



Northeast Energy Efficiency Partnerships

Examining the 2016 Regional Roundup: Policies to Advance Next Generation Energy Efficiency

Presented by the NEEP Public Policy
Outreach & Analysis Team

March 29, 2016

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.

THE POLICY OUTREACH & ANALYSIS TEAM



Jim O'Reilly, Director of Public Policy

Natalie Treat, Sr. Manager, Policy Outreach

Brian Buckley, Sr. Associate, Research & Analysis



CHARTING A COURSE: Next Generation Energy Efficiency



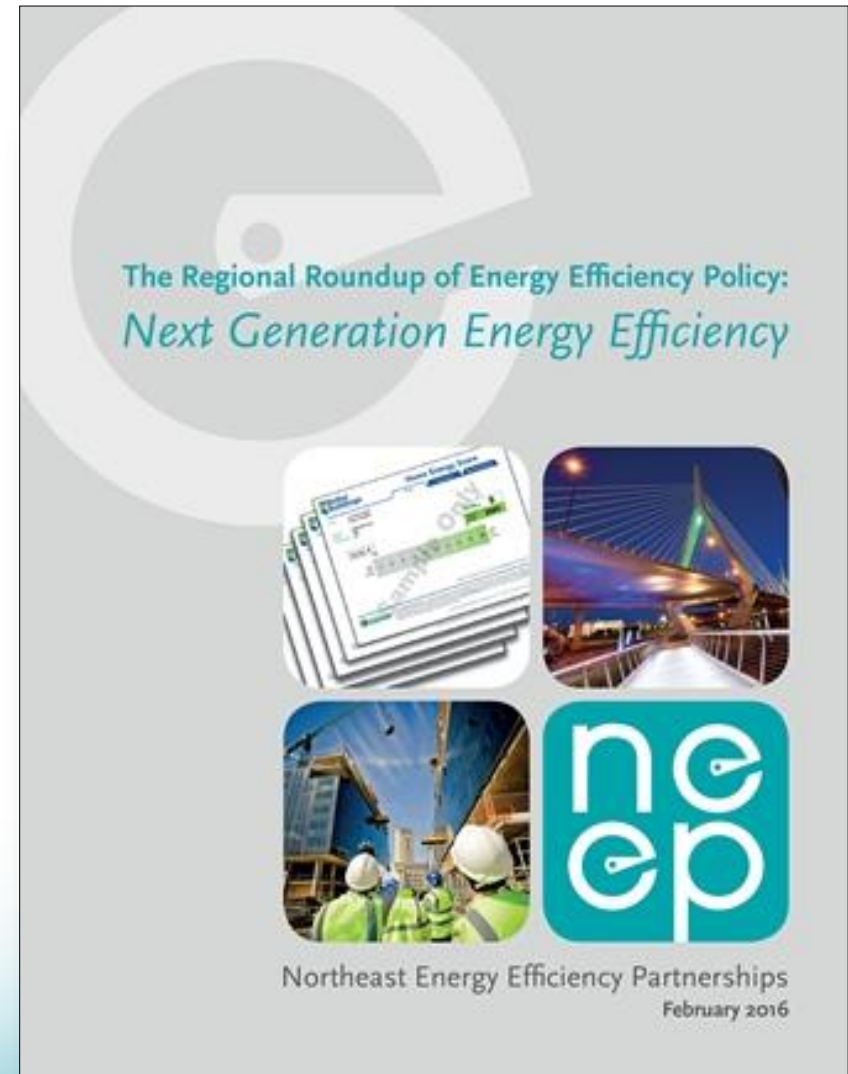
- NEEP's 2015 strategic planning involved PAs, industry players, policy & market actors, NGOs, NEEP Board and staff
- Together we uncovered key themes to bring efficiency to the next level
- 'Next Generation Energy Efficiency' is the theme of this report, the focus of our work across buildings, products, EM&V and policy

CHARTING A COURSE: Next Generation Energy Efficiency



Today we'll look inside the
2016 *Regional Roundup*:

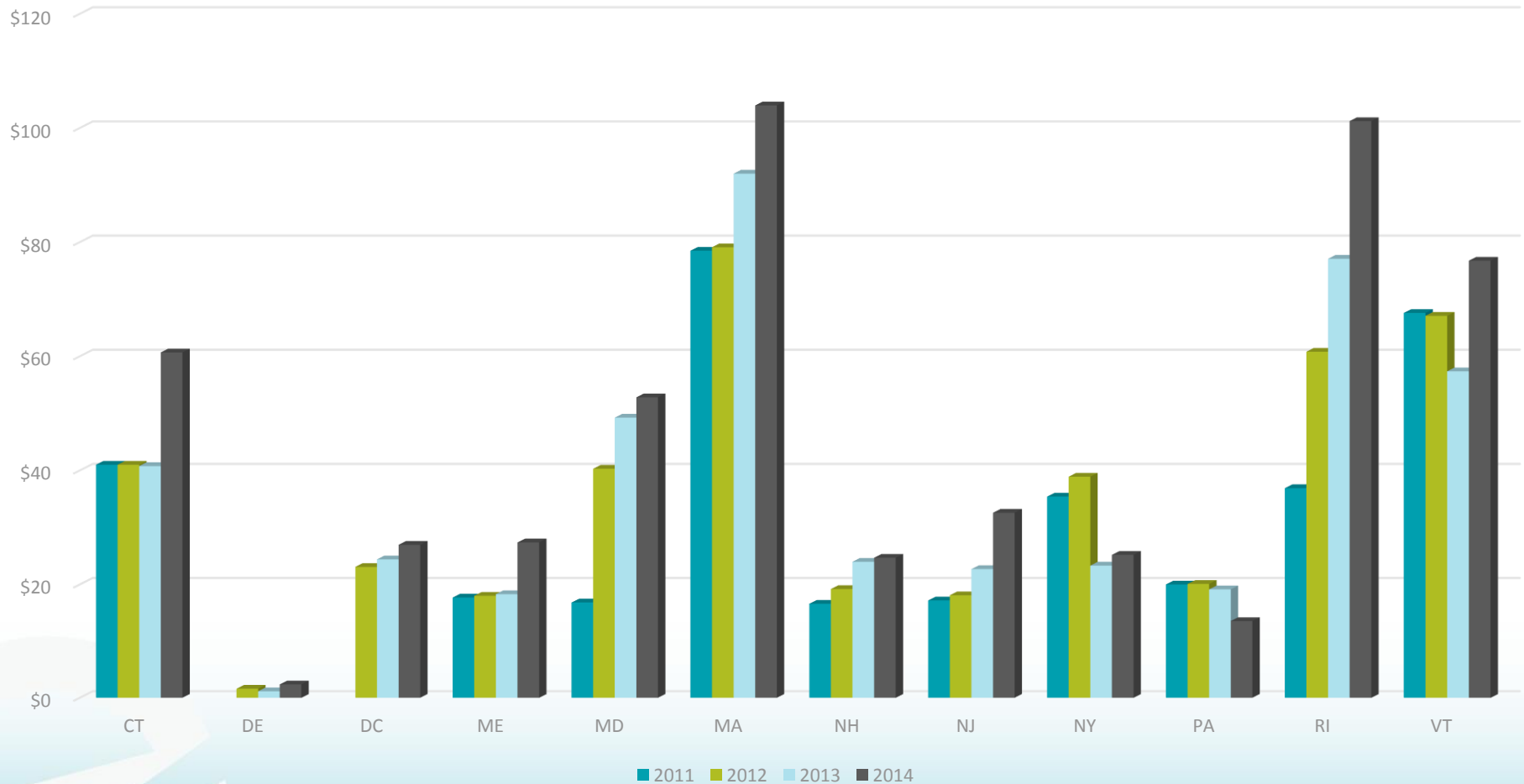
- Review of 'Next Generation' trends we're watching
- What makes a 'leading' state?
- What are areas of concern?
- Guidance for policymakers
- Data, appendices, other resources
- Time for your questions



As Investments Go Up...



