

**Potential Thermal Sector Pathways, Strategies, and Actions Working Document**  
**Prepared by the CSMS' Thermal Sector Task Group (TG)**  
**01/13/2025**

**Notes:**

1. The following definitions from the Climate Action Office (edited for syntax and clarity) provided the structure for the 2021 CAP and are being used again for 2025 CAP planning:
  - **Pathway:** A pathway is a high-level means to achieve GHG emissions reductions in each sector.
  - **Strategy:** A strategy is a measurable activity - a benchmark - to achieve a pathway. Strategies should be measurable.
  - **Action:** An action is an “operational” task that the state will undertake to meet a pathway and a strategy within that pathway. Actions may be for existing or new policies, programs, projects, initiatives, plans, etc.
  
2. Pathways, Strategies, and Actions in this Table were agreed to by the TG ***except those proposed in italics*** (which the TG has not had time to review together yet). In addition, [ ] indicate a concept and/or words for which there was no consensus, and which need to be revisited and finalized later.
  
3. **Yellow** indicates concepts to which the TG has agreed but which need further refining.

<b><i>Overarching Sectoral Policy</i></b>	
<b>PATHWAY 1</b> <b>Reduce greenhouse gas emissions from the Residential, Commercial, and Industrial (RCI) fuels sector via a broad sector-wide policy framework.</b>	
<b>STRATEGY 1.1</b>	Adopt at least one sector-wide mechanism to reduce thermal sector greenhouse gas emissions, recognizing that, regardless of the specific broad sector-wide approach, complementary policies will also be necessary to meet GWSA emissions reduction requirements.
<b>Action<sup>1</sup> 1.1.1</b>	Through legislative and administrative action, adopt a modified Clean Heat Standard, designed for gradual implementation,* and containing a price cap provision with a starting price.**  *Gradual implementation implies that the mechanism would get as close as possible to GWSA targets and that complementary policies will necessarily need to carry a larger proportion of RCI emissions reductions to meet GWSA targets.  ** DDA payment or cap articulated explicitly Implementation Lead: Legislature and selected State Agencies
<b>Action 1.1.2</b>	<i>Through legislation or administrative action, join a cap-and-invest program, either New York Cap and Invest (NYCI) or Western Climate Initiative covering (but not necessarily limited to) Vermont's RCI fuels sector.</i>

<sup>1</sup> The recommendation is essentially to make progress **now**, within a program that is **scalable** over time, and that lives within a **cost cap**.

