



Action Plan to Accelerate Strategic Electrification in the Northeast

Dave Lis, Director of Technology and Market Solutions

Northeast Energy Efficiency Partnerships

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Today's Presenter from NEEP



Dave Lis,
Director of Technology
and Market Solutions

Webinar Logistics



- This webinar is being recorded and will be made available
- Everyone will be muted for the duration of the webinar
- Complete slide deck can be accessed/downloaded from sidebar
- Enter any questions/comments in the question section of the sidebar. We will have some time after the presentation to answer questions
- We will be including a few poll questions for you to answer

Northeast Energy Efficiency Partnerships



“Assisting the Northeast & Mid-Atlantic Region in Reducing Total Carbon Emissions 80% by 2050”

Mission

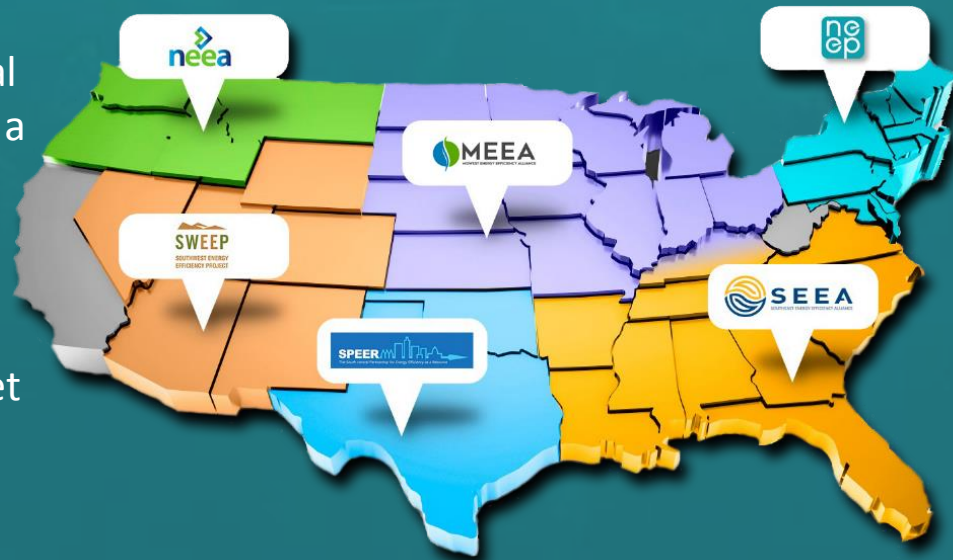
Accelerate energy efficiency as an essential part of demand-side solutions that enable a sustainable regional energy system

Vision

That the 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 through *Collaboration, Education, and Enterprise*



