Comments on Proposed Renewable Energy Standard Legislation

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Before House Environment and Energy Committee

January 24, 2024

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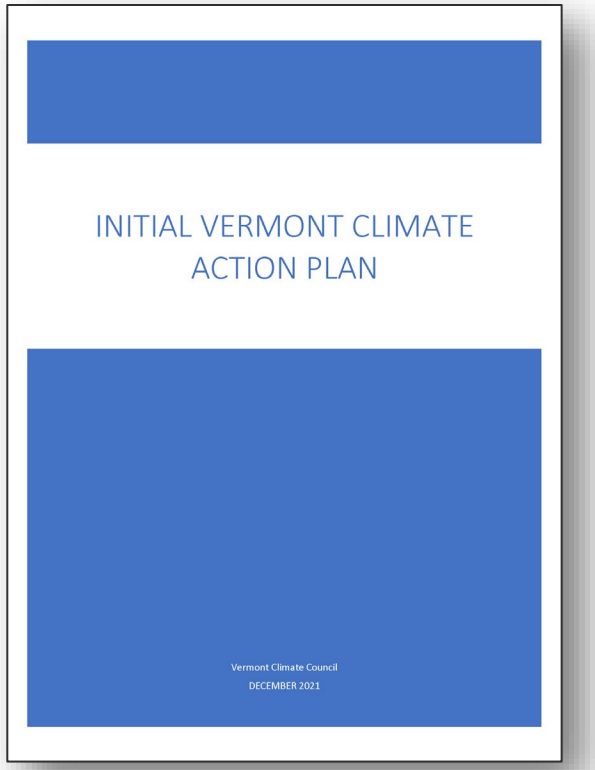
Environmental Justice and Equity for Vermonters

Vermont's Climate Action Plan and Environmental Justice Legislation both call for Vermonters to be a part of determining solutions. The Public Service Department's proposal has carried that principle forward, in both the engagement prior to the proposal and the process we propose for Community Renewables.



2021 Climate Action Plan (CAP):

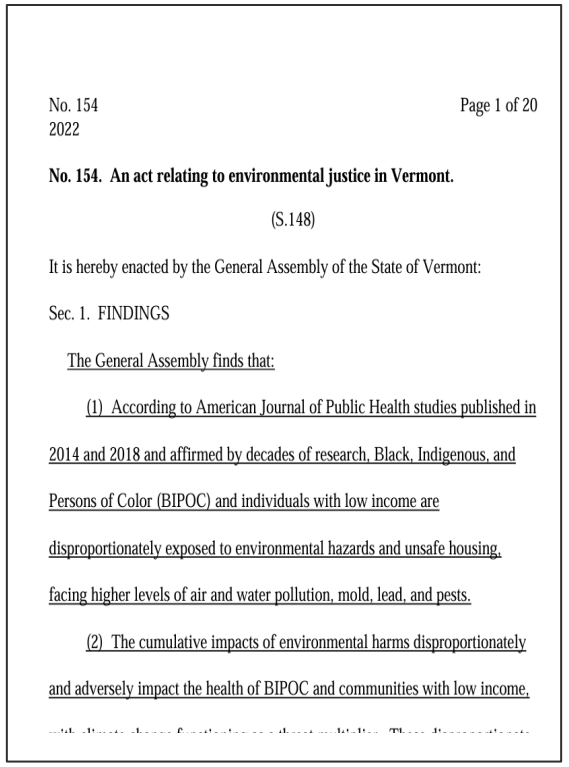
"To realize the transformative change that is needed to meet the objectives of the Global Warming Solutions Act (GWSA), Vermonters must be part of not only the solutions but in determining them, supporting all residents of the State fairly and equitably."

The Guiding Principles adopted by the Climate Council include:

- Ensuring Inclusive, Transparent, and Innovative Engagement in the development of the plan and associated policies and program.
- Moving at the Speed of Trust where candor and honesty are recognized as essential for public trust and preparing Vermonters for transition to a sustainable climate future.

Act 154 of 2022:

The legislation requires the state to "provide the opportunity for the meaningful participation of all individuals with particular attention to environmental justice focus populations, in the development, implementation, or enforcement of any law, regulation, or policy". 3 V.S.A. §6003.



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2022

No. 154. An act relating to environmental justice in Vermont.

(S.148)

It is hereby enacted by the General Assembly of the State of Vermont:

Sec. 1. FINDINGS

The General Assembly finds that:

(1) According to American Journal of Public Health studies published in 2014 and 2018 and affirmed by decades of research, Black, Indigenous, and Persons of Color (BIPOC) and individuals with low income are disproportionately exposed to environmental hazards and unsafe housing, facing higher levels of air and water pollution, mold, lead, and pests.