	Implementation Lead: Legislature and selected State Agencies
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<b>BUILDINGS</b>
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<b>PATHWAY 2</b> <b>Reduce greenhouse gas emissions associated with buildings and facilities through cost-effective and affordable weatherization and energy efficiency improvements, as well as through use and enforcement of energy and electrical standards and codes.</b>
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<b>STRATEGY 2.1</b>	<b>Ramp up implementation of the multi-year Weatherization (WX) at Scale Initiative to meet the scale and pace of residential and commercial weatherization that is <i>[used in the Vermont Pathways model]</i> necessary to meet 2030 GWSA requirements.</b>
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<p>priority</p>	<p><b>Action 2.1.1</b></p>	<p>Through legislation or administrative action, ensure X additional homes are comprehensively weatherized by 2030, and secure the funding needed to achieve the target with a priority on low- and moderate-income households.</p> <p><b>Implementation Lead:</b> Legislature, Public Service Department</p>
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<p>priority</p>	<p><b>Action 2.1.2</b></p>	<p>Through legislation or administrative action, ensure X additional commercial, industrial, municipal, and non-residential buildings are comprehensively weatherized by 2030, and secure the funding needed to achieve the target.</p> <p><b>Implementation Lead:</b> Legislature, Public Service Department</p>
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<p>priority</p>	<p><b>Action 2.1.3</b></p>	<p>Through legislation or administrative action, secure a sustainable source of funding to be used specifically for eliminating barriers (e.g. required pre-requisite home repairs (including, but not limited to, vermiculite removal, knob-and-tube mitigation, etc.) that prevent or delay weatherization activities from occurring in low- and moderate-income homes.</p> <p><b>Implementation Lead:</b> Legislature</p>
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	<p><b>2.1.4</b></p>	<p>Through legislation or administration action, secure upfront funding to comprehensively weatherize all municipal buildings and public facilities (including “weatherization ready” project needs) with priority for supporting/expanding existing programs (i.e. the Municipal Energy Resilience Program, Municipal Technical Assistance Program, Building Communities, etc.).</p> <p><b>Implementation Lead:</b> Legislature</p>
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<b>STRATEGY 2.2</b>	<b>Strengthen state-wide building energy standards and fund related education and code compliance necessary to meet the 2030 and 2050 GWSA, consistent with pending Building Energy Code Working Group recommendations.</b>
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	<b>Action 2.2.1</b>	<p>Regularly update the existing statewide residential building energy standard, putting Vermont on the path to adopting a Zero Energy Ready building energy standards for new construction by 2030.</p> <p><b>Implementation Lead:</b> Public Service Department</p>
	<b>Action 2.2.2</b>	<p>Regularly update the existing statewide commercial building energy standard, putting Vermont on the path to adopting a Zero Energy Ready building energy standards for new construction by 2030.</p> <p><b>Implementation Lead:</b> Public Service Department</p>
	<b>Action 2.2.3</b>	<p>Develop and fund a state-level Energy Code initiative that provides standards education and compliance assistance and training to municipalities to ensure awareness of and compliance with existing and future building energy standards and/or codes.</p> <p><b>Implementation Lead:</b> Public Service Department</p>
	<b>Action 2.2.4</b>	<p>In alignment with the Act 47 Building Energy Code Study Committee's recommendations, through legislation action, consider designating the Division of Fire Safety (DFS) as the statewide "authority having jurisdiction" (AHJ) over all building construction (public, private, commercial, and residential):</p> <ul style="list-style-type: none"> <li>a. Empower the DFS to enforce Vermont's Residential Building Energy Standards (RBES) and Commercial Building Energy Standards (CBES).</li> <li>b. Give them the ability to raise funds to cover the cost of energy code adoption and administration through permit fees.</li> <li>c. Expand DFS's current database redesign to incorporate a statewide, central, publicly accessible repository for all Vermont buildings (including all residential buildings) that includes energy code data.</li> <li>d. Eliminate filing the certificate in town records and the notarization requirement.</li> <li>e. Establish a certificate application tool for both CBES &amp; RBES that generates an energy standard "permit" before construction and a final certification upon completion that is part of the DFS database.</li> </ul> <p><b>Implementation Lead:</b> Legislature</p>
	<b>Action 2.2.5</b>	<p>In alignment with the Act 47 Building Energy Code Study Committee's recommendations, require the Office of Professional Regulation (OPR) to:</p> <ul style="list-style-type: none"> <li>a. Update the contractor registry so contractors explicitly acknowledge RBES/CBES legal requirements.</li> <li>b. Develop a certification designation for contractors trained on RBES and include the certification on the OPR Contractor Registry and DFS websites).</li> </ul>

		<p>c. Update the OPR website to make it user-friendly, alert consumers to contractors who are trained on RBES, and provide filtering functionality, e.g., by specialties, location, and certifications.</p> <p>d. Authorize OPR to update their contract requirements and template for contractor-owner agreements to include a clause acknowledging that energy codes are mandatory.</p> <p><b>Implementation Lead:</b> Office of Professional Regulation</p>
	<b>Action 2.2.6</b>	<p>Establish a role for EEs to play in supporting energy codes compliance and incentives</p> <p><b>Implementation Lead:</b> Public Utility Commission</p>
	<b>2.2.7</b>	<p>In alignment with the Act 47 Building Energy Code Study Committee's recommendations, incentivize EEs to support projects meeting "net zero" level of performance in their residential new construction programs</p> <p><b>Implementation Lead:</b> Energy Efficiency Utilities</p>

