## 2017 PROSPECTUS

### Introduction

This prospectus describes NEEP's core strategies in 2017, and the projects that will deliver regional progress to that end — including the project's objective (desired outcome) and its associated products and services (planned outputs).

As we continue to implement our planned projects for 2017, your input – and your support – are critical to making these projects come to life. We welcome your feedback and the opportunity to discuss how our strategies and projects can support your organizations' vision and goals for the coming year and beyond.



**NEEP's Mission**: to accelerate energy efficiency as an essential part of demand-side solutions that enable a sustainable regional energy system.



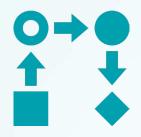
**Our Vision:** that the region embraces next generation energy efficiency as a core strategy to meet energy needs in a carbon-constrained world.



**Our Shared Goal:** to assist the Northeast/Mid-Atlantic Region in reducing total carbon emissions 80% by 2050 (relative to 2001).

NEEP's Unique Value: 20 years of scanning the horizon for the next best thing in policies and programs; deep technical expertise in buildings, products, state policymaking and EM&V; relationships spanning government, utilities and energy service providers; and a regional approach that delivers cost-effective results for our sponsors and partners, enabling them to stretch their resources further.

## CORE STRATEGIES



#### Facilitate Market Transformation for Advanced Solutions

Help to transform markets with advanced energy efficiency technologies and solutions through public policy, research and collaboration, and publicprivate partnerships that deliver regional-scale impacts.



#### **Promote Resilient, High Performance Buildings & Communities** Provide guidance and technical assistance to support the development of resilient, healthy, high-performance and zero energy buildings and

of resilient, healthy, high-performance and zero energy buildings and communities at the local and state level.



#### Share Best Practices to Advance Strategic Electrification & Next Generation Energy Efficiency

Support the region's move to strategic electrification of buildings and transportation – backing out of carbon-based fuels, and pairing deep energy efficiency with distributed renewable power, energy storage and demand response.

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#### Advanced Efficiency Leadership Network

A regional center for learning and sharing best practices and a dashboard of state and local progress on energy efficiency and integrated clean energy solutions. Bringing together thought leaders on policy, programs and market-based solutions, the AELN is working to drive progress towards an energy-efficient, resilient, and accessible low-carbon economy.

## PROJECT PORTFOLIO

### Market Transformation for Advanced Solutions



**Northeast Industrial Strategic Energy Management Initiative (SEM) - p.8** Supporting best practices to optimize industrial productivity and efficient, sustainable energy performance



Home Energy Management Systems (HEMS) - p.9 Empowering consumers and driving deep savings through information and controls



**Emerging Commercial Sector Business Models for Efficiency - p.10** New solutions to harness efficiency and demand response in commercial building equipment



**Emerging Advanced Efficiency Solutions Connector - p.11** Accelerating emerging technologies in partnership with the U.S. Department of Energy



**Regional EM&V Forum (EM&V 2.0 Focus) - p.12** Advancing EM&V transparency, standardization, and new approaches to assess efficiency and demand response impacts and value



**State and Federal Appliance Efficiency Standards - p.14** Supporting equipment standards that lock in energy savings made possible from regional market transformation activities

### **High Performance Buildings & Communities**



**High Performance & Zero Energy Buildings, Homes & Communities - p.16** Best practice guidance, peer exchange and technical assistance for resilient, energy efficient, low-carbon communities



Building Energy Codes - p.18 Helping states and communities save energy through best practices in energy code adoption and compliance



Home Energy Labeling Information Exchange (HELIX) - p.20 Making the energy efficiency of homes visible and understood at time-ofsale or rental



**Building Energy Rating and Disclosure - p.21** Creating market value for energy efficient homes and buildings by making their energy performance visible and understood

### Strategic Electrification & Next Generation Energy Efficiency



**Regional Strategic Electrification Assessment - p.24** Regional trends, opportunities and strategies to advance efficient electric technologies to reduce regional reliance on carbon-intensive fuels



Cold Climate Air Source Heat Pumps (ccASHPs) - p.25 Advancing the #1 technology to decarbonize home and building energy use



Market Transformation for Electric Vehicles - p.27 State and municipal best practices and regional coordination to accelerate electric vehicle adoption

### **Advanced Efficiency Leadership Network**



#### **Regional Energy Efficiency Database (REED) - p.29** A shared repository to compare state efficiency program investments and savings



**State and Local Policy Tracking, Analysis and Technical Assistance - p.30** Reports, analysis and technical assistance for policymakers and others



Following are Project Briefs for each of the projects that support NEEP's strategies for 2017. For more information on a project or to get involved, please contact the project lead listed.

Thank you – our work is not possible without your support and engagement.

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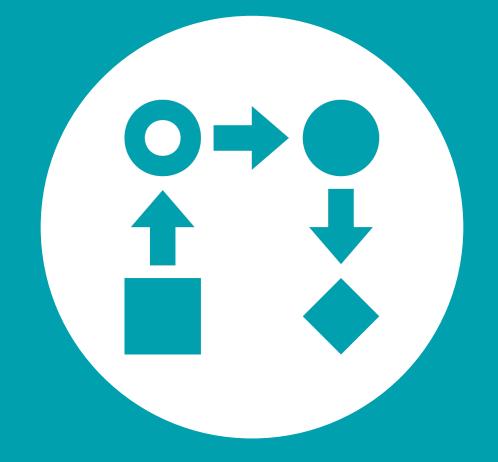
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## Market Transformation for Advanced Solutions

## Northeast Industrial Strategic Energy Management Initiative

Supporting best practices to optimize industrial productivity and efficient, sustainable energy performance

**Industrial Energy Efficiency** is an important but challenging element of energy efficiency program portfolios across the region. To assist states, program administrators and businesses to achieve and maintain systemwide energy, peak demand and carbon savings in industrial processes, NEEP will continue its regional initiative to accelerate market adoption and use of Strategic Energy Management (SEM) as a core business practice to optimize productivity as well as efficient, sustainable energy performance.