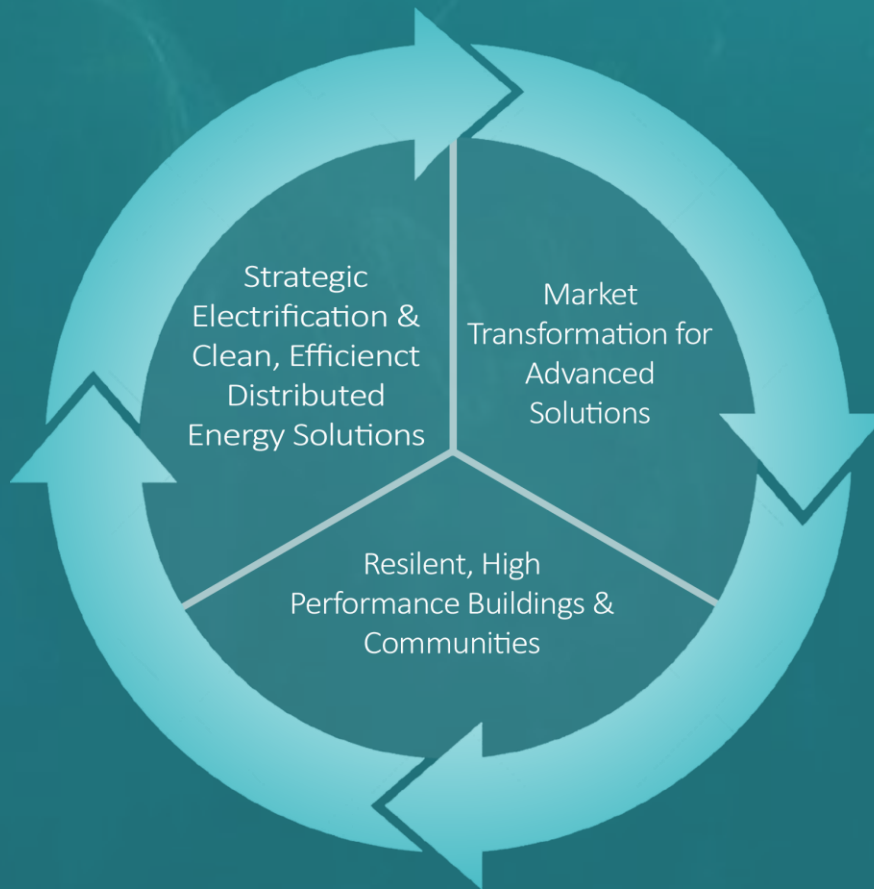


NEEP's Next Generation Efficiency Strategic 2017-2019 Agenda



Advanced Efficiency Leadership Network

For 80% Carbon Reductions by 2050



NEEP Products & Services

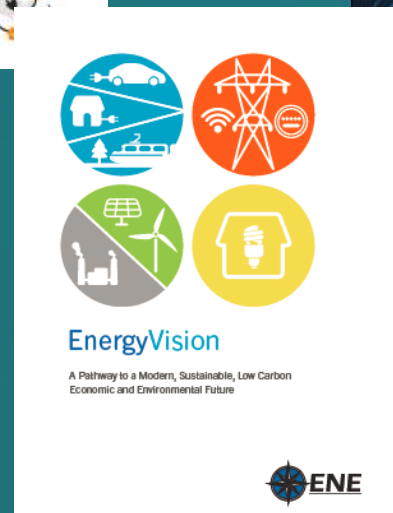
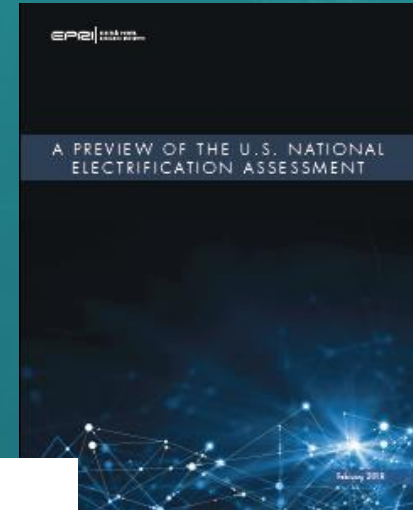
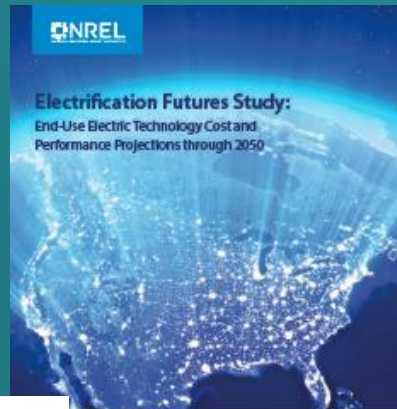
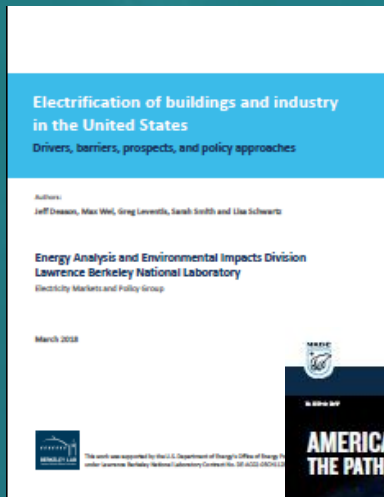
**Events & Stakeholder
Engagement**

**Research, Analysis,
Reports, Case
Studies**

**Regional Market
Transformation
Strategies**

**Technical Assistance
& Web-based
Resource Centers**

Interest ramping up



What brought NEEP and Strategic Electrification together?



Region's Aggressive Carbon Reduction Targets

Table 1. Individual state decarbonization targets¹

Connecticut	80% below 2001 levels by 2050
Maine	75-80% below 2003 levels in the long term
Massachusetts	80% below 1990 levels by 2050
New Hampshire	80% below 1990 levels by 2050
New York	80% below 1990 levels by 2050
Rhode Island	85% below 1990 levels by 2050
Vermont	75% below 1990 levels by 2050

80%

2050

NEEP's Strategic Electrification Project



Feb.
2017-
Assemble
Advisory
Comm.



