



Northeast Energy Efficiency Partnerships

Next Generation Energy Efficiency: ***Bridge to the Clean Energy Future***

Presented by Natalie Treat

Northeast Energy Efficiency Partnerships

AIA State Government Network Conference

Washington, D.C.

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NORTHEAST ENERGY EFFICIENCY PARTNERSHIPS



“Accelerating and transforming markets for energy efficiency in the Northeast & Mid-Atlantic States”

Mission

Accelerate energy efficiency as an essential part of demand-side solutions that enable a sustainable regional energy system

Vision

Region embraces Next Generation Energy Efficiency as a core strategy to meet energy needs in a carbon-constrained world

Approach

Overcome barriers and transform markets via Collaboration, Education and Enterprise

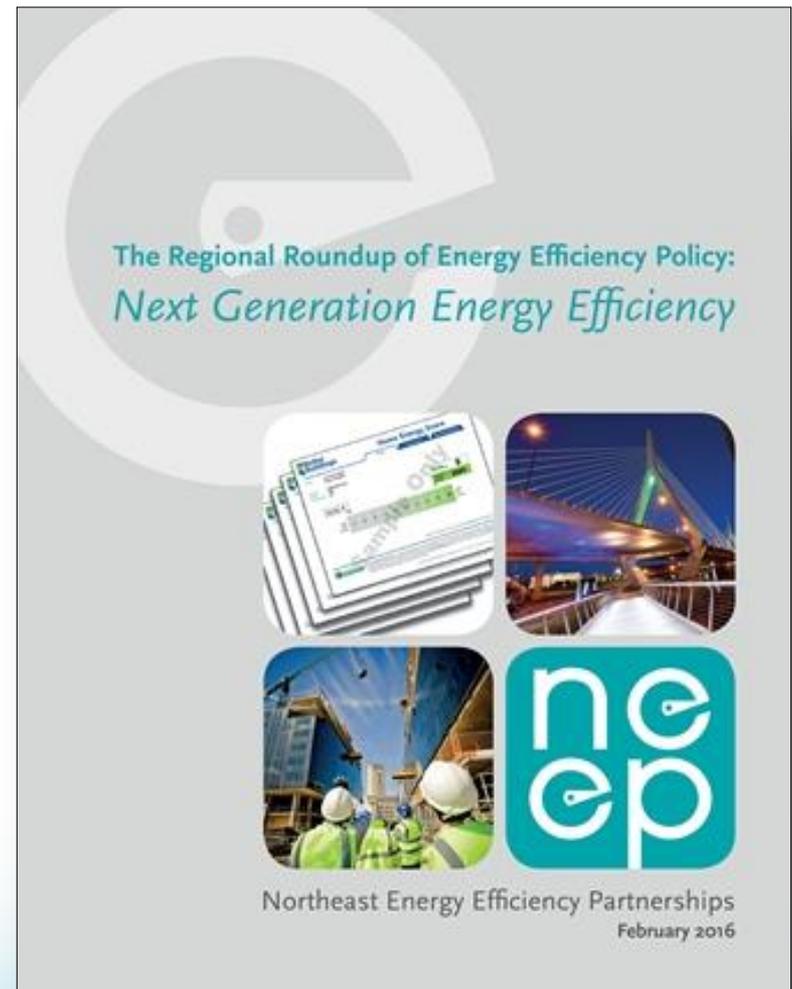


One of six Regional Energy Efficiency organizations (REEOs) funded by the U.S. DOE to support state efficiency policies and programs. Does not lobby or litigate.