## Guided by NEEP's 2016 Regional Industrial Market and Strategies to Accelerate Energy Efficiency, our 2017 objectives include:

- Actively engage the Northeast Regional SEM Working Group of leading state energy offices, efficiency program administrators, manufacturers and distributors, and service providers with U.S. Department of Energy and its national laboratories for best practice peer exchange and learning, and to guide our work;
- Disseminate a broad suite of resources including NEEP's 2016 best practice guide regarding cost-effectiveness analyses and EM&V for Strategic Energy Management in support of its broader incorporation into ratepayer-funded energy efficiency programs;
- Assess the potential opportunity for Strategic Energy Management to help communities achieve thirty percent savings or more in municipal water & wastewater treatment facilities;
- Gauge the region's progress in using Strategic Energy Management to achieve industrial energy, peak demand and carbon savings by tracking market analyses, program activities and policy trends across the region; and,
- Increase impacts through strategic coordination with relevant regional and national partners including U.S. DOE, the SEE Action Network, CEE, ENERGY STAR®, and U.S. DOE's Industrial Assessment Centers.

#### All products and services are subject to funding.



#### **PRODUCTS & SERVICES**

#### STAKEHOLDER ENGAGEMENT

Northeast Industrial SEM Working Group (quarterly meetings / webinars and materials)

#### TECHNICAL ASSISTANCE

Best practices for SEM inclusion in energy efficiency and peak demand reduction programs

#### MARKET ASSESSMENT REPORT

SEM to achieve comprehensive savings in municipal wastewater treatment facilities

#### **PROGRESS REPORT**

Regional use of SEM to achieve energy, peak demand and carbon emission savings

#### WORKSHOP

Regional Industrial Strategic Energy Management Best Practices Workshop

#### **RESOURCES & TOOLS**

Web-based Best Practices Regional Resource Center



NEEP's Long-term Goal: Assisting the Northeast/Mid-Atlantic region to reduce total carbon emissions by 80% by 2050 (Relative to 2001 levels). Visit us online at **neep.org** 



For more information about this project or to get involved, please contact: **David Lis**, Project Lead: **djlis@neep.org** 



## Home Energy Mangement Systems (HEMS)

*Empowering consumers and driving deep savings through information and controls* 

**Home Energy Management Systems (HEMS)** are new and evolving technologies with a range of energy efficiency potential, including optimizing home energy savings, optimizing distributed energy resources, optimizing home interaction with the grid (through time-of-use pricing, load shifting, demand response), and can also be used to drive residential home retrofits, thus resulting in deeper home energy saving. NEEP has served as a regional and national convener and subject matter expert as states and program administrators work to create coordinated, thoughtful plans for how to harness the power of HEMS, with the long-term market transformation goal that at least 50 percent of all homes in the Northeast and Mid-Atlantic region have at least two major systems that are "energy smart" (e.g., HVAC, water heating, plug loads) by 2030.

## Guided by NEEP's 2016 Home Energy Management Systems Regional Market Transformation Strategy, our planned 2017 Products & Services include:

- **Stakeholder engagement:** Since 2014, NEEP has been convening the HEMS Working Group along with the Home Performance Coalition. This working group is the primary mechanism for HEMS stakeholders, including leading state energy offices, efficiency program administrators, manufacturers, retailers, service providers, federal agencies, and national laboratories to coordinate and implement regional market strategies, best practice peer exchange and learning, and to guide our work;
- **Advancing Regional Strategies:** Guided by the strategies set forth in our 2016 report, NEEP plans to embark on three primary activities:
  - a. HEMS to Advance Home Performance While explored in our 2016 report, in 2017 NEEP plans to develop two HEMS in Home Performance Concept Briefs that extrapolate the early ideas in the 2016 report, including how program administrators can take advantage of HEMS' user interface to send messages of home performance and how contractors can leverage HEMS to improve their business. Additionally, NEEP plans to develop marketing guidance for HEMS and Home Performance bundled services, participate with the Smart Home track at the Home Performance Coalition National Conference, and host a contractor training on the smart energy home. Additional contractor training sessions will be available to state partners supporting this project.
  - b. HEMS Technology and Efficiency Program Development To support the advancement of HEMS technology as energy efficiency and demand-side program resource, NEEP will: engage and share information with organizations that have efforts in the smart water heating space; analyze and comment on ENERGY STAR's connected product proposals, updating NEEP's online HEMS product list; and work with program administrators to help move smart products into ratepayer-funded programs. This includes developing program design guidance for smart thermostats. NEEP will also monitor relevant public policy development, and provide technical support or comments.



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For more information about this project or to get involved, please contact: Claire Miziolek, Project Lead: cmiziolek@neep.org







**c. HEMS Technology Market Research and Outreach** – NEEP will continue to research and advance conversations throughout the smart home world to advance HEMS as energy efficiency tools and resources. This includes engaging HEMS service providers and security companies, outreach to companies leading the voice control market, and developing guidance materials for program administrators to advance the smart energy home.