May
2017-
Develop
Draft
Assess.
Report



June
2017-
Hold
Strat.
Elect.
Summit



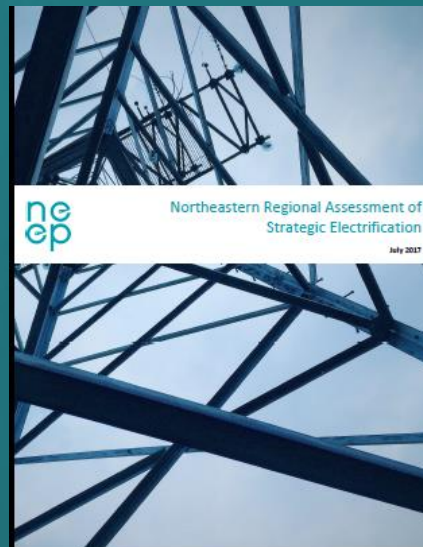
July
2017-
Finalize
Assess.
Report



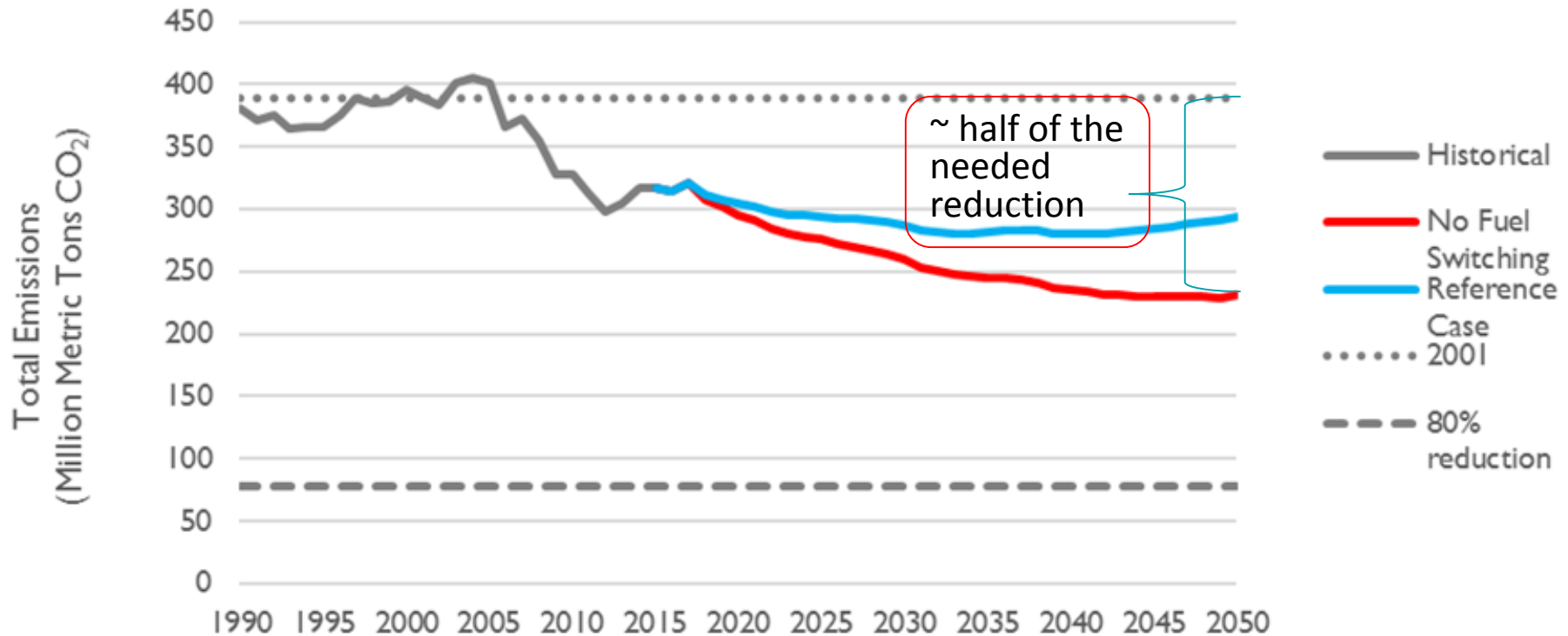