<b>STRATEGY 2.3</b>	<b>Expand the use of modern, energy-efficient mobile homes, enabling purchasers of new mobile homes to have quality housing with lower lifetime energy costs than standard mobile homes</b>	
	<b>Action 2.3.1</b>	<p>In alignment with the Act 47 Mobile Home Task Force recommendations continue and increase funding for existing programs that replace aged mobile homes or fill vacant mobile home park lots with new energy efficient models</p> <p><b>Implementation Lead:</b> Agency of Commerce &amp; Community Development</p>

<b>STRATEGY 2.4</b>	<b>Increase and standardize the efficiency of rental properties in Vermont by incentivizing landlords to make improvements to their property.</b>	
	<b>Action 2.4.1</b>	<p>Direct the Commissioner of Public Service through legislation to explore the use of efficiency standards for multi-family rental properties more consistent with at least the 2015 International Energy Conservation Code (IECC) with amendments. Require a report by March 2026 on the impacts on housing costs, energy burden, and GHG emissions of adopting such a standard. Require recommendations from the Commissioner on whether to require such a standard in Vermont and, if recommended, which rental properties should be covered under such a standard.</p> <p><b>Implementation Lead:</b> Legislature, Department of Public Service</p>

<b>EQUIPMENT</b>
<b>PATHWAY 3</b>

<b>Reduce greenhouse gas emissions through appropriate use of emissions-based equipment standards.</b>	
<b>STRATEGY 3.1</b>	Explore and potentially implement a regulatory requirement for new space and water heating equipment sold and installed in Vermont to meet a zero, greenhouse gas emissions standard
Action	<p>3.1.1 Conduct a study that considers the technological options and market feasibility for emissions-based equipment standards for various types of heating.</p> <p>The purpose is to better understand the feasibility and considerations of Vermont adopting thermal equipment emissions standard(s), either for oxides of nitrogen or, more broadly for GHGs.</p> <ul style="list-style-type: none"> <li>• Start by September 1, 2025 and file a report with the Vermont Climate Council by June 30, 2027</li> <li>• The study shall consider: <ul style="list-style-type: none"> <li>• adoption by other states,</li> <li>• the means by which equipment standards can influence market activity,</li> <li>• the most equitable approaches, and</li> <li>• how to secure the greatest emissions reductions</li> </ul> </li> </ul> <p><b>Implementation Lead:</b> Agency of Natural Resources, in consultation with the Department of Public Service</p>
	<p><del>Action 3.1.1 Through administrative action, and in coordination with adoption of similar zero GHG emissions standards by at least one other state, ANR shall consider a performance standard requiring newly installed thermal equipment to emit zero greenhouse gas emissions.</del></p> <p><del>Newly installed residential-sized heating equipment including combustion furnaces, boilers, and hot water heaters, shall meet the standard by 2030. Practical but limited exemptions or time extensions may be allowed for temporary equipment replacements, for off-grid homes, and/or based on market feasibility.</del></p> <p><del>Newly installed commercial-sized combustion heating and hot water equipment shall meet the standard by 2035. Practical but limited exemptions or time extensions may be allowed for temporary equipment replacements, for high-heat applications, and/or based on market feasibility.</del></p> <p><del>A market assessment shall occur at least one year prior to the effective date of the zero emissions standard for each type of covered equipment to confirm market feasibility and technology readiness.</del></p>

