CLIMATE INFRASTRUCTURE FINANCING REPORT

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INTRODUCTION: REPORT PURPOSE, SCOPE, AND STRUCTURE

Purpose

In the Fiscal Year 2024 Appropriations Act, the State Legislature requested a report with recommendations from the Treasurer by January 15 regarding:

- Coordination of the State's climate infrastructure financing efforts;
- Creating a framework for effective collaboration among Vermont organizations, agencies, and the financial instrumentalities of the State to maximize the amount of federal Greenhouse Gas Reduction funds the State may receive; and
- Coordination of the deployment of these and other greenhouse gas reduction funds.

The Legislature's request is timely. The terrible flooding across Vermont this past year has underscored the importance of strategic investment in community resilience and climate infrastructure. Further, the Inflation Reduction Act and the Infrastructure Investment & Jobs Act provide new funding programs that can support this type of strategic investments. It can be challenging for smaller communities in particular to access or benefit from these funds. Coordinating efforts of the many organizations working in this area will produce better results for Vermont.

This report also is the first opportunity to integrate the Resilience Implementation Strategy Initiative announced on January 3 by Governor Scott and Treasurer Pieciak with ongoing climate infrastructure financing work. The joint initiative envisions a comprehensive Resilience Implementation Strategy in place by July 1, 2025, that helps advance greenhouse gas reduction efforts on one hand with accelerated efforts to adapt to the consequences of climate change on the other.

At the end of the day, improved coordination on both the financing of climate infrastructure and efforts to improve community resilience will contribute to better environmental outcomes and more resilient communities. The recent work among the Vermont Bond Bank, SunCommon, and the Town of Charlotte provides a clear and recent example of the value of this coordination.

When the town garage burned down in December 2021, the community sought to rebuild it in a way that reduced environmental impacts and long-term operating costs. Leveraging the new Elective Pay (also known as Direct Pay) provision within the Inflation Reduction Act now that the garage is completed, the Town expects to receive payment for 30 percent of the cost of the rooftop solar array from the IRS. That will translate into a savings of about $84,600 for the community to build the roughly $282,000 solar array.

This Elective Pay program is something that all Vermont municipalities – as well as some non-profits and rural energy coops, among others – can now access. It is also a valuable tool in helping reduce some of the attendant costs of greenhouse gas reduction.

With this example and many others from extensive public input and the Treasurer's extensive outreach and engagement in mind, this report provides a series of recommendations intended to help improve coordination of climate infrastructure financing.

Scope

This report is not an assessment of climate-related priorities for investment. The prioritization discussion in Vermont is led by the State-designated Climate Council.

This report focuses on the coordination of the State's climate infrastructure financing efforts and needs – specifically, as requested by the Legislature, creating a framework for effective collaboration and the effective deployment of climate infrastructure financing and other greenhouse gas reduction funds in a way that maximizes the amount of Federal funding secured by Vermont.

Within this report, climate infrastructure is defined as *infrastructure necessary to build, renovate, or otherwise invest in that advances the goals and projects established by the Climate Council*. Different people have different views of what constitutes climate infrastructure. This definition privileges the priorities of the Climate Council and focuses on how to finance the infrastructure elements related to those priorities.

Structure of the Report

After the introduction, the report is structured as follows:

The first section (Section 1) provides an overview of the public input and the extensive engagement conducted by the Treasurer's Office following the request from the General Assembly.

The second section defines the problem that led to the General Assembly's request for this report, defines the end goals motivating an effort to better coordinate climate infrastructure financing in Vermont, and describes several alternative models intended to improve coordination put forward by different organizations as part of the public comment.

The third section outlines a series of recommendations resulting from the overall public input as well as insights from the Treasurer's Office.

The fourth section provides a summary of the public input received, broken into categories reflecting the wide range of interests and ideas shared by dozens of participants.

Finally, the report also includes three appendices that are described in the fifth and last section. The first appendix (Appendix A) provides all the public input in one consolidated document for ease of reference, noting that it does not replicate the ~100 form letters focused on finding ways to have big oil companies cover the cost of climate infrastructure financing. This input includes a substantial White Paper advocating for new authorities for

an existing institution to act in a way similar to a Green Bank to help advance an effective climate financing strategy.

The second and third appendices (Appendix B and Appendix C) take the same information as the Appendix A but reformat, anonymize, and break that information into two parts so that a free artificial intelligence (AI) chatbot can query the data.

This tool to query public input should allow interested parties to learn about the different themes and concepts embedded in the public input in a different way. Because this is a new concept and a new tool, directions and sample prompts are included in the fifth section of this report for those interested in using AI to query these files.

Please note: The same material is available in Appendix A for those that would like to review it without an AI tool with a couple exceptions: First, the White Paper referenced above is too long to be included in Appendix B or Appendix C if it is going to be queried by a free AI chatbot, so that White Paper is only included in Appendix A. Second, pleasantries have been removed. And third, descriptive information about organizations submitting comment has been removed because of space constraints.

Finally, in terms of an AI disclosure, the report was not written with AI tools. While this report leverages an AI tool in Appendix B and Appendix C as described, the author did not use AI to draft any component of this report.

SECTION 1 – Overview of Treasurer's Office Public Engagement

Following the request from the General Assembly, the Treasurer's Office completed extensive public engagement to build the foundation of this report about financing climate infrastructure.

First, the Office advertised and ran four separate Zoom sessions framed to respond to interests from four broad sectors across Vermont, using the same questions in each session. Those questions were posted publicly in advance and after the fact on the Treasurer's website, and advertising for the sessions included press releases, print advertising, social media, earned media, personal outreach and invitation from the Treasurer's Office (which included asking other organizations to share the invitation widely through their networks), and general invitation from the Treasurer in his remarks at events around the state in the weeks leading up to these sessions.

The questions developed by the Treasurer's team focused on three topics, each of which is included immediately below in italics with the overarching question bolded.

Topic: Why Pursue Federal Funding/Financing? How can we do this in a way that is more inclusive of local and underserved community priorities?

- *How can Vermont be more effective in considering the needs of underserved or rural communities with respect to making climate infrastructure improvements, such in the areas of clean energy, weatherization, or climate resiliency in Vermont? For example, investments in natural solutions for flood mitigation, sustainable agriculture and forestry, floodplain and wetland restoration and other natural resilience solutions, energy efficiency and renewable energy. Are you aware of any specific projects and programs that need to be expanded or more focused on these communities?*
- *How can we better connect community groups and technical expertise, to mutually identify needs?*
- *What do small, underserved, rural communities need to do to pursue these funds? How do we maximize our ability to do this collectively, without competing with one another?*
- *What do you estimate as the total investment amount required by your industry to support necessary climate infrastructure needs in Vermont? How did you arrive at this estimate? Alternatively, do you have suggestions on approaches/frameworks to estimate this need?*

Topic: Who is proactively engaged and are there any barriers impeding Vermont's efforts?

- *Are you aware of any agency or entity that is pursuing or has recently pursued/applied for federal funding/financing, private capital, or philanthropic funds for climate infrastructure improvements, such as in the areas of clean energy, weatherization or climate resiliency? If so, what are the entities and how successful are they?*
- *How can we build on these efforts and unlock the door to additional capital import?*
- *How do we integrate various efforts, so we aren't competing for time, attention, etc.*

- *What are the gaps or barriers in this work?*

Topic: What does Vermont need to pursue its share of federal, private, or philanthropic funds to conduct climate infrastructure improvements?