#### **PRODUCTS & SERVICES**

#### **STAKEHOLDER ENGAGEMENT & STRATEGIC PARTNERSHIPS**

- Bi-Monthly meetings of HEMS Working Group
- · Targeted industry outreach to align products and services with energy efficiency programs
- Industry-Efficiency Program Roundtable
- Quarterly HEMS Newsletter

• Partners including: ENERGY STAR Program, Home Performance Coalition, Natural Resources Defense Council, Natural Renewable Energy Lab, and the Center for Energy and Environment

#### **WORKSHOPS / WEBINARS**

- Smart Energy Homes Market Transformation Workshop
- · Presentations at regional and national conferences
- Topical Webinars

#### **GUIDANCE & TECHNICAL ASSISTANCE**

- Concept Briefs: Home Performance Concept Briefs
- Guidance Documents:
  - Smart Thermostat Program Design
  - Marketing Guidance for HEMS and Home Performance Bundled Services
- Contractor Training Smart Energy Home
- · Coordinated comments on relevant draft ENERGY STAR products and program resources
- Invited comments on relevant program and policy proposals

#### **TRACKING & ANALYSIS**

- · Web-based HEMS resource center at www.neep.org with links to reports, blogs, and resources
- Product List: Bi-Annual Updates to NEEP's HEMS Technology Assessment
- HEMS-related Public Policy Tracking

#### Pending sufficient funding and interest, NEEP will expand the 2017 HEMS Initiative to add a Smart Water Heater Market Transformation Project

Smart/Connected Water Heater Market Transformation: NEEP will prepare a market transformation report to accelerate market adoption of high efficiency smart/connected water heaters. Guided by a Leadership Advisory Committee of experts, i.e., leading manufacturers, program administrators, and other key market actors, NEEP will lead market characterization research, identify major barriers to widespread adoption, and prepare a multi-year market transformation strategy to overcome barriers and hasten production and adoption of smart water heaters. NEEP will work to publicize and promote the findings as well as continue to build partnerships and develop resources to implement the recommended strategies.



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## Emerging Commercial Sector Business Models for Efficiency

*New solutions to harness efficiency and demand response in commercial buildings* 

**Emerging Commercial Sector Business Models** such as Equipment as a Service (EaaS), offer new solutions through third-party ownership models and leasing arrangements that have the potential to more fully realize the vast market potential for energy efficiency. These models can drive efficiency program participation and promote adoption of new advanced high-efficiency commercial building systems. Informed by NEEP's final report on Northeast and Mid-Atlantic High Performance Rooftop Unit Market Transformation Strategy Report, NEEP will collaborate with our partners to conduct a regional pilot.

#### 2017 objectives include:

- Convene regional stakeholders including efficiency program administrators, states, industry representatives and efficiency experts in a Commercial Sector Business Models Working Group.
- Guided by the working group, NEEP will produce an assessment report on emerging commercial sector business models for energy efficiency. The report will include research findings and recommendations for how regional stakeholders can most effectively support and/or engage with these new business models.

All products and services are subject to funding.



#### **PRODUCTS & SERVICES**

#### STAKEHOLDER ENGAGEMENT

Emerging Commercial Sector Business Models Advisory Committee

#### ASSESSMENT REPORT

Emerging Commercial Sector Business models for energy efficiency

#### SOLICITATION

To attract and support new commercial sector business models



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For more information about this project or to get involved, please contact: **David Lis**, Project Lead: **djlis@neep.org** 



## Regional Emerging Technology Connector

Building a regional infrastructure to effectively identify and demonstrate emerging technologies in partnership with the U.S. Department of Energy

**The Regional Emerging Technology Connector** is a new partnership with the U.S. Department of Energy (U.S. DOE) to accelerate and reduce the up-front costs of bringing new and advanced efficiency solutions to the residential and commercial sectors. The Connector will facilitate research and other efforts to develop, introduce and scale-up solutions for the region to achieve savings in energy use, peak demand and carbon emissions. This project will clarify current regional capacities and initiatives for new and emerging advanced efficiency solutions and recommend an ongoing framework to leverage national and regional research and development to accelerate promising solutions.

#### 2017 objectives include:

- Assess state policy needs and priorities for advanced efficiency solutions and existing regional capacities to research, develop, and bring to market new and emerging advanced efficiency solutions; and identify relevant U.S. DOE initiatives that can help meet regional needs;
- Convene an advisory group to review the market assessment findings and recommend actions to align and leverage resources to research, develop, pilot, demonstrate and accelerate the market introduction of new emerging advanced efficiency tools, technologies and services; and,
- Prepare a report describing opportunities to better coordinate regional and national activities for advanced efficiency solutions, as well as identifying priority technologies/solutions ripe for coordinated approaches.

#### All products and services are subject to funding.



#### **PRODUCTS & SERVICES**

#### STAKEHOLDER ENGAGEMENT

Regional Emerging Technologies Connector Advisory Group to inform project research, <u>workshop and recommendations</u>

#### NEEDS ASSESSMENT RESEARCH PROJECT

State needs, priorities and capacities to research, develop and bring to market new and emerging advanced efficiency solutions, and relevant national efforts (e.g., US DOE, national labs)

#### WORKSHOP

Regional Emerging Technology Connector Workshop

#### **ACTION PLAN**

Emerging Technologies Connector – Northeast priorities and next steps for regional and national collaboration



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## Regional EM&V Forum

Advancing EM&V transparency, standardization, and new approaches to assess efficiency and demand response impacts and value

**The Regional Evaluation, Measurement & Verification Forum (EM&V Forum)** brings key stakeholders together to develop and support the use of transparent, credible savings assumptions and standardized, accessible guidelines and tools to evaluate, measure, verify, and report the energy and demand savings, costs, and associated avoided carbon emissions. Building on eight-years of regional collaboration and with a strategic focus on EM&V 2.0, (the integration of automated data collection and analytics), NEEP will continue its Regional EM&V Forum guided by a new Regional EM&V Leadership Group.