Nov.
2017-
Develop
Draft
Action
Plan



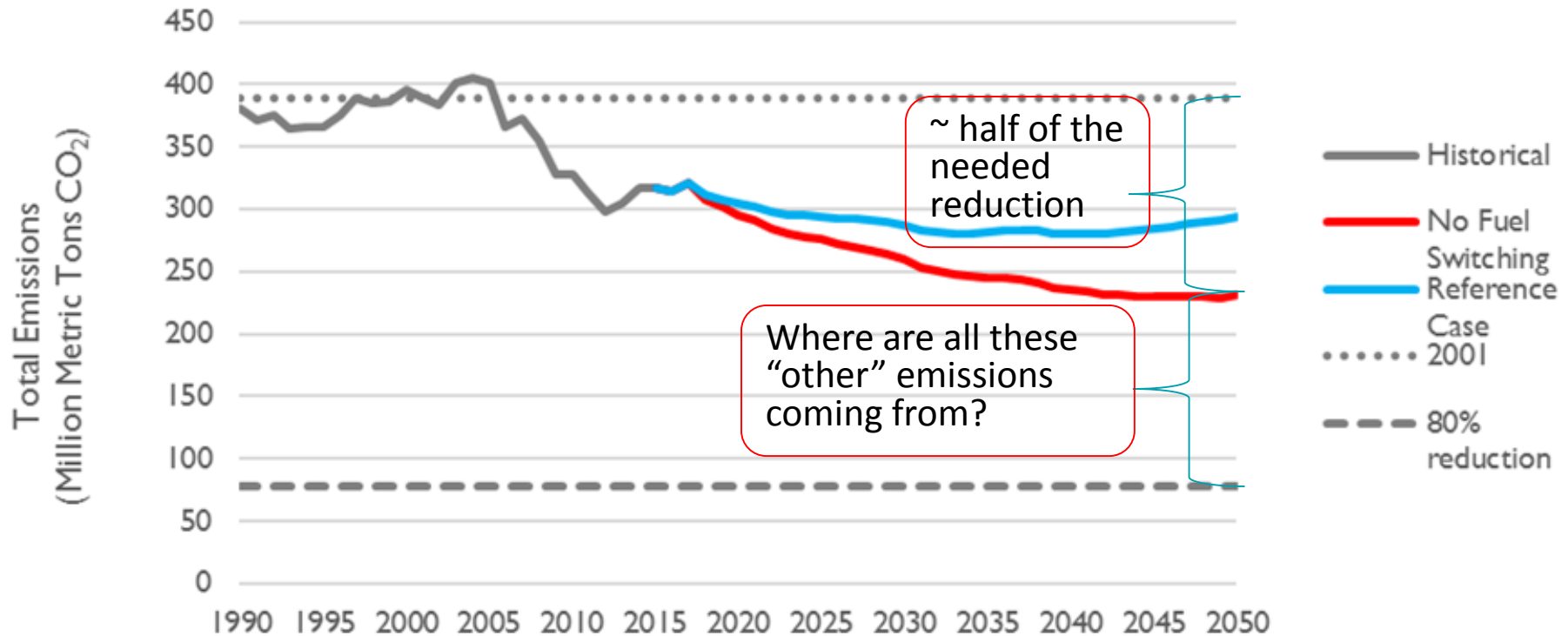
April
2018-
Publish
Action
Plan



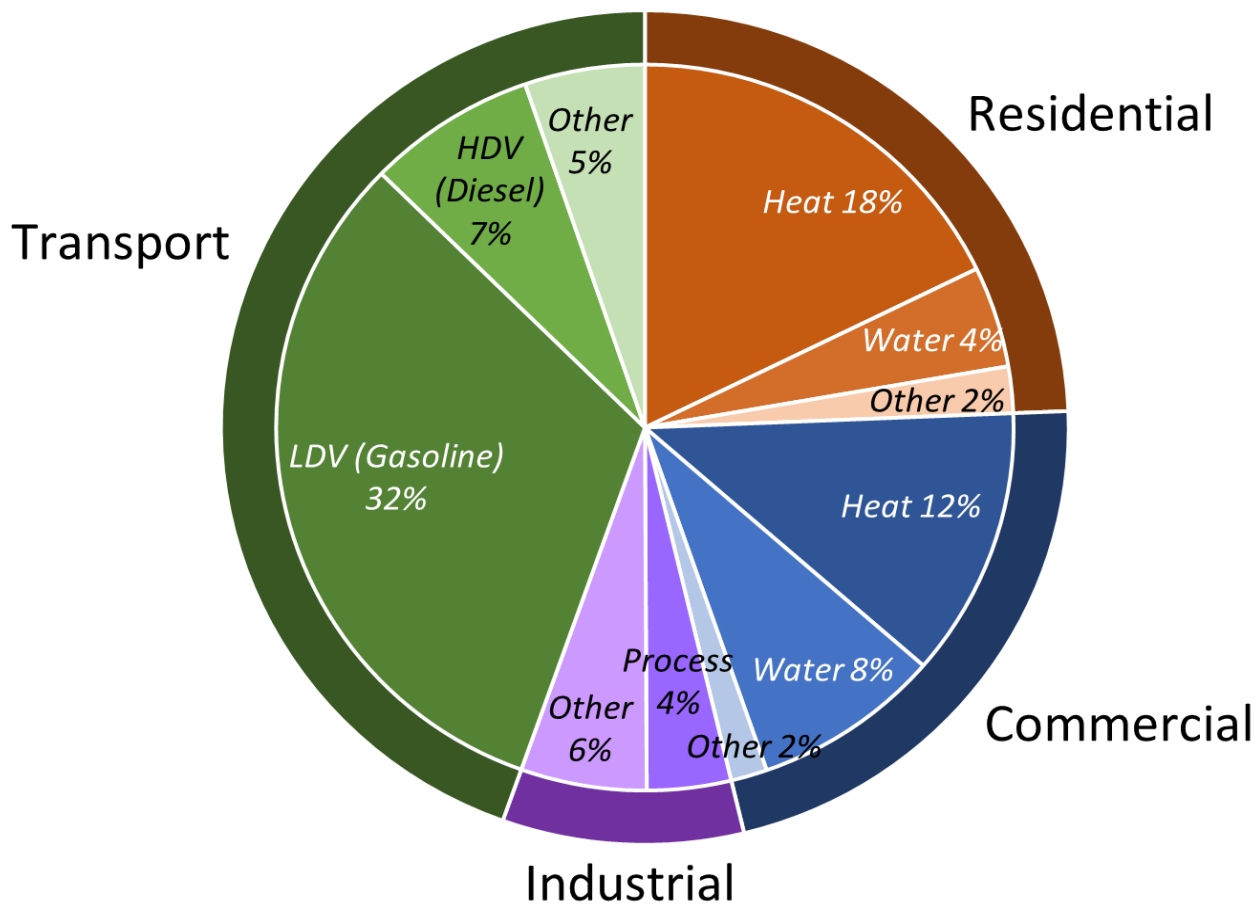
Aren't we on the path to 80% CO₂ reductions?



