

U.S. DEPARTMENT OF  
**ENERGY**

Office of  
**ENERGY EFFICIENCY &  
RENEWABLE ENERGY**

# U.S. State Energy Program and WIP Technical Assistance

2019 NASEO Annual Meeting  
*Manhattan Beach, California*

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# Today's Topics

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WIP Mission

WIP Budget

State Energy Program

Technical Assistance Resources

# WIP Mission



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.

## RESULTS:



Saving  
taxpayer  
dollars



Making full use  
of domestic  
energy  
resources



Cutting  
energy  
waste



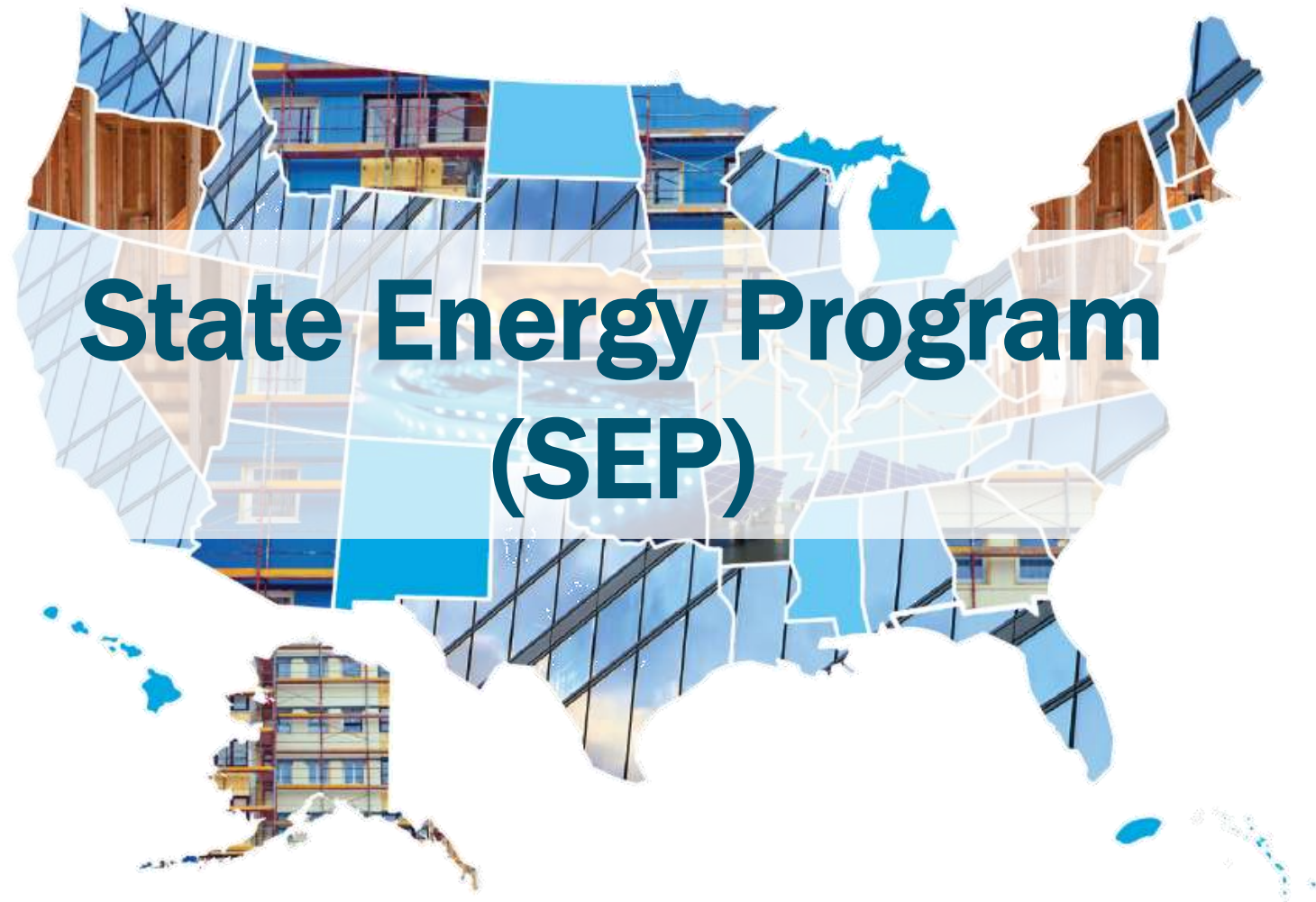
Improving  
energy  
independence  
and security