- *How could financing address these barriers experienced by underserved and rural communities? What other barriers exist?*
- *What resources (including technical assistance) does Vermont need to pursue that is currently available through federal funding/financing, private capital or philanthropic funds and be more competitive?*
- *What is needed to improve clean energy and resilience project identification and implementation? How would strategic planning or a focus on coordination among parties and/or financing entities support project implementation? What entities do you currently look to (can include your own) for this strategic coordination?*
- *Are current state agency programs and existing nongovernmental organizations in Vermont sufficient to achieve these goals or does there need to be a new governmental, quasi-governmental, or nonprofit to assist in this? What do you envision its role to be and how would it work with current state agencies and groups?*

Second, the Treasurer and team conducted a series of individual stakeholder meetings. These meetings were driven by either individuals or organizations signaling an interest in the topic, the recommendations of other organizations about groups the Treasurer's team might want to connect with, or outreach by the Treasurer's Office to connect with a broad range of leaders and organizations across the State whose work touches climate infrastructure. The Treasurer also spoke one-on-one with relevant state government agencies.

Third, the Treasurer's team established a web presence and email that were readily identifiable on the website and widely advertised. This email was an option for those who wanted to submit comment but may not have been able to attend one of the four different online sessions. This was a well-used resource. Over about a 6-week period, the Treasurer's team received 39 separate submissions focused on climate infrastructure financing and another nearly 100 submissions highlighting the potential for large oil and gas companies to pay for some or all of that cost. Some of those submissions included recommendations for further follow up or stakeholders to seek out, which the Treasurer's team has made a priority.

These various inputs, the experience of the Treasurer's team, and consultation with Representative Kari Dolan of the General Assembly, the Vermont Housing and Conservation Board (VHCB), and some of the stakeholders described above, helped inform the recommendations in Section 3.

SECTION 2 – Defining the Goals, Challenge, and Potential Alternative Approaches

Goals

At a high level, the public comment included multiple future-oriented goals for advancing this effort across different potential pathways. The White Paper referenced in the Introduction above articulates five clear goals underlying the broader effort to coordinate climate infrastructure financing in Vermont that echoed much of the other public comment:

- Greenhouse gas emission reductions;
- Adaption to a warming world
- Resilience through investments in nature-based solutions to avoid or ameliorate natural disasters resulting from extreme weather events like flooding;
- Long-term carbon sequestration and storage;
- Land conservation; and
- Air, water, and soil quality.

A sixth additional goal not included in the White Paper but present in much of the public comment was cost containment or cost reduction – helping make Vermont a more affordable place to live by reducing, for example, heating costs. Please note, some public comment expressed pessimism that these costs would ultimately be reduced through the clean energy transition.

Many of the comments submitted emphasized the need for investments inclusive of *both* actions that reduce or draw down greenhouse gas emissions (mitigation activities) and actions that build Vermont's ability to adapt to and withstand the impacts of a warming climate (resilience and adaptation activities).

Within the context of these high-level goals, the purpose of this report is to improve coordination of climate infrastructure financing, improve the deployment of funds for that purpose, and maximize the total amount of Federal funding secured by Vermont to help accelerate the pace and scale of different projects.

Challenge

The challenge leading the General Assembly to request this report on climate infrastructure financing is that various actors involved in climate infrastructure financing could be better organized to effectively:

- Catalogue different funding sources, especially Federal funding, and eligibility in a broadly accessible way;
- Develop a clear financing strategy for securing funds reflective of Climate Council-established priorities;
- Exchange information and potentially coordinating applications for Federal funding across eligible entities or sectors;
- Take full advantage of opportunities to use existing resources to leverage available federal and private sources of funding;

- Develop and implement strategies to achieve greater resilience to climate-related impacts; and/or
- Deploy that funding in a way that secures the highest possible future value and maximizes avoided costs.

There are different approaches to this kind of coordination problem, ranging from the creation of a wholly new institution to adding new functions within institutions to improve coordination mechanisms. Public comment from different organizations helps articulate these potential approaches.

Potential Alternative Approaches to Improving Coordination

At one end of the spectrum, within the public comments a few organizations like Renewable Energy Vermont (REV) advocate for Vermont to follow a path similar to 23 other states and establish a "Green Bank" to coordinate climate infrastructure financing.

A "Green Bank" does not take deposits; rather, "they function like loan or investment funds, using a wide array of financial tools to support investment in clean energy infrastructure."[1] Green banks have different governance structures across different states – sometimes they are fully public, stand-alone entities. They can also be quasi-public entities with independent governance. They are not profit maximizing – they use different tools to increase the amount of climate infrastructure financing available, sometimes with a focus on underserved markets, and use innovative sources of funding and financing to buy down risk or the cost of projects.[2] Notably, many green banks combine public and private sources of funding to make private investments more financially appealing, and can serve to unlock significant private financing tools that are not currently available in the state of Vermont. The Connecticut Green Bank is a national leader, and they have leveraged private funds at a ratio of nearly 7:1 for investments in renewable energy and natural infrastructure projects.

This first type of approach, the "Green Bank Approach," would create a new institution in Vermont responsible for developing a strategy for climate infrastructure financing, coordinating applications for Federal funding or other funding across sectors, coordinating public and private investment, and funding the priorities outlined by the Climate Council.

There are many ways a "Green Bank" could be structured. Beyond a standalone public entity or quasi-public entity with independent governance, Green Banks can be established within a Governor's Office, a Treasurer's Office, or as a non-profit "Clean Energy Fund."

A second alternative focuses on the quasi-public concept. Several public comments advocate for this approach. The authors of a comment letter from conservation and climate finance experts in the state propose "the creation of a comprehensive financing strategy by a new climate financing entity, most likely a restructured existing organization with the

[1] National Caucus of Environmental Legislators, Issue Brief: Green Banks, January 6, 2023, http://www.ncelenviro.org/resources/green-banks-issue-brief/.

[2] Ibid; see also Weiss, Beinecke, and Bunting, "How a Green Bank Can Drive the North Carolina Clean Energy Economy," Nicholas Institute for Environmental Policy Solutions, Duke University, 2020, pp. 9 – 11.

authority and capacity to coordinate, prioritize, and guide the state's efforts to invest in a manner that will achieve meaningful progress in climate mitigation, adaption and resilience, and to ensure that the state's more rural, marginalized, or underserved communities are also benefiting from these investments."[3]

The Center for Public Enterprise provides further support for this approach and names VHCB as the entity best suited to assume the responsibilities of a Green Bank in Vermont.

