



Smart, Low Carbon Commercial and Industrial Solutions

Smart, Efficient Low Carbon Building Energy Solutions

MISSION

Accelerating adoption of high efficiency technologies, practices and business models that provide integrated commercial and industrial sector solutions that increase efficiency and productivity, reduce costs and carbon emissions, and respond to grid needs.

ABOUT THIS PROJECT

The combined commercial and industrial sector accounts for roughly 45 percent of energy use in the region. Opportunities for energy efficiency abound, yet barriers persist that prevent cost-effective savings from being achieved. NEEP's Integrated C&I Solutions Project addresses this by identifying new efficiency opportunities and supporting solutions to accelerate their adoption on a regional scale. In 2019, NEEP is focused on two key areas: comprehensive savings through Strategic Energy Management (SEM) and super-efficient HVAC solutions in the commercial market. Space heating accounts for roughly 50 percent of energy use in the commercial market. New heating and cooling technologies such as Variable Refrigerant Flow (VRF) and Advanced Roof-top Units (ARTU) offer the region a pathway to reduce energy use, peak power and carbon impacts.

LONG-TERM MARKET TRANSFORMATION GOALS

2025

Strategic Energy Management becomes a standard business practice and is adopted by 40% of the 69,000 manufacturing plants across the region.

Advanced Roof-top Units and VRF systems grow to 33% of the installed RTU base in all Northeast states (from 1% in 2018)

2019 PROJECT OUTCOMES

1. Energy efficiency programs in seven Northeast states (CT, MA, NH, NY, PA, RI, VT) support SEM as a program measure (an increase of 50 percent)
2. Five end-users (companies/municipalities) in the region receive 50001 Ready recognition
3. Programs in four states fund and participate in NEEP's R-22 Phase-out Commercial HVAC market assessment and strategy development

REGIONAL TRENDS & LEADERS

- A growing number of energy efficiency programs in the Northeast offer Strategic Energy Management as a program to achieve valuable energy and demand savings. Recently, MA and RI joined NY and VT in offering SEM programs for their C&I customers.
- U.S. DOE recently launched an exciting new program, 50001 Ready, to assist C&I companies in implementing SEM in their facilities.¹
- Decarbonization of space and water heating is an emerging priority for most Northeast states. CT, MA, NY, RI, and VT have strategies to drive adoption of "clean" or "renewable" heating and cooling technologies.
- NEEP's Action Plan to Accelerate Strategic Electrification (NEEP 2018)² highlights the importance of electrifying space and water heating in the commercial sectors to reduce building carbon emissions.
- The Commercial HVAC market is facing a significant market event. The former industry-standard refrigerant R-22 (hydrofluorocarbon also known as freon) is being phased out worldwide due to its harmful effects on the ozone layer. The phase out presents a time-sensitive opportunity to replace existing HVAC systems that utilize R-22 with super-efficient, grid responsive technologies (e.g., ARTUs or VRF systems).
- New business models (e.g., energy as a service) offer the business community low-risk options to improve building energy efficiency and enable demand-response to reduce T&D system peak demand using a range of technology options.³

¹ See <https://www.energy.gov/eere/amo/50001-ready-program>

² See <https://neep.org/reports/strategic-electrification-action-plan>

³ See Getting to Yes: Scaling Comprehensive Efficiency in Commercial Buildings (NEEP 2018) at: <https://neep.org/getting-yes-scaling-comprehensive-efficiency-commercial-buildings>

2019 Strategies with Associated Products, Services and Technical Assistance

STAKEHOLDER ENGAGEMENT

NEEP will engage a diverse stakeholder group - industry, efficiency programs, state and local government, national labs, U.S. DOE and advocates - to develop and advance long-term regional market transformation strategies to speed the market introduction and adoption of SEM and super-efficient HVAC technologies.

- Northeast/Mid-Atlantic SEM Working Group
- SEM Regional Market Transformation Workshop
- Northeast/Mid-Atlantic "R-22 Phase-out" Working Group (dependent on confirmed funding for joint research)
- Presentations and Briefings

TRACKING & ANALYSIS

NEEP will track and analyze leading efforts and progress across the region and facilitate peer exchange to inspire and transfer learning.

- Web-based Resource Center to include a variety of informational resources to support adoption of SEM and strategies that result from Commercial HVAC research.
- Presentations and briefings focused on opportunities for end-users to adopt, and programs to support their adoption, of 50001 Ready

TOOLS & GUIDELINES

NEEP will provide and develop new strategies and tools as well as provide technical assistance to programs and industry to advance the market adoption of Strategic Energy Management.

- Maintain public access to Community Action Planning for Energy Efficiency (CAPEE) technical assistance module for SEM for Municipal Water/Waste Water facilities (NEEP 2018)
- 50001 Ready Recognition Pilot to provide technical support to regional end-users in their pursuit of 50001 Ready recognition
- Maintain public access to NEEP's EM&V Best Practices & Recommendations for Industrial SEM Programs (NEEP 2017)

RESEARCH & REPORTS

NEEP will maintain access to and support use of NEEP's Regional Market Transformation Strategies:

- Northeast and Mid-Atlantic Industrial Sector Report: Market Assessment & Recommended Strategies to Accelerate Energy Efficiency (NEEP 2016)

Subject to confirmed participant joint funding to undertake market research and analysis NEEP will develop:

- **New** Commercial HVAC Market Assessment and Strategy Report- Market Strategies to leverage R-22 Phase out event

NATIONAL/REGIONAL COLLABORATION

NEEP will leverage state, federal, and national resources to inform state plans and policies.

- Monitor, communicate, present, and coordinate with national and regional organizations (e.g., U.S. DOE, U.S. EPA, National Labs, National/Regional SEM collaboratives, etc.)
- Disseminate U.S. DOE best practices and link states to federal programs and resources
- Engage with stakeholders to contribute to the development of national programs