Furthering the  
development of  
energy  
infrastructure

# WIP Budget Summary

<b>Breakdown</b>	<b>FY 2017 Enacted</b>	<b>FY 2018 Enacted</b>	<b>FY 2019 Enacted</b>
State Energy Program	\$50M	\$55M	\$55M
Weatherization Assistance Program	\$225M	\$248M	\$257M
Total, Weatherization and Intergovernmental Programs	\$275M	\$303M	\$312M



# State Energy Program (SEP)

# SEP Mission

- SEP provides funding and technical assistance to 56 states, territories, and the District of Columbia to:
  - enhance energy security,
  - advance state-led energy initiatives, and
  - maximize the benefits of increasing energy efficiency.

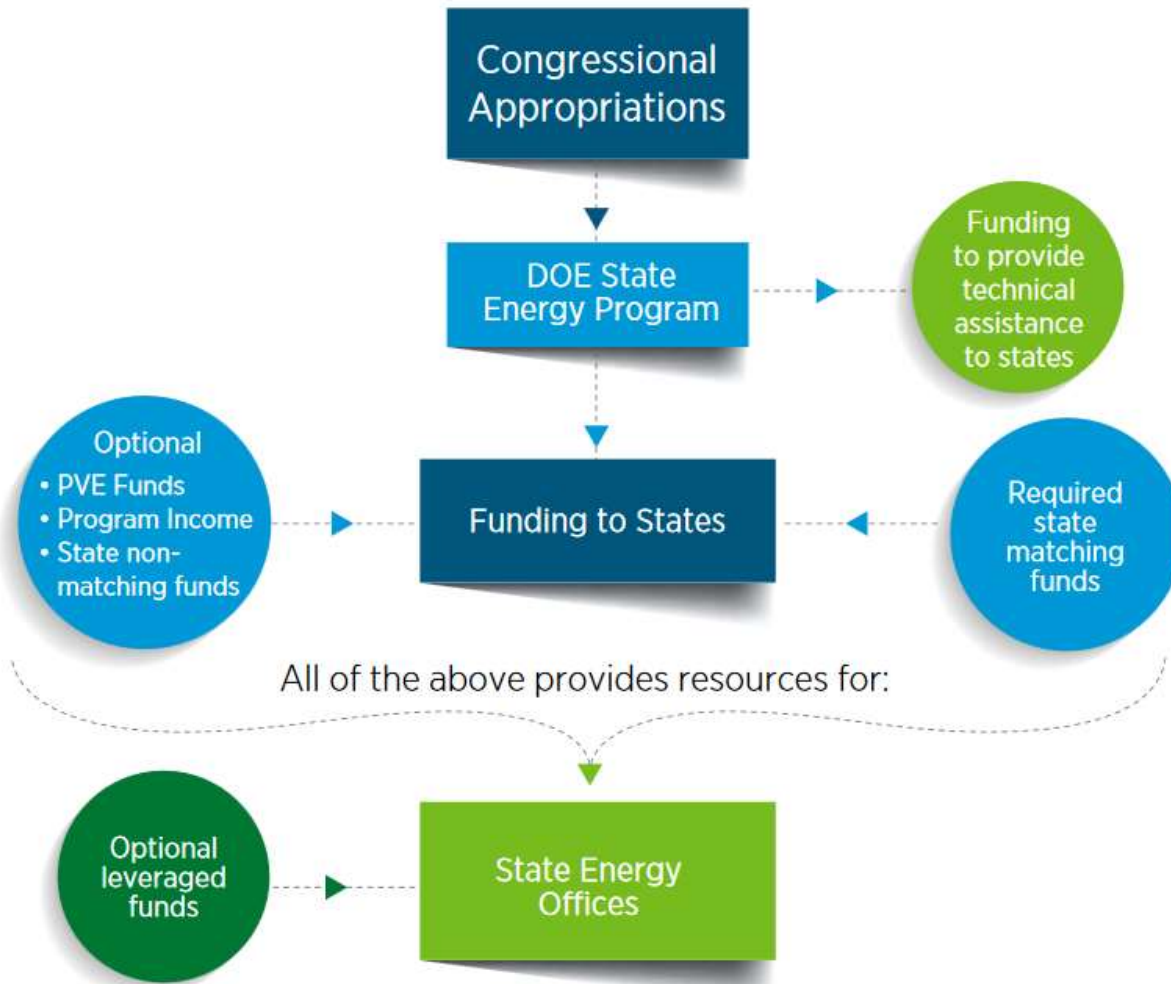
SEP creates jobs

- 1 job created per \$2500 invested
  - *Example: Texas Clean Energy Incubators*

SEP is cost effective

- \$4.50 saved per \$1 invested
  - *Example: Illinois Wastewater Treatment Facility Program*

