Vermont Public Utility Commission

Performance Incentive Mechanisms

NASEO-NARUC Grid-Interactive Efficient Buildings Working Group

Wednesday, March 15, 2023

Joan White
Senior Analyst/Hearing Officer Joan.white@vermont.gov

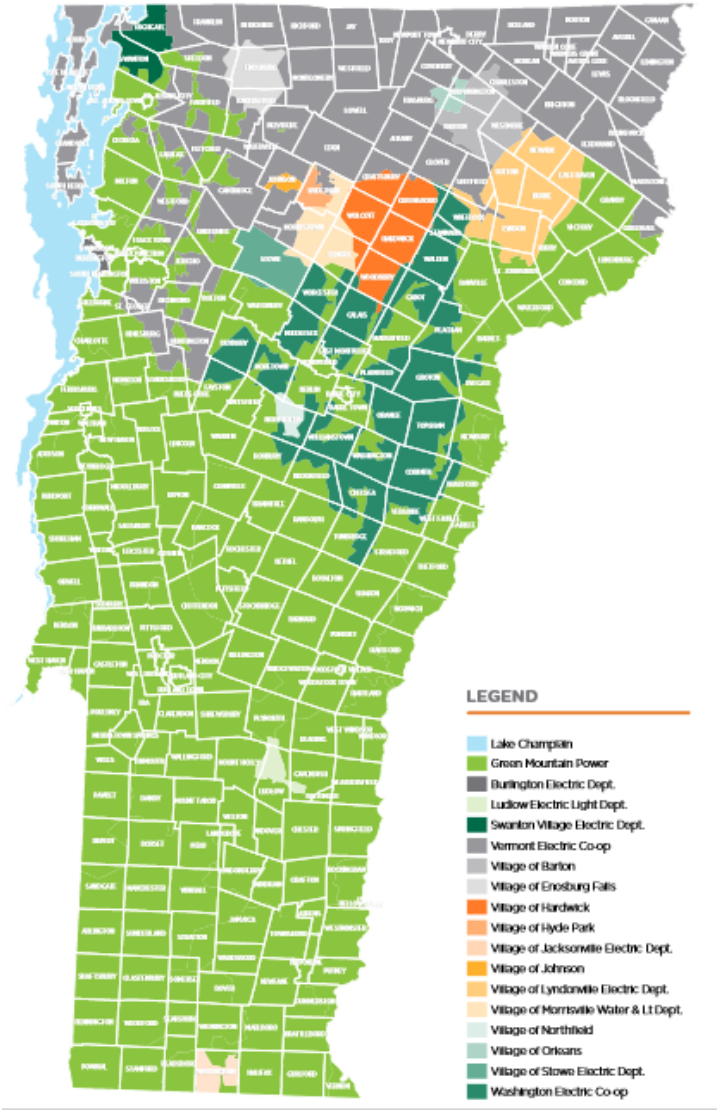
Agenda

1. The Commission
2. Vermont context
3. Statutory basis
4. Energy Efficiency Utilities
5. Electric Utilities
6. Lessons Learned



Public Utility Commission (PUC)

The Public Utility Commission is a three-member, quasi-judicial commission that supervises the rates, quality of service, and overall financial management of Vermont's utilities: electric, natural gas, telecommunications, and private water companies. The Commission also reviews the environmental and economic impacts of proposals to purchase energy supply or build new energy facilities.



Vermont Context

Small state ~ 1000 MW peak

One distribution utility (Investor-Owned Utility) with about 80% of the customers. 16 other distribution utilities (coops and municipal utilities)

One statewide bulk transmission provider (VELCO)

Vermont utilities are vertically integrated and regulated by the PUC using both traditional cost of service regulation, augmented by rules and integrated resource planning

Exists within the footprint of ISO-NE (six state regional market for wholesale services and bulk transmission)

93% of our electricity is carbon free (66% renewable, 27% nuclear)

Statutory basis for performance-based regulation

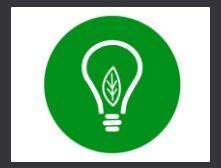
Efficiency – 30 V.S.A. §209(f)(2)

(2) …the use of compensation mechanisms for any energy efficiency entity appointed under subdivision (d)(2) of this section that are based upon verified savings in energy usage and demand, and other performance targets specified by the Commission.