(2) The cumulative impacts of environmental harms disproportionately and adversely impact the health of BIPOC and communities with low income,

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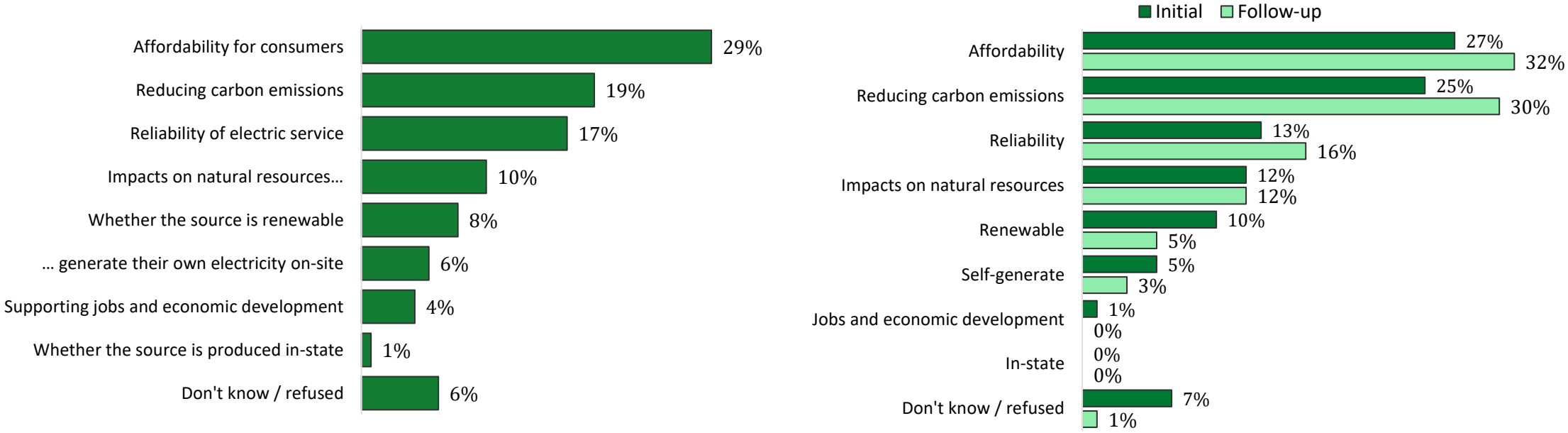
Vermonters: "Affordability, Emissions, Reliability"

Key Takeaway 1, continued: When asked to select what they felt should be the single most important factor in thinking about where Vermont gets electricity, participants in the statewide polling and focus groups indicated **affordability, reducing emissions, and reliability** were the top three issues they were concerned about. Results of the follow up survey (taken after the focus groups) shows these conversations significantly increased concern for affordability and reducing emissions.



% who say _____ is the single most important factor when considering how Vermont gets its electricity.

Results from initial statewide survey (left, 700 participants) and results from the follow-up survey (right, 92 participants) taken after the 11 focus group discussions.

Note: Results from the follow up survey show only the focus group participants responses from the initial survey and the follow up survey.

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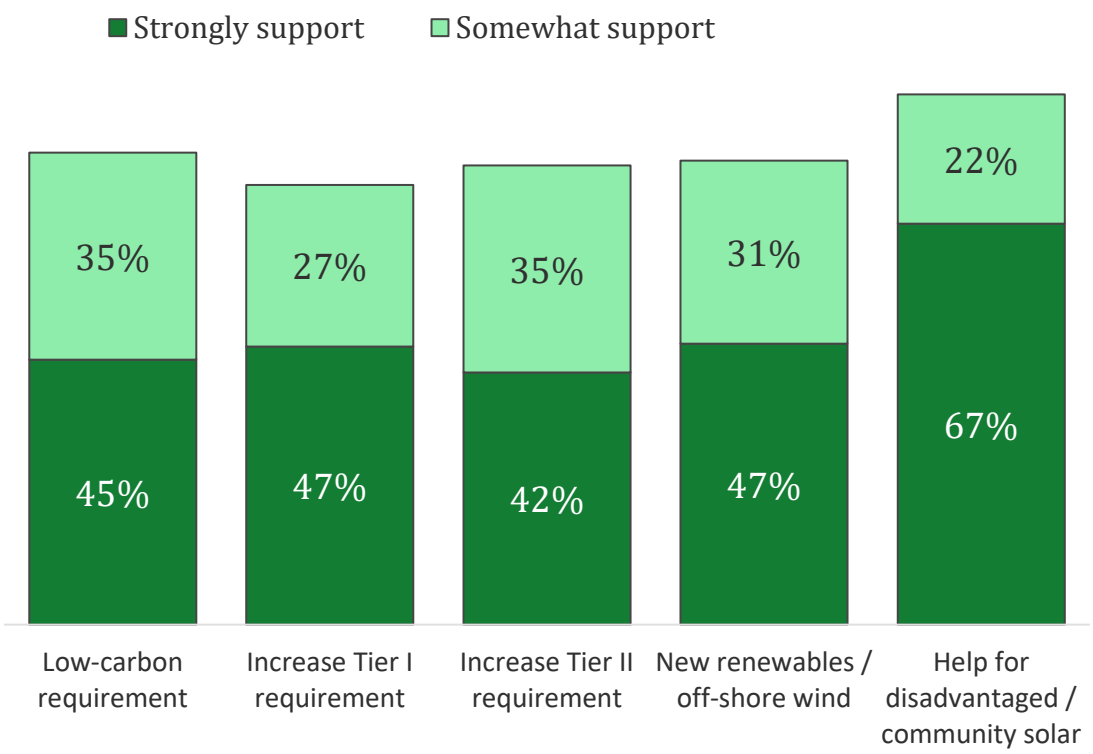
Vermonters: "Ensure Access"



*% of **follow-up survey (92 responses)** takers who strongly or somewhat support each policy. See the Appendix for full question wording for each option.*

Key Takeaway 4

Many Vermonters are at least somewhat supportive of policy and program changes that increase requirements for low carbon and renewable electricity in a way that supports the most vulnerable Vermonters

Low carbon and renewable requirements:
Individuals participating in the focus groups and follow up survey were asked about support for different policy or program changes. A majority of the 92 people who participated indicated they were at least somewhat supportive of additional policy requirements around low carbon or renewable electricity, supporting both new regional and in-state generation.