# SEP Outcome and Benefits



Data reported by states in PAGE between January 2017–June 2019:

- ✓ Increased energy savings in **22,000 buildings** (61 million square feet)
- ✓ **24,000 renewable energy systems** installed
- ✓ **600,000 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 2019 Formula Funding Progress

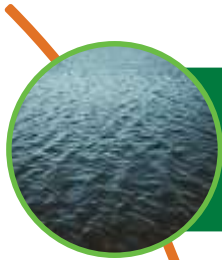
- **FY 2019 Formula Grant Progress**

- Awarded all 42 July 1<sup>st</sup> state awards on time
- One September 1<sup>st</sup> state awarded on time
- 10 October 1<sup>st</sup> states awarded to date





# SEP Formula Funding Highlights



CA: Water Conservation Measures



TN: Energy Education



NY: Clean Energy Industry Report



WI: Emergency and Resiliency Planning

# Recently Published SEP Implementation Models!

NC, WA, and MN coming soon!

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**State Energy Program**

**IMPLEMENTATION MODEL: RHODE ISLAND**

**RHODE ISLAND PUBLIC ENERGY PARTNERSHIP**

Rhode Island's state energy office, the Office of Energy Resources (OER), is tasked with promoting energy of the public sector. While administering projects funded through the American Recovery and Reinvestment Act, OER gained greater awareness of the challenges facing public entities as they worked to lower operating costs in energy budgets. Some municipalities and schools used Energy Efficiency and Conservation Block Grants (EEEC) Energy Program (SEP) funds to implement relatively minor projects, leaving many opportunities for deeper cost savings by the philosophy that if it's not measured, it can't be managed. OER launched the Rhode Island Partnership (RIPER) with the support of a U.S. Department of Energy State Energy Program Competitive Award.

**Goal** **20% ENERGY SAVINGS IN 100 PUBLIC FACILITIES**

To empower public entities to make smart energy decisions to achieve an average of 20% energy savings in at least 100 public facilities, to include state and local government, universities and K-12 public school facilities.

**Barrier** **PUBLIC SECTOR DATA**

Lack of public sector data infrastructure to measure energy consumption, prioritize projects, and track savings.

**Solution**

The state established the RIPER, an unprecedented collaboration of key state agencies, municipal governments, utilities, and state university partners, whose mission was to create a comprehensive inventory of energy performance data for state and local public sector buildings that would be used to identify and prioritize energy efficiency upgrade projects. RIPER was also charged with implementing energy efficiency measures and helping to identify and mitigate barriers to further public sector efficiency improvements.

**Outcome**

Rhode Island officials were able to use the energy use of facilities in order to prioritize energy efficiency projects. The RIPER team implemented 100 energy efficiency projects with savings of 20%. The team exceeded the goal of 123 energy efficiency projects in three years with average savings of 28.6% per project or 43.3% overall.

**WEATHERIZATION AND INTERGOVERNMENTAL PROGRAMS OFFICE**

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**State Energy Program**

**IMPLEMENTATION MODEL: MASSACHUSETTS 2012 STATE ENERGY PROGRAM COMPETITIVE AWARD**

**SAPHIRE PROGRAM**

Energy use in public housing and public schools is critical to meeting state energy savings goals, but these traditionally been underserved. Many public housing and public school buildings depend on heating oil, or pellets or another renewable source would significantly lower energy costs and air pollutant emissions. Efforts to reduce energy use in this sector have been hindered by a lack of access to low-interest financing and capital for energy efficiency and renewable energy upgrade projects. To overcome these challenges, Massachusetts created the SAPHIRE technical assistance and financing program for energy efficiency improvements and renewable thermal energy in public housing and public schools with financial support from a 2012 U.S. Department of Energy State Energy Program Competitive Award. Projects facilitated by SAPHIRE will result in estimated cost savings of nearly \$600,000.

**Goal** **Greenhouse Gas EMISSION REDUCTION**

**↓25% BY 2020**

Achieve a greenhouse gas (GHG) emission reduction of 25% by 2020, from a 1990 baseline, as well as an 80% reduction by 2050.

**Barrier** **Public Housing LACK ACCESS TO CAPITAL AND LOW-INTEREST FINANCING**

Public housing developments and public schools face challenges in accessing capital and low-interest financing for energy efficiency and renewable energy upgrade projects.