#### The Forum's 2017 objectives are to:

- Facilitate learning exchange among EM&V stakeholders across the region including state agencies, planners and regulators; energy efficiency program administrators and evaluators; and regional transmission organizations to identify information needs, share regional results, and advance best practices for consistent, transparent and accessible EM&V for energy efficiency as a resource.
- Host in-person public meetings, produce newsletters and disseminate reports and guidance materials.
- Support interested states to use NEEP's Standardized EM&V Methods Reporting Forms.
- Track, inform and share state, regional and national developments regarding EM&V best practices.
- Inform NEEP's Regional Energy Efficiency Database (REED) development to serve evolving state and regional EM&V needs.

#### With sufficient funding and interest, the EM&V Forum will also undertake:

- Joint studies/analyses upon request to address knowledge gaps, e.g., (TBD)
- · Emerging Technologies Characterization & Incremental Cost Studies; and,
- EM&V for Progressive Efficiency Improvements and Integrated Distributed Energy Resources (Renewables and Energy Storage).

#### All products and services are subject to funding.



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## Regional EM&V Forum

Advancing EM&V transparency, standardization, and new approaches to assess efficiency and demand response impacts and value

#### **PRODUCTS & SERVICES**

#### STAKEHOLDER ENGAGEMENT

EM&V Forum Stakeholder Committee to inform research, workshop agendas and activities (quarterly meetings/webinars);

#### **PUBLIC MEETINGS / WORKSHOPS**

Two Regional EM&V Forum Public Meetings

#### 2017-2019 RESEARCH

EM&V 2.0 Field Demonstration & Peer Exchange Network (U.S. Department of Energy grant hosted by Connecticut DEEP);

#### **TECHNICAL ASSISTANCE**

Support interested states to use NEEP's Standardized EM&V Methods Reporting Forms and other EM&V Forum Products (e.g., Cost-Effectiveness Guidelines, Net Savings Guidelines, Loadshape Data Collection Protocols) and related national protocols;

#### **TRACKING & ANALYSIS**

Track, inform and share state, regional and national developments regarding EM&V best practices;

#### JOINT STUDY

Mid-Atlantic Technical Reference Manual update (funded by participating states);

#### **GUIDANCE & TOOLS**

Web-Based Resource Center; and,

#### PLANNING

Inform NEEP's Regional Energy Efficiency Database development to serve evolving state and regional EM&V needs.



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## State and Federal Appliance Efficiency Standards

Supporting equipment standards that lock in energy savings made possible from regional market transformation activities

**Appliance Efficiency Standards** are an important element of the market transformation cycle. When new high efficiency products are broadly available and competitively priced, it is often possible to establish a new or more stringent minimum energy efficiency requirement for all such products made or sold. These standards continue to stand the test of time as a corner-stone of energy efficiency policy. Over the next 20 years, federal appliance and equipment standards have the potential to curb 470 million metric tons of CO2 that would have otherwise been emitted nationally. In 2017, NEEP will continue our work to track and inform opportunities for new efficiency programs, with a focus on state-level efforts.

#### Our 2017 project objectives include:

- Track opportunities to support state appliance efficiency standards;
- Inform efforts to maintain recent standards progress at the federal level;
- Develop and distribute informational materials regarding the value of such standards for the NEEP region along with draft comments and materials for specific standard setting proceedings; and,

• Regularly convene our Regional Appliance Standards Project Working Group to inform interested stakeholders of relevant developments, analyses, best practices and policy strategies to advance appliance efficiency standards.



#### **PRODUCTS & SERVICES**

#### STAKEHOLDER ENGAGEMENT

Regional Appliance Standards Project Working Group (quarterly meetings/webinars and materials)

### RESEARCH, TRACKING & ANALYSIS

Key opportunities to advance appliance standards, relevant developments, comments and materials for specific standard setting proceedings, national coordination

#### TECHNICAL REPORTS

Model appliance standards, standards-specific technical, energy and economic analyses

#### RESOURCES

Web-Based Resource Center to track proceedings



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## High Performance Buildings & Communities

### High Performance & Zero Energy Buildings, Homes & Communities

Best practice guidance, peer exchange and technical assistance for resilient, energy efficient, low-carbon communities

**High Performance and Zero Energy Buildings, Homes and Communities** – Across the Northeast and Mid-Atlantic, local and state leaders are concerned with the increasing impacts of climate change. NEEP supports these leaders by providing best practice guidance, an on-line resource center, outreach and education, a regional best practice peer exchange network, and direct technical assistance to selected states and communities.

#### Our 2017 project objectives include:

• Convene and support a regional High Performance Public Buildings and Communities Leadership Group for peer exchange and learning;

• Maintain regional best practice guidance materials for high performance schools design and construction under the auspices of the Northeast Collaborative for High Performance Schools (NE-CHPS), public building operation and maintenance, building energy data access, use and management, and strategies to advance zero energy public buildings;

• Direct attention to best practice resources for high performance municipal water and wastewater infrastructure;

• In partnership with the U.S. Department of Energy's Clean Cities program, facilitate a regional conversation to recommend best practices to advance electric vehicles through community-based initiatives; and,

• Track and highlight regional trends and best practices in policies and programs at the state and local levels.

