consumers and businesses approximately 741,000 gigawatt-hours of electricity between 2016 and 2035, which is equal to 16% of baseline retail sales in the United States in 2035. At the state level, those range from 12% to 21% of retail electricity sales. The map below shows the percent of electricity savings potential by state in 2035.<sup>3</sup>

States use energy planning to set strategic goals, develop programs, and measure progress toward a shared vision of a desired energy future.<sup>4</sup> The two most cited goals of the forty states with energy plans as of 2017 are to: 1) ensure a reliable supply of energy and 2) manage costs so energy is affordable for



**Total Economic Electricity Savings Potential (2035) as Percent of Projected Adjusted Baseline Sales by State**

12-15% 16-18% 19-21% 22-25%

<sup>1</sup> For a comprehensive guide to state energy planning, see: Kate Marks and Julia Friedman, *State Energy Planning Guidelines: A Guide to Develop a Comprehensive State Energy Plan Plus Supplemental Policy and Program Options* (National Association of State Energy Officials, 2014).

<sup>2</sup> Energy efficiency is the reduction of energy use while maintaining the same level of service. Energy efficiency is often coordinated with energy conservation, which focuses on using less energy, or with demand-response programs that seek to lower the use of energy at specific times of the day or year when high energy demand may adversely affect system reliability.

<sup>3</sup> Source: Electric Power Research Institute (EPRI), 2017, *State-Level Electric Energy Efficiency Potential Estimates*.

<sup>4</sup> While this guide is focused on energy-savings opportunities in residential, commercial and industrial sectors, it is important for state energy office officials to understand the significant energy impact of the transportation sector. It is expected that technological advancements (i.e., the evolution and adoption of electric vehicles) will result in increased electricity consumption, but decreased energy use (or increased "energy productivity") overall. The so-called transportation-energy nexus is likely to impact state planning, policy and regulatory frameworks.

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# Available Now: SEP Quarterly Update

Tailored to SEO staff and consists of new resources and helpful tools, reminders of upcoming events, recaps of recent activities and state showcased successes!



Hot Topics



Announcements



Tools & Resources



State Showcase



Dear State Energy Offices,

Summer has arrived! The days are longer and for most of us, our HVAC systems are working overtime! Here in WIP, we've been busy – keep an eye out for updated reporting guidance, and of course the FY17 SEP Competitive selections. We also have a couple of summer interns who are helping us put together some new resources for you all. We hope you have a great rest of your summer and look forward to seeing you at any number of upcoming events, which you can learn about in this edition. I'll be at the Better Buildings Summit in Cleveland next month and hope to see you there!

Amy Kidd  
State Energy Program Team Lead  
Weatherization and Intergovernmental Programs  
Office of Energy Efficiency and Renewable Energy  
U.S. Department of Energy

# SEP Peer Exchange Webinar Series

## Webinars based on State requests and interest:

**C-PACE** - 27 state attendees. Outcome: P&TA C-PACE Working Group for state and local governments was developed using direct feedback from SEO participants.

**Energy Assurance and Resiliency** - 25 state attendees. Outcome: Follow up resources provided along with one-on-one discussions on use of SEP Formula funding to support planning efforts.

**SEP 2018 Formula Funded Activities** - 45 state attendees including Guam. Outcome: Potential for smaller group discussions and/or working groups on specific topics (K-12, for example) forthcoming.

**Maximizing The Impact of Revolving Loan Funds** - 25 states attended. Outcome: Wide-ranging discussion focused on repurposing ARRA loans, drivers and barriers.

**Plans for Additional FY18 Funding** - 25 states attended. Outcome: Two small group calls (Electric Vehicles & Energy Assurance Plan) were organized at the request of states who attended.

- Launched August 2017 in response to States' request for SEP peer networking opportunities.
- Webinars are kicked-off and moderated by a representative from a State or Territory working in the SEP Formula space.
- Opportunities for follow up – smaller group discussions - offered after each webinar.