**Solution**

Massachusetts Department of Energy Resources (DOER) created the Schools and Public Housing Integrating Renewables and Efficiency (SAPHIRE) Program to provide technical assistance and funding to public housing developments and public schools to perform energy efficiency and renewable thermal projects.

**Outcome**

The SAPHIRE Program resulted in energy efficiency and renewable thermal projects in seven public housing sites and 14 multifamily public housing sites. These projects are expected to yield nearly \$600,000 in energy savings annually. SAPHIRE projects were expected to result in energy savings of up to 85%.

**WEATHERIZATION AND INTERGOVERNMENTAL PROGRAMS OFFICE**

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**State Energy Program**

**IMPLEMENTATION MODEL: IOWA**

**ADVANCING ENERGY EFFICIENCY THROUGH THE IOWA BENCHMARKING PROJECT**

The Iowa Energy Center (IEC) launched the Iowa Public Building Benchmarking Project in 2010 to collect building energy data in order to prioritize and catalyze public sector energy efficiency improvements by illustrating how buildings were operating and highlighting opportunities to reduce energy waste. The Project featured an online database of utility consumption in public buildings and identified \$1.9 million in potential energy cost savings in its first phase. eager to build upon the early success of the Project, Iowa targeted and recruited building managers from the public sector to add 502 buildings to the database with financial support from a 2012 U.S. Department of Energy State Energy Program Competitive Award.

**Goal** **ENERGY CONSUMPTION IN PUBLIC BUILDINGS**

**↓20% BY 2020**

Achieve a 20 percent decrease in energy consumption in public buildings by 2020, based on a 2009 baseline.

**Barrier** **INCOMPLETE DATA ON PUBLIC BUILDINGS**

Decisions on energy efficiency improvements are difficult to prioritize across a large statewide public buildings portfolio when there is incomplete data on public buildings.

**Solution**

Engage public facility owners and utilities to expand the Iowa Public Building Benchmarking Project (Project), and use the Project's web-based benchmarking tool as the basis for energy efficiency project decisions in public buildings.

**Outcome**

Iowa added 502 buildings to its benchmarking database, exceeding the project goal by almost 15 percent and nearly doubling the number of public sector buildings enrolled. Project enrollment increased from 1,234 to 2,176 buildings, representing over 40 percent of the estimated total public building portfolio, including city, county, K-12 public school, higher education, and state buildings. The benchmarking tool identified a potential 1,090,398 million BTU in energy savings, representing \$14,375,177 of annual energy cost savings. Seven of the organizations participating in the program for at least one year realized an average energy use reduction of 4.8% annually. Iowa will continue to use this robust data set and analysis to prioritize and accelerate energy efficiency upgrades in Iowa's public buildings, moving the state closer to its energy goals.

**WEATHERIZATION AND INTERGOVERNMENTAL PROGRAMS OFFICE**

# Orientation & Training Module for New SEP Staff

You will find six training modules covering the following introductory topics:

## #1 Overview and History of the State Energy Program

- SEP Program Overview
- Where Did We Come From – SEP's Origins
- Major Milestones in SEP's History
- What We Have Achieved Together Since 2017



## #2 Understanding the Budget Process

- Federal Budget Process
- Where Funding Comes From and Where It Goes
- The “Formula” In the Formula Grant
- SEP Awards, Funding, and Application

## #3 Roles & Responsibilities

- SEP and the State Energy Offices (SEOs)
- Roles and Responsibilities: Overview
- Roles and Responsibilities: More Detail



# Orientation & Training Module for New SEP Staff

## #4 The Must-Knows of Utilizing My SEP Funding

- Hierarchy of Federal Rules and Your State’s Laws, Regulations, and Procurement Practices
- What is Mandatory, Optional, Prohibited, and Unallowable
- Link to Regulations for My Award

## #5 Peer Sharing & Best Practices

- SEP Peer Exchange Webinar Series
- What Other States Have Done: Implementation Models & Road Maps
- Success Stories
- WIP Project Map
- SEP Quarterly Update

## #6 Your “Go-to” Resources for SEP

- SEP Operations Manual
- State and Local Solution Center
- EERE Resources for State and Local Leaders
- Program Guidance by Year
- Policy and Technical Needs Support
- FAQs



# SEP Market Title Project - Update

**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 in coordination with NASEO and DOE.
- Reporting system (i.e., PAGE) last updated 10 years ago.
- Ensure that growing policies and programs in such areas as **Energy Security** and **Workforce Development** are captured and successes shared.
- Team continues to develop and refine the naming convention and organization while utilizing to the extent possible the existing reporting structure/data fields.
- Will not affect your PY19 awards.
- Launch date TBD.