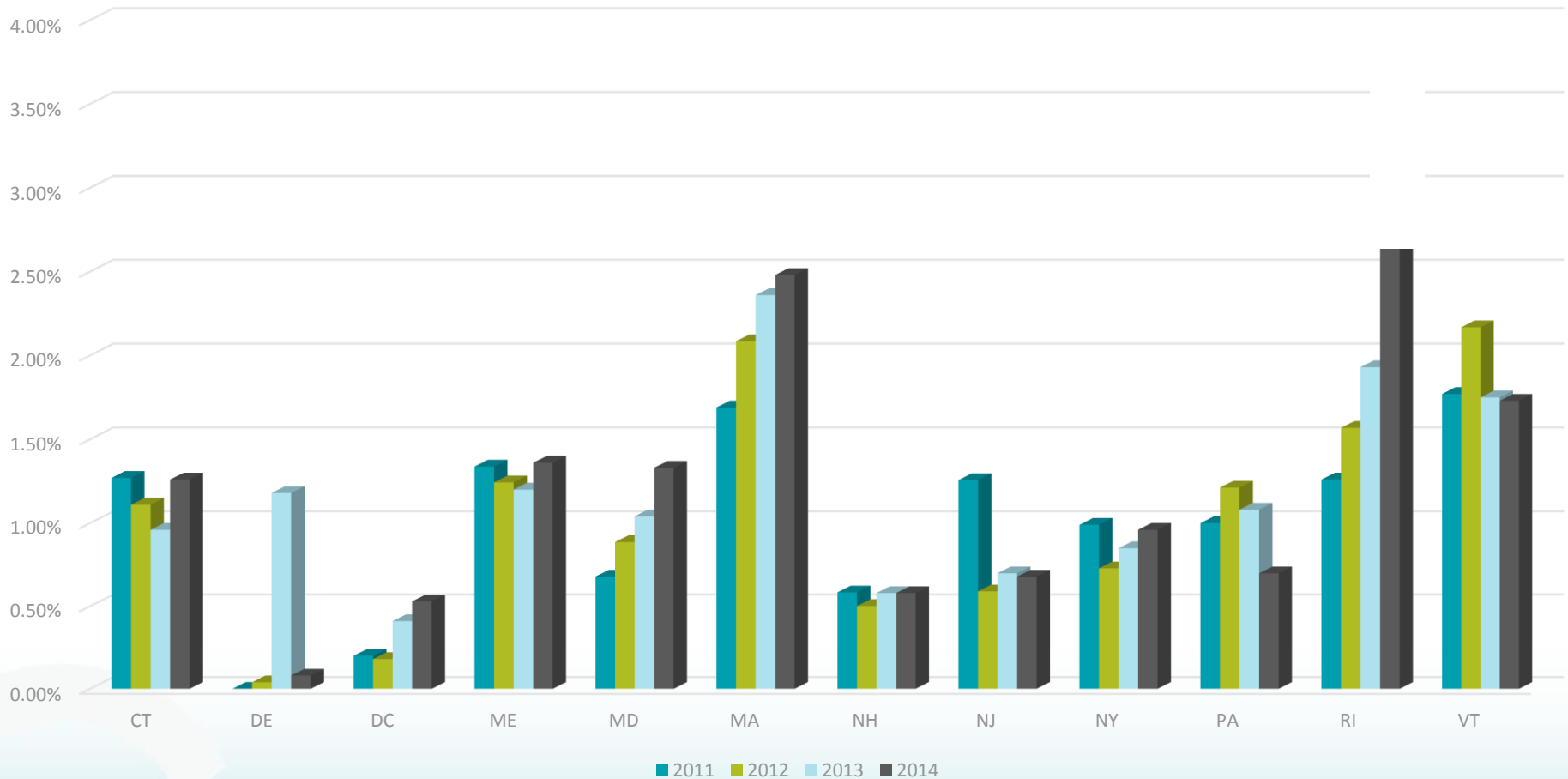
Combined Per Capita Expenditures Over Time



