

Aligning Vermont's Net-Metering Program with the Current Statutory Framework

Climate and Greenhouse Gas Reductions Are Foundational Considerations

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PUC Q1: How can the Commission improve the current net-metering compensation structure?

Answer: The PUC should expressly account for Vermont's GHG reduction mandates that apply to the electric sector.

Compensation should achieve the immediate and accelerated deployment of new net metering climate mitigation projects in order to comply with the GHG reduction mandates of the United Nations Framework Convention on Climate Change (UNFCCC), the Paris Agreement, the Global Warming Solutions Act (GWSA), 30 VSA § 8010 (net metering statute), § 202a (State Energy Policy), and § 218c (State Integrated Resource Planning (IRP))

The Commission's Jurisdiction to Set Net-Metering Compensation is Prescribed by the Following Statutes:

- 30 V.S.A. § 202a – State Energy Policy
- The Vermont Global Warming Solutions Act of 2020 (GWSA), Including the Greenhouse Gas Emissions Reductions requirements of 10 V.S.A § 578
- 30 V.S.A. § 8010 – Self-Generation and Net Metering
- 30 V.S.A § 218c – Least-Cost Integrated Planning
- 30 V.S.A. § 8007 - Small Renewable Energy Plants; Simplified Procedures
- 30 V.S.A. § 8001 – Renewable Energy Goals

GWSA Mandated GHG Reductions are Preconditions to Vermont's Electricity Procurements

- ✓ 30 V.S.A. § 202a – State Energy Policy
- ✓ 30 V.S.A. § 8010 – Net Metering
- ✓ 30 V.S.A. § 218c – IRP
- ✓ 10 V.S.A. § 578 – GWSA GHG Reduction Mandates

ALL Require Compliance with the Global Warming
Solutions Act of 2020, which includes the GHG
reductions mandated by 10 V.S.A § 578

The GWSA is a Gamechanger

§ 578. Greenhouse gas reduction requirements

- (a) Vermont shall reduce emissions of greenhouse gases from within the geographical boundaries of the State and those emissions outside the boundaries of the State that are caused by the use of energy in Vermont, as measured and inventoried pursuant to section 582 of this title, by:
- (1) not less than 26 percent from 2005 greenhouse gas emissions by January 1, 2025 pursuant to the State's membership in the United States Climate Alliance and a commitment to implement policies to achieve the objectives of the 2016 Paris Agreement;
 - (2) not less than 40 percent from 1990 greenhouse gas emissions by January 1, 2030 pursuant to the State's 2016 Comprehensive Energy Plan; and
 - (3) not less than 80 percent from 1990 greenhouse gas emissions by January 1, 2050 pursuant to the State's 2016 Comprehensive Energy Plan.

30 V.S.A. § 202a - State Energy Policy

It is the general policy of the State of Vermont:

(1) To ensure to the greatest extent practicable that Vermont can meet its energy service needs in a manner that is **adequate, reliable, secure, and sustainable; that ensures affordability and encourages the State's economic vitality**, the efficient use of energy resources, and cost-effective demand-side management; and that is **environmentally sound**.

(2) To identify and evaluate, on an ongoing basis, resources that will **meet Vermont's energy service needs in accordance with the principles of reducing greenhouse gas emissions and least-cost integrated planning**, including efficiency, conservation, and load management alternatives; wise use of renewable resources; and **environmentally sound energy supply**.

(3) **To meet Vermont's energy service needs in a manner that will achieve the greenhouse gas emissions reductions requirements pursuant to 10 V.S.A § 578** and is consistent with the Vermont Climate Action Plan adopted and updated pursuant to 10 V.S.A. § 592."