		<p><b>Implementation Lead:</b> The Agency of Natural Resources in consultation with the Public Service Department, the Clean Heat Standard Technical Advisory Group, Distribution Utilities, and Energy Efficiency Utilities. ANR is encouraged to coordinate with multistate and regional initiatives advancing zero-emission standards to develop the regulations and conduct the market assessments.</p>
<b>STRATEGY 3.2</b>	<p>Institute a regulatory requirement for new space and water heating equipment sold and installed in Vermont to meet a zero NOx emissions standard.</p>	
	<p>Action 3.2.1</p>	<p>Through administrative action, and in coordination with adoption of similar zero NOx emissions standards by at least one other state, ANR shall adopt a performance standard requiring newly installed thermal equipment to emit zero NOx emissions.</p> <p>Newly installed residential-sized heating equipment including combustion furnaces, boilers, and hot water heaters shall meet the standard by 2030. Practical but limited exemptions or time extensions may be allowed for temporary equipment replacements, for off-grid homes, and/or based on market feasibility.</p> <p>Newly installed commercial-sized combustion heating equipment shall meet the standard by 2035. Practical but limited exemptions or time extensions may be allowed for temporary equipment replacements, for high-heat applications, and/or based on market feasibility.</p> <p>A market assessment shall occur at least one year prior to the effective date of the zero-emissions standard for each type of covered equipment to confirm market feasibility and technology readiness.</p> <p><b>Implementation Lead:</b> The Agency of Natural Resources in consultation with the Public Service Department, the Clean Heat Standard Technical Advisory Group, Distribution Utilities, and Energy Efficiency Utilities. ANR is encouraged to coordinate with multistate and regional initiatives advancing zero-emission standards to develop the regulations and conduct the market assessments.</p>
<b>STRATEGY 3.2</b>	<p>Adopt a regulatory and/or performance-based approach that results in the use of lower global warming potential (GWP) refrigerants sold in Vermont.</p>	
	<p>Action 3.3.1</p>	<p>Work with key stakeholders to better understand the number and type of entities that would potentially be subject to a refrigerant management program (RMP) and the associated costs and benefits of an RMP. (From Non-Energy Pathways recommendations)</p> <p><b>Implementation Lead:</b> The Agency of Natural Resources</p>

	Action 3.3.2	<p>Work with key stakeholders to better understand and formulate recommendations regarding a regulatory or performance-based approach that results in the use of lower global warming potential (GWP) refrigerants in heat pumps sold in Vermont.</p> <p><b>Implementation Lead:</b> The Agency of Natural Resources</p>
	Action 3.3.3	<p>Consider whether to require permanent leak detection systems for entities using over a certain threshold of high GWP refrigerants and if a cost share should be provided, with additional outreach through work with key stakeholders to better understand the number of applicable entities and the costs and benefits of such a requirement.</p> <p><b>Implementation Lead:</b> Legislature; The Agency of Natural Resources</p>

<b>EQUIPMENT</b>		
<p><b>PATHWAY 4</b>  <b>Reduce greenhouse gases by ensuring beneficial electrification of building space and water heating, with a focus on ensuring equitable access to cost-effective, and affordable electrification by low- and moderate-income households.</b></p>		
<b>STRATEGY</b> <b>4.1</b>	Encourage equitable adoption of electric heat pumps as replacements for fossil fuel heating and ensure access to beneficial electrification regardless of household income.	
	Action 4.1.1.	<p>Through legislation or administrative action, develop a long-term sustainable source (or sources) of funding to enable expanded outreach, consumer support, funding, and financing for the beneficial electrification of low- and moderate-income households, including home repairs and electrical wiring and panel upgrades needed in order to be “heat pump ready”.</p> <p><b>Implementation Lead:</b> Legislature, Public Utility Commission (via Clean Heat Standard design and rules),</p>
	Action 4.1.2	Through administrative action, ensure consumer protections are in place to ensure low- and moderate-income households do not experience increased service disconnections as a result of increased electrification of space and water heating.