...So Do Savings



Electric Savings as Percent Retail Sales



Investing in Energy Efficiency: Lowering Peaks, Lowering Costs



Energy Efficiency is Slowing Peak Demand Growth and Flattening Energy Use

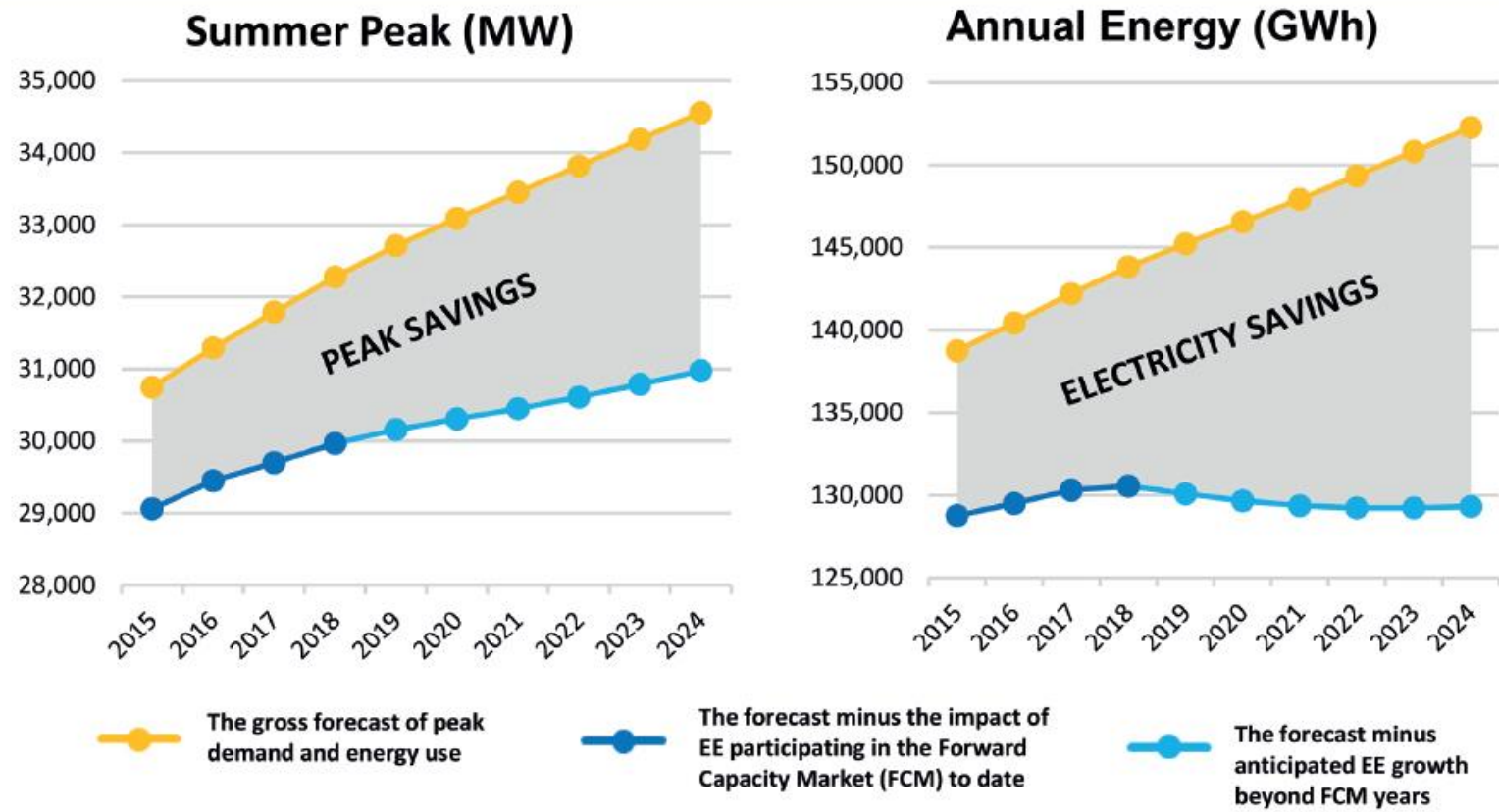


Chart Courtesy of ISO-New England

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

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 within utility program plans to enhance customer understanding around energy usage through expanded energy data access , information communication technologies , and strategic energy management strategies .	MA, VT, CT, NY
Integrating Energy Efficiency 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.
Ongoing 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 evaluation, measurement, and verification strategies for real-time feedback of efficiency program impacts that is less costly and sufficiently accurate.	Many states exploring, none fully implementing

NEXT GENERATION TRENDS

Grid Modernization

New York

- NY REV Docket 14-M-0101, Ongoing Rate Cases

Massachusetts

- Plans: National Grid, Unitil, Eversource
- National Grid Worcester Pilot Evaluation (DPU 10-82)

Connecticut

- DEEP Proceeding
- Initial proposals (AvanGrid, Eversource)

New Hampshire

- NH PUC Docket IR 15-296

District of Columbia

- DC PSC Case No. FC1130



NEXT GENERATION TRENDS

Strategic Electrification

Vermont

- 2016 Comprehensive Energy Plan
- Energy Transformation Projects Act 56 and Docket 8550

Rhode Island

- Energy 2035 Long Term State Energy Plan
- Systems Integration Rhode Island Vision Document

New York

- 2015 State Energy Plan
- NYSERDA fuel neutral programs, electric surcharge
- ConEd RFI for “electrification of transportation” (pending)

State Leadership and Planning is KEY!!