# SEP National Training Forum

- **By the numbers:**
  - ✓ **75 non-DOE attendees**
  - ✓ 40 states represented
  - ✓ 4 territories + Washington D.C.
- **Topics discussed included:**
  - Federal regulations
  - Allowable use of SEP funds
  - Strategic planning for formula funds
  - Administrative best practices
  - Program design
  - Reporting guidance
  - Stakeholder engagement
- **Successful peer exchange**



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# 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 public-sector leadership and effective public-private partnerships
3. Provides information from leading **TECHNICAL EXPERTS**

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



Develop  
an Energy  
Plan



Design and  
Implement  
Energy Programs



Pay for  
Energy  
Infrastructure

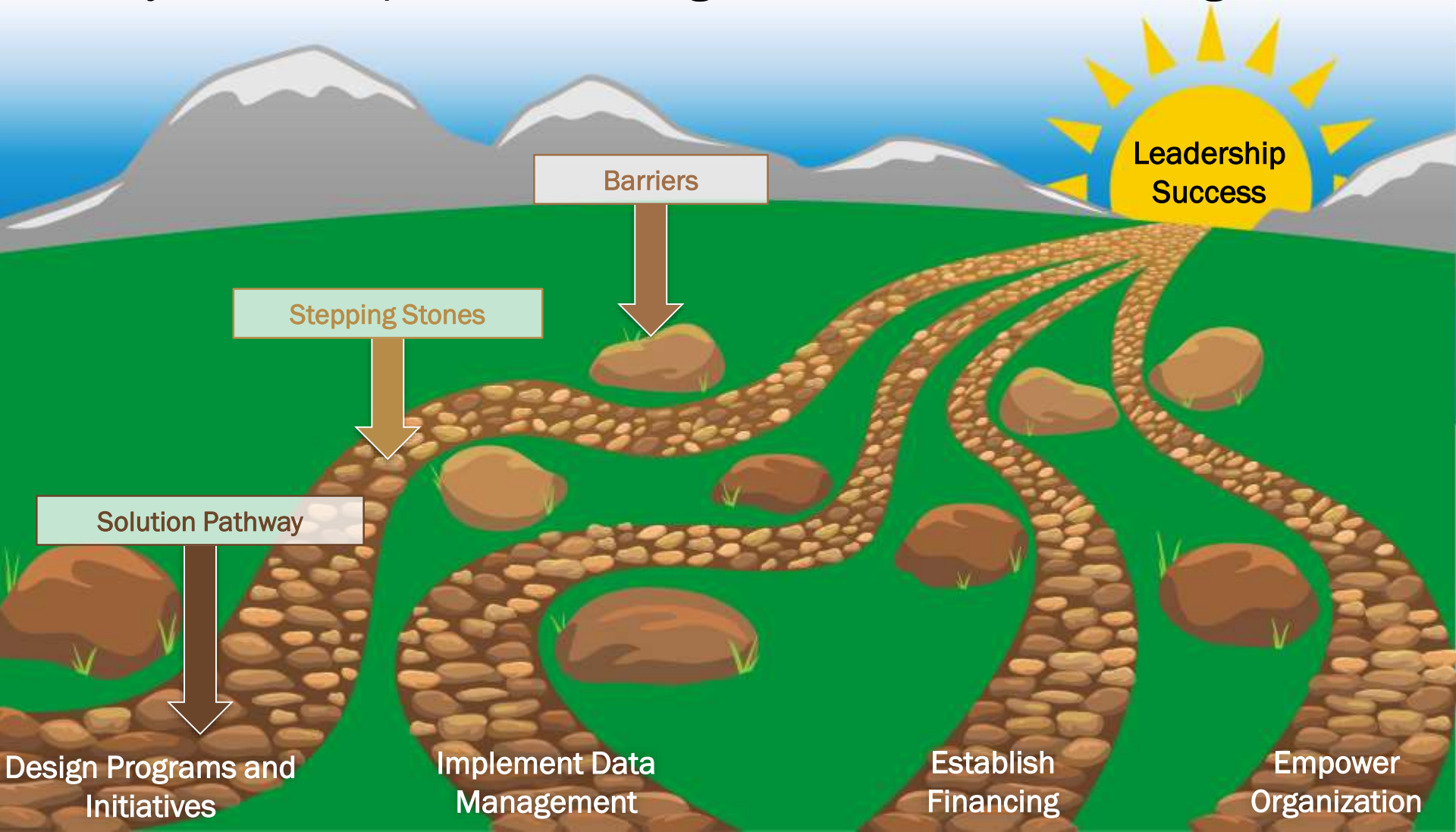


Access and  
Use Energy  
Data



# Energy Efficiency Leadership Framework

Thank you to those that provided valuable feedback at our July Leadership Event and August SEP National Training Forum!