A third alternative focuses on augmenting existing institutions without creating a new Green Bank or Green Bank-like institution. Among the public comment, this approach was advocated for by organizations like the Vermont Bond Bank, the Vermont Economic Development Agency, and the Vermont Housing Finance Agency. These three instrumentalities formed a partnership called the Public Finance Climate Collaborative (PFCC) in 2022 because they saw their role as filling market gaps and accelerating capital deployment in the municipal, commercial, and housing sectors – a responsibility that became more important with the passage of the Inflation Reduction Act and the availability of significant new Federal funding sources. PFCC members, as they note in a joint submission in the public comment, "have already joined the relevant coalitions, submitted project pipelines, and sought financing from the relevant national entities to support greenhouse gas reduction projects in Vermont" across the sectors these organizations serve.[4] Per PFCC members, their national partners see this partnership as already fulfilling the role of a Green Bank in Vermont and they advocate against the creation of such a new entity in Vermont as duplicative. They acknowledge the need for new funding and financing tools, and describe existing efforts at each of their organizations to develop some of this capacity themselves.

Also notably, the USDA Rural Development team has provided a $40 million dollar, zero interest loan to at least one PFCC member already (VBB) and is considering another similar arrangement with a second member (VEDA) for $10 million. Eligible uses for the VBB loan funds include both energy savings projects as well as renewable energy production and battery storage and the VEDA loan could be used to subsidize interest rates on clean energy projects.[5]

Rather than create a new Green Bank, the PFCC members advocate "that the Treasurer's Office play the role of information clearinghouse, helping make sure that new and existing Federal funding opportunities are identified and brought to the attention of entities or state agencies that are the intended recipients." The PFCC further advocates that the Treasurer's Office assume responsibility for the evaluation of supply and demand for climate-related funding on an on-going basis. The PFCC will act as a kind of shared "front door" for the state's climate financing.

[3] Report Appendix A, page 30.
[4] Report, Appendix A, p. 53.
[5] Report, Appendix A, p. 55

Outside the context of the Green Bank discussion itself, other entities like VSECU-NEFCU note that scaling successful programs, rather than creating new programs, can be a more efficient approach – and that Vermont does have some successful programs to build on.[6] Vermont also has existing organizational partnerships that could be built upon. For instance, the Vermont Climate Council is an existing entity focused on the coordination, implementation, and impact tracking of projects with climate mitigation outcomes.

Finally, while not a concrete approach itself, the balance of the public input was opposed to the creation of a new institution in Vermont. In addition to some comments that saw it as duplicative (like the PFCC), others were simply skeptical that creating a new institution was necessary or that, if created, it would be able to effectively coordinate the many existing organizations involved in climate infrastructure financing already. Two comments also emphasized the idea that creating something new is easy, but reforming institutions to work well together is what is challenging.

With these different potential approaches in mind, as well as proposals like that in H.586, "An act relating to flood protection and climate resilience infrastructure and financing," the report proposes a different sort of coordination mechanism for improving the coordination and deployment of climate infrastructure financing in the following section.

[6] Report, Appendix A, p. 51

SECTION 3 – Recommendations

This section outlines recommendations for the General Assembly.

Recommendation #1: Use the convening ability of the Treasurer's Office to organize a bi-annual half day "Cross-Sector Climate Finance Coordination Meeting" that is available to the public to watch via livestream. This meeting has a standing agenda and standing invitations (both of which can always be added to or amended). It would quickly pull together many of the various actors involved in climate infrastructure financing and resilience investment strategies in a way structured to identify overlapping interests, create new partnerships, deconflict duplicative effort, and improve information sharing across sectors.

The fundamental goals of the meeting are to maximize Federal funding applied for and secured by various public and private entities in the state and to improve coordination among those same entities and others. This is the "front-door" meeting integrating public, private, and non-profit entities with each other and Federal funding opportunities. The meeting would be convened and chaired by the Treasurer and co-facilitated by the Treasurer's Office and the Climate Action Office (CAO). The standing agenda of the meeting would include the following:

- **Review priorities and projects established by the Climate Council with an explicit focus on current and potential financing**:
    - Who is taking or has taken the lead on which aspects of these projects?
    - What are the gaps in terms of funding access, need, or clarity needed to inform future action and reports back to the group?
    - Are there opportunities for collaboration that could help reduce future costs?
    - What are we hearing on the implementation side (i.e., "these block grants are unwieldy," etc.) to inform future action and reports back to the group?
- **Standing CAO Report (and other entities as designated by the Chair):** Update on funding sources that are available to support Climate Council priorities and drawdown status of state funding previously allocated to support this work.
- **Update from the Resilience Implementation Strategy Initiative participants.** There is so much overlap between resilience funding and greenhouse gas reduction funding that a regular connection among partners working across these sectors should be productive in identifying opportunities and partnerships to accelerate projects. This could include updates on nature-based solutions, working lands-based initiatives, and more.
- **Report in from all invited parties**: What are the challenges, new ideas, or comments you are hearing that are not covered today but could help inform a future agenda? Who is not participating in the discussion yet that should?
- **Discussion of future needs**: Review of upcoming Federal or other funding opportunities, expected application deadlines, and identification of relevant parties for development and preparation of applications.

To evaluate the value of Recommendation #1, the Treasurer's Office envisions analyzing relevant outcomes over time. This may include measures like the following or others:

- Climate Finance-related Federal funding flowing into the state (overall numbers in collaboration with the CAO)
- New partnerships created as a result of these discussions
- New policy proposals surfaced and discussed
- Cost savings identified or secured through these meetings
- Regular survey of participants: Is this meeting helping clarify roles, highlight opportunities, and share information about Federal funding programs? Can you point to a new partnership, grant application, deconfliction, or piece of information you learned as a result of this meeting?
- Equity review: are funds flowing to all regions of the state? Are there ways to better interface with entities like the Environmental Justice Office at ANR or institutions like the Land Access and Opportunity Board to ensure that applications for funding and new funding programs are inclusive of BIPOC, rural, and underrepresented Vermonters?
- Internal Treasurer team survey: Do the meeting discussions allow new ideas to be shared, particularly across public, private, and non-profit sectors? Are the meetings clarifying who is doing what (and establishing regular communication channels)? Are the meetings helping highlight and deconflict overlapping priorities among participant groups and accelerate new funding for the State?

Recommendation #2: Coordinate climate infrastructure financing technical assistance discussions to reduce costs and identify barriers to effective implementation in a way that complements Recommendation #1. This meeting(s) would occur twice a year several weeks in advance of the Cross-Sector Climate Finance Coordination Meeting outlined in Recommendation #1. The meeting is envisioned as a two-hour discussion led by the Treasurer's team among TA providers on the ground in communities, working lands, and nature-based solution sites across Vermont. These meetings will likely need to be sector-specific to be able to discuss specific TA needs, barriers, and future investment needs. The goal is to surface implementation hurdles that could impact climate infrastructure financing decisions. The discussion should help inform the agenda for the Cross-Sector Climate Finance Coordination Meeting. There are several reasons for this approach:

- Many Vermont communities do not have the capacity to implement climate infrastructure projects independently, so organizations like the Regional Planning Commissions, Preservation Trust, the Vermont Council on Rural Development, the Vermont Housing & Conservation Board, the Vermont Natural Resources Council and others help act as connectors with primarily public and non-profit resources and at times private sector actors. This meeting should reveal if that is happening, patterns of problems encountered, and potential solutions for future discussion.