# SEO Training

## By the numbers:

- ✓ 90+ attendees and speakers
- ✓ 45 states attended
- ✓ SEP staff and NASEO

## Topics discussed included:

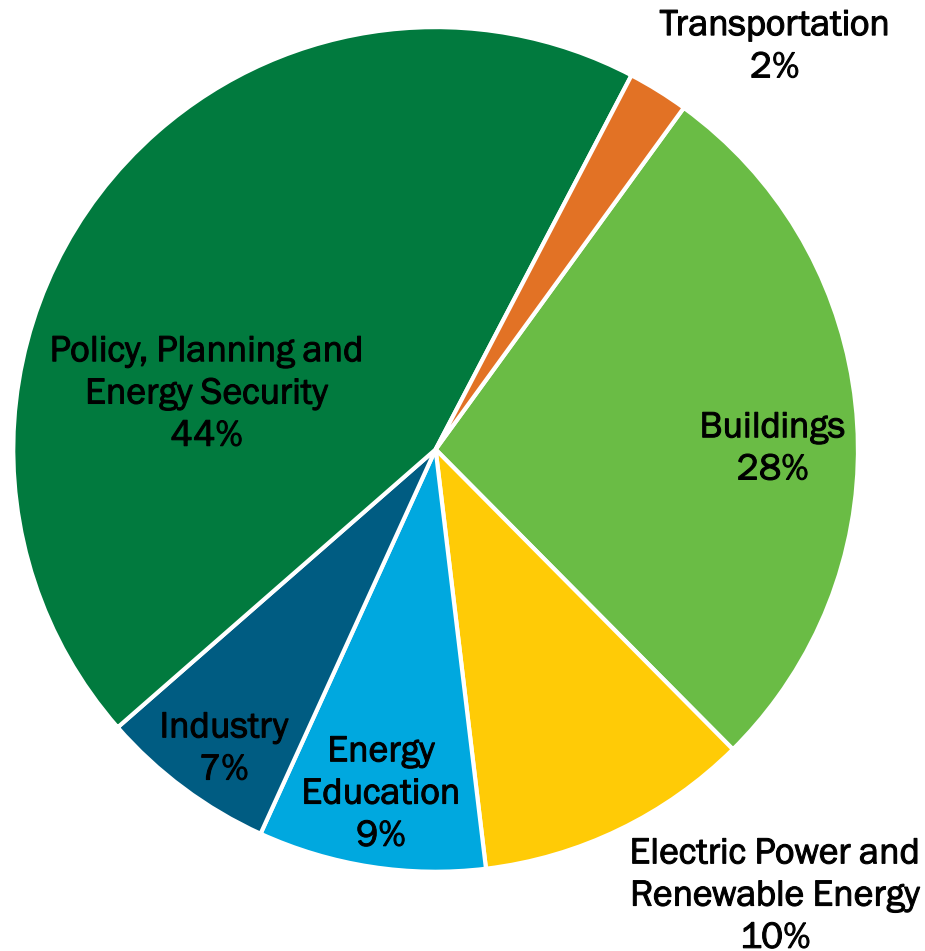
- ✓ Energy emergency/resilience
- ✓ State energy planning
- ✓ ESPCs
- ✓ PAGE/Quarterly Reporting
- ✓ Federal Regulations
- ✓ NEPA and PVE Fund
- ✓ Operations and Procurement
- ✓ Financing Programs





# FY17 SEP Formula Market Titles

## Formula Allocations PY17



# Partnerships & Technical Assistance (P&TA)



Develop an  
Energy Plan



Design and  
Implement  
Energy  
Programs



Pay for Energy  
Initiatives



Access and  
Use Energy  
Data

# Partnerships & Technical Assistance (P&TA) Team

The Partnerships and Technical Assistance (P&TA) Team cultivates diverse partnerships, provides technical assistance and assists states, local governments, and K-12 schools to help them:



## Develop an Energy Plan

- Local Energy Planning
- State Energy Planning



## Design and Implement Energy Programs

- Low-Income Communities
- Wastewater Infrastructure
- Outdoor Lighting
- Energy Efficiency for K-12 Schools
- Public-Private Partnerships



## Pay for Energy Infrastructure

- EE Finance 101
- ESPCs, PACE, RLFs



## Access and Use Energy Data

- Benchmarking
- Data Disclosure & Transparency
- Evaluation, Measurement, & Verification (EM&V)

**Current Strategies:** P&TA serves as the nexus of states, local governments, and K-12 schools to catalyze lead-by-example programs by...

- Developing tools and solutions to barriers facing state and local government utilization of efficiency and renewable energy;
- Convening and creating peer exchanges to showcase public-sector leadership and effective public-private partnerships; and
- Providing information from leading technical experts.

**Resulting Benefits:** P&TA supports the energy priorities of states, local governments, and K-12 schools to...

- Save taxpayer dollars and make full use of domestic energy resources;
- Boost economic development and job creation;
- Cut energy waste;
- Improve energy independence and security; and
- Further develop energy infrastructure.