Similar themes emerged in conversations across the regional events. When asked about what would like future electricity mix to look like, while some participants in regional events noted they liked the current electricity mix, many supported getting electricity from more low-carbon or renewable resources.

Supporting Vulnerable Vermonters *(discussion continued the next slide)*
Discussions across the 11 focus groups and regional event series highlighted equitable access to the benefits from and opportunities to engage with renewable electricity as an area for future focus. In the follow-up survey following focus groups conversations, two-thirds of those individuals voiced strong support for future policies providing support to disadvantaged Vermonters through mechanisms such as community solar, a theme often echoed in the regional events.

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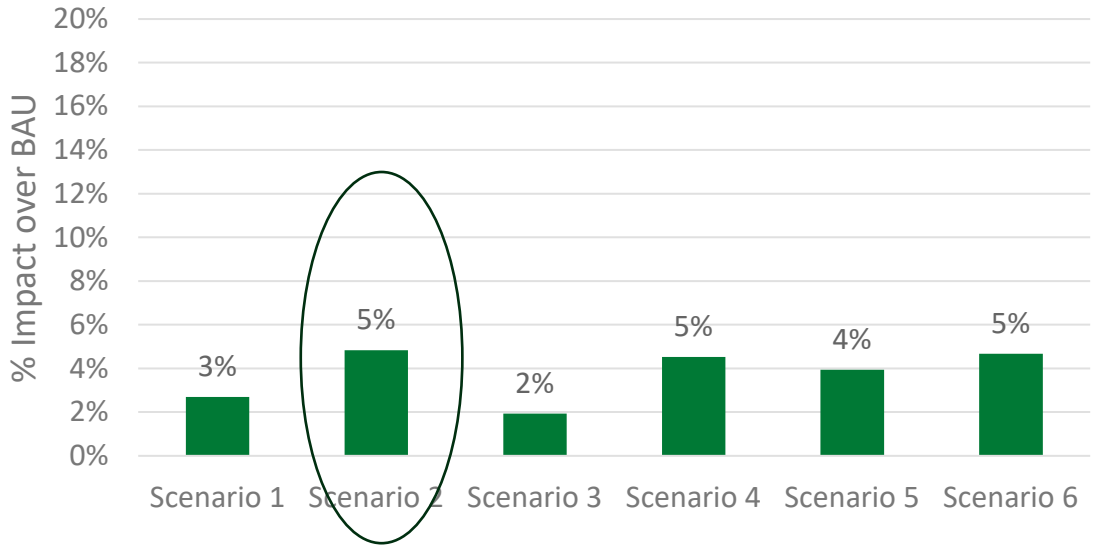
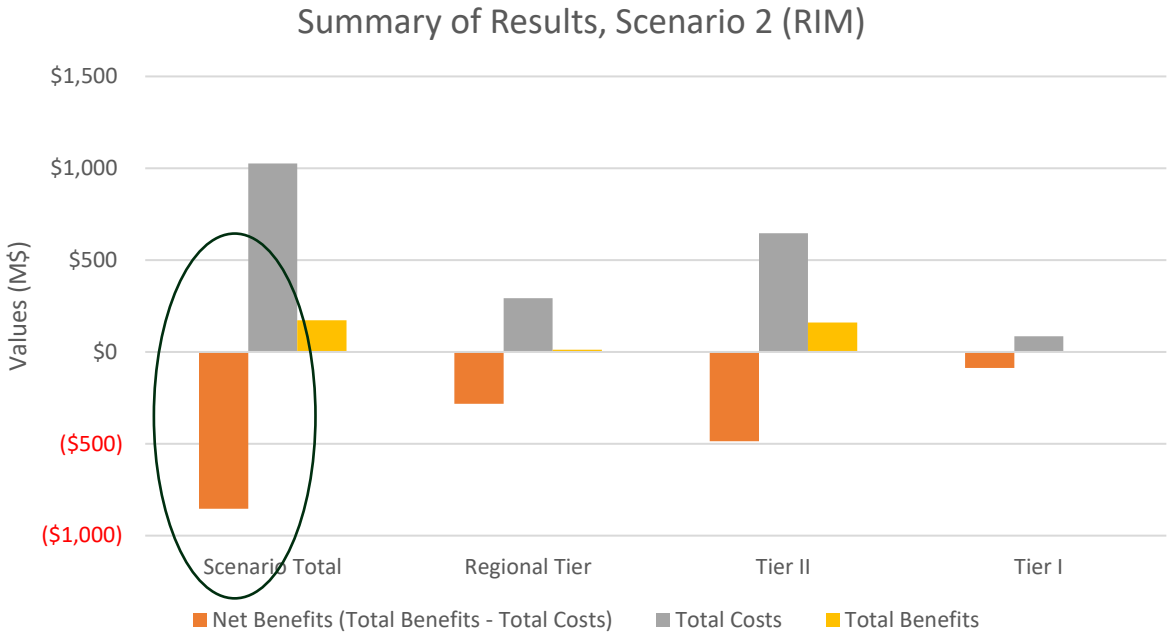
Affordability: Costs of Working Group Proposal

Fig 1: Average Projected Increase of Electric Ratepayer Bills 2025-2035 Over the Business-as-Usual





REV's presentation of 1/11 indicated that the working group proposal is "kind of close" to Scenario 2. Our modeling shows a 5% Rate Impact over 10 years, with a net cost of over $800 million over 10 years.