Northeast/Mid-Atlantic Air-Source
Heat Pump Market Strategies Report

Northeast Energy Efficiency Partnerships
January 2014



NEXT GENERATION TRENDS

Geo-Targeting

New York

- ConEdison BQDM, but also Bensonhurst and Plymouth
- Central Hudson, O&R, Niagara Mohawk, RG&E

Massachusetts

- Suggested in 2016-18 Plans
- Nantucket Non-wires alternative filing

Rhode Island

- System Reliability Plan, Tiverton/Little Compton

Vermont

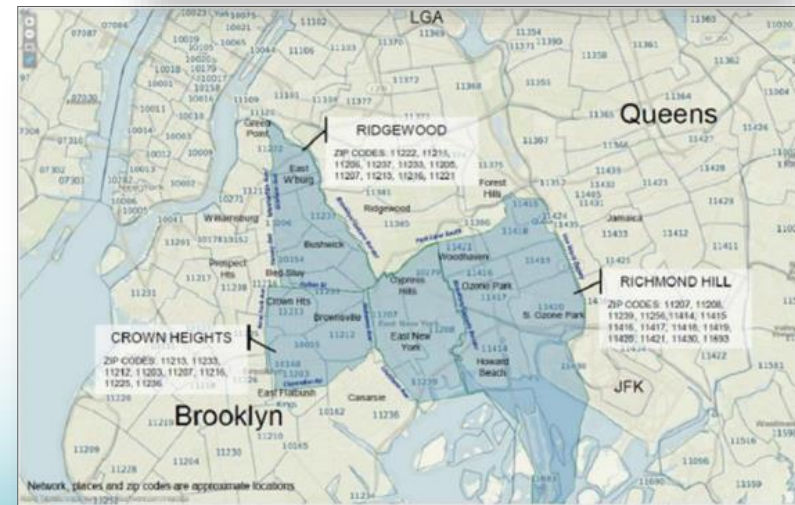
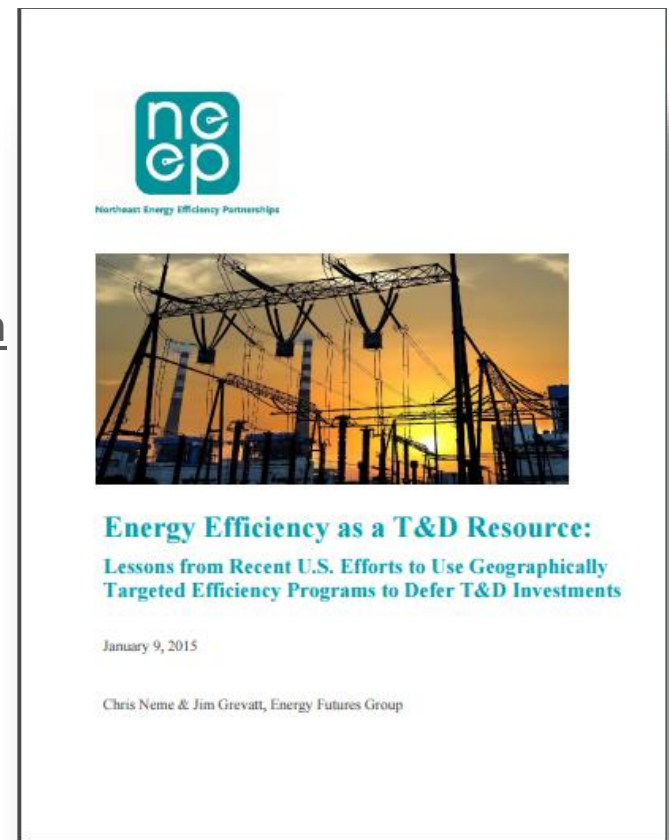
- NWA Planning mandated by law since 2006

Maine

- Booth Bay (2014)

Connecticut

- Proposed in 2016-18 C&LM Plans



NEXT GENERATION TRENDS

Innovate Strategies- Focus on Large C&I

Vermont

- Continuous Energy Improvement program
- Utilizes Energy Management Information Systems