# Current Initiatives, Resources, & Best Practices

## Current Initiatives:

*Sustainable Wastewater  
Infrastructure of the  
Future (SWIFt) Accelerator*

*Commercial and Residential Property  
Assessed Clean Energy (C-PACE & R-PACE)  
Working Groups*

*Better Buildings Challenge (BBC) Public Sector Savings*



DOLLARS SAVED  
**\$668 MILLION**



ENERGY SAVED  
**69 TRILLION BTUS**



WATER SAVED  
**2.4 BILLION GALLONS**

## New Resources:

- [Energy Data Management Manual for the Wastewater Treatment Sector](#)
- [C-PACE: An Overview for State and Local Governments](#)
- [Lessons in Commercial PACE Leadership: The Path from Legislation to Launch](#)
- [Leveraging Weatherization Assistance Program Funds for Greater Impact](#)
- [States, Local Governments, and K-12 Schools: Better Buildings Champions](#)

## Coming Soon:

- [Energy Data Management Guide](#)
- Rural Resources Webpage
- Energy Efficiency and Renewable Energy Best Practices for Rural K-12 Energy Managers and Educators

# Topic Highlight: ESPC Resources

## ESPC Toolkit:

- **Considering ESPC**
  - ESPC or Design-Bid-Build for Your Retrofit?
  - ESPC: Improving Infrastructure & Turning Waste into Wins
- **Implementing ESPC**
  - ESPC Virtual Technical Assistant
  - eProject Builder (ePB)
- **Establishing ESPC**
  - ESPC Networking Toolkit
  - ESPC Champions Toolkit
- **Expanding ESPC**
  - ESPC Guide for the Wastewater Sector
- **Assessing ESPC Results**
  - FEMP's M&V Guidelines 4.0



**For ESPC materials visit:**  
<http://betterbuildingsolutioncenter.energy.gov/espc/home>

## Coming Soon (in partnership with NASEO):

- Business case for robust ESPC measurement and verification (M&V)
- Key strategies and replicable models for measuring and verifying savings
- State models for funding technical assistance on public-sector projects

# 2018 Energy Exchange and Better Buildings Summit

Held August 21-23<sup>rd</sup>, 2018 in Cleveland, Ohio

- Highlights included:
  - Over 200 panel sessions and technical trainings – including a state and local track
  - Peer-to-peer discussions
  - Ask-an-Expert Lounge
- Over 3,000 attendees (participants and speakers)
  - Over 130 total public sector attendees
    - 50+ State governments
    - 60+ Local governments
    - 10+ K-12 schools
- DOE provided travel assistance for over 70 public sector attendees; including 20 State participants.

**For Summit materials visit:**  
<http://www.2018energyexchange.com>



# State and Local Outreach

## State and Local Solution Center

- More than 400 tools, resources, and best practices for states, local governments, and K-12 schools as they plan for and implement energy projects.

- ✓ 8,000+ visits per month
- ✓ PACE most popular/viewed topic!
- ✓ 24% increase in visitors from 2016

## State and Local Spotlight

- Monthly update with ~16,000 subscribers.

**Subscribe:**

<http://energy.gov/eere/slsc>

**Contact Us:**

[stateandlocal@ee.doe.gov](mailto:stateandlocal@ee.doe.gov)

## New Popular Tools and Resources Page!

### WIP Projects Map

Browse summaries of state-led projects and programs and technical assistance resources in the WIP Office's interactive, state-by-state map.

### Low-Income Energy Affordability Data (LEAD) Tool

Low-income households represent 44% of all U.S. households and spend an average 8% of income on

### State Energy Program Competitive Implementation Models

State implementation models serve as guides for other states that wish to launch programs achieving energy efficiency

### State-by-State Energy Efficiency

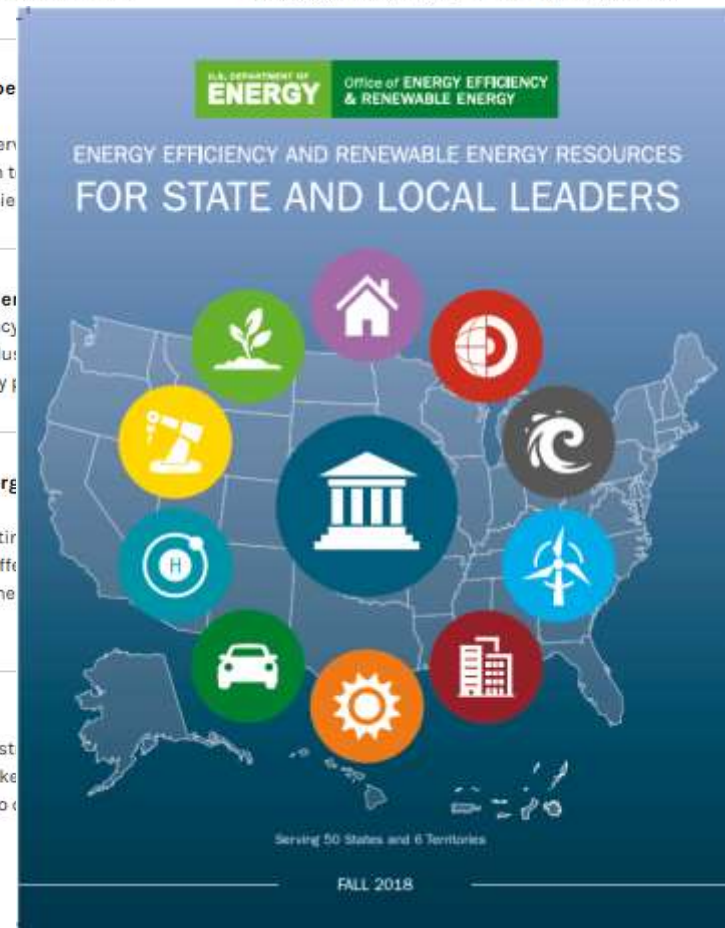
Shows economic energy-efficiency data for residential, commercial, and industrial sectors, plus a catalog of state and utility programs