Aren't we on the path to 80% CO₂ reductions?

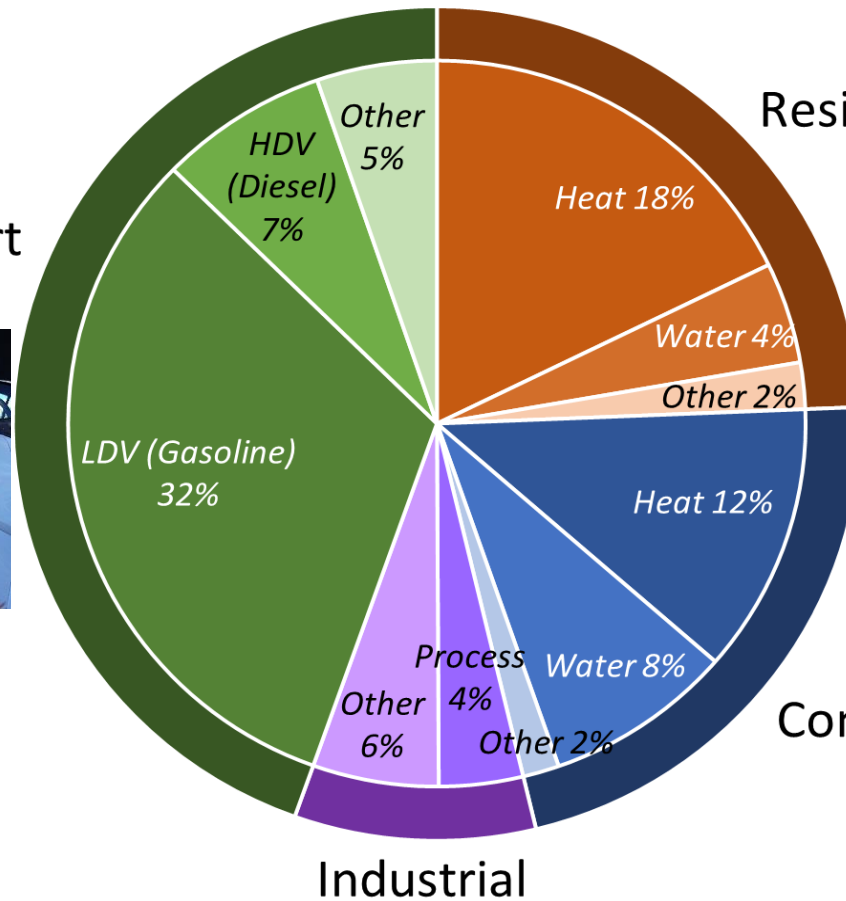


Direct Use of Fossil Fuels (NE/NY)



Advanced Electrification Technologies

Transport



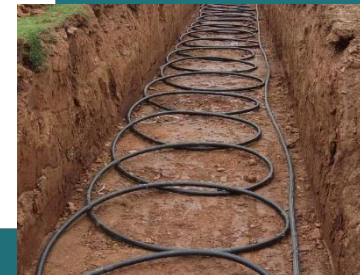
Residential



Commercial



Industrial



“Strategic Electrification” means...