- Beyond some insight into the barriers to accessing finance for climate infrastructure projects, these organizations know some of the available funding options – a regular meeting among this group would help clarify challenges, identify successes, and grow the knowledge base of all parties on potential funding options.
- It would be valuable to include private sector voices in this meeting – for example, why did SunCommon or Bullrock Renewables or other entities run into roadblocks in town X around solar siting, even though the community signaled it was interested in new community solar or EV charging or another related topic?

The agenda for these TA meetings would focus on what people are hearing, what is working, what is not working at a community or more granular level, ideas for change, and presentations about different potential funding sources all parties should know about. It should end with an explicit discussion of potential high-level issues that could be raised at the Cross-Sector Climate Finance Coordination Meeting.

Recommendation #3: Establish a Resilience Implementation Strategy Initiative Task Force. This group, which could include representatives from the Treasurer's Office, the Agency of Natural Resources (ANR), and possibly other organizations like the Vermont League of Cities and Towns, would meet quarterly and be prepared to present findings and priorities for discussion at the bi-annual Cross-Sector Climate Finance Coordination meeting described in Recommendation #1. The Task Force would invite other attendees on an as-needed basis to cover the five priorities identified by the Governor and Treasurer: A community-centric approach, nature-based solutions, infrastructure design & reinforcement, an early warning system and fast, effective response, and economic and environmental sustainability.

Recommendation #4: Establish a credit facility for up to 2.5 percent of the average daily cash balance of the State to augment existing climate infrastructure and resilience lending facilities. The Treasurer has the authority to leverage up to 10 percent of the average daily cash balance of the State, subject to written guidelines adopted by the Treasurer. This 2.5 percent allocation would come in the form of a low interest loan to an entity or entities well established in providing green-infrastructure lending programs and could enhance loan-loss capacity for this purpose. This approach complements efforts to secure Federal funding, with the low-interest loan readily available to increase the recipient's financial flexibility in the near-term.

Recommendation #5: Complete further study of potential Green Bank models across the United States and the potential applicability of elements of these models in Vermont. Valuable public comment advocates for establishing a Green Bank or providing Green Bank-like authorities to existing institutions in the state. Evaluating the pros, cons, alternative models, and necessary partnerships for the establishment of an effective Green Bank would take some time to sort out.

While moving immediately to improve coordination of the various actors involved in climate infrastructure financing using the convening ability of the Treasurer's Office as

described in Recommendations #1 and #2, the Treasurer's Office also recommends further study of Green Bank models across the United States. This study should identify what elements could be most useful and how those elements could best be structured for greatest effectiveness in Vermont. Such an approach could also allow for different impacted organizations and members of the public to weigh in on these elements in the context of a clear and precise definition of what is meant by Green Bank. This report should also highlight the value created, the possible trade-offs, and the potential risks of the creation of a Green Bank in Vermont. In the near-term, an understanding of the timing of when GGRF will be deployed, which Vermont entities have already developed and submitted applications, and whether additional entities in Vermont should develop an application for funding is critical.

Recommendation #6: Identifying the CAO as the climate infrastructure financing and resilience investment information clearinghouse. Multiple stakeholders emphasized that a single entity holding knowledge and information about climate infrastructure funding and separate resilience funding opportunities would be helpful to end users and technical assistance providers supporting communities across Vermont, particularly in the short-term while the state develops a resilience strategy.

Given the central role of the Climate Council and the Climate Action Office (CAO) within the Agency of Natural Resources (ANR) in leading the prioritization of climate mitigation in activity, the partnership between the Treasurer's Office and ANR on this issue, and the fact that the CAO is already preparing to provide regular reporting on the drawdown of State-supported climate financing programs, this report recommends explicitly identifying the CAO as the climate infrastructure financing clearinghouse.

Further, the central role of the CAO in Recommendation #1 helps ensure that the CAO's efforts to track the spending of programs the Governor's team and Legislature have put in place (i.e., the Municipal Energy Resilience Program (MERP), the Municipal Technical Assistance Program (MTAP), and various Housing-related energy efficiency or weatherization programs) will be regularly shared and help highlight financing opportunities or deployment barriers.

Finally, in the public comment, participants have noted that the scope of climate infrastructure financing is quite broad, particularly when defined to include energy efficiency funding programs related to housing renovation or construction. The range of knowledge required – from Federal programs like the Inflation Reduction Act or the Infrastructure Investment and Jobs Act, to various State programs on weatherization, MERP, MTAP or others, to the roles and capacity of Vermont's implementation architecture like Regional Planning Commissions or Regional Development Corporations – makes the CAO an entity well suited for the role. The CAO currently coordinates within State government through the IABB, though it has fewer formal mechanisms for regular interaction with non-state entities and the private sector.

Recommendation #7: Ongoing assessment of equity. Through working with entities like the Environmental Justice Office at ANR, this work should be reviewed at least annually (perhaps in coordination with a bi-annual Cross-Sector Climate Finance Coordination Meeting) to ensure that funds are serving low-income, rural, and underrepresented Vermonters.

Recommendation #8: Establish an Elective Pay Working Group to improve coordination, understanding, and access to these funds for Vermont municipalities and non-profits. Through changes put into law by the Inflation Reduction Act, the Elective Pay program can provide up to 30 percent of eligible clean energy projects costs for municipalities, non-profits, rural energy coops, and other entities. These funds can help reduce the costs for building, for example, EV charging stations and rooftop solar arrays if certain requirements are met, and could be a useful tool for municipalities looking to reduce not just long-term operating costs but also the initial capital construction costs. This provision is not widely understood, however, and a working group of representatives from the Treasurer's Office and potentially the Vermont Bond Bank, the Vermont League of Cities and Towns, and various private actors could coordinate on a strategy to improve understanding, awareness, and access to these funds across Vermont.

SECTION 4 – Summary of Public Input

This section provides a summary and categorization of the public input received by the Treasurer's Office regarding climate infrastructure financing coordination. The comprehensive compilation of public input is included as Appendix A.

The Treasurer's Office received 39 distinct public input submissions – 25 email submissions and 14 formal letters – as well as about 100 form letters encouraging the office focus on making Big Oil contribute to the cost of climate infrastructure (rather than, or in addition to, maximizing Federal funding opportunities).

Categorization

The public input can be broken into the following 9 categories of recurring themes.

Increasing Capacity	• For the State, instrumentalities, or other entities to apply for, secure, and manage Federal funding in a coherent and coordinated way • For towns or non-profit organizations to apply for funding and advance projects • For towns or other entities to implement new decarbonization regulations (particularly into building codes) • For new cross-municipal supports on a regional level • To take inventory and monitor GHG levels and related Federal grant funding received • For stewardship and maintenance of existing projects
Regarding Various Incentives	• Continue or expand solar, EV charging, geothermal heat pump, weatherization labor and materials, eBike purchases at the point of sale, battery backups, sustainable transportation, mixed use transit-oriented development, windows and doors, and sustainable transportation incentives • Restructure incentives away from rebates or credits and toward pre-bates or direct funding up front (if uptake is the goal) • Concern about misaligned incentives, in particular for residential transition to solar – how should utilities be incentivized to respond to such transitions? • Create new Keyline Design incentives or other land use planning incentives
Use Existing Programs	• Many programs work well – i.e., VSECU's green incentive programs or the Public Financing Climate Collaborative of VHFA, VBB, and VEDA. No need to recreate the wheel.