Electric and Gas– 30 V.S.A. §218d(a)(1)

(1)…the Public Utility Commission may, after opportunity for hearing, approve alternative forms of regulation for an electric or natural gas company that…

(4) offers incentives for innovations and improved performance that advance state energy policy such as increasing reliance on Vermont-based renewable energy and decreasing the extent to which the financial success of distribution utilities between rate cases is linked to increased sales to end use customers and may be threatened by decreases in those sales;



Energy Efficiency Programs

Vermont has **stand alone energy efficiency utilities**

Rate design: all costs are recouped through an energy efficiency charge on customer bills. The charge is volumetric and the same for all customers served by that efficiency utility. The charge resets annually.

Performance metrics that target peak shaving

- -generally, the efficiency utilities use passive measures to meet these metrics.
- -these metrics are tied to around ½ of total compensation.

Efficiency Utilities Process

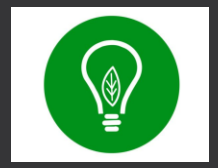
- Litigated process – every three years called the Demand Resources Proceeding (DRP)
- Establishes budgets and QPIs (Quantifiable Performance Indicators).
- Includes our consumer advocate/state energy office, electric utilities, efficiency utilities and third parties.
- See VT PUC Case No. 19-3272-PET.
- Includes two 3-year performance periods.

Efficiency Utilities
What are the metrics?

Title	Performance Indicator	100% Target	Award Weight
Total resource benefit	Present worth of lifetime electric, fossil fuel, and water benefits	$305,117,950	25%
Annual electricity savings	Annual incremental net MWh savings	280,200	25%
Summer peak demand savings	Cumulative net summer peak kW demand savings	31,600	17%
Winter peak demand savings	Cumulative net winter peak kW demand savings	37,000	14%
Lifetime electricity savings	Lifetime incremental net MWh savings	3,497,600	9%
Greenhouse gas reductions	Electric energy and non-energy benefits, in metric tons of CO_2e	161,600	5%
Administrative efficiency	Administrative cost reductions as percentage of total budget	5% reduction of administrative budget	5%

Quantifiable Performance Indicators (QPIs)

The Efficiency Utility earns money for hitting these targets



Efficiency Utilities Compensation

Total compensation is 4.8% of the overall budget

- Operations fee (not performance-based) set at 1.35% in 2021
- Performance-based compensation is the remaining 3.5% of overall budget
- Total performance is measured in 3-year periods, but utility can earn a portion of compensation each year.
- In years one and 2, can earn up to ¼ of total performance amount if making progress to 3-year goals.
- Claw-back provision – if they fall short of the three-year target, the PUC can order them to return the compensation.
- All compensation will be performance-based by 2025.

Electric utility Process

Three-step process:

1. Establish what the metrics are
2. Benchmark performance for several years
3. Establish targets and compensation

Through Multi-year Regulation Plan cases

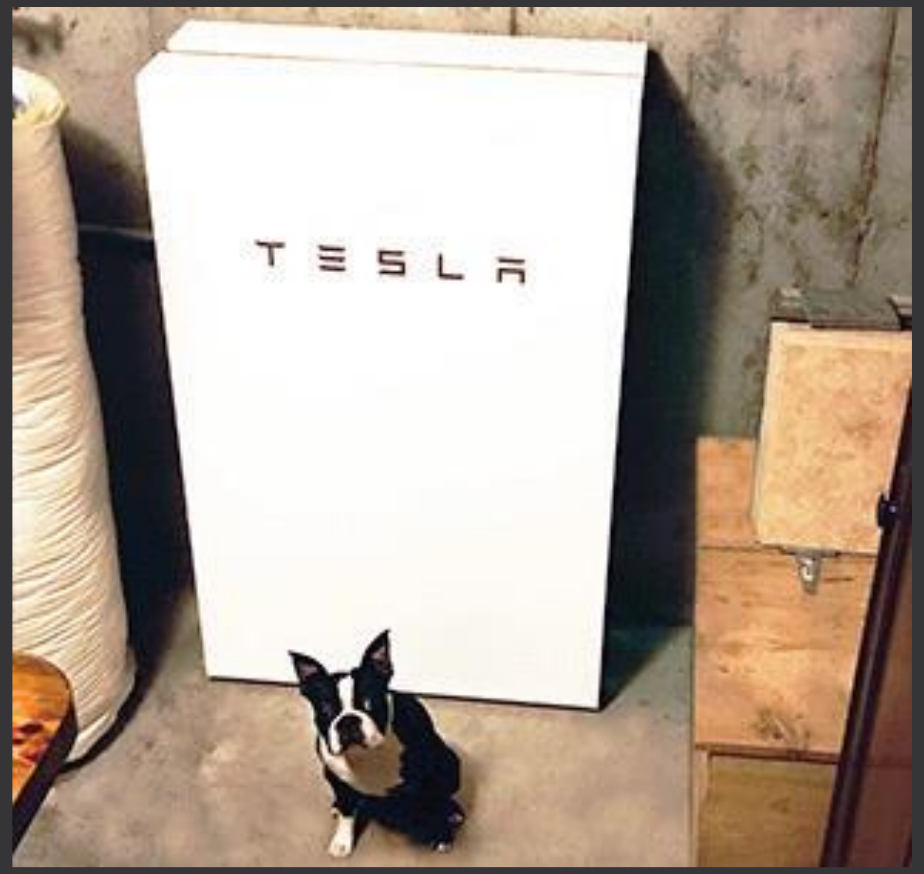
Every 3-4 years

See VT PUC Case No. 21-3707-PET

We are in Step 2 of this process with 2 years of data reported

Electric utility Performance Metrics

Categories
Capital Expenses
Power Portfolio
Distributed Generation
Distributed Energy Resources (dynamic controls)
Electric Vehicles
Customer Service
Storage Deployment
Low-income Access



Electric utility Performance Metrics

Examples

- Capital Spending: Estimated average days to interconnect DG systems (from point project is ready for physical interconnection)
- Power Supply: Emissions profile (lbs CO2/kWh delivered)
- Distributed Generation: Estimated average days to interconnect DG systems (from point project is ready for physical interconnection)
- Low-income Access: Year over year increase in number of customers utilizing LMI rebates/Tier 3

Electric utility

Flexible Loads Metrics

Distributed Energy Resources (DER)*	17a	Percent of GMP load subject to dynamic curtailment or interruption	Cumulative through end of FY
	17b	Percent of GMP load with shared access by GMP directly or through aggregators	Cumulative through end of FY
	18	Total number and aggregate MW capacity of behind-the-meter DERs connected to GMP shared access platform	Cumulative through end of CY
	19	Capacity of DER fleet that is on an incentive rate	Cumulative through end of FY
	20	Capacity of behind the meter DERs resources installed by third party suppliers connected to a GMP shared access platform	FY
	20a	Combined hours of backup provided by batteries in customer homes during outage events	CY
	21a	Number and capacity of storage systems connected to a GMP shared access platform	FY
	21b	Number of storage systems that are capable of islanding individual customers or groups of customers (to the extent known)	FY

Electric utility

EV Metrics

EV	22	Number of standalone Level 3 EV public charging stations interconnected (to extent known)	FY
	22a	Percentages of GMP fleet procured and converted to electric for the FY and cumulative - broken down by full EV or hybrid/partial EV	FY and Cumulative through end of FY
	23	Number of EV home chargers connected to GMP shared access platform	FY
	24	Number of customers currently enrolled in EV charging rates or other relevant incentives through tariffs, pilot program, or other incentive programs	Cumulative through end of FY
	25a	Number of make-ready requests for EV public charging stations that GMP is aware of in the past calendar year	FY
	25b	Estimated average GMP response time from request to interconnection	FY

Lessons learned

1. Benchmarking what the targets should be is quite important
2. Benchmarking can take several cycles
3. Choosing a few metrics to start eases the process
4. Utilities really do respond to incentives
5. If a utility is always meeting the maximum value of the incentive, time to reconsider the target (e.g. raise the bar)
6. Establishing minimum performance standards around the basics is important