Download model at https://publicservice.vermont.gov/renewables#Technical%20Analysis . See Results Dashboard and Rate Impact tabs.

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What does $500 million buy?

Electric Vehicle Incentives – At $5,000 per vehicle that is 100,000 vehicles that can be supported, removing tailpipe emissions.

Weatherization – At $10,000 per home that is 50,000 homes weatherized and warm, saving fuel dollars and emissions.

Examples – not based on actual incentives or costs. Even if the $800 million estimate on the previous slide is 60% high – the working group proposal would then have net cost of $500 million. This does not include costs to the transmission system to accommodate.

Impacts to Transmission and Distribution System

Emerging Data and Information from VELCO's Long Range Transmission Plan is showing significant Transmission Costs to accommodate 20% Tier II

The Department's proposal mitigates these costs

VELCO will be in on Friday

https://www.vermontspc.com/sites/default/files/2024-01/2024%20LRP_results_VSPC_rev1.pdf

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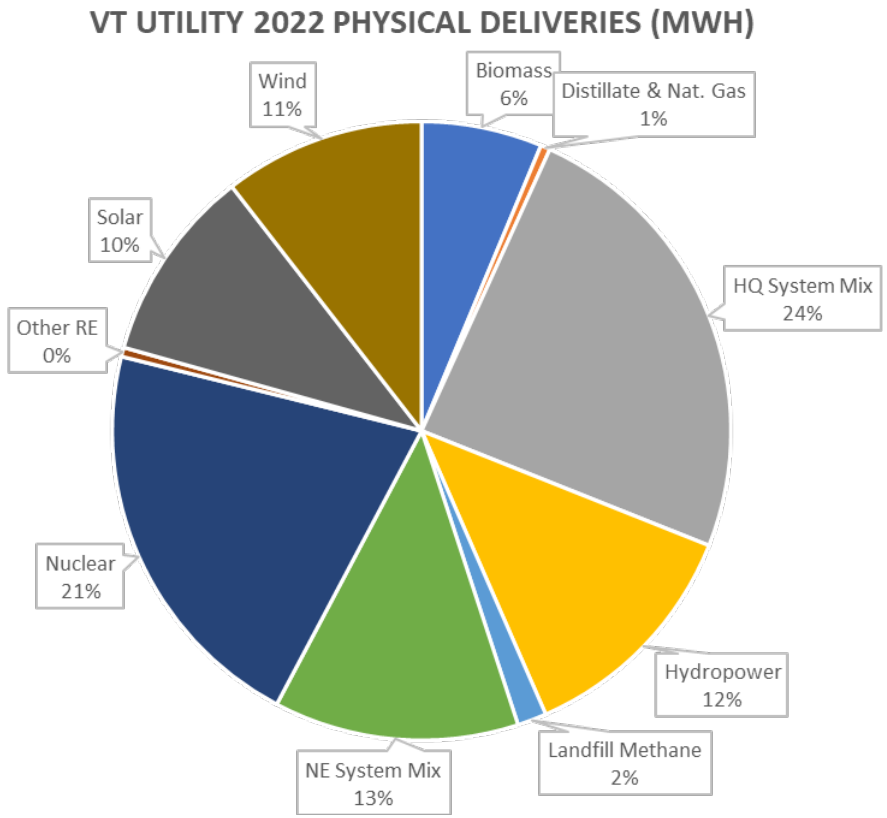
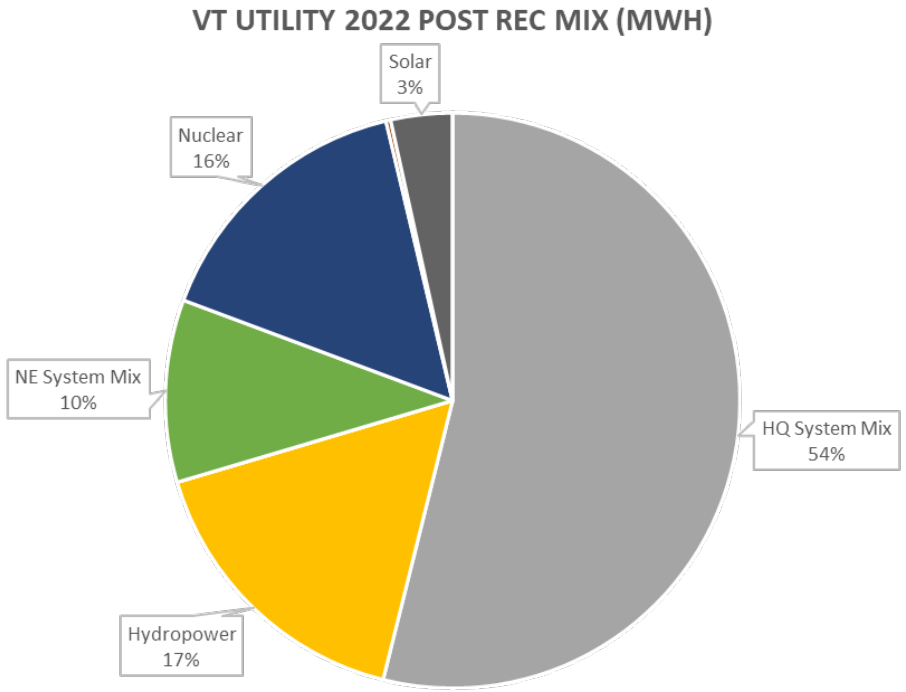
Electric Sector Emissions – Starting Point





In 2022, Vermont distribution utilities purchased 5.8 Million megawatt-hours of electricity to meet the demand of their customers. Of this: 65% came from renewable resources and an additional 21% came from carbon-free resources (nuclear)

RECs accounted for 74% of Vermont's electricity in 2022, with another 16% attributes from nuclear retired by utilities.