	• Some programs could benefit from expanded funding or scope. Named programs include the Municipal Energy Resilience Program (MERP), the Municipal Technical Assistance Program (MTAP), VHCB's energy efficiency, conservation, and rural economic development programs, Payment for Ecosystem Services efforts, weatherization programs. o MERP could be expanded to include schools and non-profits; BGS's revolving loan fund could be expanded to serve municipalities.
Green Bank Considerations	• Many comments focus on using existing institutions – i.e., PFCC or VHCB or in some comments unnamed instrumentalities of the state. • One comment from REV encourages the creation of a new entity as the Green Bank. Some comments reference how one unified entity focused on climate finance tools might more comprehensively fill current financing and funding gaps, and be best able to develop innovative new financing tools to leverage private funds. • Comments generally focus on the potential to expand public funding sources, rather than looking at integration across sectors or incentives for private investment. • Naming Green Bank responsibilities, even within existing organizations, could open the door for additional designations (i.e., State Energy Finance Institution) that could help drawdown additional funds. • Some comments note the interrelated questions related to a Green Bank, including discerning purpose, benefits, risks, trade-offs, and long-term efficacy and accountability.
Maximize Federal Funding	• Public comment focused on the Inflation Reduction Act (IRA), Infrastructure Investment and Jobs Act (IIJA), and the CHIPS and Science Act • As noted above, multiple comments identified that Vermont (state, instrumentality, non-profit, or otherwise) is not staffed to drawdown new Federal funding effectively or to coordinate that effort across sectors. • One comment noted that resilience funding, particularly from the Disaster Recovery and Resilience Act (DRRA) is also a resource the

	Treasurer's Office should consider in planning its coordination effort. • One comment noted that some kind of public facing one-pager that explains the various funding sources would be a helpful education tool (in addition to some institutional knowledge of these programs within State government or other entity).
Look Beyond Federal Funding	• In addition to the form letters showing significant interest in seeking funding from Big Oil companies, several of these comments note the ongoing lawsuit run by the Attorney General's Office. • Some methods to make Big Oil pay are outlined in one comment and include fossil fuel subsidy reform, liability lawsuits, a carbon tax, divestment, and public pressure. • Some comments noted new, innovative private financing tools that the state is not currently able to access. For example, towns could pay for upstream conservation activities to minimize flood risks, or conservation organizations could help private landowners access ecosystem service markets to incentivize conservation activities.
Concerns	• Several comments raised significant concerns about investing in climate infrastructure or its particulars, including: o The cost of new incentives, and the general transition costs to green energy, are inflationary and borne often by those not well able to pay for them. o Perhaps some of those championing the green energy transition would be willing to bear more than their share of the costs? o Some incentives – like wood burning – carry environmental costs themselves o Hybrid vehicles are the only realistic option in rural areas where there is no charging infrastructure…can we consider hybrid incentives at the state level? o Electrifying transportation infrastructure causes massive environmental damages. How are we accounting for that? [*speculation – commenter may mean things like lithium mines*] o Electrification is also creating lots of hazardous new waste in battery form. What are we doing about that?

Resilience	• In thinking about Federal funding, please also consider long-term investments in community resilience. See specifically Vermont H.105 focused on a "Community Resilience and Disaster Mitigation Fund" • Consider the DRRA, as noted above, as another climate infrastructure funding source • One comment noted some resilience investments have ROI 2-10x in terms of avoided costs
Coordination Questions	• Comments focused on multiple potential coordination challenges: o Within the State (where the CAO and IABB have been established for this reason) o Among instrumentalities like VHFA, VHCB, VBB, and VEDA. o Among non-profits applying for or managing grants (both Federal and State grants) o To support businesses, places of worship, rural electric coops, towns, or other entities that may be newly eligible to receive funds in the IRA's Direct Pay/Elective Pay program o The potential to coordinate across sectors (all of the above groups + other utilities and private actors) • As noted above, the potential role for a Green Bank (like Connecticut) or Clean Energy Fund (like North Carolina) to secure Federal funding and coordinate across entities like those described above. • The potential role of the Treasurer's Office or Climate Action Office) as a (i) coordinator; (ii) information clearinghouse; and/or (iii) funder for the entities described above

SECTION 5 – Appendices

Appendix A contains all the public input in one consolidated document for reference. That Appendix is included as a separate attachment with this report.

Appendix B and Appendix C are also separate attachments. They contain the same information as Appendix A, though the information has been anonymized and reformatted in a way that an AI-enabled chatbot can query. It has also been broken into two parts – all emails received are included in Appendix B and all formal letters received are included in Appendix C. This breakdown is necessary given file size constraints for the free AI service. As noted in the introduction, these appendices does not include the White Paper submitted as part of the public comment for the same reason, and pleasantries and organizational descriptions have been eliminated as well.

The goal of Appendix B and Appendix C is to give interested parties an additional tool to learn about the different themes and concepts embedded in the public's input. Because this is a new concept and a new tool, this section of the report includes directions for how to use the files in Appendix B and C with a chatbot, some potential prompts to use, and an important technical note are described here. These prompts are meant as possible examples only. Those that want to query the public input should of course decide what they are most interested in learning.

First, the technical note: Because of the large volume of public input the Treasurer's Office received, different chatbots are better able to absorb that volume of information. For example, the popular ChatGPT (or specifically ChatGPT-3.5), which is free, cannot absorb all the information at one time. A user would therefore need to query many files or have questions specific to different types of input to effectively use that chatbot.

Instead, this report recommends using Claude2, a chatbot produced by the company Anthropic. This chatbot is also free and is designed to absorb larger volumes of information. It can absorb all the public input the Treasurer's team received from different submitters divided into the two files of Appendix B and Appendix C. While free, use of the Claude2 service does require an email and phone number to register.

Second, to query the chatbot, you will need to upload the file (Appendix B) so the chatbot can review that information, and then "prompt" Claude2 with questions that reflect your interests.

- To do this, go to the Claude2 website and register (you will need to provide an email and phone number)
- Then, ask Claude2 to read the attached file and tell you when it has reviewed (click on the file icon and upload Appendix B before hitting the return key).

Once Claude2 confirms it has read the file, consider one of the prompts below or something of your own. For example, a prompt could be something like any of the following:

- “I am interested in the type of information included in this file. Could you tell me the top ten themes that are reflected in the information that makes up this file?”
- “What concept appears most often in this file?”

Again, it is important to note the information in Appendix B and C is actually less than the information in Appendix A. The use of an AI chatbot here is intended to give those interested in that public input a new tool to learn and understand the different concepts put forward by the public.

Climate Infrastructure Financing Report
Appendix A - Consolidated Public Input

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1. **Northeastern VT Development Association (NVDA)**

Treasurer Pieciak,

Funding municipal positions that could be shared between two or three municipalities would help address capacity issues in the Northeast Kingdom (NEK). Those job descriptions should include responsibilities related to advancing climate, energy, resilience, and sustainability goals within their communities and that are aligned with regional and state efforts.

Many thanks for reading this brief and belated feedback.