		<b>Implementation Lead:</b> Public Utility Commission
	Action 4.1.3	Through administrative action, ensure consumer protections are in place to ensure low- and moderate-income households do not experience increased overall energy costs, and/or reduced access to federal or state fuel assistance support as a result of increased electrification of space and water heating.  <b>Implementation Lead:</b> Public Utility Commission, Public Service Department
	Action 4.1.4	Support the Department of Children and Families to allow the disbursement of LIHEAP funds across multiple fuel types (at the individual household level)  <b>Implementation Lead:</b> Department of Children and Families
<b>STRATEGY 4.2</b>	Institute regulatory or performance-based approaches to transition the water heater market in Vermont and ensure that water heater models are able to be managed by electric utilities.	
	<b>Action 4.2.1</b>	Through administrative action, ANR shall adopt an appliance performance standard requiring new electric water heaters for sale in Vermont (July 1, 2027) to be manufactured with a modular demand response communications port or <b>capable of responding</b> pursuant to an open communications standard ensuring that the water heater is capable of load management.  The Public Utility Commission, in consultation with the Department of Public Service and State electric distribution utilities, shall file a written report with the House Energy & Digital Infrastructure Committee and the Senate Committees on Finance, on Natural Resources and Energy no later than March, 2026, that addresses the feasibility of Vermont adopting an appliance performance standard requiring new electric water heaters for sale in Vermont to be manufactured with a modular demand response communications port or the capability of responding to an open communications standard, ensuring that all new electric water heaters are capable of load management.  <b>Implementation Lead:</b> Public Utilities Commission  <del>Agency of Natural Resources, in consultation with the Clean Heat Standard Technical Advisory Group, Distribution Utilities, and Energy Efficiency Utilities</del>
<b>STRATEGY 4.3</b>	Encourage integration of electric water heaters into Vermont’s electric system and the timely adoption of utility programs to ensure that electric water heating loads are directly managed or controlled through time-differentiated price signals.	
	<b>Action 4.3.1</b>	Adopt legislation consistent with the provisions of Section 33 (Plug In Vehicle Electric Distribution Utility Rate Design) in Act 55 (2021) directing all Vermont distribution utilities to propose demand response programs for electric water heaters, and to file electric water heating demand response



	<p>tariffs with rates consistent with the criteria set out in Act 55 of 2021, Section 33, (c)(1)(A)-(D), (F), and (e) by July 1, 2027 for review by the Public Utility Commission pursuant to 30 V.S.A. § 225.</p> <p>The Public Utility Commission may grant a petitioning electric distribution utility an extension of the filing deadline. An extension may only be granted in response to a petition if the Public Utility Commission finds that the electric distribution utility’s inability to meet the July 1, 2027, implementation deadline is due to a technical inability to implement demand response program, adverse economic impacts to ratepayers that would result from such implementation, or other good cause demonstrated. The length of the extension shall be directly related to the demonstrated need for the extension.</p> <p><b>Implementation Lead:</b> Legislature and the Distribution Utilities in consultation with the Public Service Department, for review and approval by the Public Utility Commission</p>

<b>FUEL</b>	
<b>PATHWAY 5</b> <b>Reduce greenhouse gas emissions by reducing the greenhouse gas intensity of fuels used for thermal Residential, Commercial, and Industrial (RCI) purposes.</b>	
<b>STRATEGY 5.1</b>	<i>Create a market-based approach to reduce thermal sector greenhouse gas emissions.</i>
<b>Action 5.1.1</b>	<p>Through legislative and administrative action adopt a performance-based Clean Fuels Standard that implements a declining carbon intensity (CI) score eligibility requirement for residential, commercial, and industrial (RCI) fuels, <i>and can be implemented gradually alongside other complementary policies that would be necessary</i></p> <p>Implementation Lead: Legislature and State Agencies</p>
<b>5.1.2</b>	<p>Alternate approach if recommended action (5.1.1) is not deemed feasible (not performance-based): Through legislative and administrative action institute a minimum percentage clean fuel blending requirement for all residential, commercial, and industrial liquid and gaseous fuels, utilizing an approved list of eligible clean fuels</p>

		Implementation Lead: Legislature and State Agencies
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**PATHWAY 6**  
**Optimize GHG emissions reduction requirements and energy equity in electric, gas, and energy efficiency utility regulation.**