CHARTING A COURSE: Next Generation Energy Efficiency



- Integration with other distributed energy resources
- Deep savings for all fuels
- Controls & data analytics
- Advanced building design & operation
- Strategic electrification and geo-targeting
- Engaging private markets



NEXT GENERATION ENERGY EFFICIENCY



| TREND | NEXT GENERATION POLICY | STATES |
|--|--|--|
| Grid Modernization | Examining new utility frameworks responsive to emerging technologies/societal challenges and anticipating proliferation of multi-directional power flows , while also emphasizing greater customer engagement . | MA, NY, CT, RI, DC, NH |
| Strategic Electrification and Geo-targeting | Planning to procure savings from energy systems as a whole — across all fuels — with an emphasis on targeting distributed energy resources and their capabilities to defer or limit the need for further investments in distribution and transmission system assets. | VT, RI, NY, MA, ME |
| Advanced Building Policies | Shifting toward a whole-building approach to efficiency emphasizing advanced building energy codes, code compliance mechanisms, and building energy rating and labeling practices that drive toward “zero energy.” | RI, MA, CT, VT, DC, NY, DE |
| New Program Strategies | Harnessing new technology and policy innovations, enhance customer understanding around energy usage through expanded energy data access, information communication technologies, and strategic energy management strategies. | MA, VT, CT, NY |
| Integrating EE and Demand Response | Pairing energy efficiency program planning with opportunities for demand response in a manner that enhances cost-effectiveness and reduces peak load growth. | MD, CT, RI, MA, PA. |
| Evolution of Financing Tools | Leveraging private capital investments to increase funding available for energy efficiency programs through the use of Green Banks and related credit facilities, while also preserving proven program structures. | NY, CT, PA., NJ |
| EM&V 2.0 | Coupling new data collection technologies and software-as-a-service analytic tools with traditional EM&V for real-time feedback of efficiency program impacts that is less costly and sufficiently accurate. | Many states exploring, none fully implementing |

NEXT GENERATION TRENDS

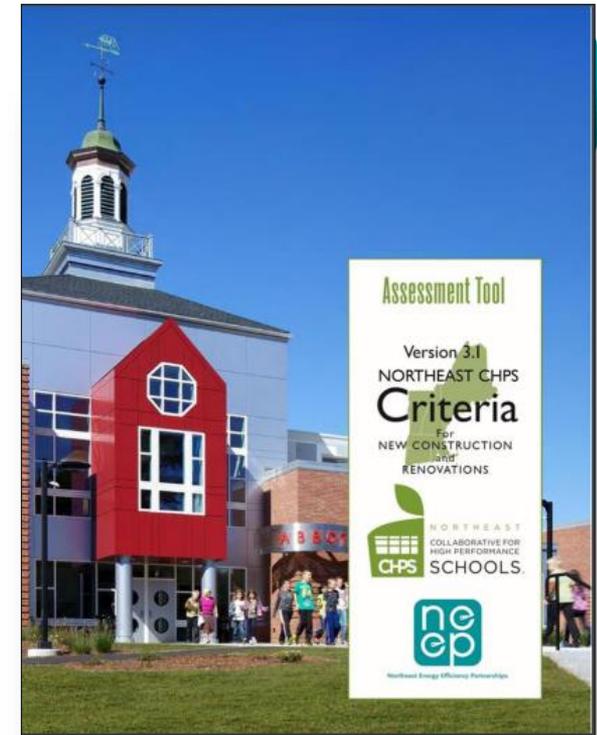
Advanced Building Policies

Building Energy Labeling and HELIX

- Market signal to prompt energy upgrades by making energy performance visible
- Home Energy Labeling Information Exchange (HELIX), using US DOE's Home Energy Score
- Participating States: CT, MA, ME, NH, NY, RI, VT

Zero Energy New Construction

- Energy Efficiency programs piloting “Path to Zero” as highest tier new construction program: VT, RI, MA, CT, NY
- State support for above code protocols such as NE-CHPS School Construction Criteria: RI, MA





Roadmap To Zero Energy Public Buildings:
Progress Report

June 2016

HOT OFF THE PRESS

NEEP's Newest Resource:
Roadmap to Zero Energy Public
Buildings: Progress Report

Zero Energy Guidance for States



Step 1: Develop a “Path to Highest Performance” Information Campaign



Step 2: Promote the Continued Development of Exemplary Public Buildings



Step 3: Prioritize Measurement and Public Reporting of Building Energy Performance



Step 4: Implement Stretch Building Energy Codes



Step 5: Create a Revolving Loan Fund or Similar Mechanism to Provide Capital for Energy

NEXT GENERATION TRENDS

Strategic Electrification

Planning to procure savings from energy systems as a whole, across all fuels, with emphasis on transforming the heating and transportation sectors to achieve system-wide carbon reduction goals.