All 3 Policies Expressly Require GHG Reductions and the Utilization of Environmentally Sound Generation Sources

GHG Reductions are the Touchstone for PUC Rules Under The Net Metering Statute - 30 V.S.A. 8010(c)(1)(A):

"(1) The rules *shall* establish and maintain a net metering program that:

(A) advances the goals and total renewables targets of this chapter and the goals of 10 V.S.A. § 578 (greenhouse gas reduction)

(B) **achieves a level of deployment that is consistent with the recommendations of the Electrical Energy and Comprehensive Energy Plans** under sections 202 and 202b of this title, unless the Commission determines that this level is inconsistent with the goals and targets identified in subdivision (1)(A) of this subsection (c). Under this subdivision (B), the Commission shall consider the Plans most recently issued at the time the Commission adopts or amends the rules;

(C) **to the extent feasible, ensures that net metering does not shift costs** included in each retail electricity provider's revenue requirement between net metering customers and other customers;

(D) **accounts for all costs and benefits of net metering**, including the potential for net metering to contribute toward relieving supply constraints in the transmission and distribution systems and to reduce consumption of fossil fuels for heating and transportation;

(E) **ensures that all customers who want to participate in net metering have the opportunity to do so;**

(F) **balances, over time, the pace of deployment and cost of the program with the program's impact on rates;**

(G) accounts for changes over time in the cost of technology; and

(H) **allows a customer to retain ownership of the environmental attributes of energy generated by the customer's net metering system** and of any associated tradeable renewable energy credits or to transfer those attributes and credits to the interconnecting retail provider

30 V.S.A § 218c – Least Cost Integrated Planning (IRP)

A “least cost” plan is not the one with the lowest procurement price or cheapest bills for ratepayers, but rather is a plan with “the lowest present value life cycle cost, including environmental and economic costs” 30 V.S.A. § 218c(a)(1).

Economic costs **shall** be assessed with due regard to:

- (A) the greenhouse gas inventory developed under the provisions of 10 V.S.A. § 582;
- (B) *the State's progress in meeting its greenhouse gas reduction goals*;
- (C) the value of the financial risks associated with greenhouse gas emissions from various power sources; and
- (D) consistency with section 8001 (renewable energy goals) of this title.”

PUC: “The societal test should remain the principal touchstone in project evaluation and selection.”

GWSA Expressly Requires that GHG Reduction Mechanisms Comply With the Paris Agreement

GWSA, 10 V.S.A. § 578(a):

“Vermont shall reduce emissions of greenhouse gases ... pursuant to the State's membership in the United States Climate Alliance and commitment to implement policies to achieve the objectives of the 2016 Paris Agreement”

Climate Mitigation Mechanisms Under the Paris Agreement and GWSA MUST HAVE ENVIRONMENTAL INTEGRITY

Paris Agreement Section 4.13:

"In accounting for anthropogenic emissions and removals corresponding to their nationally determined contributions, Parties shall promote environmental integrity, transparency, accuracy, completeness, comparability and consistency, and ensure the avoidance of double counting, in accordance with guidance adopted by the [United Nations] Framework Convention [on Climate Change (UNFCCC)]."

Climate Mitigation Mechanisms Under the Paris Agreement and GWSA MUST REDUCE GHG EMISSIONS

Paris Agreement Section 6.4:

[C]limate mitigation mechanisms must deliver an
“overall mitigation in global emissions”

<https://www.wri.org/insights/what-you-need-know-about-article-6-paris-agreement>

Additionality of Mitigation Under Art. 6 is a Crucial Precondition

[Microsoft Word - Additionality under Art. 6 VP 2017-10-27 PRINT \(icroa.org\)](#)

The UNFCCC Requires Mitigation Projects and Offsets to Demonstrate Additionality

[Tool for the demonstration and assessment of additionality. \(Version 05.2\). \(unfccc.int\)](#)

Additionality means that energy resources must result in
“reductions in emissions that are additional to any that would occur
in the absence of the certified project activity”

Kyoto Protocol Article 12, paragraph 5(c).

Existing Generation Projects Represent Business as Usual (BAU) and
are not Additional

[Additionality revisited: guarding the integrity of market mechanisms under the Paris Agreement \(tandfonline.com\)](#)

Google Explains Additionality

Additionality is a tricky concept. Perhaps it is easiest to give an example of what's not additional. Imagine a power company built a wind farm many years ago. ... They currently sell the power into the grid, and they're happy with their investment. ... One day, they learn that Google is looking to purchase renewable electricity. ...

[T]his is not additional. We'd be handing money over for green electricity, but in the grand scheme of things, nothing would change. The carbon output of the whole system would be the same and no new renewable generation would get built.

