

JOINT ENERGY COMMITTEE
**Overview, Titles 30 and 33 Energy Efficiency Programs
and Title 30 Renewable Energy Programs**
Office of Legislative Council April 4, 2017

ENERGY EFFICIENCY

Energy Efficiency Utilities

Summary: In 1999, the Public Service Board (PSB), based on recommendations of the Department of Public Service and a settlement with Vermont utilities and other parties, created a statewide energy efficiency utility (EEU). The EEU’s purpose originally was to support targeted energy efficiency programs that reduce the electricity usage of businesses and individuals. In 2007, the statutes were amended to allow the EEU to deliver energy efficiency services to heating and process-fuel consumers.

Implementation: The Vermont Energy Investment Corporation operates Vermont’s EEU under the name Efficiency Vermont (EVT). The City of Burlington Electric Department (BED) is the EEU for its service territory. In 2015, the PSB appointed Vermont Gas Systems as an EEU to deliver natural gas efficiency services.

From 2000 to 2009, EVT provided efficiency services on a series of three-year contracts. In 2009, pursuant to statutory authorization, the PSB modified this relationship, moving to the model of an “order of appointment” for a 12-year period.

The EEU activities by EVT and BED regarding electric energy efficiency are funded by an energy efficiency charge (EEC) on electric bills. Their activities on heating and process-fuel services are funded by monies raised through the EEU’s activities in the forward capacity market and the sale of carbon allowances under the Regional Greenhouse Gas Initiative. VGS’s programs are funded by an EEC on its natural gas customers.

Every three years the PSB conducts a Demand Resources Plan (DRP) proceeding to identify short- and long-term energy efficiency budgets and savings goals, as well as other compensation matters related to the delivery of energy efficiency services by the EEUs. These proceedings set budgets, savings goals, and performance obligations over a three-year period. The current period is 2015 through 2017. EEC rates flow from the approved budgets.

Current Budgets

| | 2015 \$ | 2016 \$ | 2017 \$ |
|--|--------------|--------------|--------------|
| Electric efficiency | 52.2 million | 56.2 million | 58.7 million |
| Thermal and process efficiency (not VGS) | 7.1 million | 7.7 million | 8.3 million |
| Natural gas efficiency (VGS) | n.a. | 3.06 million | 3.22 million |

EEC Rates

| All electric customers other than BED (2017) | BED customers (2017) | VGS customers (2016) |
|--|--|---|
| <p><i>Rates for Customers Without Demand Charges</i></p> <p>Residential: \$0.01400/kWh Commercial: \$0.01192/kWh Industrial: \$0.00866/kWh</p> <p><i>Rates for Customers With Demand Charges</i></p> <p>Commercial: \$0.00772/kWh plus \$1.2436/kW Industrial: \$0.00584/kWh plus \$1.3875/kW</p> <p><i>Rates for Unmetered Street and Security Light Customers</i></p> <p>\$0.0119/kWh times the nominal wattage of the light times 360 hours per month</p> | <p><i>Rates for Customers Without Demand Charges</i></p> <p>Residential: \$0.00905/kWh Commercial: \$0.00811/kWh Industrial: \$0.00642/kWh</p> <p><i>Rates for Customers With Demand Charges</i></p> <p>Commercial: \$0.00499/kWh plus \$1.2683/kW Industrial: \$0.00435/kWh plus \$1.7501/kW</p> <p><i>Rates for Unmetered Street and Security Light Customers</i></p> <p>\$0.0081/kWh times the nominal wattage of the light times 354 hours per month</p> | <p><i>Residential</i></p> <p>Regular: \$0.0453/Ccf Low Income: \$0.0362/Ccf</p> <p><i>Commercial</i></p> <p>G1 Class: \$0.0428/Ccf G2 Class: \$0.0332/Ccf G3 Class: \$0.0334/Ccf G4 Class: \$0.0258/Ccf Interruptible: \$0.0186/Ccf</p> |

Low-income Weatherization

Summary: Vermont maintains a low-income weatherization program through the Office of Economic Opportunity (OEO) within the Department of Children and Families. The program is funded by a fuel tax.

Implementation: The program provides comprehensive “whole house” assessments of energy-related problems; building diagnostics including blower door, carbon monoxide, and heating system testing; and energy-efficient retrofits such as sidewall insulation, air sealing, attic insulation, and heating system upgrades and replacements. Homeowners or renters are eligible if the household income is at or below 80% of median income, with priority given to households at or below 60% of median income. For delivery of services, OEO partners with local community action agencies.

Fuel tax rates:

Retail sale of heating oil, propane, kerosene, and other dyed diesel fuel delivered to a residence or business: \$0.02 per gallon.