<b>Strategy 6.1</b>	Consider changes to regulated utility performance metrics to include GHG emissions reductions and energy burden reductions so as to more cost-effectively achieve Vermont’s legal GHG reduction requirements and energy-equity goals.
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<b>Action 6.1.1</b>	Through legislation direct the Public Utility Commission to open a case that examines existing regulated utility performance metrics and considers whether changes to those metrics to optimize greenhouse gas reductions and energy burden reductions for Vermonters with low- and moderate-incomes would promote state policy goals.  <b>Implementation Lead:</b> Legislature, Public Utility Commission
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**CROSS-CUTTING**

**PATHWAY 7**  
**Recruit, train, and retain the workers and support the businesses necessary to implement Vermont’s thermal sector energy transformation.**

<b>Strategy 7.1</b>	Increase coordination among multiple state agencies, workforce development entities, public education institutions, and employers to ensure the scaling up of the workforce needed to achieve the GWSA requirements. This will require a substantial ramp up in workforce recruitment, training, placement, and retention involving multiple public and private entities.
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<b>Action 7.1.1</b>	Complete the development of the Weatherization Workforce Training Center currently underway under the leadership of the Weatherization Workforce Training Center Steering Committee.  <b>Implementation Lead:</b> Office of Economic Opportunity, Vermont Energy Investment Corporation, Vermont Works for Women, Vermont Technical College, ReSOURCE, Vermont Adult Learning and Vermont’s Adult Career & Technical Education Center
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**I. Additional Possible Pathways, Strategies, and/or Actions not yet Discussed and/or Integrated Above**

### As summarized in our most recent Slides:

- Opportunities to reduce electric demand growth (reducing the thermal demand we need to electrify for example **wasteheat recovery, actions to support GSHP LEAP targets**, etc)
- Consideration of a **new utility rate approach** to ensure income-eligible utility customers do not experience an increase in total energy bills as a result of switching to electricity to help reduce GHG emissions from fossil heating and transportation fuels
  - Further actions required to ensure all DUs have the capacity and are pursuing demand management and ensuring access to these technologies for their customers?
- Enhancements to **existing bill assistance programs** to ensure households are eligible to receive payment support for more than one fuel type
- **Community scale and land use perspectives**

### Sourced from VT's CPRG Application (not awarded)

1. **Action:** Evaluate fossil fuel-free commercial buildings new construction standard or local ordinance similar to what Burlington did in 2022. (AS)
2. **Action:** Develop lower electric "heat" rate structure to encourage LMI electrification. (AS)
3. **Action:** Develop model new construction code for fossil fuel-free homes for towns to consider (AS)
4. **Action:** Develop enabling legislation for TENs so Towns do not need to legislatively change their charter to set up districts. (AS)
5. **Action:** Something related to increasing the efficiency of industrial processes including, for example, increased attention to waste heat recovery. (SL)
6. **Action:** From CPRG, Measure 6. Create five "energy navigator" jobs in the Public Service Department. These Navigators will work directly with low to moderate income families to provide direct support to change home energy systems to cleaner technologies. The Navigators will be technically trained to review the current home heating system and provide recommendations for energy efficient upgrades. The Navigator will work with the family to identify issues that may need to be addressed before the new heating system is installed (e.g. repairs on foundations, remediation, and funding to do so), identify and secure contractors, schedule work with contractors, and identify and help secure funding to pay for equipment and contract work. The Energy Navigation program will also help connect families to other "wrap-around" services that help meet other pressing needs (e.g. 3SquaresVT food security benefits). Implementation Lead: Public Service Department
7. **Action:** From CPRG, Measure 7. Increase the amount of funding available from the Public Service Department for low- to moderate-income Vermonters to make thermal efficiency upgrades to single households and multi-family buildings in Vermont. These upgrades include weatherization activities, fuel switching, and the complementary and make-ready work required to facilitate these projects.

Grant request would support 200 projects a year for 5 years. Implementation Lead: Public Service Department, Efficiency Vermont, Vermont electric and gas utilities.