Powering end uses with electricity instead of fossil fuels in a way that increases energy efficiency and reduces pollution, while lowering costs to customers and society, as part of an integrated approach to deep decarbonization.

Market Barriers to Strategic Electrification



Awareness Barriers

- Lack of consumer awareness/confidence
- Lack of contractor education

Supply Chain Barriers

- Insufficient contractor base
- Staff training for O&M
- Inefficient supply chain compared to competitors

Economic Barriers

- High installed costs
- Inadequate financing and ROI
- Capital constraints

Technical & Infrastructure Barriers

- Low refurb rates
- Inadequate performance data
- Inadequate EV charging stations

Policy & Regulatory Barriers

- Fuel switching policies
- Fossil fuel system subsidies
- Lack of economy-wide carbon pricing

Strategic Electrification Accelerators



**Marketing, Outreach,
& Education**



**Mandates &
Targets**



**Emerging
Financing &
Business
Models**



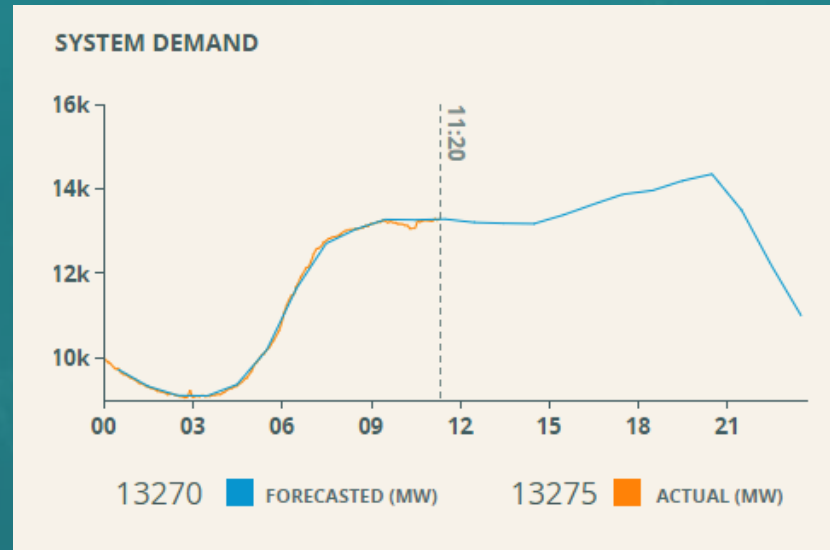
**Pricing-Based
Options**



QA/QC and EM&V

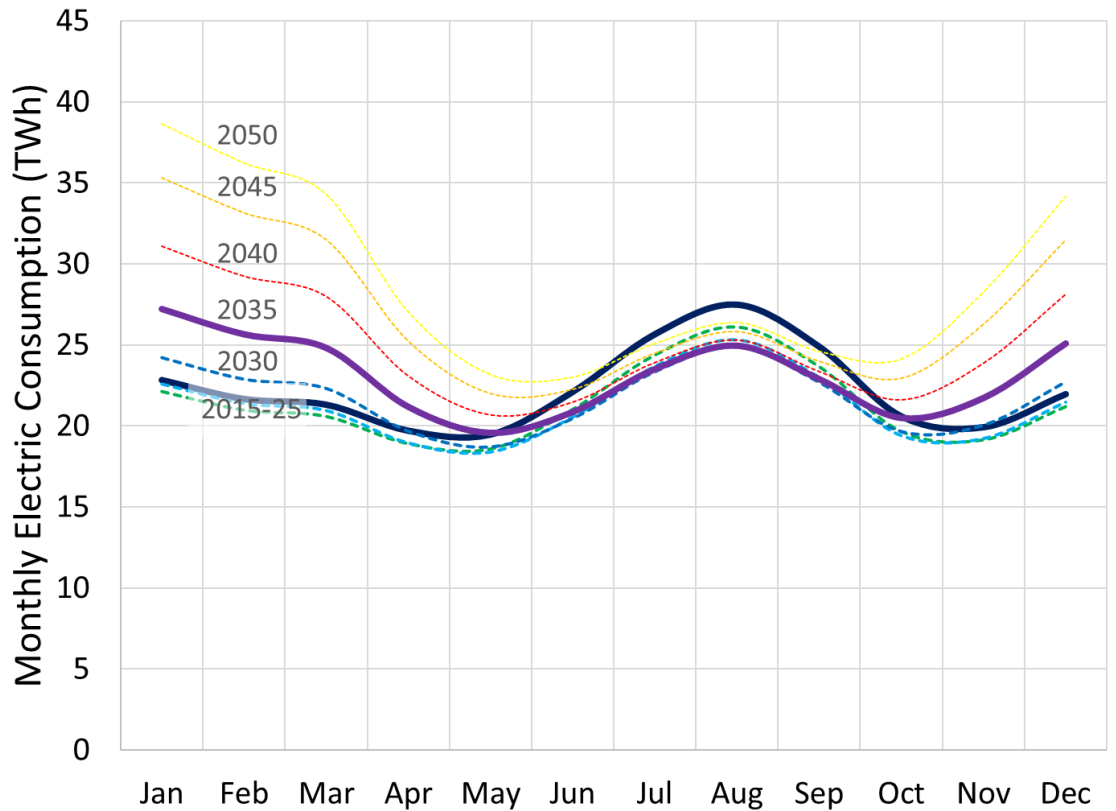


Key Drivers for Strategic Electrification

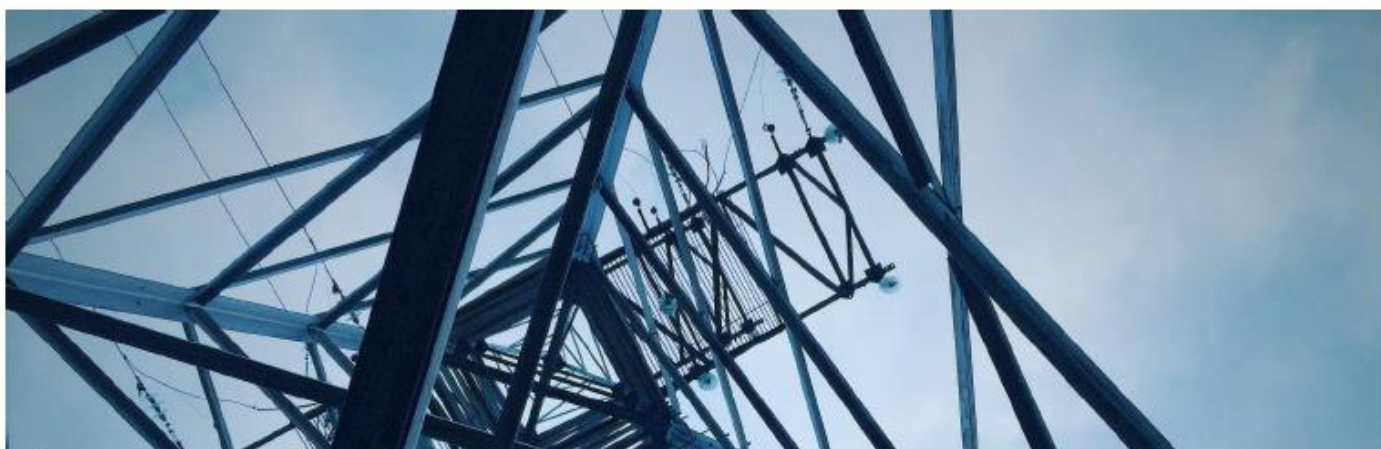


Electrifying inefficient heating loads could create new winter peaks

- January consumption exceeds August in mid-2030s
- Solutions
 - Thermal efficiency
 - Controls



Time to ACT!



Action Plan to Accelerate Strategic Electrification in the Northeast



Key Strategic Electrification Pathways

NEEP's analysis points to three critical elements to a strategic electrification pathway that benefits consumers, businesses and the environment. These are:



Advanced Electric
Technologies

Space/Water
heating, EVs



Deep Energy
Efficiency

Thermal
improvements