Gross receipts tax on the retail sale of natural gas and coal: 0.75 percent

Gross receipts tax on the retail sale of electricity: 0.5 percent

Current/recent program funding

FY 2017: \$11,828,000, including a U.S. Dept. of Energy (DOE) weatherization award of \$1.2 million (anticipated as of Jan. 2017); and projected fuel tax revenues of \$10,600,000 (of which \$900,000 is onetime in nature due to a change in the timing of the collection of the fuel tax and gross receipts tax from quarterly to monthly)

FY 2016: \$9,434,000, including DOE weatherization award of \$1,101,000; fuel tax, \$6,830,000; transfer from the LIHEAP program; \$1,235,000; and prior year carry forward

RENEWABLE ENERGY

The Renewable Energy Standard (RES), 30 V.S.A. §§ 8004-05

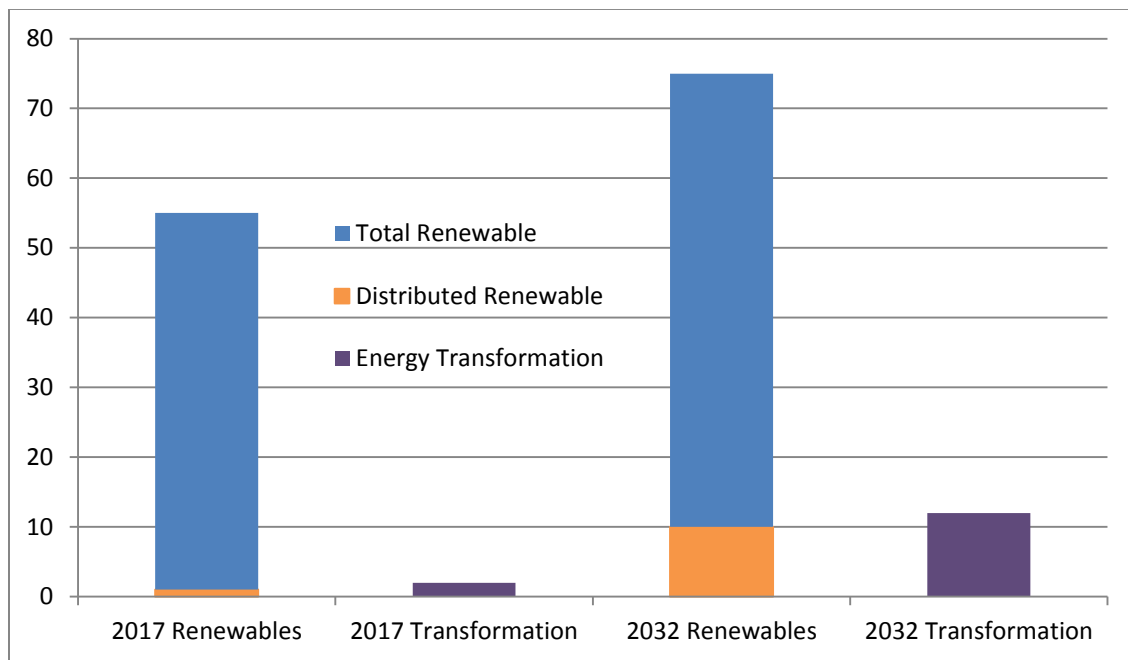
Summary: The General Assembly enacted the RES in order to obtain the benefits of renewable energy. The RES requires that electric distribution utilities have ownership of sufficient renewable energy plants or sufficient tradeable renewable energy credits (RECs) that reflect the required amounts of renewable energy.

Categories or “Tiers”

1. *Total renewable energy*
 - Requirement: 55 percent of each distribution utility’s retail sales in 2017, rising to 75 percent on and after 1/1/32
 - Resources usable to meet requirement: bundled energy (power generated from renewable energy with environmental attributes attached) or RECs generated by a plant capable of delivering energy to New England
 - Tier 1 REC price
 - To be established by market
 - Statutory alternative compliance payment (ACP): \$.01/kWh; increases with inflation starting 1/1/18; acts as cap on Tier 1 REC price
2. *Distributed renewable energy*
 - Requirement: one percent of each distribution utility’s retail sales in 2017, rising to 10 percent on and after 1/1/32; counts toward Tier 1
 - Resources usable to meet requirement: bundled energy or RECS generated by “new” renewable energy (in service after 6/30/15) that is either: (a) 5 MW or less and directly connected to the Vermont grid or (b) an approved net metering system
 - Tier 2 REC price
 - To be established by market
 - Statutory ACP: \$.06/kWh; increases with inflation starting 1/1/18; acts as cap on Tier 2 REC price
3. *Energy transformation*

- Requirement: two percent of each distribution utility’s retail sales in 2017, rising to 12 percent on and after 1/1/32; does not count toward Tier 1 or 2
- Resources usable to meet requirement: “energy transformation projects” commenced on or after 1/1/15 or additional distributed renewable generation
- Energy transformation project: An undertaking that delivers energy goods or services other than electric generation and results in a net reduction in fossil fuels consumed by the utility’s customers and greenhouse gas emissions associated with that consumption. Examples: home weatherization, air source heat pumps, grid storage
- Statutory ACP
 - \$.06/kWh; increases with inflation starting 1/1/18
 - May cap Tier 3 cost; electrification projects could increase peak demand and require transmission and distribution upgrades; statute requires that these projects meet “best practices for demand management”