Connecticut

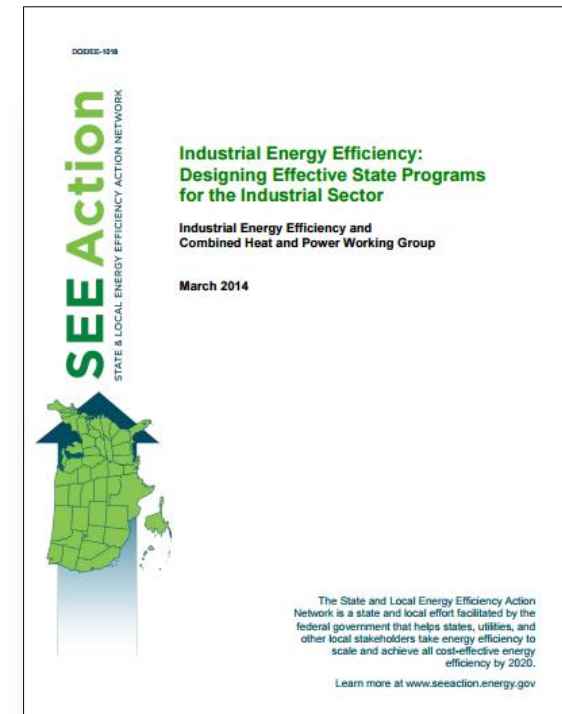
- MOUs for Customized Solution Partnerships (C&LM pg 325)
- Seeking to eliminate large customer incentive cap
- Exploring incentive dividends for large customers

Rhode Island/Massachusetts

- MA funds (copay) staff position to oversee projects (pg 186)
- 2014 RI project saves ~1% of state's retail sales (pg 37)

New York

- NYSERDA Clean Energy Fund Information Supplement (pg 61)

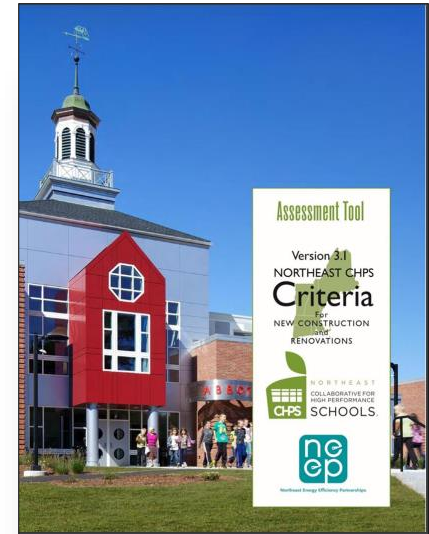


NEXT GENERATION TRENDS

Advanced Building Policies

Building Energy Labeling and HELIX

- Market signal to prompt energy upgrades and animate markets by making home energy performance visible to prospective purchasers
- 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

- Fall 2015- US DOE publishes common definition, now “Zero Energy”
- Energy Efficiency PA’s piloting “Path to Zero” as highest tier new construction program (VT, RI, MA, CT, NY)
- State level support for above code building protocols such as NE-CHPS School Construction Criteria (RI, MA)



NEXT GENERATION TRENDS



Integrating Energy Efficiency and Demand Response

Maryland

- EmPOWER program budget is 1/3 DR (Annual Report, [pg 21](#))

Pennsylvania

- Act 129 Phase III program plans include the return of demand response ([Duquesne](#)) ([Met Edison](#)) ([Penelec](#)) ([PennPower](#)) ([WestPennPower](#)) ([PECO](#)) ([PPL](#))

New York

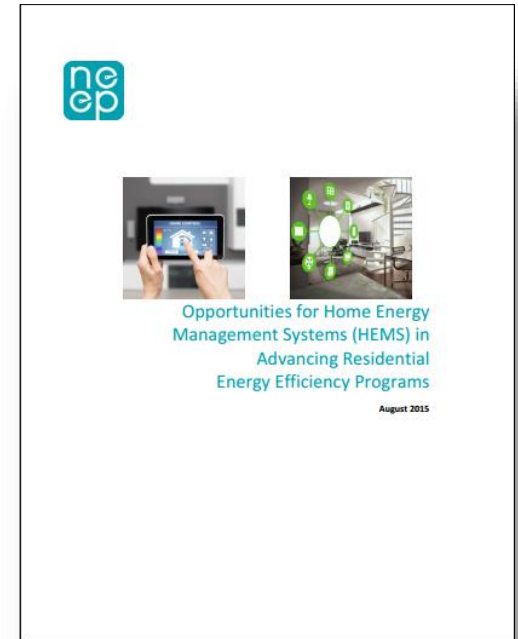
- Under REV, utility PA's required to offer dynamic load management ([National Grid](#)) ([Orange and Rockland](#)) ([NYSEG/RGE](#)) ([Central Hudson](#))