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Emissions

- As counted by the GHG inventory, the impact of both the PSD and H.289 are exactly the same, closing the gap from 90% non-emitting to 100% by 2030. The PSD proposal is much more affordable

- The only emissions impact difference is from societal emissions associated with the difference between ~30% new renewables by 2035 (PSD proposal) and the ~40% new renewables by 2032/35 (proposed in H.289).

Access

- Net metering is not necessary to ensure access. Net metering should continue, but be compensated fairly to avoid cross-subsidies. PSD's proposal is to compensate excess generation at avoided cost.
  - Without subsidies from non-net metered ratepayers, this proposal is estimated to effectively group net metering; however if rates are sufficient the proposal allows it to continue without cross-subsidization
- Both PSD and H.289 proposal effectively eliminate group net metering. The PSD's proposal seeks to replace it with a more cost-effective mechanism to ensure access to communities
  - PSD goal is to provide that access at least cost.
  - Elimination of group net metering does not affect Solar 4 All proposal that PSD submitted to EPA.

Renewable Energy for Communities(RE4C) Program Concept

- Require utilities to issue solicitations for community energy systems that meet objectives of:
  - Delivering benefits to customers who have historically been marginalized or faced inequitable access to benefits of renewable energy
  - Support community participation in development and governance of distributed generation
  - Support tenants of affordable housing buildings
  - Support benefits to school and municipal owned buildings
- PSD to initiate a process that recommends principles to guide RE4C, to PUC, with input
- PUC then adopts a design that supports RE4C by end of 2025.

Allows utilities to tailor solicitations that build renewables where there's room on the grid, and that generate at times when energy is needed, helping to contain both power supply and T&D costs associated with increasing in-state generation"

The PSD's Recommendation best balances Vermonters' priorities.

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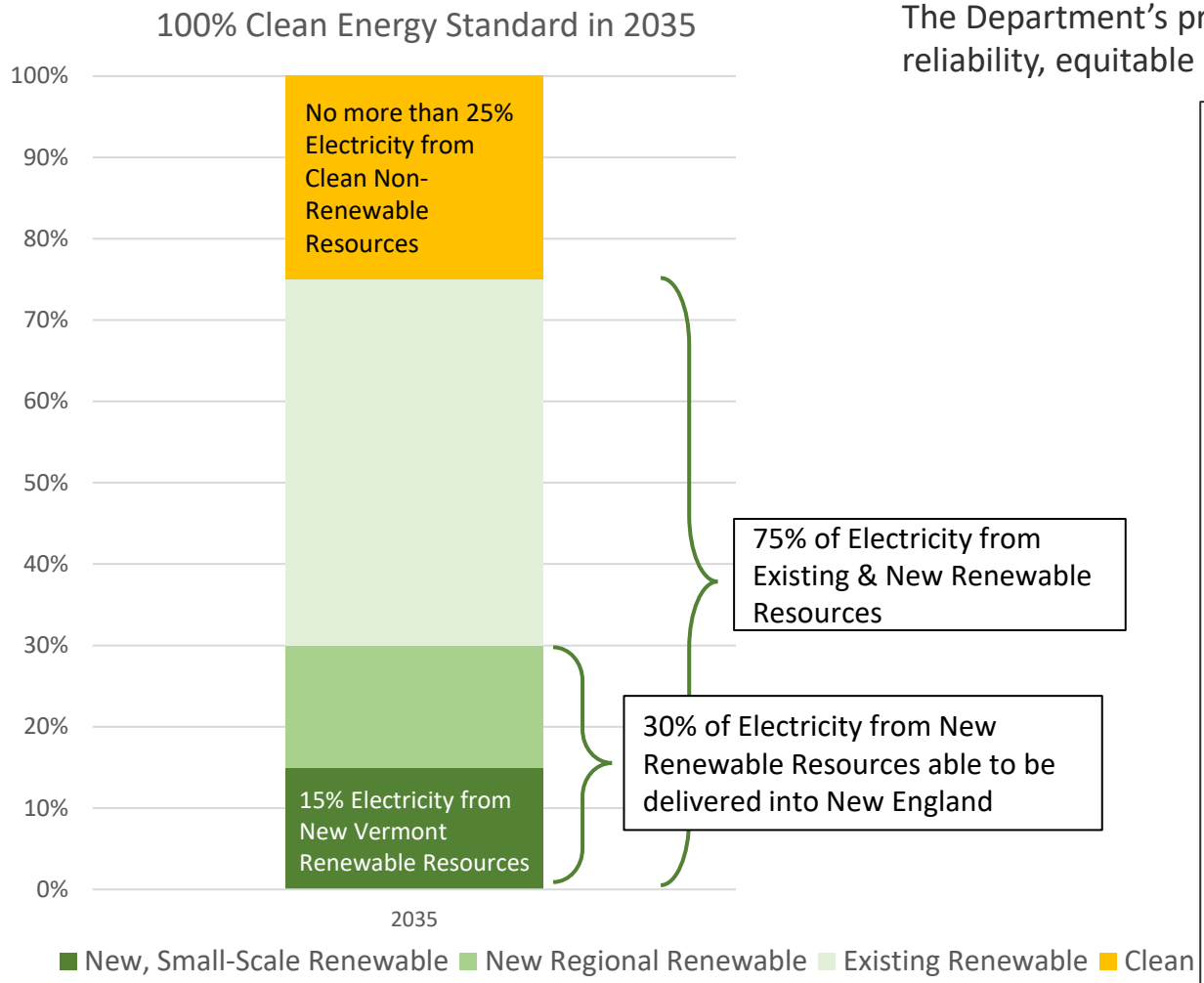
Policy Recommendations