#### With sufficient additional funding and regional interest, NEEP will expand the project to:

- Provide direct technical assistance to additional states and communities
- Prepare a Regional Municipal LED Street Lighting Progress Report
- Develop a Zero Energy Homes Market Assessment & Market Transformation Strategy
- Develop a Zero Energy Schools State Implementation Framework
- Assist state-level zero energy task forces

#### All products and services are subject to funding.



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For more information about this project or to get involved, please contact: Carolyn Sarno-Goldthwaite, Project Lead: cgoldthwaite@neep.org



To inquire about sponsorship opportunities for events and projects, please contact Lucie Carriou, Events Manager: Icarriou@neep.org



HIGH PERFORMANCE & ZERO ENERGY BUILDINGS AND COMMUNITIES



### High Performance & Zero Energy Buildings, Homes & Communities

Best practice guidance, peer exchange and technical assistance for resilient, energy efficient, low-carbon communities

#### **PRODUCTS & SERVICES**

#### STAKEHOLDER ENGAGEMENT

Regional High Performance Public Buildings & Communities Leadership Group (quarterly meetings/webinars and materials)

#### **TOURS & CASE STUDIES**

Two Zero Energy Ready Homes Workshops, Two High Performance School Tours and Exhibitions

#### **TOOLS, GUIDELINES, TRAINING & TECHNICAL ASSISTANCE**

- a. Collaborative for High Performance Schools (NE-CHPS)
- b. Public Building Operation and Maintenance Guide
- c. Building Energy Data Access, Use and Management
- d. Strategies to Advance Zero Energy Public Buildings
- e. Regional Zero Energy Homes Training

#### **2017 REPORTS & ANALYSES**

a. High Performance Community Best Practices Roadmap b. Best Practice Resources for High Performance Municipal Water & Wastewater Infrastructure – support U.S. DOE Accelerator c. Best Practices Community Partnership with US DOE's Clean Cities program to advance EVs through community-based initiatives – regional coordination d. Regional Zero Energy Homes Market Assessment

#### OUTREACH

Promote university participation in U.S. DOE's Race to Zero Student Design Competition

#### **TECHNICAL ASSISTANCE**

a. Facilitate, advise or participate in state or local working groups to advance best practices for high performance public buildings and communities b. Participate in U.S. DOE's Zero Energy Schools Accelerator to support the development of future K-12 zero energy construction and highlight accomplishments, leveraged with NEEP's own resources



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Helping states and communities save energy through best practices in energy code adoption, enforcement and compliance

**Building Energy Codes** offer a major opportunity to achieve long-term cost-effective energy savings in home and building construction and renovation. NEEP assists state and local governments to adopt leading model energy codes and advanced stretch codes, and to develop and implement programs that support a high level of energy code compliance. In the long-term, NEEP will support states in making "zero energy" – pairing deep efficiency with onsite renewables – the minimum energy code by 2030.

#### NEEP's 2017 objectives are to:

- Engage the Regional Building Energy Codes Leadership Group as a best practice and research learning network;
- Provide information, models and analyses for state and local adoption of and compliance with model energy codes, as well as advanced stretch codes;
- Assist state and local energy code compliance program planning and evaluation, including providing compliance and adoption toolkits and field guides;
- Provide guidance regarding methods to attribute energy savings to building energy code support activities;
- Conduct targeted research on topics such as application of codes to lifecycle building energy performance and addressing barriers to adoption of new energy codes and stretch codes;
- Track energy efficiency code research, development and implementation across the region; and,
- Coordinate and leverage resources regionally and nationally.

#### With sufficient additional funding, NEEP will expand the project to:

• Provide additional direct technical assistance to additional states and communities.



HIGH PERFORMANCE & ZERO ENERGY BUILDINGS AND COMMUNITIES

#### **PRODUCTS & SERVICES**

#### STAKEHOLDER ENGAGEMENT Regional Building Energy Codes Leadership Network – quarterly

meetings / webinars, newsletters

#### **TOOLS & GUIDANCE**

a. Information, models and analyses for state and local adoption of and compliance with model energy codes, as well as advanced stretch codes b. Methods to attribute energy savings to building energy code support activities

#### TRACKING & ANALYSIS

Regional Building Energy Codes Resource Center with state & local codes tracking, and resource links

EVENTS Topical Webinars (TBD)



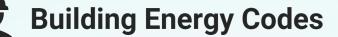
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Helping states and communities save energy through best practices in energy code adoption, enforcement and compliance

#### **PRODUCTS & SERVICES**

#### STAKEHOLDER ENGAGEMENT

Regional Building Energy Codes Leadership Network - quarterly meetings / webinars, newsletters

#### **TOOLS & GUIDANCE**

a. Information, models and analyses for state and local adoption of and compliance with model energy codes, as well as advanced stretch codes b. Methods to attribute energy savings to building energy code support activities

#### **TRACKING & ANALYSIS**

Regional Building Energy Codes Resource Center with state & local codes tracking, and resource links

#### **EVENTS**

Topical Webinars (TBD)

#### **2017 RESEARCH & WHITE PAPERS**

- a. Application of Codes to Lifecycle Building Energy Performance
- b. Barriers to Adoption of New Energy Codes
- c. Catalog of state compliance studies and rates in the region
- d. Assessment of state/local abilities to adopt beyond-code standards

#### **TECHNICAL ASSISTANCE**

a. As requested, provide technical guidance to states and local jurisdictions on code adoption, enforcement and compliance



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## Home Energy Labeling Information Exchange (HELIX)

Making the energy efficiency of homes visible and understood at time-of-sale or rental.

