



# Regional Energy Efficiency Database (REED) Supporting Information

December 2020



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## About NEEP

NEEP was founded in 1996 as a non-profit whose mission is to serve the Northeast and mid-Atlantic to accelerate regional collaboration to promote advanced energy efficiency and related solutions in homes, buildings, industry, and communities. Our vision is that the region's homes, buildings, and communities will be transformed into efficient, affordable, low-carbon resilient places to live, work, and play.

**Disclaimer:** NEEP verified the data used in this document to the best of our ability. This paper reflects the opinion and judgments of the NEEP staff and does not necessarily reflect those of NEEP board members, NEEP sponsors, or project participants and funders.

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## Executive Summary

Since 2011, the Regional Energy Efficiency Database (REED) has been making ratepayer-funded energy efficiency program data readily available from the following Northeast and mid-Atlantic states and the District of Columbia: Connecticut, Delaware, Massachusetts, Maryland, Maine, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont. REED was developed by the Regional Evaluation Measurement & Verification (EM&V) Forum (which has been discontinued) and is based on the Forum's [Common Statewide Energy Efficiency Reporting Guidelines](#), which were adopted in 2010.

REED is a publicly available resource that allows interested parties to access program data and compare the performance of electric and natural gas energy efficiency programs in the region. REED metrics include annual and lifetime energy and demand savings, expenditures, cost of saved energy, avoided air emissions, and job impacts.

Consistent access to this type of data helps states gauge progress toward state and regional energy and demand goals, air quality and greenhouse gas compliance plans, and economic development strategies. REED also allows users to benchmark or compare reported data across states to help identify where program performance may differ from state to state and to help identify program best practices.

This report complements data collected for REED and helps ensure informational transparency. Although some of the energy efficiency program metrics are consistent across the states and the District of Columbia, reporting of energy efficiency program impacts, EM&V practices, and approval processes vary across the region in a number of ways. It is important to consider variations in state practices in the following areas when interpreting REED data:

- Reporting and approval processes
- Tracked versus evaluated savings
- Gross savings adjustments
- Net savings adjustments
- Evaluation, measurement, and verification (EM&V) protocols used

This report highlights some of these differences across states to ensure that REED data are not misconstrued or misrepresented. It begins with a general supporting information section that provides detailed information on the metrics that REED collects, along with a number of additional resources. Following the general supporting information, this report provides an overview of relevant state program administrators and reporting practices for each REED state and the District of Columbia.

## General Supporting Information

This supporting information provides transparency for REED's energy efficiency program data and should be used to help interpret the data. Please see each state's **State Documents and Key Information** section below for additional background on energy efficiency programs, including energy savings adjustments, state review practices, EM&V protocols, and links to supporting documentation.

### *REED Background and Scope*

REED focuses on electric and natural gas energy efficiency savings, impacts, and program expenditures in the Northeast and mid-Atlantic region, funded by natural gas and electric service ratepayers. Most of the jurisdictions participating in REED were also members of the Regional Evaluation Measurement & Verification (EM&V) Forum, a group NEEP led from 2008 to 2016. REED's scope and reporting framework are based on the EM&V Forum's [Common Statewide Energy Efficiency Reporting Guidelines](#), which the EM&V Forum Steering Committee adopted in 2010. The purpose of the guidelines, and of REED, is to provide a common "currency" of reported energy efficiency data to support multiple state and regional energy and environmental policies and objectives.

REED provides annual energy efficiency program results at the state, sector, administrator, and program levels. It is important to note that the definition of an energy efficiency program may vary from state to state, and currently REED includes programs that fall into each state's definition of an energy efficiency program. Future NEEP research will outline the differences in state definitions across the region.

### *Avoided Air Emissions*

REED calculates avoided carbon dioxide (CO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), and sulfur dioxide (SO<sub>2</sub>) emissions based upon annual emission factors for each of the three sub-regions, ISO-NE, NYISO, and PJM. REED may ultimately use marginal emissions factors to calculate avoided emissions in the future when such factors become available using a consistent methodology. Avoided emissions are calculated for electric programs only.

Annual emissions factors used in REED for the program year 2018 data are as follows:

- **ISO-NE:** CO<sub>2</sub> = 658 pounds per megawatt hour (lbs/MWh), NO<sub>x</sub> = 0.3 lbs/MWh, SO<sub>2</sub> = 0.10 lbs/MWh
- **NYISO:** CO<sub>2</sub> = 479 lbs/MWh; NO<sub>x</sub> = 0.195 lbs./MWh; SO<sub>2</sub> = 0.082 lbs/MWh
- **PJM:** CO<sub>2</sub> = 888 lbs/MWh, NO<sub>x</sub> = 0.49 lbs/MWh, SO<sub>2</sub> = 0.64 lbs/MWh

The emission factors used in REED for program years 2011-2017 are available in [this document](#).

### *Combined-Heat-and-Power (CHP) Programs*

Combined-heat-and-power programs are included in REED if the programs are 1) ratepayer-funded, 2) thought of as an energy efficiency program within a state, and 3) reported by the state reporting contacts to REED. However, REED collaborates with ISO-NE to collect electric efficiency data in New England, and ISO-NE directed state reporting contacts not to include CHP projects in their data collection form. Therefore, before 2014, CHP programs were not reported to REED for the New England states, but they could have possibly been reported for New York, Maryland, Delaware, and the District of Columbia.