Massachusetts

- 2016-18 Plan proposes 52 MW of National Grid DR ([pg 1106](#))

Rhode Island

- 2017-19 planning process incorporating DR within the plan ([pg 28](#))



NEXT GENERATION TRENDS



Public Funding Supplemented by Private Finance

New York

- \$24.3 million bond issuance based on NYSERDA's residential on-bill loan portfolio (2013)
- Green Bank planning \$100 million credit facility for unsecured residential EE loans (2016)

Connecticut

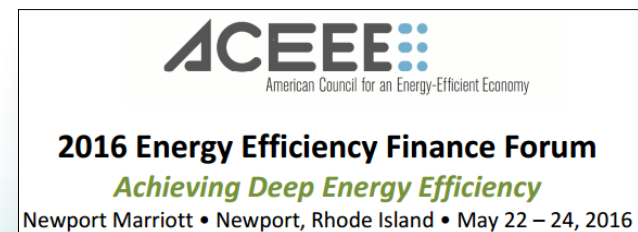
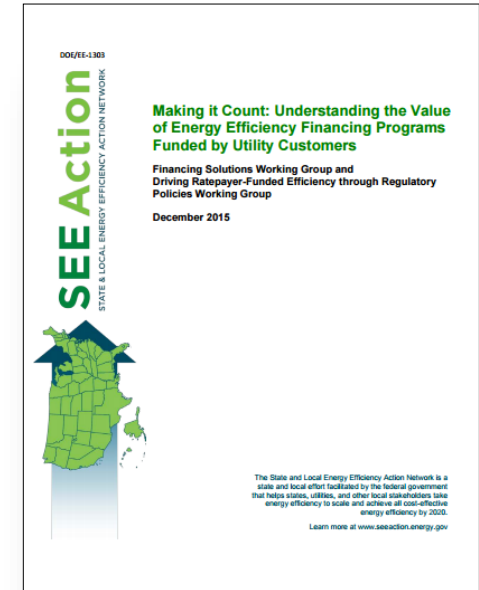
- Green Bank sells \$30 million C-PACE Portfolio to Clean Fund (2014)
- Announces further \$100 million credit facility for C-PACE loans (2016)

Pennsylvania

- Keystone HELP program places \$12.58 million of residential EE loans with the Warehouse for Energy Efficiency Loans (WHEEL) (2015)