Grid
Integration

Flexible use of
electricity

The Action Plan



Establish Goals, Policies,
and Programs for Strategic
Electrification with Deep
Efficiency



Build Public-Private
Relationships to Accelerate
Strategic Electrification
Activities



Protect
Consumers



Support Market Development
for Key Electrification
Pathways



Encourage Local
Leadership



Prioritize Low-Income
Consumers as a Near-
Term Focus



Advance Strategic
Electrification with
Thermal Efficiency in
Homes and Buildings



Provide Public and
Consumer Outreach
and Education



Address Grid
Preparedness to
Effectively Manage
New, Dynamic Loads

Action Area #1



Establish Goals, Policies, and Programs for Strategic Electrification with Deep Efficiency

- Create market certainty through targets, goals, and mandates
- Lead by example
- Adopt building energy codes
- Create mechanisms to support local government
- Develop metrics for clean energy programs

Action Area #2



Build Public-Private Relationships to Accelerate Strategic Electrification Activities

- Invite diverse business stakeholders
- Develop solutions to financing EE and fuel switching
- Educate, train, and retrain skilled workers

Action Area #3



Protect Consumers

- Align incentives for grid utilization/rate reduction
- Implement dynamic rates
- Conduct a wide variety of DER pilots

Action Area #4



Support Market Development for Key Electrification Pathways

- Leverage existing market transformation initiatives
- Support and expand incentives for use of newer efficient technologies
- Launch and support marketing campaigns

Action Area #5



Encourage Local Leadership

- Lead by example
- Use zoning authority to incentivize or require electrification
- Update plans (Land-use, transportation, etc.)