--
Allie Webster (she/her)
Energy Planner
Northeastern Vermont Development Association (NVDA.net)

2. **CT River Conservancy**

Mike,
Thanks so much for the time and creating these forums for discussion to finance climate resilience. Here are a few thoughts, reiterating what many people on the call mentioned today:

The Connecticut River Conservancy (CRC) is a nonprofit citizen group established in 1952 to advocate for the protection, restoration, and sustainable use of the Connecticut River and its four-state watershed. As an organization that manages natural resources projects for landowners, CRC has noted that the bottlenecks that we run into generally are focused around lacking organizational capacity to accommodate the already existing funds that we have access to. We have multiple projects lined up based on communication that has already happened with willing landowners, and access to the funding streams to do them, but we don't have the staff to carry them out – basically managing the projects for the landowners, applying for grants, writing the RFPs and contracting with designers and construction crews. As an organization, we are desperately in need of additional funds to increase staff capacity, both in the management of projects, but also in the administrative management of those larger federal funds and the associated reporting and auditing required to accommodate them.

We have also noticed the gap in funding needed to do basic education and outreach to help landowners understand how natural resource projects can create community resilience, and how to access the funding and technical assistance to implement those projects. Many of the NGOs and watershed groups in the state are reaching out to do direct community education that can

result in projects – we need additional funds to support organizational capacity around this type of education and outreach.

An additional very practical gap is that there are not enough nurseries in the state to accommodate the amount of natural resource projects that are currently being done. We need someone to be growing more native trees and bushes to supply for restoration projects.

The natural resource-based climate change resiliency work that we do is done in partnership with the local RPCs, Conservation Districts, watershed groups and other NGOs directly in relationship with local landowners who are willing to have these projects (such as dam removals, floodplain restoration, upsizing of culverts, riparian buffer plantings) done on their land. On the eastern side of the state there is a very collaborative effort to coordinate our work. We often refer a landowner to another partner that may have more expertise on a particular project, or we consolidate projects to bundle them to access funding, or if one organization does not have the capacity to take on a project, we may pass it off to a partner to manage. Information sharing is done through our DEC Tactical Basin Planners and regional check in meetings.

As a four-state watershed organization, we routinely apply for federal funds through the Regional Conservation Partnership Program, the National Fish and Wildlife Foundation, the Long Island Sound Futures Fund, etc., and we are one of the partners working to help stand up the Connecticut River Watershed Partnership Act. We are a large enough organization to cobble together multiple federal, state, and private foundation grants to provide match internally for our work, but we are in a privileged position. Most of the smaller watershed organizations do not have the internal organizational infrastructure to access federal (or sometimes even state) funds. Developing a mechanism to pass through federal and state funding to smaller organizations without too much bureaucracy is key.

Centralizing access to federal and state funds in a way that is easy to access and flexible to use would help move the money into resilience projects more effectively. To be more effective in moving state Clean Water Fund moneys out, over the past several years the ANR developed block grants that consistently go to the same entities to distribute. This mechanism and the Clean Water Service Providers were put in place to solve the Agency's struggle with trying to get grants out and manage them, without being able to hire additional staff to do that. The process for this is better since the block grants have been established, but it is still complicated and cumbersome given the small amount of funding provided. CRC has consistently turned to relying on larger federal grants for a watershed wide approach to do multiple projects over several years, instead of applying for state funding that has to be focused on one aspect (eg. Design or implementation) of one project at a time. It would be amazing if the State could establish a pathway for block grants to be given to the partners already doing the work to use more flexibly to move multiple projects forward through multiple stages of project development. Could entities such as CRC, the Conservation Districts, and other NGOs be vetted through a preferred vendor process for the pass through of larger lump sums for work over multiple years?

I hope that these comments provide some context from our perspective. I'm glad to provide additional information or have a follow up conversation if that seems useful.

Thank you for this effort!
Best,
Kathy Urffer

~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~

Kathy Urffer
She/Her/Hers
River Steward, VT
Connecticut River Conservancy, formerly *Connecticut River Watershed Council*
PO Box 6219 | Brattleboro, VT 05302 | www.ctriver.org

3. **Jack Hanson, Burlington**

Hi there,

Thank you for the opportunity to give input on how the state can best spend money to address the climate crisis. I'd be more than happy to elaborate on any of my suggestions below if you'd like. These are some of my ideas.

1. Green Workforce Development
-Including bonus pay for weatherization workers to ensure that weatherization work pays more than other home contracting work. (This is important because folks skilled in weatherization are choosing to use their overall skillset to do easier work for the same pay. Similarly, folks skilled in home contracting see no need to gain skills in weatherization as they already have as much work as they want, at the same pay as weatherization, that is more pleasant to do than weatherization)

2. Sustainable transportation infrastructure, including bus only lanes on major corridors

3. Fare-free, expanded, electric public transportation

4. Larger subsidies at the point of sale for ebikes, as well as greater ebike marketing/advertising

5. Major expansion of EV charging infrastructure

6. Incentives for sustainable, mixed use, transit-oriented development, particularly when that development occurs on top of existing parking lots

7. Regulatory assistance for communities that adopt stronger building codes/decarbonization requirements than the state

Thank you for reading!

Sincerely,
Jack Hanson, Burlington resident and former City Councilor

4. **Jamie Feehan, Primmer Piper**

Hi, Ashlynn,

I am one of those who read of these outreach meetings and signed-up for the business sector meeting. I work with a number of local and national property and casualty insurance companies on legislative and regulatory matters that are very interested in climate impact, both in terms of the impact on their own infrastructure (such as downtown Montpelier) but also mitigation efforts or incentives that help states, municipalities and residents invest in readiness for and resilience from climate impacts. I also work with municipalities (including the City of Burlington) and electric utilities that are interested in this issue.

Can you please add me and my colleague, Michelle Farnham (copied here), to your email distribution list going forward? Please let me know if you need anything further from me related to this request.

Finally, I noticed the slide that identified certain, federal avenues for financing. It may have been referenced but I nevertheless wanted to bring to your attention the following:
In February 2018, Congress enacted key provisions of the Disaster Recovery Reform Act (DRRA), comprehensive legislation that created a national strategy for investing in disaster mitigation and response. The DRRA was part of a larger $81 billion emergency supplemental disaster relief package. Specifically:

- the provisions amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act to allow the federal government's share of the eligible cost of repair, restoration, reconstruction, or replacement assistance to be increased from a minimum of 75% to 85%.
- The increase in funding is based on incentivizing states to invest in measures that improve the states' "readiness for and resilience from, a major disaster." Most importantly in the suggested listing of measures, states are encouraged to adopt and enforce the latest codes and standards for design and construction of residential structures and facilities.
- Other incentive measures for the states include: 1) the adoption of a mitigation plan; 2) investments in disaster relief, insurance, and emergency management programs; 3) facilitating participation in the Community Rating System; and 4) funding mitigation projects or giving tax incentives to projects that reduce risk.
- Remaining provisions of the DRRA were signed into law in October 2018. These provisions focused the federal government's efforts on proactively preparing communities before the next catastrophe while freeing up new resources for states and localities to implement and enforce resilient building codes.
    - A key provision allows the President to place an amount equal to 6 percent of annual disaster spending into a new national pre-disaster mitigation account,

providing new resources for states and communities to invest in preventive measures.