The Department's proposal balances competing priorities of affordability, emissions reductions, reliability, equitable access to renewable energy, and in-state economic development:

- **100% Clean Energy by 2030** while maintaining 75% renewable by 2032.
- **30% New Renewable Energy by 2035** from resources that can deliver into ISO-NE
  - **15% New Renewable Energy connected to Vermont Distribution Grid** (extending current Tier II), as part of the new renewable requirement.
  - The remaining requirement may be met with in state or out of state resources.
  - New Resources are those built after January 1, 2010.
- **Develop a Community Renewables Program** as a successor to the Standard Offer Program for small-scale projects designed to deliver community benefit. Require utilities to procure 10-15 MW per year from this program.
- **Changes to the current net-metering program** to compensate "excess generation" at "avoided cost" (what utilities could otherwise purchase)
- **Additional study and reporting requirements** to understand impacts for the T&D system and opportunities for more granular reporting and to monitor impacts to affordability

Initial Specific Comments on H.289

- The bill is overcomplicated.
  - Several Different Renewable Energy Standards. Compliance and Verification will be difficult – communicating to Vermonters what Vermont's policy is may not be possible.
  - Load growth for 100% utility requirement in particular is complicated (page 18)
- Net Metering Language Concerns.
  - Group NM may still be allowed as written. Could a system still have its credits allocated to multiple, offsite meters. Current NM paradigm relies on more than one meter. (page 3)
  - Concern about letting utilities sell attributes for older net metering generation that customer owns. (page 31 and 32-33). These RECs are currently not being tracked, customers own. Alternative: lower the DG obligation
- Addresses areas that have not been discussed/well vetted
  - Increase in allowable rate increases with little process for municipal utilities (page 1)
  - Allows Tier 3 overcompliance with no regard to cost (page 15)
- Alternative Compliance Payment language is unclear. This is the amount beyond which you are not willing to pay. A clear statement is necessary.
  - It could be read to require ACP to be set at an amount to ensure that requirements are met with RE (not ACP) (page 21). Cost containment mechanism is critical.
  - $40/MWh should be applied to all New Generation. Aligning with MA makes sense.
- Reporting should be streamlined – no joint reporting between PSD/PUC

Other Initial Technical Corrections/Changes

- The Self-Managed Utility is not really a “retail electricity provider” as generally understood. Suggest reference to statute in alternative (page 14)
- Hydro credits (d) page 23: May be at odds with exemption earlier on p.11-12, may need to be aligned (page 23)

Additional Slides (as may be Useful)

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Storage Deployment & Dockets:

54 MW of storage is operational, with another 20 under development in specific dockets (with additional residential storage added every month).

	MW	MWh*	Proceeding	Type
GMP Powerwall & BYOD pilots/tariffs	26	70.2	19-3167-TF, 19-3537-TF, 21-5254-TF, 22-0955-TF, 23-1355-TF	GMP tariffs approved June 2020; 2851 installations thru 8/31; various pilots ongoing
VEC BYOD pilot	0.45	1.201	VEC Tier III program offering	Installations in BYOD program thru 9/28
GMP Stafford Hill Solar + Storage, Rutland	2	3.4	Docket 8098	First utility storage project in VT (GMP, permitted 2014). Actually 4 MW but inverter-limited to 2 MW.
Panton Storage	1	4	Case No. 17-2813-PET	GMP battery co-located with solar; amended to enable islanding
Essex Solar + Storage	2.1	8	Case No. 18-2902-PET	GMP JV Solar + Storage
Milton Solar + Storage	2	8	Case No. 17-5003-PET	GMP JV Solar + Storage
Ferrisburgh Solar + Storage	2.1	8	Case No. 17-5236-PET	GMP JV Solar + Storage
Dynapower	1.5	6	N/A	Backup power only
E. Barre Co Barre	4.999	20	Case No. 18-1658-PET	ESA with GMP
Viridity Hinesburg	1.9	5.3	18-3088-PET	ESA with VEC
Georgia Storage	4.99	10	21-1042-PET	ESA with GMP
Springfield Storage	4.99	10	21-1254-PET	ESA with GMP
Operational	**54**	**154***		
Bristol Solar & Storage	*2.958*	*11.832*	21-0974/5-PET	Co-located (but not integrated) with 2.2 MW Standard Offer solar project
Pittsford Solar & Storage	*0.498*	*2*	21-0100-NMP	Net metered project with integrated storage behind the inverter
Royalton Storage	*4.9*	*19.6*	21-2114-PET	ESA with GMP
S. Hero Storage	*4.99*	*14.94*	21-5049-PET	ESA with VEC. On hold as of 9/28 due to increases in battery prices
E.R. South St. Storage	*2*	*8*	21-3022-PET	ESA with GMP
N. Troy Storage	*3*	*12*	22-4009-PET	GMP & VEC Joint owners. Under construction as of 9/28
Rochester Brandon Mountain Solar	*2*	*8*	23-1639-PET	3rd party project selected by GMP for "Rochester Resiliency Zone," paired with 1 MW solar; CPG issued 12/5/23
Operational + under development	***74***	***230****		*Assumes all systems are 4 hours