In 2014, CHP project savings and expenditures were added back into the ISO-NE data for Massachusetts and Rhode Island.

## Cost of Saved Energy

Cost of saved energy calculations are based on American Council for an Energy-Efficient Economy (ACEEE)'s recommended approach in its 2009 [Saving Energy Cost-Effectively](#) report. Participant costs are not included.

Cost of saved energy is calculated using the following equations:

- Lifetime Cost of Electric Energy Savings = Total Program Expenses / Lifetime Net kilowatt hour (kWh) Savings
- Lifetime Cost of Natural Gas Energy Savings = Total Program Expenses / Lifetime Net Therm Savings
- Levelized Cost of Electric Energy Savings = Total Program Costs x Capital Recovery Factor (CRF) / Incremental Annual Net kilowatt hour (kWh) Savings
- Levelized Cost of Natural Gas Energy Savings = Total Program Costs x CRF / Incremental Annual Net Therm Savings
  - The CRF is calculated as follows:  $[A * (1+A)^B] / [(1+A)^B - 1]$ , where A = the real discount rate, and B = estimated measure life.
  - For program years 2011–2016, a real discount rate of 2.46% is used, which was agreed upon by all jurisdictions that report data to REED. (Source: [2011 Avoided Energy Supply Costs in New England](#) study.)
  - For program years 2017–2018, a real discount rate of 1.34% is used. (Source: [2018 Avoided Energy Supply Components in New England](#) study.)
  - REED uses a consistent discount rate across the states for comparison purposes, however in practice, states use different discount rates for their cost effectiveness assessments.

## Demand Response

REED does not include data on demand response programs that are bid into wholesale capacity markets even if those programs are administered by a utility or funded with ratepayer money. REED includes data on *hybrid* programs that have both an energy efficiency element and a demand response element within a single program (such as smart thermostat programs or behavior-based programs, etc.) and plans to continue to do so as these pilots and programs become more prominent across the region. REED also includes data on dynamic pricing programs.

Please see the links below for information about demand response programs that are bid into wholesale capacity markets within the REED region:

### Independent System Operator–New England (ISO-NE) Resources:

- Demand Threshold [Price Details](#): Users can download a detailed report on demand-response threshold prices including the reference month supply curve data as market-level price/quantity pairs, as well as other adjustments.
- Demand Threshold [Price Summary](#): Users can download a summary report that includes the monthly demand-response threshold price, fuel index, and other related information.

### New York Independent System Operator (NY-ISO) Resources:

- [Document Library](#): This library includes NY-ISO regulatory resources, manuals, technical bulletins and guides, and podcasts.

## PJM Interconnection Resources:

- Demand Response Operations Markets Activity Reports: [2013](#); [2014](#); [2015](#); [2016](#); [2017](#); [2018](#); [2019](#).
- Additional PJM demand response [information](#): “Demand Response is a voluntary PJM program that compensates end-use (retail) customers for reducing their electricity use (load), when requested by PJM, during periods of high power prices or when the reliability of the grid is threatened. These customers receive payments from PJM members called Curtailment Service Providers.”

## Demand Savings

REED allows for reporting of both summer and winter net and gross peak demand savings. Not all states report all parameters.

- **New England:** All states’ peak demand reporting is consistent with ISO-NE’s definition of summer and winter peak demand.
- **New York:** Program administrators report only summer peak demand reductions per the NYISO. From the Peak Demand Definition section (pg. 8) in the 10/15/10 Technical Manual: “According to the NYISO, system peaks generally occur during the hour ending at 5 pm on the hottest non-holiday weekday. The peak day can occur in June, July, or August—depending on the weather. Program Administrators should calculate coincident peak demand savings based on the hottest summer non-holiday weekday during the hour ending at 5pm.”
- **Mid-Atlantic:** All jurisdictions that report to REED use reporting definitions that are consistent with PJM’s definition of peak demand.
  - **Delaware** does not report winter peak demand savings.
  - Before 2013, the **District of Columbia (DC)** did not report winter peak demand savings. DC typically reports winter peak demand savings for some of its programs.
  - **Maryland** does not report winter peak demand savings. REED includes Maryland’s 2011 and 2012 demand response programs because the EmPOWER Maryland surcharge covers both energy efficiency and demand response programs. However, REED does not include demand response programs for subsequent years.

## Distributed Generation

Distributed generation programs are included in REED if those programs are 1) ratepayer-funded, 2) thought of as an energy efficiency program within a state, and 3) reported by the state reporting contacts to REED. However, REED collaborates with ISO-NE to collect electric efficiency data in New England, and ISO-NE directs state reporting contacts not to include distributed generation projects in their data collection form. Therefore, distributed generation programs are not reported to REED for the New England states, but they could have possibly been reported for New York, Maryland, Delaware, and the District of Columbia.