However, let's change the story such that the wind project doesn't yet exist. ... In this scenario, signing up [Google as a new customer to] spur the development of additional renewable power [would be additional]"

Vermont's Current Electricity Portfolio is Dominated by Old Hydro Resources and Ineligible Carbon Offsets that FAIL any Eligibility Under the Paris Agreement

REC Arbitrage

Arbitrage is the near-simultaneous buying and selling of commodities in different markets in order to take advantage of differing prices for the same or similar assets. REC arbitrage occurs when RECs from one project are sold and replaced by less expensive RECs from another project.

A VERMONT EXAMPLE

Project	Kingdom Community Wind
Owners	Vermont Utility Owned- GMP & VEC
Location	Lowell, VT
Commissioning Date	November 2012
Type	Wind
Size	63 MW
REC Qualifications	VT Tier I, CT-I, MA-I, MA CES, RI-new

In 2018, GMP could use a \$27 REC from KCW or a \$1 REC from HQ for Tier I compliance. Least cost principle suggests using \$1 REC and selling KCW RECs into the MA, CT, or RI REC markets.



“Additionality is not only an essential quality criterion for offset credits; it is fundamental to the very definition of an offset.”

M. Gillenwater, What is Additionality? Part 1: A long standing problem, (2012 GHG Institute) at 4

In its most recent Renewable Energy Standard (“RES”) compliance filings, GMP reported 1.7 Million MWh of carbon offsets acquired from HQ.

GMP 8/31/21 compliance filing in *Investigation re: Renewable Energy Standard compliance for program year 2020*, PUC Case No.21-1045-INV.

These old hydro attributes/offsets have no additionality and therefore have no environmental integrity, and fail to conform with the UNFCCC, Paris Agreement and the GWSA.

The N.H. Site Evaluation Committee Found HQ Power Does Not Reduce GHG Emissions Because it Lacks Additionality

STATE OF NEW HAMPSHIRE SITE EVALUATION COMMITTEE

Docket No. 2015-06

Joint Application of Northern Pass Transmission, LLC
and Public Service Company of New Hampshire
d/b/a Eversource Energy for a Certificate of Site and Facility

DECISION AND ORDER DENYING APPLICATION
FOR CERTIFICATE OF SITE AND FACILITY

March 30, 2018

***“Counsel for the Public’s experts opined that
such savings could be realized only if
incremental clean energy displaced fossil
generation”***

***“[W]e agree with Counsel for the Public that
no actual greenhouse gas emission
reductions would be realized if no new source
of hydropower is introduced.”***

Even HQs Newer Dams Don't Move the Needle *Now* on GHG Reductions

Hydro-Quebec's Eastmain-1 Reservoir flooded 380 square miles in 2006.