Leading states backing up climate goals with policy action:
VT, NY, RI

State leadership and planning are key!



Grid Modernization



New utility frameworks responsive to emerging technologies and societal challenges and anticipating proliferation of multi-directional power flows, while also emphasizing greater customer engagement.

Geo-Targeting

- Geographic focusing of distributed energy resources and their capabilities to defer or limit the need for further investments in distribution and transmission system assets.
- Often include a combination of targeted energy efficiency, demand response and photovoltaics.
- Leading states: VT, NY, RI, MA, CT, ME



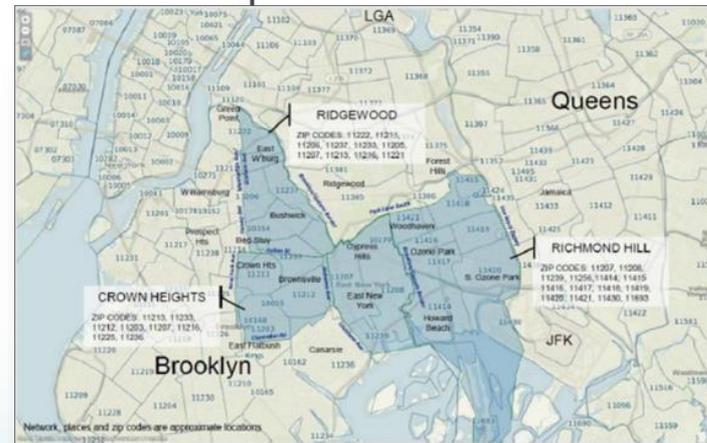
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Energy Efficiency as a T&D Resource: Lessons from Recent U.S. Efforts to Use Geographically Targeted Efficiency Programs to Defer T&D Investments

January 9, 2015

Chris Neme & Jim Grevatt, Energy Futures Group



Integrating Efficiency and Demand Response

Pairing energy efficiency program planning with demand response to enhance cost-effectiveness and reduce peak load growth.

Early iterations of utility demand response included non-wires alternatives projects,

We're now seeing DR integrated with EE in the program plans themselves.

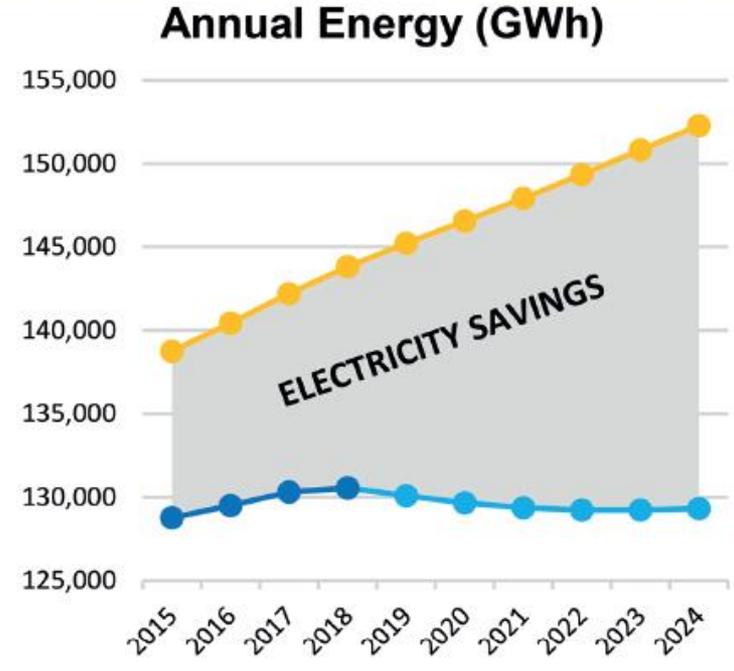
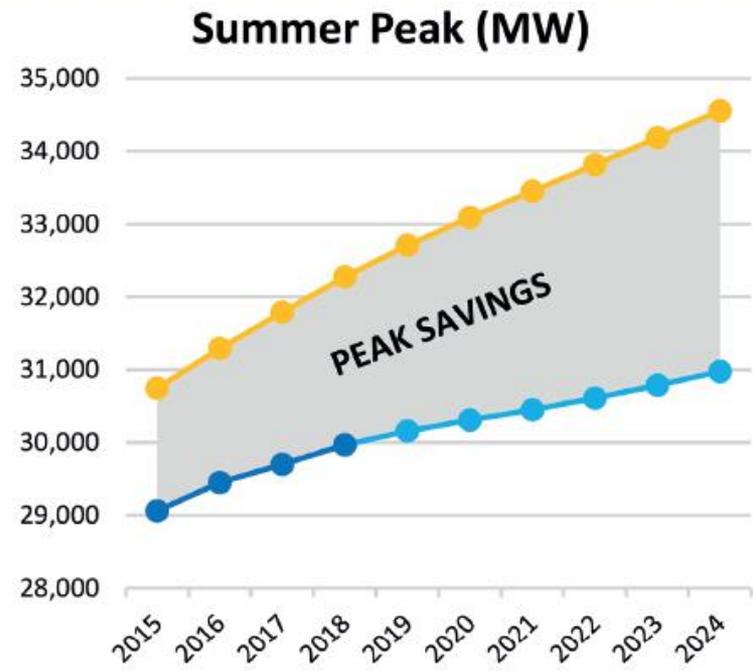
Leading states: MD, PA, MA, NY, RI