## Energy Savings

Some REED program data includes negative gas or electric energy savings. This can be due to interactive effects. An example of interactive effects can be seen in lighting programs: high efficiency lighting generates less heat than conventional lighting, which can increase heating requirements and decrease cooling requirements. This can produce negative natural gas energy efficiency savings. Some program administrators consider these interactive effects, which accounts for negative energy efficiency savings. Programs in REED that report negative electric energy efficiency savings will also have negative avoided air emissions in the REED Master Data spreadsheet, since avoided air emissions are calculated based on electric energy savings.



## Expenditures

- REED was initially developed using the following expenditure categories for each program: *Customer Rebates or Incentives, Administration, Marketing, Performance Incentives, Research and Evaluation, and Other*. Because some states do not track expenditures according to the REED expenditure categories or allocate expenditures differently across programs (in particular for *Administration* and *Marketing* expenditures), or both, the REED Master Data spreadsheet includes only a total expenditure amount for each program. The expenditures data are not divided into the REED expenditures categories in order to prevent misunderstanding or misuse of data.
- Some states report energy efficiency programs with expenditures and no savings.
- Some states report negative program expenditures, likely due to unique state accounting practices. NEEP plans to research these instances further.

## Generator Level Savings

REED's generator level savings are calculated using a regional transmission and distribution (T&D) loss factor for energy and demand in each of the three REED sub-regions: ISO-NE, PJM and NY-ISO as follows for each year:

- ISO-NE: 8.0% for program years 2011-2015; 6.0% for program years 2016–2018
- NY-ISO: 8.5% for program years 2011-2012; 7.2% for program years 2013–2018
- PJM: 8.5% for program years 2011-2013; 8.1% for program years 2014–2018

## Job Impacts

REED aims to include estimated annual job creation impacts of energy efficiency programs, although most states do not have state-specific studies or data. Where reported, the methodology for estimating job impacts varies across states. The following jurisdictions reported job impacts for their 2018 programs:

- The **District of Columbia's** job impacts are based on the number of hours directly worked by DC residents earning at least a living wage from working on District of Columbia Sustainable Energy Utility (DC SEU) activities. For 2018, one job equals 1,950 hours worked by the DC SEU staff and subcontractors. The verified number is 86.5 full-time equivalent (FTE) jobs created for fiscal year 2018. The DC SEU's contract metric for jobs requires full documentation of each hour worked on DC SEU activities. This documentation requirement means that contractors must regularly submit complete payroll records to the DC SEU.
- **Rhode Island's** job impacts are a result of both electric and natural gas efficiency programs. Rhode Island used average installation time, scaled by the number of widget installations in each program, and interviewed contractors. For 2018, Rhode Island reported 804.1 FTE direct jobs. In previous years, Rhode Island job impacts were based on economic impacts from energy efficiency expenditures using a Regional Economic Models, Inc. (REMI) based model for New England developed by Environment Northeast.
- For **New York**, only PSEG-Long Island reported 2018 job impacts. IMPLAN modeling software was used to estimate the economic impacts of the Energy Efficiency Portfolio investments on the economy of Long Island. This modeling software output doesn't separate FTEs by direct and indirect jobs. On an aggregate level, the 2018 investments are expected to create an employment benefit of 1,127 new FTEs over a 10-year period.
- For **New Hampshire**, Liberty Utilities and Eversource reported 2018 job impacts:

- Liberty Utilities reported direct job impacts based on an evaluation of the New Hampshire Better Buildings Program Report, 2013, page 14. For the residential sector, there are an estimated 7.5 FTEs per \$1 million; for the commercial and industrial sector, there are an estimated 3.3 FTEs per \$1 million. Liberty reported 95 total program direct jobs. Indirect job impacts were drawn from the Regional Input-Output Modeling System (RIMS II), Regional Product Division, Bureau of Economic Analysis. Multipliers are based on the 2010 Annual Input-Output Table for the nation and 2010 regional data. Liberty reported 31 total program indirect jobs.
- Eversource reported direct and indirect job impacts based on a study from the Political Economy Research Institute (PERI) of the University of Massachusetts at Amherst (2012) that stated every million dollars spent on energy-efficient measures, such as building retrofits, produces seven direct jobs and 4.9 indirect jobs. Eversource reported 185 total program direct jobs and 129 total program indirect jobs from its 2018 programs.
- **Vermont** estimates job impacts from its energy efficiency programs using a REMI-based model from the [Vermont DPS Energy Efficiency Economic Impact Study](#) developed by Optimal Energy.

For more information about energy efficiency jobs across the country, see E4theFuture's new 2020 [Energy Efficiency Jobs in America](#) report.

### Peak to Energy Savings Ratio

Peak to Energy Savings Ratio is calculated as:

$$\text{Peak to Energy Savings Ratio} \left( \frac{MW}{GWh} \right) = \frac{\frac{\text{Net Summer Demand Savings}}{\text{Meter level (MW)}}}{\frac{\text{Net Annual Energy Savings}}{\text{Electric Meter level (MWh)}}} \times \frac{1000 \text{ MWh}}{1 \text{ GWh}}$$

### Program Type Limitations

REED's program type categories do not neatly fit for all programs because some programs cut across categories. In most cases, state reporting contacts have selected the program type category that most closely fits each program. In cases when the state reporting contact does not provide direction on the appropriate program type category, NEEP staff makes this determination to the best of their ability.