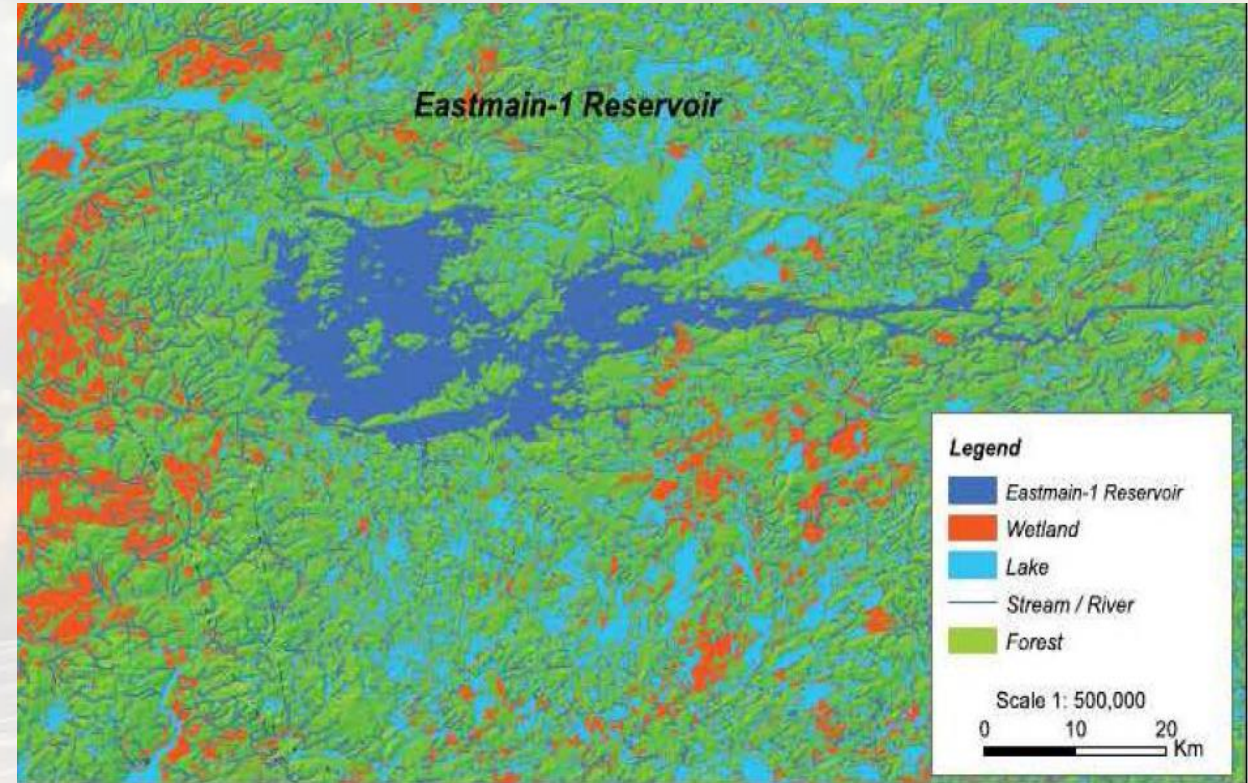
"Researchers, including one from Hydro-Quebec, found that during the reservoir's first year of operation it emitted *77% more carbon than a natural gas plant*. And it took five years for it to reach the same level as natural gas. They estimated that after 25 years, the reservoir's emissions would be about 50% lower than gas"

"Research on the global carbon footprint of hydropower showed that 6 of Hydro-Quebec's reservoirs rank in the top quarter of the world's biggest emitting hydro facilities."

[Is New England's Biggest Renewable Energy Project Really a Win for the Climate? • The Revelator](#) citing [The net carbon footprint of a newly created boreal hydroelectric reservoir - Iedoru - 2012 - Global Biogeochemical Cycles - Wiley Online Library](#)

...and Cause Significant Environmental Destruction

"The Eastmain River is one of the major boreal rivers in northern Quebec.... Filling up of the reservoir at the end of 2005 flooded a heterogeneous landscape composed of a diversity of terrestrial, wetland and aquatic ecosystems: approximately 182 km² of the pre-flood landscape consisted of mature forest (91% coniferous and 9% deciduous), 114 km² was burned forest (15% 17-year-old burned and 5% 2-year-old burned), 46 km² was non-forest soil, and 111 km² was wetlands (1% fens, 77% bogs, and 22% swamps/marshes)..."



New Net Metering Systems Provide Additionality, Environmental Integrity, and Reduce GHG Emissions Now

Meeting the 2025 and 2030 GWSA mandates requires the immediate deployment of new, clean, renewable generation, like [net metering](#), at a rapid pace and widespread scale.

Delay in the deployment of climate mitigation solutions such as a reinvigorated NM Program “will increase the costs of decarbonization” and result in “significant economic damage to Vermont”

GWSA § 2(3)

Rather Than Pressing the Brakes Even Harder, We Should be Hitting the NM Accelerator

According to the PSD's 2021 Annual Energy Report to the Legislature, in 2019

- Net metering only represented about 1% of retail electric sales in Vermont included in RES Tier II,
- Vermont has some of the lowest electric rates in the region, and
- Rates have remained largely flat despite the increase in net metering between 2014-2020