Action Area #6



Prioritize Low-Income Consumers as a Near-Term Focus

- **Develop initiatives**
- **Engage low-income consumers to cross promote benefits**
- **Target new construction/major renovation projects**
- **Provide EV infrastructure in multifamily buildings**

Action Area #7



Advance Strategic Electrification with Thermal Efficiency in Homes and Buildings

- Couple fuel switching with efficiency
- Support innovation in deep energy retrofits
- Expand low-cost financing and leasing
- Allow programmatic promotion of fuel switching and supporting measures

Action Area #8



Provide Public and Consumer Outreach and Education

- Develop educational campaigns
- Incorporate benefit streams in all communications and marketing activities

Action Area #9



Address Grid Preparedness to Effectively Manage New, Dynamic Loads

- Facilitate grid modernization initiatives
- Include strategic electrification in planning
- Develop consistent methodologies to guide forecasting
- Complement central generation with local, distributed energy resources

Lots to learn: Research needs across Action areas

- Current/Best Practices Research
- Technical Research and Development
- Qualitative/Quantitative Analysis
- Strategy Development
- Progress Tracking



Moving from Plan to Action



EASY PART



HARD PART

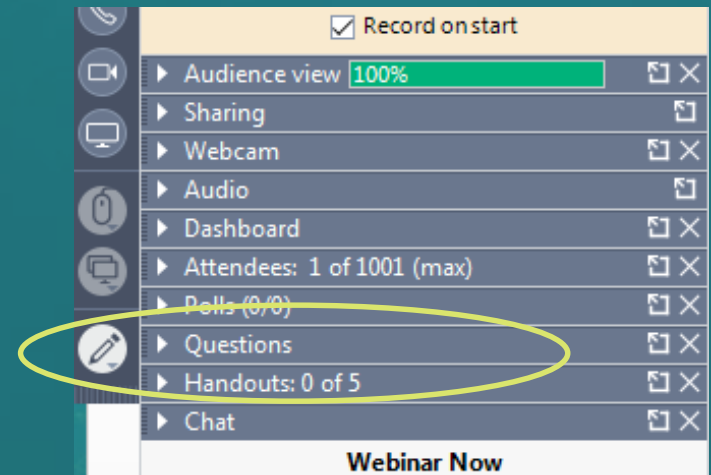
Moving to Action: NEEP Activity going forward



- Convening committed stakeholders to coordinate implementation of Action Plan
- Conducting/Facilitating Research
 - Assessment of how Regional Stakeholders are currently factoring Strategic Electrification into their forecasting, planning, policy/program design
- Managing Regional ASHP Initiative
- Exploring Additional Projects informed by the Action Plan



- Please type your questions into the “question” box in the sidebar



NEEP Resources



- NEEP's Strategic Electrification Resource Center
 - <http://www.neep.org/initiatives/strategic-electrification>
- Strategic Electrification Resource Catalog
 - [http://www.neep.org/sites/default/files/NEEP%20Strategic%20Electrification Resource%20Catalogue Updated%20April%202018.pdf](http://www.neep.org/sites/default/files/NEEP%20Strategic%20Electrification%20Resource%20Catalogue%20Updated%20April%202018.pdf)
- Action plan to Accelerate Strategic Electrification in the Northeast and Mid-Atlantic:
 - <http://neep.org/reports/strategic-electrification-action-plan>
- Regional Assessment of Strategic Electrification Report:
 - <http://www.neep.org/reports/strategic-electrification-assessment>
- 2017 Strategic Electrification Summit:
 - <http://www.neep.org/events/2017-regional-strategic-electrification-summit>
- Northeast/Mid-Atlantic ASHP Market Transformation Report:
 - http://www.neep.org/sites/default/files/NEEP_ASHP_2016MTStrategy_Report_FINAL.pdf

Upcoming NEEP Events

- Renewable Heating & Cooling Workshop, June 18-19 in Saratoga Springs, NY
- 2018 NEEP Summit, October 2-3 in Middletown, RI

THANK YOU!



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