## State Documents and Key Information—Connecticut

This section provides key information about Connecticut's energy efficiency savings calculations and reporting practices, along with links to key state documents including plans, reports, and other relevant resources. The information is collected through REED's annual state data collection process or obtained from state resources.

### *Program Administrators and Reporting/EM&V Practices*

- **Connecticut Program Administrators in REED:** Connecticut Light & Power doing business as Eversource CT Electric, Connecticut Gas, Southern Connecticut Gas, United Illuminating, and Yankee Gas doing business as Eversource CT Gas.
- **Savings:** Expenditures and savings figures do not include municipal utility programs; gross savings figures do not include United Illuminating programs.
- **Energy Savings Goals:** Electric: 1.13% retail sales for 2019-2021. Gas: 0.60% retail sales for 2019-2021 (based on forecasted retail sales).

### *Key Plans, Reports, and Savings Assumptions Resources*

- Connecticut's legislation mandating [all cost effective energy efficiency](#)
- Connecticut's Program Savings Documents (Technical Reference Manuals): [2011](#); [2012](#); [2013](#); [2014](#); [2015](#); [2016](#); [2017](#); [2018](#); [2019](#)
- Connecticut's current and approved [Conservation and Load Management Plans](#). The current C&LM plan covers 2019 – 2021.
- Connecticut's [Program Evaluation Reports](#)
- Connecticut's [Energy Efficiency Fund Annual Legislative Reports](#)
- Connecticut's [Energy Efficiency Board Document Library](#)
- Connecticut's [Evaluation Reports and Studies](#)
- Connecticut's [Statewide Energy Efficiency Dashboard](#)

### *Evaluation Process*

The Connecticut Energy Efficiency Board (EEB) includes an [Evaluation Committee](#) consisting of non-utility EEB members who work directly with an EEB Evaluation Consultant team to oversee energy efficiency program evaluation planning and completion. This role includes evaluation planning, study development, contractor selection, project initiation, project management and completion, and finalization of evaluation reports. Energy efficiency program administrators (Connecticut Light & Power and United Illuminating) assist the Evaluation Committee and evaluation consulting team but do not hold a primary role in evaluation. The Connecticut Department of Energy and Environmental Protection has overall oversight authority of evaluation. See the EEB's [2019–2021 Evaluation Plan](#) for current and future evaluation projects.

## State Documents and Key Information—District of Columbia

This section provides key information about the District of Columbia's energy efficiency savings calculations and reporting practices, along with links to key state documents including plans, reports, and other relevant resources. The information is collected through REED's annual state data collection process or obtained from state resources.

### *Program Administrator and Reporting/EM&V Practices*

- **District of Columbia Program Administrator Included in REED:** District of Columbia Sustainable Energy Utility (DC SEU).
- **Expenditures:** Programs are funded through the Sustainable Energy Trust Fund, which is financed by a surcharge on all electric and natural gas utility ratepayers in DC.
- **Program Year:** DC's energy efficiency programs are conducted on a fiscal year basis: October 1 to September 30.
- **Energy Savings Goals:** Electric: 1.06% (minimum target) to 1.5% (maximum target) retail sales for 2017-2018. Gas: 0.66% (minimum target) to 1.0% (maximum target) retail sales for 2017–2018 (based on 2014 retail sales).

### *Key Plans, Reports, and Savings Assumptions Resources*

- The District of Columbia's Program Savings Documents (Technical Reference Manuals): [2011](#); [2013](#); [2014](#); [2015](#); [2017](#); [2018](#); [2019](#)
- The District of Columbia's [Program Evaluation Reports](#)
- The District of Columbia's [Program Administrator Annual Reports](#)
- The District of Columbia's [Energy Efficiency, Demand Response, and Renewable Energy Potential Studies](#)

### *Evaluation Process*

In 2008, the District of Columbia enacted the Clean and Affordable Energy Act, which created the Sustainable Energy Trust Fund and authorized the creation of the District of Columbia Sustainable Energy Utility (DC SEU). It also designated the DC SEU to be the one-stop resource for energy efficiency and renewable energy services for DC residents and businesses. In 2011, the [District Department of the Environment \(DDOE\)](#) selected Vermont Energy Investment Corporation (VEIC) to be the lead implementer for the DC SEU. A separate third-party contractor is retained to conduct program evaluations.

The DC SEU must release quarterly reports that detail how it implements energy efficient policies and programs. At the end of each contract year, DDOE must commission an independent evaluation of the DC SEU's performance.

For more information about DC SEU programs, including contractor resources, visit the [DC SEU website](#).



## State Documents and Key Information—Delaware

This section provides key information about Delaware’s energy efficiency savings calculations and reporting practices, along with links to key state documents including plans, reports, and other relevant resources. The information is collected through REED’s annual state data collection process or obtained from state resources.