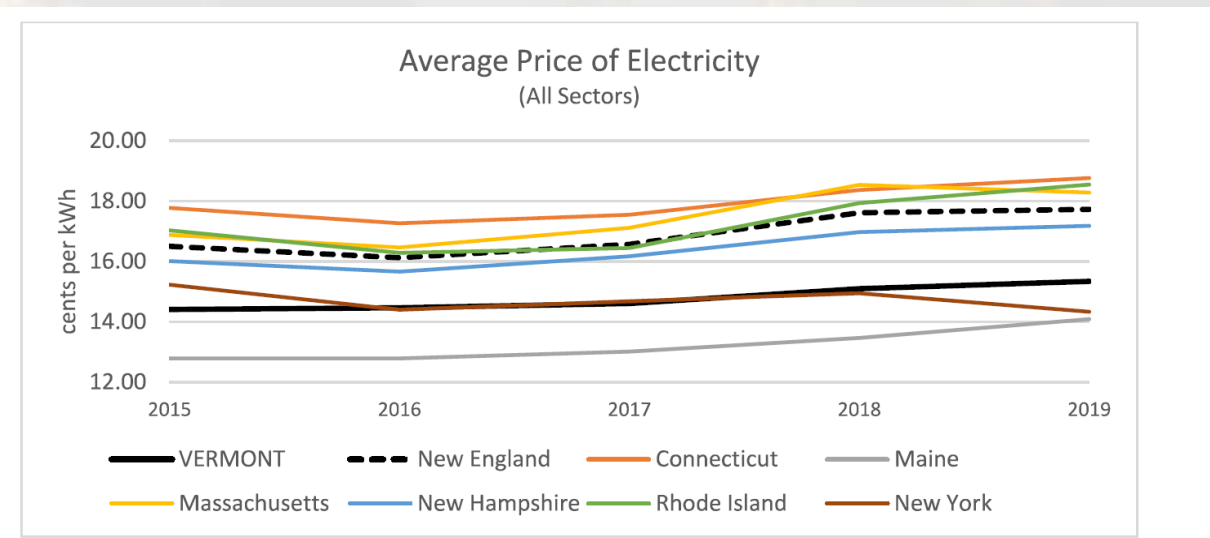
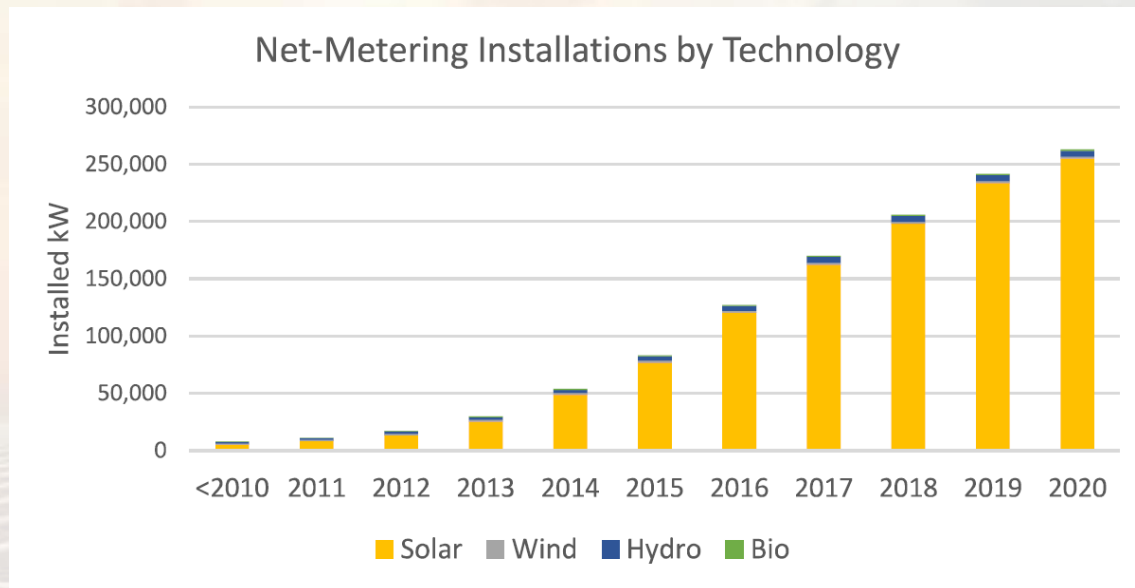


Figure 34: Comparison of average retail price of electricity in New England and New York¹²⁰

Plan of Action

Change Rule 5.100 to Accelerate Net Metering Deployment to Mitigate Climate Change Now and Reduce GHGs as Required by the Paris Agreement, the GWSA, 30 VSA § 8010, § 202a, and § 218c

Compensation, Project Size Limits, and Offtake Capacity Caps should all be *increased* to achieve the immediate and accelerated deployment of new net metering climate mitigation projects