RES Chart



The Standard Offer Program, 30 V.S.A. § 8005a

Summary: The General Assembly authorized the standard offer program to incent development of small to moderately size distributed renewable generation. Eligible renewable energy plants located in Vermont, with a plant capacity of 2.2 MW or less, may enter into a long-term contract with the standard offer facilitator appointed by the Public Service Board (PSB). The plant receives a rate that varies by type of technology. The standard offer facilitator allocates the power, capacity, RECs, and costs among Vermont’s electric utilities.

Implementation: The PSB through the facilitator issues requests for proposals for annual increments of capacity until the program reaches a cumulative capacity ceiling of 127.5 MW.

Awards are based on competitive bids, subject to a price cap based on avoided costs established by the PSB. The annual increment for 2017 is 7.5 MW. The cumulative capacity ceiling does not apply to certain plants, including plants that the PSB determines have sufficient benefits to the operation and management of the grid. Total capacity installed or approved as of 12/31/16 is approximately 76 MW. Source: Vermontstandardoffer.com

Recent Pricing. 2016 contract pricing for successful bidders (prices rounded to nearest ¢):

- small wind (≤ 100 kW) – \$0.25/kWh, four projects
- large wind (> 100 kW) – \$0.12/kWh, one project
- food waste – \$0.18/kWh, one project
- solar – one project at \$0.08/kWh, one project at \$0.11/kWh

Source – [PSB order, dockets 7873/7874, 5/27/16](#)

The Net Metering Program – 30 V.S.A. § 8010

Summary: The General Assembly authorized net metering systems to incent small distributed renewable generation. In Vermont, net metering permits a customer or group of customers to own and operate a generator of 500 kW or less, often on the customer side of the meter. Group net metering also has been employed for systems directly connected to the utility’s grid or owned by a developer or both. Electricity generated by the system offsets generation for which the customer or customers is billed and the customer or customers receive credit for excess generation. If unused within a specified period, the credit reverts to the utility.

Implementation: Under legislation that became effective 1/1/17, implementation is by PSB rule.

- The rule must meet statutory policy objectives that include advancing statutory goals for renewable energy and greenhouse gas reduction, ensure to the extent feasible that net metering does not shift costs between net metering customers and other customers, ensuring that all customers who want to net meter have an opportunity to do so, and balancing the pace of deployment with the impact on rates.
- The rule also must address other issues, including duties of utilities and net metering customers, interconnection requirements for net metering systems, the amount of the bill credit for excess generation, and REC ownership and transfer.

Bill credit rate: Under the PSB’s final proposed rule submitted on Jan. 20, 2017, the bill credit rate would vary.

- The base credit rate would be the “blended residential rate,” to be the lowest of the following:
 - Company’s general residential service rate,
 - Blend of company’s residential block rates, or
 - Statewide average rate (currently \$0.149/kWh according to PSB)
- Apply siting adjustor
 - < 15 kW, plus \$0.01/kWh
 - 15 – 150 kW, if on preferred site, plus \$0.01/kWh
 - 15 – 150 kW, if not on preferred site, minus \$0.03/kWh
 - 150 – 500 kW, minus \$0.01/kWh, only allowed on preferred sites
 - Hydroelectric facilities, no site adjustment

- Apply REC adjustor
 - Transfer REC to utility, plus \$0.03/kWh
 - Retain REC, minus \$0.03/kWh

Clean Energy Development Fund – 30 V.S.A. § 8015

Summary: The General Assembly established the Fund “to promote the development and deployment of cost-effective and environmentally sustainable electric power and thermal energy or geothermal resources for the long-term benefit of Vermont consumers, primarily with respect to renewable energy resources, and the use of combined heat and power technologies.” The initial capital for the Fund came from settlement agreements related to the Vermont Yankee Nuclear Power Station.

Implementation: The Fund is managed by the Department of Public Service. Plans, budgets, and program designs are developed by a seven-member Clean Energy Advisory Board. The Fund has issued grants and loans for a variety of activities within its mission. No moneys have been appropriated into the Fund since FY 14, according to the Fund report of Jan. 2017. Current fund balance is approximately \$5.4 million. The approved [New England Clean Power Link](#) project agreed to contribute \$5 million a year to the Fund; however, this revenue stream will not come into existence unless the project is placed in service.

Current initiatives: During FY 17, Fund programs include incentives:

- To change out older wood stoves for stoves that burn more cleanly and meet emissions requirements, with incentives ranging from \$500 to \$1500.
- For wood pellet boilers that meet efficiency and emissions requirements. The Fund [website](#) has information on the incentive amounts.