### *Program Administrators and Reporting/EM&V Practices*

- **Program Administrator Included in REED:** Delaware Division of Energy and Climate, Delaware Sustainable Energy Utility/Energize Delaware.
- **Expenditures:** Delaware’s Energy Efficiency Investment Fund program is capitalized annually with \$5 million in public utility tax receipts. Non-residential electric or natural gas consumers located in Delaware that pay the Delaware Public Utility Tax are eligible to apply to the program. Programs administered by the Delaware Sustainable Energy Utility/Energize Delaware are funded through Regional Greenhouse Gas Initiative (RGGI) proceeds.
- **Energy Savings Goals:** Voluntary energy savings targets. Electric: 2018 = 0.7%, 2019 = 1.0%. Gas: 2018 = 0.3%, 2019 = 0.5%.

### *Key Plans, Reports, and Savings Assumptions Resources*

- Delaware’s legislation mandating [all cost effective energy efficiency](#)
- Delaware’s Program Savings Documents (Technical Reference Manuals): [2011](#); [2013](#); [2014](#); [2015](#); [2017](#); [2018](#); [2019](#)
- Delmarva’s 2017-2019 [Energy Efficiency Program Plan](#)
- Delaware Sustainable Energy Utility/Energize Delaware [Strategic Plan](#)
- Delaware Sustainable Energy Utility/Energize Delaware [Annual Reports](#)
- Delaware Sustainable Energy Utility/Energize Delaware [Executive Director Reports & Monthly Program Activity Reports](#)
- Delaware Sustainable Energy Utility/Energize Delaware [2018 Annual Report](#)
- 2019 [Delaware Energy Efficiency Market Potential Study Update](#) and original 2014 [Study of Potential for Energy Savings in Delaware](#)

### *Evaluation Process*

Senate Bill 150 with House Amendment 2 (passed on July 1, 2014) directs Delaware utilities to provide cost-effective energy efficiency programs. The [Delaware Energy Efficiency Advisory Council](#) (EEAC) was created in 2014 to assist with the development of Delaware’s energy efficiency programs. The Delaware Department of Natural Resources and Environmental Control (DNREC) Division of Climate, Coastal, & Energy has statutory oversight and is responsible for establishing and overseeing EM&V regulations for the energy efficiency programs. For more information, see the [DNREC EM&V website](#).

In 2015, Delaware finalized regulations governing [Evaluation, Measurement, and Verification Procedures and Standards](#).

For more information about Delaware Sustainable Energy Utility/Energize Delaware programs, visit the [Delaware Sustainable Energy Utility/Energize Delaware](#) website.

## State Documents and Key Information—Massachusetts

This section provides key information about Massachusetts’ energy efficiency savings calculations and reporting practices, along with links to key state documents including plans, reports, and other relevant resources. The information is collected through REED’s annual state data collection process or obtained from state resources.

### *Program Administrators and Reporting/EM&V Practices*

- **Program Administrators Included in REED:** Bay State Gas, Berkshire Gas, Cape Light Compact, Columbia Gas of Massachusetts, National Grid Electric and Gas, New England Gas, NSTAR Electric and Gas (Northeast Utilities), Unitil Electric and Gas and WMECO.
- **Expenditures:** The *Other* expenditures category includes sales, technical assistance, and training funds.
- **Program Types:** Massachusetts programs without savings are assigned to the *Education* program type category.
- **Energy Savings Goals:** Electric: 2.70% retail sales for 2019–2021. Gas: 1.25% retail sales for 2019–2021 (based on forecasted retail sales).

### *Key Plans, Reports, and Savings Assumptions Resources*

- Massachusetts’ legislation mandating the pursuit of [all cost effective energy efficiency](#)
- Massachusetts’ Program Savings Documents (Technical Reference Manuals): [2011](#); [2012](#); [2013-2015](#); and [2016-2018](#)
- Massachusetts’ [Energy Efficiency Program Plans](#)
- Massachusetts’ [Evaluation, Measurement and Verification Studies](#)
- Massachusetts’ [Program Administrator Annual Reports](#)

### *Evaluation Process*

The [Massachusetts Department of Public Utilities \(MA DPU\)](#) requires all program administrators to include evaluation plans as part of their three-year energy efficiency plans. The evaluation plans identify the activities that will be taken to ensure that programs are monitored and evaluated, and that savings and costs are measured and verified. All evaluations are statewide, typically administered by individual program administrators, are planned and performed in collaboration with the Massachusetts Energy Efficiency Advisory Council (MA EEAC), and are performed by standing contractors.

Evaluation activities are overseen by a designated evaluation consultant who reports to the MA EEAC and the Massachusetts Department of Energy Resources (MA DOER). The EM&V Management Committee provides a forum for statewide evaluation issues, and it provides guidance, planning and direction to each evaluation research area. In 2019, MassSave program administrators implemented their third three year plan through 2021.

For more information, see evaluation plans and reports on the [MA EEAC Evaluation](#) website, including the [2019–2021 Massachusetts Statewide Energy Efficiency Strategic Evaluation Plan](#).

## State Documents and Key Information—Maryland

This section provides key information about Maryland’s energy efficiency savings calculations and reporting practices, along with links to key state documents including plans, reports, and other relevant resources. The information is collected through REED’s annual state data collection process or obtained from state resources.