# Resilience



Photo Credit: Gerald Herbert/AP; <https://bit.ly/2kydffz>

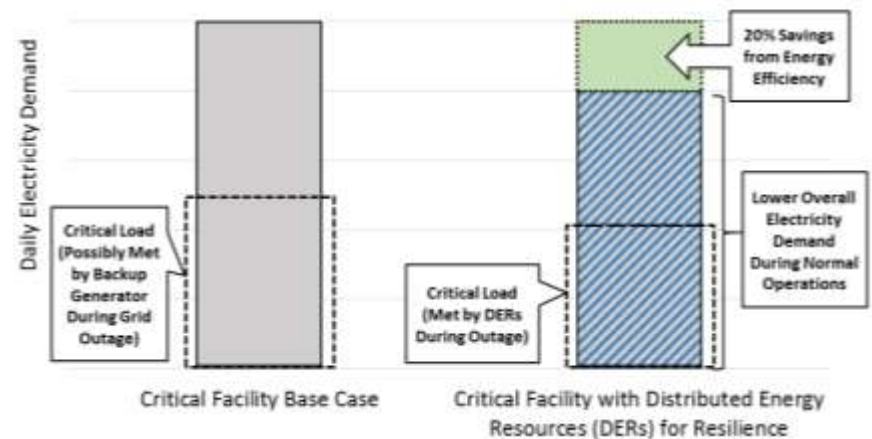
In 2017, the U.S. experienced natural disasters\* that cost more than **\$300 billion in damages** and led to longer and more frequent disruptions in power

\*Droughts, floods, freezes, hurricanes, and wildfires  
Source: National Oceanic and Atmospheric Administration

## Resilience Resources

- Fact Sheet: [EE and Distributed Generation for Resilience](#)
- Analysis Guide: Assessing How DERs Can Improve Resilience in Public Buildings
  - Case studies
  - Step-by-step instructions to perform analysis

Distributed Energy Resources for Resilience:  
Before and After DER Investment



# Energy Savings Performance Contracting (ESPC)

## ESPC Measurement and Verification (M&V) Resources

- [The Business Case for Conducting M&V](#)
- [Strategies for Successful M&V](#)
- [Understanding Your Guarantee](#)



## Additional ESPC Resources

- [NASEO-ESC-NAESCO State GESPC Principles](#)
- Sector-specific ESPC guides



K-12 School Districts



Fleets & Fueling



Wastewater

Available now!

Coming Soon!



Small Projects



Hospitals



Multifamily



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

**Goal:** Stimulate a **\$60M** investment in C-PACE among Partners in the Working Group **by 2022**

**Status:** Partners have closed **~\$11M** in C-PACE financed projects since **March 2018**



## C-PACE Resources

- [C-PACE Working Group: Year in Review](#)
- [C-PACE Financing and the Special Assessment Process](#)
- [Lessons in C-PACE Leadership: The Path from Legislation to Launch](#)
- [Toolkit: C-PACE Financing for Resiliency](#)

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BERKELEY LAB  
June 2019

**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.

**Key findings from this issue brief include:**  
To date, defaults and tax foreclosures happen very rarely, but delinquencies do occur.

Workers install an efficient lighting system in a new state judicial building.

# Sustainable Wastewater Infrastructure of the Future (SWIFt) Accelerator

**70+** facilities in **23** states working to achieve  
**30% energy savings**



Based on partner data through 2017

Available  
Early  
2020!

## Wastewater Energy Management Toolkit

- [Energy Data Management Manual](#)
- [Low- and No-Cost Measures Checklist](#)
- [23 Measure Planning Workbooks](#)
- [Guide to Energy Savings Performance Contracting](#)
- Financing Comparison Matrix

# Clean Energy for Low Income Communities Toolkit

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

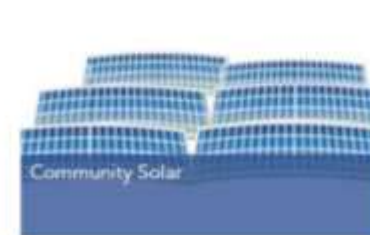
## CELICA PROGRAM DEVELOPMENT ACTIVITIES

Program development refers to the planning and implementation actions program administrators take to create and manage a program.