Vermont Storage Deployment in New England Context

State	Goal	Milestone	2023 summer peak (MW)	Goal as % of 2023 summer peak	2023 deployed storage (MW)	Current % of peak
CT	1000 MW x 2030	300 MW x 2024	5864	17	12	0.2
ME	400 MW x 2030	300 MW x 2025	1762	23	63	3.6
MA	1000 MWh x 2025	N/A	11843	2**	330	0.7**
NH	N/A	N/A	2428			
RI	N/A	N/A	1792			
VT	N/A	N/A	706		54	7.5 (10.3 including under construction/in permitting; note these does not include proposals for transmission-level storage)

The above table shows New England State's storage deployment targets. While three states have targets, those same states are currently at far lower levels of storage deployment relative to Vermont, as measured by percent of peak load. Vermont is already on pace to exceed the targets set in other states.

*MA and CT storage goals apply just to Investor-Owned Utilities ("IOUs"). ME's is unclear.

**Assumes all batteries are 4 hours in duration

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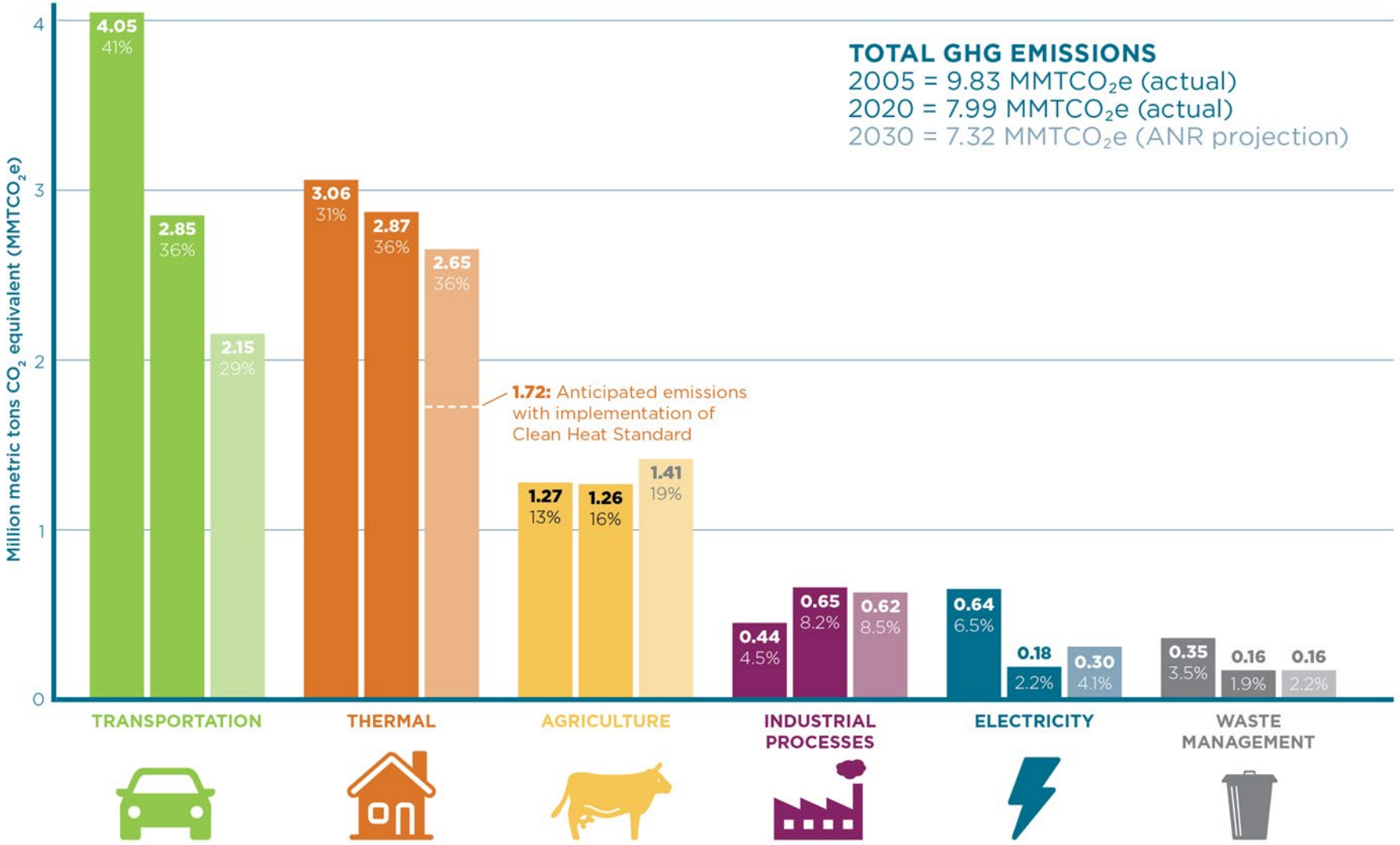
Vermont GHG emissions by sector, actual (2005, 2020) and projected (2030)