**The Home Energy Labeling Information Exchange (HELIX)** is multi-state project to automate the transfer of home energy data to Multiple Listing Services (MLS) across the Northeast region. HELIX is funded in-part by a grant from the U.S. Department of Energy. Providing real estate professionals with access to verified, independent home energy information will enable sellers to better market their properties, empower buyers to make better informed investments, and promote wiser use of energy by homes in our region — all while being completely voluntary and avoiding the privacy concerns of disclosing actual occupant energy usage. Our intent is to have a final pilot-tested system ready for full-scale operation in 2019.

#### 2017 objectives include:

- Develop HELIX tools and systems with operational and data management polices ready for pilot testing;
- · Undertake and evaluate beta testing in a three-state pilot;
- Build market demand for HELIX through targeted outreach and education to real estate professionals; and,
- Engage stakeholders in a facilitated learning exchange to guide HELIX development, testing and use.

#### With sufficient additional funding and regional interest, NEEP will expand the project to:

• Increase our outreach and education to the real estate community to build understanding and demand for HELIX.

All products and services are subject to funding.



#### **PRODUCTS & SERVICES**

#### STAKEHOLDER ENGAGEMENT

Regional HELIX Advisory Committee

#### **RESEARCH & ANALYSIS**

a. Prepare HELIX tools and systems with operational and data management polices ready for pilot testing b. Undertake and evaluate threestate beta-testing pilot

#### TRAINING

Home Energy Ratings/Scores outreach and education for real estate professionals

#### WORKSHOP

Annual HELIX Stakeholders Summit



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For more information about this project or to get involved, please contact: Carolyn Sarno-Goldthwaite, Project Lead: cgoldthwaite@neep.org



## Building Energy Rating and Disclosure

Creating market value for energy efficient homes and buildings by making their energy performance visible and understood

**Home and Building Energy Ratings** allow owners and tenants to understand their building's energy use and provide the market with information that can assist in properly valuing the building's energy efficiency. Building energy rating and disclosure ordinances (a.k.a., BER&D policies, or "BERDO") have been adopted by a growing number of municipalities across the region to help drive market value that supports voluntary investments that improve building energy efficiency. NEEP will continue our technical guidance and support for state and local adoption and implementation of BER&D policies.

#### Our 2017 objectives include:

• Engage stakeholders in a regional best practice learning network through our regional Building Energy Codes and High Performance Public Buildings and Communities Leadership Group;

• Track and call attention to regional trends, developments and exemplars regarding home and building energy rating policies and programs;

• Provide technical assistance to states and communities including model policy language, information about tools and resources such as U.S. DOE's Home Energy Score and Commercial Building Energy Asset Rating tool;

• Maintain a regional resource center with best practice guidance documents with links to additional resources regarding building energy rating tools, streamlining data access and Building Energy Benchmarking and Disclosure Policies in the Northeast and Mid-Atlantic;

• Outreach and education to help build the knowledge and understanding of home performance contractors, real estate professionals, inspectors and appraisers regarding the role and value of energy rating in property valuation, sales and leasing; and,

 National and regional collaboration to leverage resources and increase energy and carbon savings.

#### With sufficient additional funding and regional interest, NEEP will expand the project to:

• Develop and disseminate a white paper on Home Energy Score Asset Rating Cost-Effectiveness and conduct outreach to real estate professionals, appraisers, home inspectors and other key stakeholders.



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To inquire about sponsorship opportunities for events and projects, please contact Lucie Carriou, Events Manager: Icarriou@neep.org



HIGH PERFORMANCE & ZERO ENERGY BUILDINGS AND COMMUNITIES



## Building Energy Rating and Disclosure

Creating market value for energy efficient homes and buildings by making their energy performance visible and understood

#### **PRODUCTS & SERVICES**

#### STAKEHOLDER ENGAGEMENT

Building Energy Codes and High Performance Public Buildings & Communities Leadership Group (quarterly meetings/webinars, newsletter)

#### **TOOLS & GUIDELINES**

a. Model state and local policies

- b. Rating tools and resource links (U.S. DOE's Home Energy Score; Commercial
- Building Energy Asset Rating tool)
- c. Guide for renting and creating lower cost energy efficient apartments and homes
- d. Guidance for real estate professionals on home energy efficient attributes
- e. Best practices for streamlining data access f. Policy and program exemplars

#### TRAINING

Green real estate outreach & education for home performance contractors, real estate professionals, inspectors and appraisers

#### **TECHNICAL ASSISTANCE**

Upon Request - Advise states and communities, drawing from U.S. DOE tools

#### **REPORTS & ANALYSIS**

Regional trends and developments

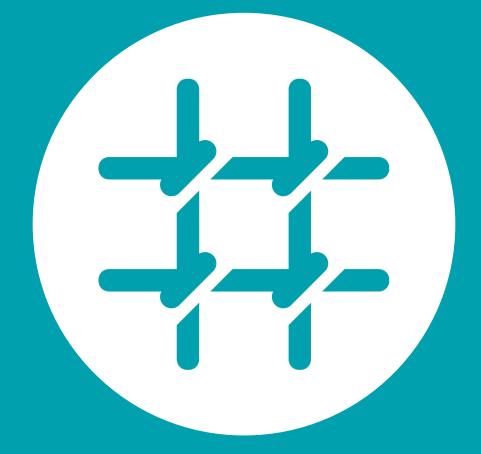


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## Strategic Electrification & Next Generation Energy Efficiency

## Regional Strategic Electrification Assessment

Regional trends, opportunities and strategies to advance efficient electric technologies paired with clean energy resources

A number of states and communities in the Northeast have adopted an 80% reduction in carbon emissions by the year 2050 as a goal to reduce the impacts of climate change. This is an ambitious goal that will require very significant changes in how we use energy in our everyday lives, as burning carbon in concentrated forms has been part of life since the industrial revolution. But it's not the burning of fossil fuels that most people care about – rather it's the services that they have long provided that add comfort and convenience – power for transportation, heat for our homes, and fuel for industrial processes. NEEP will work with a variety of local, state and regional entities to research and develop an initial working paper and related communication, educational and follow-on activities to better articulate what shifting to greater penetration of highly efficient electric technologies would mean for the Northeast, identify regional trends and opportunities, and define critical steps to accelerate activities. Fully understanding and acting on efficient strategic electrification will require a multi-year process.