### Guide for Incorporating Energy Efficiency into State Energy Plans

Provides guidance for incorporating energy efficiency into state plans and offers examples at each stage in the energy planning process.

### ESPC Toolkit

DOE worked with 25 partners to streamline the ESPC process, empower the market, and resolve individual barriers to creating ESPCs.



# Strategic & Interagency Initiatives Team (SI2)





# Strategic & Interagency Initiatives Team

## Purpose

Lead inter-organizational initiatives and provide deep technical assistance to help state and local leaders develop solutions for underserved communities, increasing access to energy efficiency and renewable energy choices that improve energy affordability for all communities.

## Scope



### Initiatives that Promote Energy Affordability for All

- Through the Clean Energy for Low Income Communities Accelerator (CELICA), support implementation of locally-designed, cost effective and replicable energy efficiency and renewable energy solutions for low income communities, including development of tools and information and assistance to state and local partners facing barriers.



### Rural and Remote Community Energy Strategies

- Advance cost effective energy efficiency solutions in remote communities in Alaska via the Remote Alaska Communities Energy Efficiency Competition (RACEE).



### Interagency Collaborative Leadership

- Convene multiple federal agencies to align program practices and promote promising energy solutions for low income and moderate income households.

# Clean Energy for Low Income Communities (CELICA): Outcomes

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

for:



Single Family

Example: **State of Connecticut** and CT Green Bank's bundled energy efficiency and solar program has been so successful that solar PV systems are owned by households in low income communities as much as those in non-low-income areas.



Multifamily Affordable

Example: **District of Columbia** is incentivizing building owners to serve 100,000 low income households with 240-300MW solar PV.



Low Income Community Solar

Example: **State of Michigan** Energy Office's low income community solar program partnered with utilities to deliver \$350/yr in additional savings for participating, previously weatherized, low income households.

# CELICA: Energy Affordability for All Online Toolkit

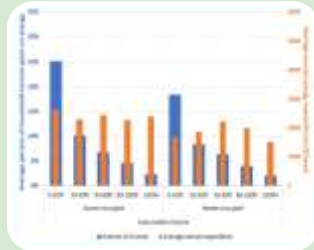
(Coming in Fall/Winter 2018)



## Program Development Guides

Energy Affordability for All Program Guide

Stakeholder Engagement Guide



## Data Driven Decision-making

Primer on Using Metrics in Low Income Energy Programs

LEAD Tool



## Solar + EE

Multifamily Affordable Solar Overview and Implementation Profiles

Renewable Energy Preparation and Assessment Chart for Weatherization Assistance Program (WAP) Projects



## EE Financing

On-Bill Finance Brief



## EE + Health

Overview of Promising State Strategies to Address Health and Safety Issues as Part of Energy Efficiency Programs

## Low-income Energy Affordability Data (LEAD) Tool

### Current Features

- Households broken down by area median income limits
- Energy burden as percentage of income spent on energy and average monthly energy expenditures
- Housing characteristics: tenure (owner vs renter), year of construction, building type (# of units), and primary heating fuel type.

### Future Features

- Move from excel spreadsheet format to a dedicated DOE website (Spring 2019)
- Ability to compare state/city/county profiles
- Ability to section out and compare different characteristics under each profile
- Updated 2016 5-year American Community Survey data, approximate electric utility boundaries to the geographic tool coverage, and Federal Poverty Level

# Remote Alaska Community EE Competition

## Phase 1 - Community Pledges

- 64 remote Alaskan communities and native Alaska villages pledged to reduce energy use 15% (per capita) by 2020, and gain access to a peer network.

## Phase 2 - Technical Assistance

- Technical Assistance: 13 communities received technical assistance from AEA and AK providers to gather baseline energy data and develop plans to implement energy efficiency improvements.

## Phase 3 - FOA

- Funding Opportunity Announcement: 7 communities, competitively selected for cooperative agreements, are implementing energy efficiency projects (to 2020).

**QUESTIONS?**

**THANK YOU!**



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