## CELICA PROGRAM MODELS

Program model refers to the defining features of a program, such as target market, key product and service attributes, terms and conditions, resource flows and benefits.

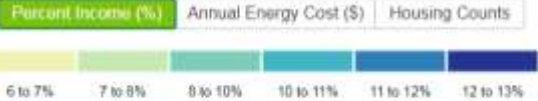


Types of Resources in the CELICA Toolkit:  
Case Studies, Promising Practices, Issue Briefs, Data Tools, and Templates

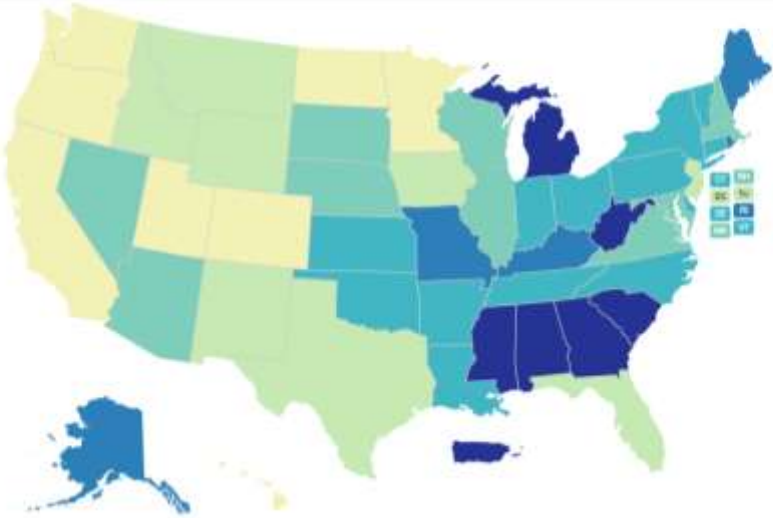
# Low-income Energy Affordability Data (LEAD) Tool

Goal: Help stakeholders make data-driven decisions on energy goals and program planning by improving their understanding of low income and moderate income household energy characteristics.

### Energy Burden (% income) for the United States

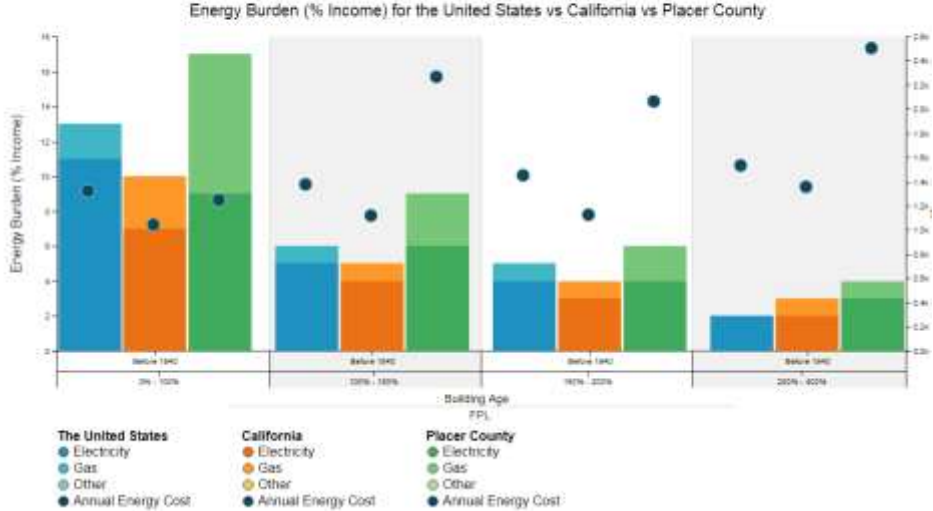


United States  
Click any state to view counties, census tracts, and cities.



### Charts

Primary Dimension	Secondary Dimension	Left Axis	Right Axis
Federal Poverty Level	Building Age	Energy Burden (% Income)	Annual Energy Cost