### *Program Administrators and Reporting/EM&V Practices*

- **Maryland Program Administrators Included in REED:** Baltimore Gas & Electric, Delmarva Power & Light, Potomac Edison, Potomac Electric Power Company, Southern Maryland Electric Cooperative, and Washington Gas. Delmarva program data is not included for 2018.
- **Demand Savings:** Demand savings data are not included for program year 2018.
- **Energy Savings Goals:** Electric: 2.0% retail sales (2020 goal).

### *Key Plans, Reports, and Savings Assumptions Resources*

- Maryland’s legislation establishing [an energy efficiency resource standard](#)
- Maryland’s Program Savings Document (Technical Reference Manual): [2011](#); [2013](#); [2014](#); [2015](#); [2017](#); [2018](#); [2019](#)
- Maryland’s [Energy Efficiency Program Plan](#)
- Maryland’s [EmPOWER Maryland Energy Efficiency Act Annual Reports](#) (scroll down below *Wind Energy Reports*)
- Maryland’s [EmPOWER Planning History](#), including [Natural Gas Energy Efficiency Potential in Maryland](#) study

### *Evaluation Process*

In Maryland, the EmPOWER Maryland utilities provide programs and retain an independent contractor to conduct evaluations. The [Maryland Energy Administration \(MEA\)](#) is responsible for hiring the third-party contractor to develop and implement EM&V plans and to provide evaluation management. Program administrators report semi-annually to the [Maryland Public Service Commission \(MD PSC\)](#). The MD PSC retains an independent third-party evaluator (Navigant/Cadmus) who reviews and approves the EmPOWER Maryland programs under the [2008 EmPOWER Maryland Act](#). Order Number 82869 establishes the Commission-led Evaluator Model for the evaluation, measurement, and verification process of the EmPOWER Maryland energy efficiency programs. Commission-approved demand response programs are also included in this EM&V process.

For more information about EmPOWER Maryland programs, see links and resources on MEA’s [EmPOWER Maryland](#) website.

## State Documents and Key Information—Maine

This section provides key information about Maine’s energy efficiency savings calculations and reporting practices, along with links to key state documents including plans, reports, and other relevant resources. The information is collected through REED’s annual state data collection process or obtained from state resources.

### *Program Administrator and Reporting/EM&V Practices*

- **Program Administrator Included in REED:** Efficiency Maine Trust (the Trust).
- **Expenditures:** Maine does not have performance incentives. *Other* expenditures represent technical support expenditures.
- **Program Year:** Maine’s programs are conducted on a fiscal year basis: July 1 to June 30.
- **Energy Savings Goals:** Electric and Gas: Savings of at least 20% by 2020. Incremental savings targets of ~2.4% per year for electric and ~0.2% per year for gas for 2017–2019.

### *Key Plans, Reports, and Savings Assumptions Resources*

- Maine’s legislation mandating [all cost effective energy efficiency](#)
- Maine’s Program Savings Documents (Technical Reference Manuals): [Commercial/Industrial and Multifamily](#) and [Retail/Residential](#)
- Efficiency Maine Trust’s [Energy Efficiency Program Plans](#)
- Efficiency Maine Trust’s [Reports](#), including Program Evaluation Reports and Annual Reports

### *Evaluation Process*

From the [Efficiency Maine Trust’s 2019 Annual Report](#): “The Trust’s evaluation, measurement, and verification (EM&V) activities provide research and data-driven analysis to inform program design and delivery strategies, verify program results, and facilitate continuous program and organizational improvement. The Trust carries out these activities using a combination of in-house initiatives and subcontracted, independent third-party reviews performed by firms that specialize in the evaluation of energy efficiency programs.”

In fiscal year 2019, The Trust finalized a number of studies to better understand the potential for cost-effective energy savings and the market channels for energy efficiency measures under Triennial Plan IV. In addition, they set a number of plans for fiscal year 2020.

For more information about Efficiency Maine Trust’s programs, see the [Efficiency Maine Trust](#) website.



## State Documents and Key Information—New Hampshire

This section provides key information about New Hampshire’s energy efficiency savings calculations and reporting practices, along with links to key state documents including plans, reports, and other relevant resources. The information is collected through REED’s annual state data collection process or obtained from state resources.

### *Program Administrators and Reporting/EM&V Practices*

- **Program Administrators Included in REED:** Liberty Utilities, Unitil, Granite State Electric Company and Eversource NH. The program year 2018 data does not include Unitil gas programs.
- **Energy Savings Goals:** Electric: 0.8% retail sales in 2018, 1% in 2019, and 1.3% in 2020. Gas: 0.7% retail sales in 2018, 0.75% in 2019, and 0.8% in 2020.