Source: Vermont Agency of Natural Resources, Vermont GHG Emissions Inventory and Forecast: 1990-2020, 2023. **Note:** There is a small amount of emissions from the "fossil fuel industry" category (i.e. fugitive emissions from fossil gas pipelines in VT), accounting for 0.3% of Vermont's overall emissions in 2020, that does not show up on this graph. Values/percentages for 2030 are based on the VT Agency of Natural Resources' projections in the 1990-2020 GHG emissions inventory, published in 2023, and reflect a business as usual scenario, including the projected impact of Advanced Clean Cars II.

ENERGY ACTION NETWORK

According to Vermont's GHG Inventory, Electric Sector Emissions are small

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Inflation Reduction Act Solar Tax Credit Possibilities

- 30% Base ITC (assumes some labor requirements for projects >1MW)
- 10% Domestic Content Bonus
- ~~10% Energy Community Bonus~~ (Vermont has none)
- 20% Low Income Economic Benefit Project - Capacity limited and application based (pro-rata share for Vermont appears to be small -- ~2MW per year).

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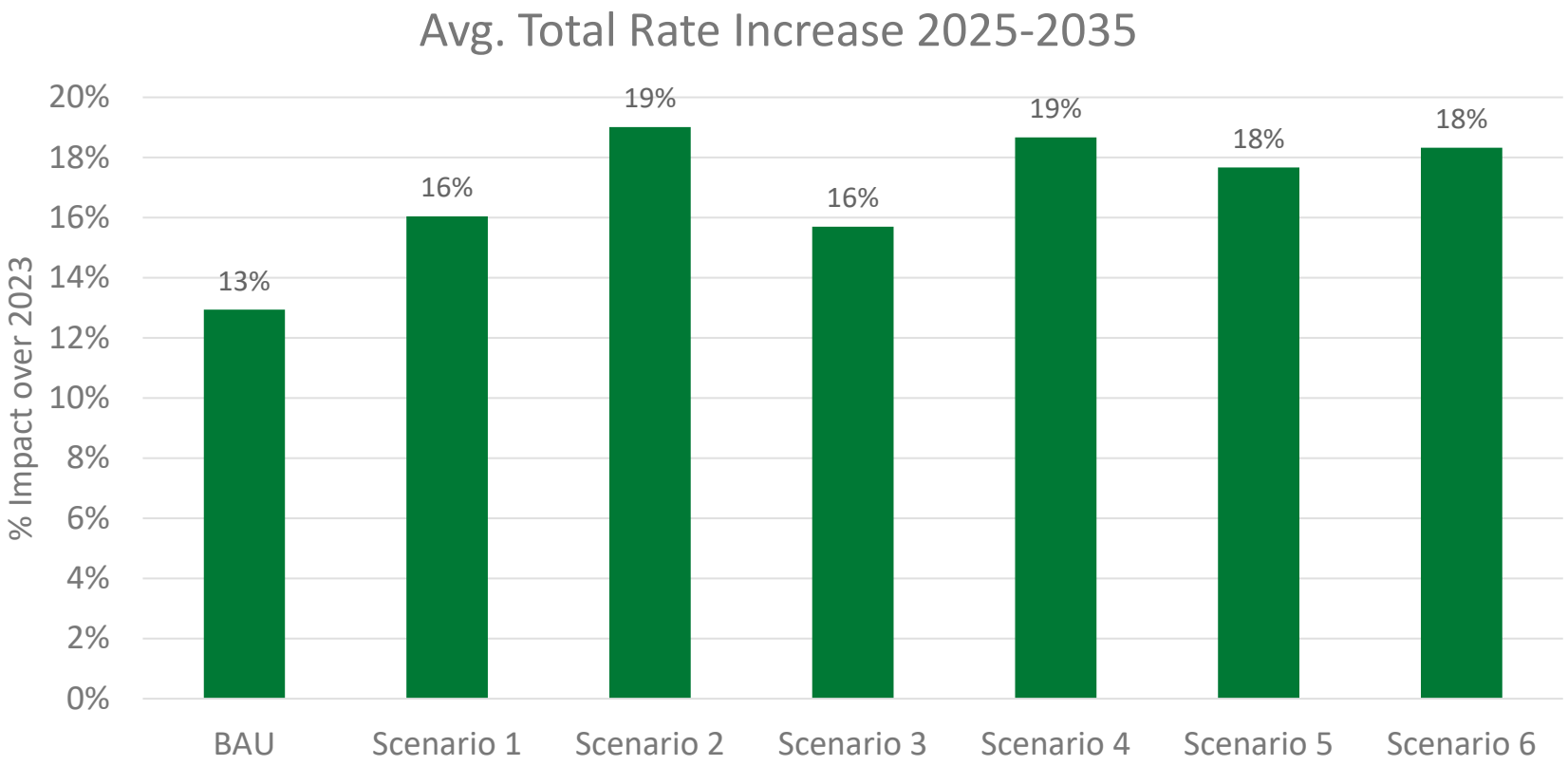
Cumulative including BAU Rate Impact



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