**8. Action:** From CPRG, Measure 8: Climate-Friendly Affordable Housing: Increase the current scope and scale of the incentive for affordable housing developers to exceed the Renewable Building Energy Standard (RBES) by creating a more realistic per-unit incentive. This program serves homeowners with up to 120% area median income (AMI), and renters with up to 100% AMI.

**9. Action:** From CPRG, Measure 16: Municipal climate mitigation and resilience: Expand 2 programs to support municipal climate mitigation: (1) the Municipal Energy Resilience Program (MERP) which provides grants for weatherization, energy audits, efficiency upgrades, and electrification for municipally owned buildings; and (2) the Municipal Technical Assistance Program (MTAP) to help municipalities identify and secure state and federal funding.

**10. Action:** New utility rate approach for income-eligible electric utility customers. (CTD)

**11. Action:** Enhancements to existing utility bill payment assistance programs. (CTD)

**12. See whether this is still needed once the rest of the Pathways, Strategies and Actions are completed. (CTD)**

<b>STRATEGY 1.2</b>	<b>Ramp up the provision of technical support, funding, and financing to low- and moderate-income households to ensure an equitable transition to the use of non-greenhouse gas emitting fuels in weatherized and energy efficient homes at the scale and pace [identified in the Vermont Pathways model] necessary to meet the 2030 GWSA requirements.</b>	
	<b>Action 1.2.1</b>	Through legislation or administrative action, create a long-term, sustainable source of funding for use by eligible low- and moderate-income Vermonters to make cost-effective thermal efficiency upgrades to single family residences and multi-family buildings in Vermont. These upgrades should include weatherization activities, fuel switching from fossil fuels to renewable electricity, and home repairs and code compliance projects needed to enable weatherization and fuel switching. Such funding could be from new initiatives such as implementation of a Clean Heat Standard, a cap-and invest initiative, a green bank, or other proven funding and finance mechanisms.

**II. NOTES**

**1. RE: Action 2.1.1 above – From Dave Farnsworth:** “NEEP is currently working on appliance emissions standards. They are also natural allies for developing standards for addressability. Furthermore, with regard to addressability, if we expect to see addressable electric water heater load actually managed, it is especially important to engage with VT utilities that will need to develop demand response programs to ensure that electric water heater loads are controlled like EV loads, and not allowed to simply add to system peaks thereby creating unnecessary costs borne by all ratepayers.”

**For further discussion, see Scott McCormick’s email of 11/12/2024**

I have some takeaways from the Thermal Sector Focus Group meeting and the recent RRA SC Business Focus Group meeting.

1. Several participants indicated there is a lack of program coordination between State, regional, and local government levels. Programs (e.g. weatherization, flood/hazard response, etc.) lack stakeholder coordination, outreach and engagement. I suggest that the RRA SC include this as part of our Pathway 1, Strategy 4 in coordination with the Thermal Sector TG.
2. How to integrate climate smart construction into affordable housing programs? Several participants from your Thermal focus group meeting indicated the need to integrate passive and climate smart technologies into future construction of housing to meet the state's needs. I am not at all sure how to address this, but it might be useful to have some discussion about this. The RRA SC has a resilient housing pathway (our Pathway 5) and there might be an activity to explore this by looking at different models in the US and internationally as a next step under the revised CAP. Modular construction of MF housing is being built in Bellingham, Washington and good examples of using infill housing (e.g. tiny homes and modular constructed homes) might be something to explore.
3. In the RRA SC business focus group discussion, discussion came up around too many regulations causing increasing housing costs. So, it seems that there might be a slight conflict between what some feel are "rigorous" RBES and CBES and how to educate builders and enforce these codes.
4. Finally, workforce development. I heard in both focus groups the need to support some kind of CE for contractors in the weatherization and electrification sectors. I hope that the Workforce Cross-sector TG is dealing with this.

*DU data*  
*Service quality*