### *Key Plans, Reports, and Savings Assumptions Resources*

- New Hampshire’s energy efficiency legislation includes [Chapter 374-F Electric Utility Restructuring](#) and [New Hampshire Public Utilities Commission Order Approving Gas and Electric Utilities Energy Efficiency Resource Standard](#)
- New Hampshire’s [2018-2021 Energy Efficiency Program Plan](#) sets the goal of creating a Program Savings Document (Technical Reference Manual)
- New Hampshire’s [Energy Efficiency Program Plans and Program Evaluation Reports](#)
- New Hampshire’s [Program Administrator Annual Reports](#)
- New Hampshire’s [Additional Opportunities for Energy Efficiency in New Hampshire](#) study

### *Evaluation Process*

The [New Hampshire Public Utilities Commission](#) (NH PUC) oversees evaluation activities. The NH PUC seeks input and advice from the New Hampshire program administrators about monitoring and evaluation and also helps coordinate the program administrators’ implementation efforts for core programs. Program administrators have the opportunity to comment on preliminary study findings and results before publication, and can participate in regional monitoring and evaluation studies as well as studies conducted by multi-jurisdictional utilities on a case-by case basis. The NH PUC invites interested parties to attend and provide input at evaluation presentations, and it pursues all available means to protect confidential customer information given that monitoring and evaluation studies frequently require access to such information.

## State Documents and Key Information—New Jersey

This section provides key information about New Jersey's energy efficiency savings calculations and reporting practices, along with links to key state documents including plans, reports, and other relevant resources. The information is collected through REED's annual state data collection process or obtained from state resources.

### *Program Administrator and Reporting/EM&V Practices*

- **Program Administrator Included in REED:** New Jersey Board of Public Utilities (NJ BPU). Much of the program is federally funded.
- **Gross and Net Savings:** The current assumption is that free riders equal free drivers, such that gross and net savings are equal. Additional studies are planned to further evaluate this assumption.
- **Program Year:** Fiscal Year 2021 compliance filing runs from October 1, 2020 to June 30, 2021.
- **Energy Savings Goals:** No mandated savings goals.

### *Key Plans, Reports, and Savings Assumptions Resources*

- Legislation establishing New Jersey's [efficiency funding](#)
- New Jersey's Program Savings Documents or Technical Reference Manuals: [2007](#); [2009](#); [2010](#); [2011](#); [2012](#); [2014](#); [2015](#); [2016](#); [2017](#); [2019](#); [2020](#)
- New Jersey's [Energy Efficiency Program Plans](#) (Click *Program Administrator (TRC) Filing*)
- New Jersey's [Energy Master Plan](#)
- New Jersey's [Program Evaluation Reports](#)
- New Jersey's [Program Administrator Annual Reports](#)
- New Jersey's [Market Analysis and Baseline Studies](#)

## State Documents and Key Information—New York

This page provides key information about New York’s energy efficiency savings calculations and reporting practices, along with links to key state documents including plans, reports, and other relevant resources. The information is collected through REED’s annual state data collection process or obtained from state resources.

### *Program Administrators and Reporting/EM&V Practices*

- **Program Administrators Included in REED:** Central Hudson, Con Edison, Keyspan Long Island, Keyspan NY, Long Island Power Authority, Niagara Mohawk, NYSEG, NYSERDA, RG&E, Orange and Rockland, St. Lawrence Gas and Corning Gas. The program year 2018 data includes NYSERDA Clean Energy Fund (CEF) Market Development programs (excluding wind and solar) and the Energy Efficiency Transition Implementation Plan (ETIP) programs administered by the New York utilities.
- **Savings:** Figures are accurate as of date of collection. Updates to savings values made after the reporting period closed are not captured.
- **Energy Savings Goals:** Incremental targets vary by utility (0.4% to 0.9% for 2016–2018). 185 trillion British thermal units (Tbtu) site energy savings by 2025.

### *Key Plans, Reports, and Savings Assumptions Resources*

- Legislation establishing New York’s [energy efficiency portfolio standard](#)
- New York’s [Program Savings Document \(Technical Reference Manual\)](#)
- New York’s [Energy Efficiency Portfolio Standard and Program Plans](#)
- New York’s [Program Evaluation Reports](#)
- New York’s [Program Administrator Annual Reports](#)
- New York’s [Building Stock and Potential Studies](#) and [Energy Efficiency and Renewable Energy Potential Studies](#)
- New York provides for public access of its energy efficiency program results through [Open NY](#) and the [New York State Clean Energy Dashboard](#)

### *Evaluation Process*

In New York, the [Department of Public Service](#) (NY DPS) approves energy efficiency programs and budgets, which are administered by the utilities and the New York State Energy and Research Development Authority (NYSERDA). In 2008, the NY DPS established an Energy Efficiency Portfolio Standard (EEPS) with to reduce electricity usage (See [DPS EEPS Evaluation webpage](#)). In 2014, the NY DPS merged the Evaluation Advisory Group and the Implementation Advisory Group into the E2 Working Group, and it launched its Revised Energy Vision (REV), which entailed developing a new infrastructure for New York to meet its goals via its Clean Energy Fund with a focus on building a green economy. The CEF works with REV to make sure the market is ready to provide the services REV offers. NYPA and PSEG-Long Island participate in E2 Working Group evaluation efforts, but the New York Public Service Commission does not regulate them. In 2018, NYSERDA released [New Efficiency: New York](#), the most aggressive energy efficiency strategy in New York’s history. It established a fuel neutral goal of 185 trillion British thermal units (Tbtu) reductions by 2025 and more comprehensive efficiency measures.