#### Our 2017 objective:

Study and convene leading stakeholders including efficiency program administrators, states, industry representatives and efficiency experts in dialogue on the regional opportunities, trends, barriers and pathways to strategic electrification. With input from these advisors, NEEP will produce a whitepaper that will include findings and recommendations for how regional stakeholders can most effectively support and/or engage with efforts toward efficient strategic electrification across the region.

All products and services are subject to funding.



#### **PRODUCTS & SERVICES**

#### STAKEHOLDER ENGAGEMENT

Efficient Strategic Electrification Advisory Committee

#### **REPORTS & ANALYSIS**

White Paper - Efficient Strategic Electrification: Regional Trends, Opportunities and Market Transformation Strategies

#### ACTION PLAN

Multi-year plan to guide efficient strategic electrification in the region

#### SUMMIT

Regional Strategic Electrification Summit



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For more information about this project or to get involved, please contact: Sue Coakley, Project Lead: scoakley@neep.org



## Cold Climate Air Source

Advancing the #1 technology to decarbonize home and building energy use

**Cold Climate Air Source Heat Pumps (ccASHPs)** offer the region a super-efficient clean energy solution to dramatically reduce the use of inefficient electric resistance and carbonintensive petroleum to heat homes and buildings. To assist leading states to achieve energy, peak demand and carbon savings benefits, NEEP will continue our multi-year regional market transformation initiative to accelerate market adoption, installation and use of ccASHPs.

## Guided by the 2016 Regional ccASHP Market Transformation Strategy, our 2017 objectives include:

• Actively engage NEEP's Regional ccASHP Working Group of leading state energy offices, efficiency program administrators, manufacturers and distributors, and consumer advocates with the U.S. Department of Energy and its national laboratories for coordinating implementation of regional market strategies, best practice peer exchange and learning, and to guide our work;

• Develop and broadly distribute best practice guides and training materials to educate ccASHP installer and consumers;

 Develop and post an updated ccASHP qualified products list for equipment that meets updated performance requirements based on the results of independent equipment performance testing;

• Assess regional progress by tracking market analyses, program activities and policy trends; and,

• Host a Regional ccASHP Workshop to assess and advance regional market transformation progress.

#### Pending sufficient funding and interest, NEEP will expand the 2017 ccASHP project to:

- Address commercial-grade ccASHP systems;
- Catalyze the development and introduction of integrated HVAC controls that optimize efficient use of ccASHP systems; and,
- Conduct an independent regional assessment of projected impacts from broad deployment of ccASHPs into the region.



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For more information about this project or to get involved, please contact: **David Lis**, Project Lead: **djlis@neep.org** 



To inquire about sponsorship opportunities for events and projects, please contact **Lucie Carriou**, Events Manager: **Icarriou@neep.org** 



#### PRODUCTS & SERVICES

#### STAKEHOLDER ENGAGEMENT

Regional ccASHP Working Group (quarterly meetings & materials)

#### **TOOLS & GUIDANCE**

a. ccASHP Qualified Products List b. Best Practice Guide & Training for ccASHP Installation c. Best Practice Guide & Training for ccASHP Product Sizing/Selection d. Best Practice Consumer Guide for ccASHP e. Web-based Best Practices Regional Resource Center **PROGRESS REPORT** 

Regional ccASHP Market Transformation Status

#### WORKSHOP

Regional cold climate Air Source Heat Pump Market Transformation Workshop

## Cold Climate Air Source

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#### PRODUCTS & SERVICES

#### STAKEHOLDER ENGAGEMENT

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Regional ccASHP Market Transformation Status

#### WORKSHOP

Regional cold climate Air Source Heat Pump Market Transformation Workshop



## Market Transformation for Electric Vehicles

State and municipal best practices and regional coordination to accelerate electric vehicle adoption.

NEEP plans to engage a broad spectrum of stakeholders – including state and local policymakers, NGOs, the U.S. Department of Energy, sustainability leaders and others – to identify and overcome market and infrastructure barriers to accelerate the widespread adoption electric vehicles in the Northeast and Mid-Atlantic region. In concert with our project partners, we will identify sector best practices and ultimately develop guidance for reducing transportation-sector carbon emissions and petroleum consumption in the region.



HIGH PERFORMANCE & ZERO ENERGY BUILDINGS AND COMMUNITIES

#### **PRODUCTS & SERVICES**

#### STAKEHOLDER ENGAGEMENT

High Performance Public Buildings & Communities Leadership Group – Electric Vehicles Sub-Committee

TOOLS & GUIDELINES Best Practices to include EVs in Building Energy Codes & Multifamily

#### **REPORTS & ANALYSIS**

Regional Electric Vehicles "Bright Spots" & Regional Coordination Workshop

WORKSHOP Regional EV "Bright Spots" & Regional Coordination Workshop

All products and services are subject to funding.