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

LEAD Tool Tutorial:  
<https://www.youtube.com/watch?v=i9D5XBK6aKE>

# State and Local Planning for Energy (SLOPE) Platform

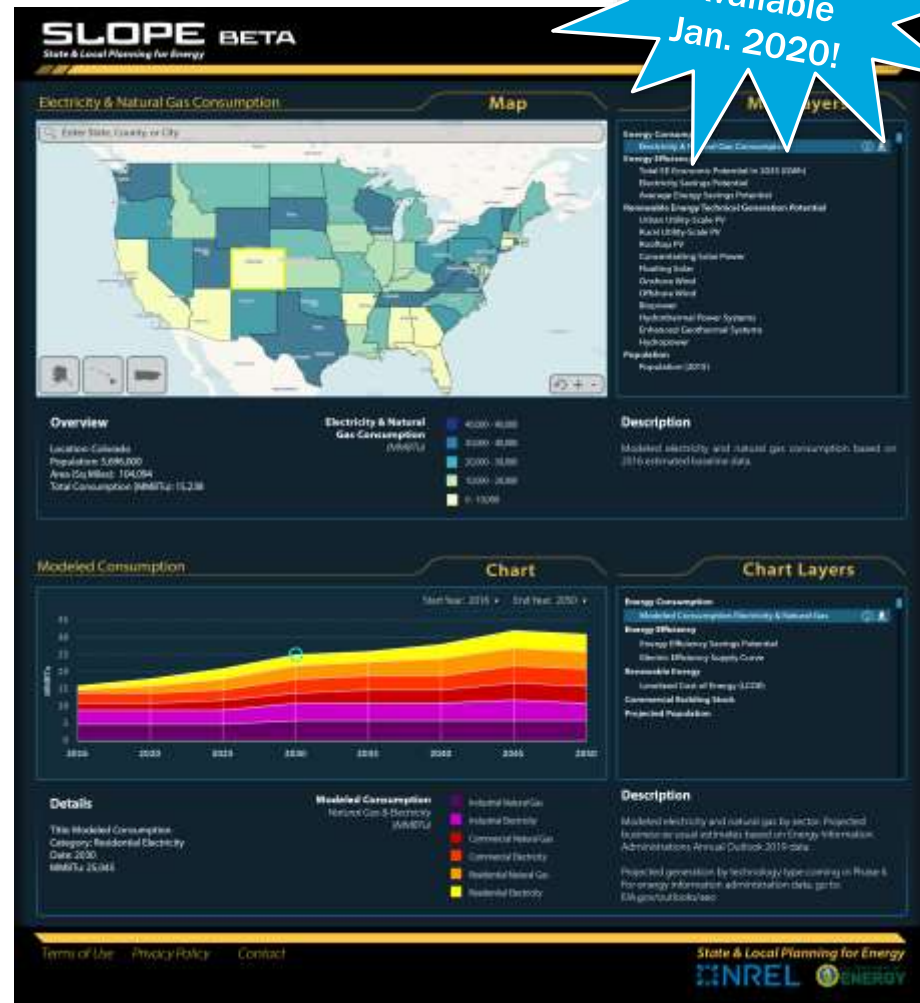
A platform for **state- and locally-specific** comprehensive energy planning data in the areas of **energy efficiency, renewable energy, and sustainable transportation**

**Phase I:  
Available  
Jan. 2020!**

## Capabilities

- Enables “apples-to-apples” comparisons of adjustable energy futures with inputs from variety of data points, such as:
  - Electricity and natural gas consumption
  - Renewable energy generation potential
  - Levelized cost of energy (LCOE)
  - Projected population
- **Phase 1:** Projection data available (Jan. 2020)
- **Phase 2:** Integrated, granular platform with adjustable settings and transportation and generation mix data (begins 2020)

Phase I: Mock up





# Energy Data Management Guide

Take control of your energy data in seven steps!

Get Started

Available  
Dec. 2019!

Access the guide's:

- Proven strategies with demonstrated, portfolio-wide energy savings
- Data management tools and resources
- Customizable templates and worksheets
- Relevant examples and case studies

**2.4%** is the average annual energy savings for buildings that benchmark. Over 10 years, this results in **cumulative energy savings of >20%**.

Source: ENERGY STAR, EPA

## Step-by-Step Process

You're only seven steps away from taking control of your energy data.

### Generate Buy-in

- 1 Define the Merits of Tracking Energy Data
- 2 Align with Organizational Goals

### Build a Solid Foundation

- 3 Create a Central Database
- 4 Streamline Access to Data
- 5 Leverage Data Management Tools

### Hardwire Energy Management

- 6 Optimize the Organizational Structure
- 7 Drive Engagement and Communicate Results

For more information, check out the [Energy Data Management Guide Fact Sheet](#).

# Stay Connected

- State and Local Solution Center
  - 500+ public-sector tools, resources, and best practices
- State and Local Spotlight
  - Monthly newsletter with 33,000+ subscribers
- Better Buildings Solution Center
  - Partner solutions that can spur energy efficiency investments

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