## State Documents and Key Information—Pennsylvania

Pennsylvania is not currently included in REED, but it may be in the future. As background, below are Pennsylvania’s energy savings goals and links to key state documents including plans and reports. This information was obtained from state resources.

### *Energy Savings Goals*

- **Energy Savings Goals:** Average electric savings of ~ 3.7% (range of 2.6% to 5.0%) from energy efficiency between 2016 and 2021. No gas savings goals.

### *Key Plans, Reports, and Savings Assumptions Resources*

- Legislation establishing Pennsylvania's [energy efficiency resource standard](#)
- Pennsylvania’s [Program Savings Document or Technical Reference Manual](#)
- Pennsylvania’s [Energy Efficiency Program Plans](#)
- Pennsylvania’s [Act 129 Statewide Evaluator Reports](#) and [Program Administrator Annual Reports](#)
- Pennsylvania’s [Energy Efficiency Potential Study for Pennsylvania](#)



## State Documents and Key Information—Rhode Island

This page provides key information about Rhode Island’s energy efficiency savings calculations and reporting practices, along with links to key state documents including plans, reports, and other relevant resources. The information is collected through REED’s annual state data collection process or obtained from state resources.

### *Program Administrators and Reporting/EM&V Practices*

- **Program Administrators Included in REED:** National Grid Electric and Gas.
- **Program Type:** Programs without savings are assigned to the *Education* program type category.
- **Savings:** Rhode Island data include combined-heat-and-power program expenditures and savings starting with program year 2014.
- **Energy Savings Goals:** Electric: 2.6% of retail sales. Gas: 1.03% of retail sales (based on 2015 retail sales).

### *Key Plans, Reports, and Savings Assumptions Resources*

- Rhode Island legislation mandating [all cost effective energy efficiency](#)
- Rhode Island’s Program Savings Documents or Technical Reference Manuals: [2012](#); [2013](#); [2014](#); [2015](#); [2016](#); [2018](#)
- Rhode Island’s [Energy Efficiency Program Plans](#)
- Rhode Island’s [Program Evaluation Reports](#)
- Rhode Island’s [Program Administrator Annual Reports](#)
- Rhode Island’s [Opportunity Report – Phase I; Phase II; Gas and Unregulated Fuels](#)

### *Evaluation Process*

The Rhode Island [Public Utilities Commission](#) (RI PUC) reviews and approves the design and implementation of the utilities’ energy efficiency programs on an annual basis. The annual energy efficiency program plans are required to include a detailed Measurement and Verification Plan. Studies are proposed in the Energy Efficiency Program Plan. The utilities are also required to file reports about their programs and evaluation results with the [RI Energy Efficiency and Resource Management Council](#) (RI EERMC) and the RI PUC.

## State Documents and Key Information–Vermont

This page provides key information about Vermont’s energy efficiency savings calculations and reporting practices, along with links to key state documents including plans, reports, and other relevant resources. The information collected through REED’s annual state data collection process or obtained from state resources.

### *Program Administrators and Reporting/EM&V Practices*

- **Program Administrators Included in REED:** Burlington Electric Department (BED), Efficiency Vermont (EVT), and Vermont Gas Systems (VGS).
- **Energy Savings:** Vermont does not separate out small and large commercial and industrial (C&I) programs currently in its reporting, therefore all C&I program savings are reported under the *Small C&I* program type.
- **Funding Sources:** Vermont’s electric programs are funded through its Energy Efficiency Charge (EEC) which is the same as system benefit charges in other states. Efficiency programs for unregulated deliverable fuels (heating oil, propane and kerosene) are funded with ISO-New England Forward Capacity Market (FCM) revenues and Regional Greenhouse Gas Initiative (RGGI) auction revenues. Natural gas efficiency programs are funded through rates that include a predetermined level of efficiency program activity.
- **Energy Savings Goals:** Electric: 2.3% of retail sales. Gas: 0.9% of retail sales (based on forecasted retail sales).

### *Key Plans, Reports, and Savings Assumptions Resources*

- Vermont’s legislation mandating [all cost effective energy efficiency](#)
- Vermont’s [Energy Efficiency Program Plans and Annual Reports](#)
- Vermont’s [Program Evaluation Reports](#)
- Vermont’s [2019 Energy Efficiency Potential Study](#) and [2017 Energy Efficiency Potential Study](#). For Vermont’s Energy Efficiency Potential Studies prior to 2017, see the [Vermont Public Service Board’s Efficiency website](#) (scroll down to Potential Studies).

### *Evaluation Process*

Vermont’s statewide energy efficiency programs are currently delivered through a contract between the [Public Service Board](#) (PSB) and the [Vermont Energy Investment Corporation](#) to serve as [Efficiency Vermont](#). The exception is in the City of Burlington, where the municipality delivers these services. Both entities are referred to as Energy Efficiency Utilities (EEUs). The [Department of Public Service](#) (VT DPS) is the entity that provides for formal independent evaluation of energy efficiency programs approved by the PSB for EEU implementation. The VT DPS’s evaluation activities include an annual verification of the EEUs’ energy and capacity savings and *total resource benefit* claims. For information on its process and reports, see the VT DPS [Energy Efficiency Utility Verification and Evaluation](#) webpage.