Investing in Energy Efficiency: Lowering Peaks, Lowering Costs



Energy Efficiency is Slowing Peak Demand Growth and Flattening Energy Use



—●— The gross forecast of peak demand and energy use
 —●— The forecast minus the impact of EE participating in the Forward Capacity Market (FCM) to date
 —●— The forecast minus anticipated EE growth beyond FCM years

Chart Courtesy of ISO-New England

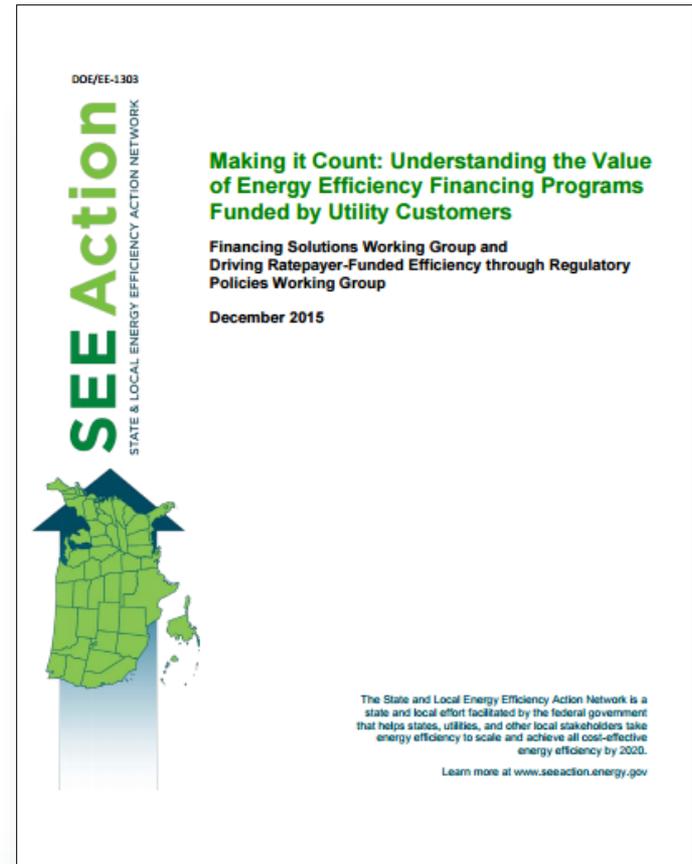
Source: [Final ISO New England EE Forecast for 2019-2024](#) (April 2015)

Private Finance as a Supplement to EE Programs

Building on past work in on-bill financing and revolving loan funds, many states are beginning to leverage private capital investments to increase funding available for energy efficiency programs through the use of Green Banks and related credit facilities, while also preserving proven program structures.