- This fund, called the Building Resilient Infrastructure and Communities (BRIC) Program, provides resources to assist states, tribal governments, territories, and local communities in their efforts to implement a sustained pre-disaster natural hazard mitigation program. For Fiscal Year 2022, FEMA will distribute $2.295 billion in pre-disaster assistance. Enactment of the DRRA represents a major shift in the disaster mitigation landscape and lays the groundwork for potentially even larger reforms going forward including forestry management, statewide building codes, enforcement, education, and certification.

The Community Disaster Resilience Zones (CDRZs) Act of 2022 (S. 3875) requires FEMA to use data from its National Risk Index to establish CDRZs and designate communities across the country most in need of mitigation projects. These communities would be assisted in accessing federal funding for mitigation and resiliency purposes.
Thanks again, and please let me know if you have any questions or comments.

Jamie Feehan

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5. **Paul Perry, W. Newbury**

Thank you for requesting input from Vermonters.

1) burning wood for heat has a larger net carbon footprint than propane or fuel oil (not to mention the particulate matter pollution from burning wood) so why provide incentives for wood burning appliances? Wood should be used for construction where it will store carbon for at least another century. Discourage burning wood for heat.

2) a) if reducing greenhouse gases is Vermont's priority why are the incentives income sensitive? If the incentives were not income sensitive more people that can actually afford to buy energy efficient appliances or electric vehicles may choose to do so. We would reach are carbon reduction goals faster if the incentives were not based on income.

b) what are the current lower income ev purchasers going to do when they need to replace the battery pack or purchase a replacement vehicle? They won't be able to do either without more assistance or they will purchase a used gasoline powered vehicle that they can afford. And then we will be back to square one : producing more greenhouse gases.

c) why phase out the incentives as the the vehicles become more expensive? Incentives should be available to all no matter how expensive the electric vehicle is.

d) greater incentives to purchase hybrid vehicles would be more valuable to owners living in cold rural regions like Vermont.

3) Food for thought: I'm not sure offering incentives for heat pumps is reducing our greenhouse gases because the heat pumps are installed to reduce carbon produced from our heating systems but now more electricity is used to also cool houses, a comfort benefit yes, when those houses did not have air cooling prior to the heat pump installation and may never have installed air condition if not for the heat pump. (this happened within my household).

Hopefully this will be helpful in tweaking Vermont's incentive program aimed at decreasing our greenhouse gas output as quickly as possible.

Thanks again,

Paul Perry
West Newbury, VT

6. **Carl Bayer, Ryegate Energy Committee**

Good morning Commissioner - I wanted to be sure that you knew that Global Partners owns P/H in Newbury on route 302. They have now purchased the Jiffy Marts in Vermont and New Hampshire and now are Vermont's version big oil in our state. Our committee tried twice to engage them in getting Phase 3 EV chargers and Patrick Murphy at AOT has also tried twice. In his last email to me, Patrick said he was making no progress.

I wanted you to know that his fortune 500 company is taking a lot of money out of our state and is committed to fossil fuels. They won't talk to the Governor,s office. What do you think? Carl

Carl Bayer, Ryegate Energy Committee
Ryegate and Climate Change

7. **Sylvie Desautels, Tunbridge**

Hello,
Here are my thoughts on how to finance climate change infrastructure. The Utilities in Vermont have been the winners with huge financial profits AND have largely contributed to the emissions causing climate warming. It's time to tax those profits and penalise the damage they have contributed to.

It's kind of a no brainer.
Sylvie Desautels
Tunbridge, Vt

8. **Amy Ludwin, Bolton**

Dear Treasurer Pieciak, and the VT Climate Finance Team,

Thank you for your coordination of the State's climate infrastructure financing effort; we need all the ideas and strategies we can get for financing this crisis in Vermont's climate infrastructure; and thanks for gathering public input!
I hope you and your team will take a serious look at what responsibility Big Oil has for the damage they've caused to our state. How will you consider what they knew about, and when, and what their legal liabilities are now here in Vermont?

While I understand that most of the focus is on maximizing federal funding, this is a great opportunity for policymakers to be aware that it shouldn't just be taxpayers who pay to repair the damage caused by the changing climate – those Big companies that knowingly had an active hand in creation of this mess while making billions in profits should pay, too.

Sincerely,
Amy Ludwin. Bolton, VT

9. **John Snell, Montpelier**

Mr. Pieciak,

With regard to strategies for financing climate infrastructure, I would strongly recommend the following worthy of investment:
• supporting roof top solar with more incentives, ideally installed in local networks
• continue to support installation of heat pumps and induction stoves
• FULL support of the Weatherization program. I have worked extensively with these programs all over the country and the one here in Vermont is among the very best anywhere. They need to be able to count on long term support of both personnel and training funds.

I'd be happy to discuss these thoughts further.

Thank you,

John Snell

Montpelier

10. Deborah Messing, Montpelier

Dear Treasurer Pieciak,

I have been researching just this topic since my town of Montpelier was flooded on July 11, so I am grateful for the invitation to express my opinions to you

Soon after the "adrenaline phase'' of the flood receded , I began to think how this was not a "natural disaster" but largely a product of deception and greed on the part of the fossil fuel companies. Although Vermonters have been incredibly generous in contributing personal money toward rebuilding, it has become obvious that the monies needed to both recover in the short term and to plan for the long term far exceed the ability of individuals to cover, and for a state of our small size and limited resources, to finance.

We must hold these companies accountable and require that they pay their fair share.
While all the profits ($220 billion last year) have accrued to the companies, all of the costs have been paid by the taxpayers, including, by the way, FEMA.

Different states have followed different routes to finance their climate mitigation efforts.

New York State has decided to amend their state finance law to include a special revolving fund to be known as the "Climate Change Adaptation Fund." The bill,

nysenate.gov/legislation/bills/2023/S2129

has passed the Senate and is making its way through the Assembly.They have used the standard of "strict liability"; that is, that the use of their products was responsible for damages to the environment.

Companies would be required to contribute to the fund according to formulas assessed by the state. Advances in "attribution science" using computer technology have allowed accurate determination of the extent to which the industry, and even individual companies, have caused the damages that now need to be addressed, and for the future, mitigated.
Penalties for non-compliance would be charged, including liquidating or selling assets.

California has taken a different route, filing a civil case which would create such a fund. A precedent for that route was established when several California cities sued makers of lead paint on similar grounds in order to create an abatement fund.In their version of a climate fund, the state of Maryland has determined that it has the authority to mandate that companies that do business within the state contribute. It is anticipating that many companies would sue but that the courts would most likely hold up the authority of the state:

https://www.wmdt.com/2023/03/md-bill-would-create-superfund-for-companies-that-contribute-climate-change-with-mandated-contributions/

And here in Vermont, a bill to create a Climate Superfund is being introduced to the Legislature. I hope that you support this and that we can join the other states in this endeavor.

As you must be aware, Vermont already has a lawsuit in the State court, Vt. vs. Exxon submitted by T.J. Donovan in 2021 and currently stewarded by Charity Clark. If successful, the settlement could be large; either fines for individual violations of the Vermont Consumer Protection law, and/or "disgorgement" of any profits realized over the years from the deceptive practices employed by the fossil fuel companies being sued. Although lawsuits take time, this one is already 2 years into the process.