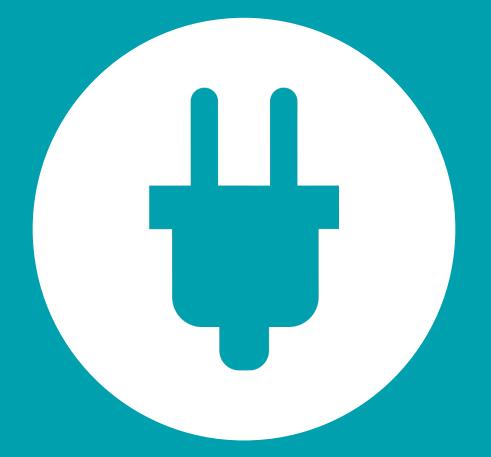


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For more information about this project or to get involved, please contact: Dave Hewitt, Project Lead: dhewitt@neep.org





## Advanced Efficiency Leadership Network

## Regional Energy Efficiency Database (REED)

An online resource to report and compare efficiency program investments and savings by state, sector and end use

**The Regional Energy Efficiency Database (REED)** REED began as a product of NEEP's <u>Regional Evaluation</u> Measurement & Verification (EM&V) Forum and is based on the Forum's <u>Common Statewide Energy</u>. Efficiency Reporting Guidelines. It is a regional online platform for the consistent reporting of Northeast and Mid-Atlantic electric and gas energy efficiency program impacts, expenditures, avoided emissions, and related information useful to inform state and regional policies, state benchmarking, and for other research and analysis purposes. One important purpose of REED is to improve understanding and credibility of energy efficiency as a resource to support future investments to meet energy, economic and environmental policies. To support that, REED also provides access to underlying reports and related policies regarding EM&V for each state included in the database.

Currently, REED contains program level data for the following ten states: Connecticut, Delaware, the District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont.

REED data is updated annually and is presented in report formats, which can be customized. REED can be accessed <u>here</u>. In addition to updating, maintaining and supporting public access to REED, NEEP develops reports, analyses, blogs and presentations using REED data. Many others find REED to be a helpful reference and use REED to inform analyses and reports about the progress of energy efficiency in the Northeast and Mid-Atlantic region. For example, in 2016, REED users were evenly split between utility/ government, consultant, and NGO/academic/other stakeholders.

#### With sufficient funding and interest and data availability, REED 2017 objectives also include:

- Inclusion of additional states' efficiency savings and related data in REED
- Scoping plan/expansion to include Next Generation Energy Efficiency Metrics
- Scoping/design of updated and new REED reports



#### **PRODUCTS & SERVICES**

#### STAKEHOLDER ENGAGEMENT

regular communication vehicles, including blogs entries, inclusion of REED data in policy highlights and NEEP presentations

#### **RESOURCES & TOOLS**

a. Publicly accessible REED Database with Supporting Documentation Updated with 2016 Data from New England, New York, District of Columbia, Delaware, and Maryland b. Public searchable database of State EM&V Reports c. Annually-updated Energy Efficiency Resource Directory of supporting State Documents and Key Information page (e.g. program plans, manuals, etc.), informing the savings estimates for energy efficiency in each state

d. Technical Assistance – responding to user inquiries

#### **REPORTS & ANALYSES**

a. Four REED Renderings – Regional Trends Analysis b. Annual Regional Energy Efficiency Policy Snapshot Report



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## State and Local Policy Tracking, Analysis and Technical Assistance

Reports, analysis and technical assistance for policymakers and others

**The State and Local Policy Tracking, Analysis and Technical Assistance** project supports our region's leaders as they assess, adopt and implement public policies to achieve their energy, economic and environmental goals. By tracking and disseminating policy developments and trends in areas such as energy efficiency program investments and savings and Next Generation Energy Efficiency – integrating advanced efficiency with demand response, renewables, and energy storage – we highlight best practices among states and communities seeking innovative approaches to capturing even more cost-effective energy savings, while also assisting those in the earlier stages of developing integrated efficiency and clean energy frameworks.

NEEP uses a variety of tools to keep stakeholders informed and abreast of key policy developments, including our website newsletters and the NEEP blog. We also work closely with the Evaluation, Measurement and Verification Forum to coordinate on the tracking of energy efficiency program and policy progress, supplementing and leveraging the information available through our Regional Energy Efficiency Database (REED) with topicspecific research and analysis.

#### Our 2017 project objectives include:

- Ongoing tracking and information sharing on regional policy trends and key state/local activities;
- Researching, writing and disseminating an annual Regional Leadership Progress Report;
- Creating Regional Energy Efficiency Database reports & development plan;
- Next Generation Energy Efficiency best practice case studies/videos;
- Writing a report on Next Generation Energy Efficiency Carbon & Resiliency Benefits and Progress Metrics & Methodology;

• Regular policy communication vehicles, including Highlights, Policy Tracker, Policy Snapshot, and blog entries; and,

• Targeted analysis and guidance papers as deemed necessary, resources permitting.



#### **PRODUCTS & SERVICES**

#### EVENTS

Topical webinars, TBD

#### **TOOLS & GUIDELINES**

Up-to-Date Web-Based State-by-State Policy Tracker

#### TECHNICAL ASSISTANCE

By Request – advise, assist state and local public policy discussions (i.e., technical sessions, briefings, comments)

#### **REPORTS & ANLYSES**

a. NEEP Highlights public policy e-newsletter, Policy Tracker, Policy Snapshot b. 2016 Regional Advanced Efficiency Leadership Progress Report c. Next Generation Energy Efficiency Leadership Case Studies



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