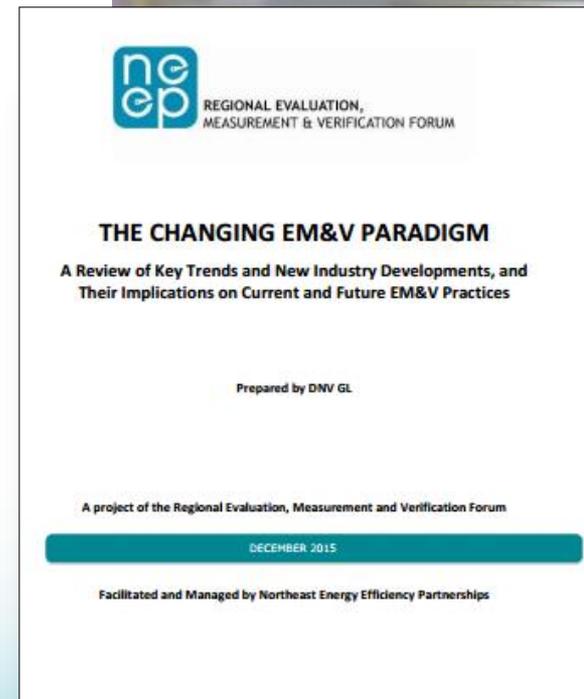
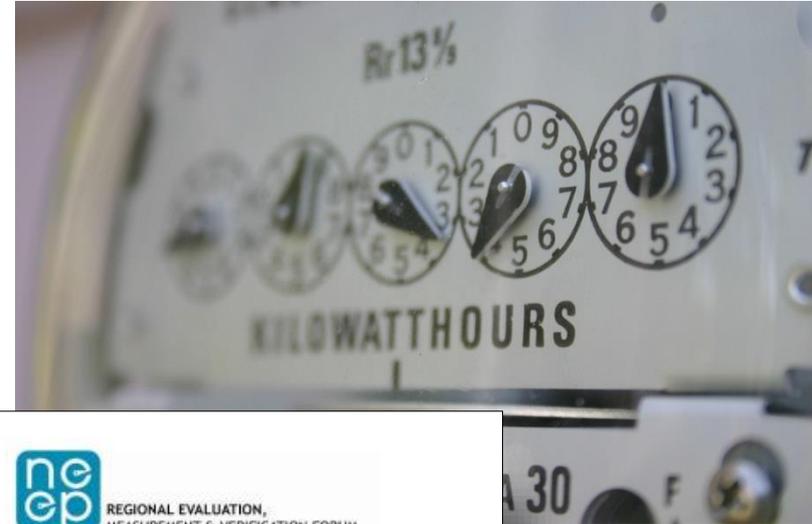
Leading states: Ct, NY, Penn

Another increasing trend is private market investment as part of their portfolio.



Evaluation, Measurement & Verification 2.0

- Utilizing quick cycle feedback and non-intrusive load monitoring to identify opportunities for energy savings and verify savings
- Complements “tried & true” EM&V methods
- Opens the door for operational savings that were harder to verify under the measure/incentive approach



NEEP'S VIEW: Policy Strategies To Advance Next Generation Efficiency

1. Put consumers at the center of the utility relationship.
2. Establish policies to capture all cost-effective energy efficiency, and integrate with other demand side resources.
3. Create utility rate structures aligned with broader state policy goals.
4. Ensure adequate, stable, long-term funding for programs.
5. Allow for robust stakeholder input and engagement.
6. Support Comprehensive all-fuel strategies & zero energy buildings.
7. Advance building energy codes, rating and disclosure, and appliance efficiency standards as complementary policies.
8. Integrate energy efficiency into state energy and air quality planning.
9. Foster a flexible regulatory framework.
10. Share success stories and learn from other states!



Next Generation Efficiency: **What's the Play, for AIA?**

- Support state policies that integrate EE and other clean, distributed resources – E.g. electric heat pumps, photovoltaics, EVs, storage
- Promote efficiency first to maximize benefits and cost-effectiveness in a clean energy mix.
- Keep working on strong building codes, as well as code training, education and compliance.
- Support building energy labeling & disclosure work.
- *Your ideas?*



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Please check out our buildings & policy resources!