Federal

- US DOE clarifies that Green Banks Qualify for federal loan guarantees

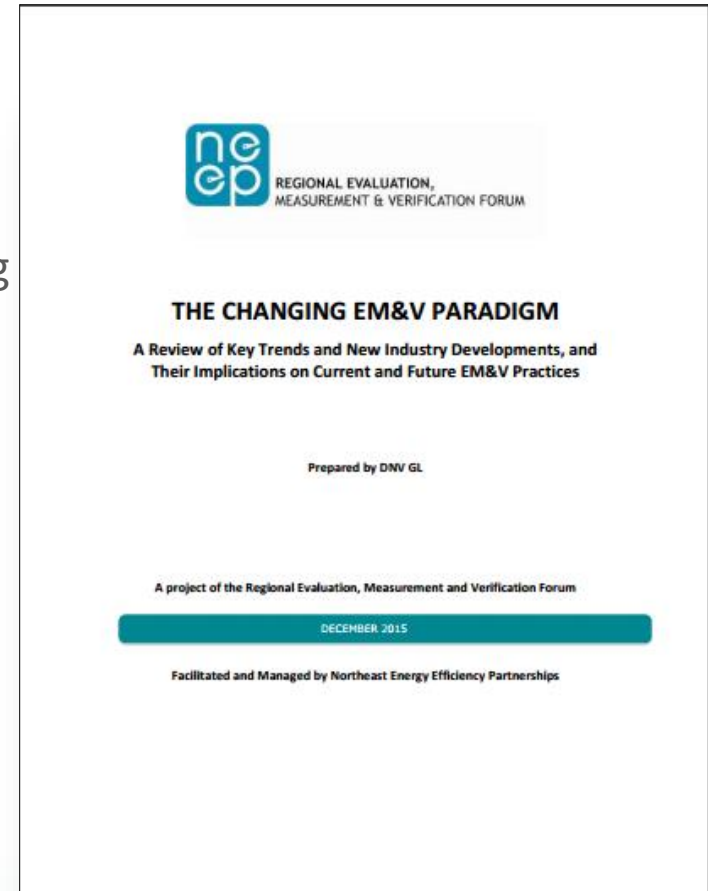


NEXT GENERATION TRENDS

EM&V 2.0



- Next Generation Evaluation, Measurement, and Verification (EM&V 2.0)
 - Many states exploring, not yet fully implementing
- Utilizing quick cycle feedback and **non-intrusive load monitoring** to identify opportunities for energy savings and verify savings
- Opens the door for operational savings that were harder to verify under the measure/incentive approach
- **March 30, 31-** NEEP EM&V Forum Annual Public Meeting, Hartford, CT



DATA PROVIDED ON EACH STATE

RHODE ISLAND AT A GLANCE

Electric Program Expenditures	\$85,348,093
Gas Program Expenditures	\$21,549,375
Per Capita Expenditures	\$101.20
Annual Electric Savings (MWh)	268,468
Annual Electric Savings as a Percent of Retail Sales	3.51%
Annual Gas Savings (Therms)	4,090,292
Annual Gas Savings as a Percent of Retail Sales	0.98%
Annual Avoided Electric Sector Carbon Emissions (tons)	31,471



*2014 program year data as reported to ISO-New England for its 2015 Energy Efficiency Forecast and to the NEEP EM&V Forum for the Regional Energy Efficiency Database (REED). Savings are expressed in net annual terms. Savings include CHP project at Torray Plastics which saved ~1 percent electric retail sales.

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

1. Put consumers at the center of the energy/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 public policy goals.
4. Ensure adequate, stable, long-term funding for efficiency programs.
5. Allow for robust stakeholder input and engagement.
6. Advance comprehensive all-fuel strategies & zero energy buildings.
7. Support 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!

WHAT FUTURE WILL WE CREATE?



“Change is coming quickly. For the innovators in markets and programs, it’s hard to be in the current regulated structure as these new markets develop. We are trying to figure out answers to questions like: What is the role of the grid? Who will pay for the grid that will enable the future we want to see?”

— Sue Coakley, NEEP Executive Director



LET'S KEEP THE CONVERSATION GOING AT NEEP'S ANNUAL SUMMIT!



Next Generation Energy Efficiency

2016 Northeast Energy Efficiency Partnerships Summit

June 13-14, 2016 | Omni Mount Washington Resort



*Picture
yourself here!*

Information on registration, sponsorship, and program at:
neep.org/events/2016-summit
or email Lucie Carriou, Summit Manager: lcarriou@neep.org

Why join NEEP Allies Program?

Who can be an Ally?

Support NEEP activities with your yearly membership of \$5,000.... and gain:

➤ **Visibility**

Obtain more visibility in the Northeast region with a special recognition on our website, during our Annual Summit (300+ attendees), the participation to our blog Energy Efficiency Matters and co-promotions on NEEP's social media.

➤ **Access to our network**

Participate to our Working Groups, Webinars and Workshops with a focus on the topics you are interested in, access to NEEP diverse network (policy makers, efficiency program administrators,...)

➤ **Intelligence**

Receive regular updates about NEEP activities and regional public policies (reports, newsletters), get involved in some of our studies.

Our 2016 Allies – you can join them!



Panasonic
ideas for life

OSRAM
SYLVANIA

ecova

efi

TENDRIL

Franklin Energy

PHILIPS

view | Dynamic Glass



The Edison Foundation

**INSTITUTE for
ELECTRIC INNOVATION**

nest

Schneider
Electric

GoodCents
The power to perform.

OP@WER

Questions?



Extra credit if you can identify this famous student!



Northeast Energy Efficiency Partnerships

Jim O'Reilly joreilly@neep.org, x118

Natalie Treat ntreat@neep.org, x121

Brian Buckley bbuckley@neep.org, x 152

NORTHEAST ENERGY EFFICIENCY PARTNERSHIPS

91 Hartwell Avenue Lexington, MA 02421

www.neep.org