Another option is filing a separate suit, based on the specific event of the July 11th flood. Precedents here include the Oregon suit around the "Heat Dome " event and the suit by 16 Puerto Rican municipalities around the damages from Hurricane Maria.

I realize that Vermont has few resources that can be devoted to litigation, especially compared to the deep pockets of the oil/gas companies, BUT possibilities exist to overcome this hurdle:

for example, contingency lawyers, pro-bono or "low-bono" lawyers, and climate philanthropists who underwrite climate lawsuits brought by states or municipalities. A great source of information about these options is the Center for Climate Integrity:

climateintegrity.org.

They also have a pdf on their site which tracks the status of climate lawsuits nationally. climateintegrity.org/cases.

As these initiatives proliferate, whether in the form of legislative acts or lawsuits, Vermont can learn from other states and, as we move forward, can be a model for other states to follow.

As in the case of the tobacco industry, fossil fuel companies knew about the damage their products caused; they lied, and they now must be held accountable.

Regards,
Deborah Messing

Montpelier, Vt.

11. Kathy Bizzoco, Vermont

Dear Treasurer Pieciak,

Absolutely, bad long-term planning on the part of the Wrightsville Damn players caused the flood in Montpelier this summer.

My question to you is, were they naive by failing to anticipate that the United States government would allow consumers to use a product that not only causes a range of health diseases (placing an immense strain on our healthcare system),(1) but also causes a range of "climate disease/disasters?"(2)

No one back in the 1920s could have anticipated all world governments allowing the sale of such a product. No one could have anticipated the ensuing consumer products created from the initial toxic product—plastic,(3) and how that plastic would poison and kill a major source of our food supply(4) further burdening our healthcare system.(5)

The producers of this product knew about its toxic effects at least forty years ago.(6) As far back as 1943, smog from fossil fuels was so thick in Los Angeles that residents thought they had been under attack.(7) Not until thirty years later did President Richard Nixon form the Environmental Protection Agency, which the Supreme Court gutted in 2022.(8)

America needs heroes, now more than ever, to speak for America, our infrastructure and food supply, to stop the use of this product for the sake of humanity. Do you have the courage to demand fossil fuels pay for the damage their products have caused Americans, our infrastructure, and our climate?

I understand the problem is Wall Street. Fossil fuel stocks pay some of the highest dividends, and are in everyone's IRAs, ETFs, Mutual Funds, and stock portfolios. Everyone holding these stocks made financial decisions that were not only harmful to themselves but to humanity and our infrastructure.

When Americans make bad financial decisions, we accept the results—it's called Capitalism. I am constantly baffled by people concerned about climate change while holding fossil fuel stock. The disconnect is a bit surreal.

Thank you for your time and consideration.

Kathy Bizzoco

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12. Scott Garren, Cuttingsville

Here are some suggestions.

- Carbon tax: A carbon tax is a tax on the carbon content of fossil fuels. It would make fossil fuels more expensive, which would encourage people to use less of them and invest in cleaner energy sources. The revenue from a carbon tax could be used to fund climate infrastructure and other climate change mitigation and adaptation efforts.
- Fossil fuel subsidy reform: Governments around the world subsidize fossil fuels to the tune of hundreds of billions of dollars each year. This taxpayer money could be used

instead to fund climate infrastructure and other climate change mitigation and adaptation efforts.

- Liability lawsuits: Fossil fuel companies are facing a number of lawsuits from communities and governments that are seeking compensation for climate change damages. These lawsuits could force fossil fuel companies to pay for some of the costs of climate change.
- Divestment: Divestment is the process of selling off investments in fossil fuel companies. Divestment campaigns have been successful in putting pressure on fossil fuel companies to change their behavior and to invest in clean energy.
- Public pressure: Public pressure can also be used to convince fossil fuel companies to help pay for climate change. For example, people can write to their elected officials, attend protests, and boycott fossil fuel companies.

Scott Garren
Cuttingsville, VT

13. Rev. Kim Hornung-Marcy, Burlington

Dear VT State Treasurer Pieciak:

1.Please come up with loans for green solutions to UMV MED center's need for more energy and heat THAT DO NOT involve BURNING ANYTHING. Or just keep the focus on housing per the Seven Days article on McNeil.

2.There is no excuse for allowing the continued burning of wood in Vermont at this scale at McNeil, our single largest green house gas emitter in Vermont.
How are we going to meet our emission reductions in Global Warming Solutions act when strange use of words like renewable and sustainable don't apply to anything that burns. Calling them something else and not counting these emissions does not slow climate change.

3.Wood is worse than coal.
It is the MOST toxic for human health and emits huge amounts of toxic fine particulate matter and other chemicals in the low income neighborhoods of Old North End and Winooski. See attached excel spread sheet from McNeil. This is what is dumped in our air even with the Electrostatic Precipitator taking out some of the pollution on their stack. Figures on pollutants are most accurate for 2020 and 2021 before that they are too low. I ran the numbers by the State employees who monitor McNeil. The 2020 and 2021 figures for fine particulate matter are the most accurate because they started counting condensate fine particulate matter—which counts. In 2020-5.6 tons, in 2021 3.5 tons. Medical science recognizes no amount of fine particulate matter as healthy. That our top Medical Center is ignoring it's own scientists is disgusting.

3.Also do the math on the C02— 2021 (last full year of emissions) is
906,941,600 lbs = divide by 2,000 to get tons = 453,470.8 tons of Co2!

Wood emits the most green house gasses per kilowatt hour of energy produced of ANY burned fuel.

CO2 is CO2 the atmosphere does not care where that CO2 comes from. It is driving the climate crisis. Which brought us all the suffering this summer of wild fire smoke and flooding and non-stop rain. We are in a crisis, time to stop burning anything.

4.The best sequester of carbon is a mature tree. Vt native trees take 200-300 years to reach maturity to call wood "renewable" makes NO SENSE.
Climate Scientists say we only have 5-10 years to turn things around and prevent the worst of climate change.

5.Time to say and act on "the emperor has no clothes" when it comes to burning anything. It makes NO sense to replace fossil fuels with renewable gas or biomass (wood) when they emit the same or worse toxic stuff and green house gasses. And green solutions that are cheaper in the long run, healthier and reduce green house gasses already exist.

Green solutions exist, IRA has huge pay back and point of sale for non-profits.

If Jay ski resort can put in a green system so can a hospital.

Sincerely
Rev. Kim Hornung-Marcy
She/her/hers
Chair New England United Methodist Conference Board of Church and Society
Member NEAC Climate Care Task Force
Member 350Vt Clean Heat Task force
Member Burlington node 350Vt

14. Joseph Wutzbacher, Waterbury Center

Treasurer Pieciak,
With all the tax increases we have seen and will continue to see, this is just more wasteful spending. When Vermont legislators get a grip on spending, solving its current problems (taxing Social Security and retirement benefits, crime, reasons for increasing homelessness, increased drug abuse, overdoses and so much more) then maybe we can have the conversation about climate change. In the meantime, let's be more fiscally responsible and address infrastructure issues related to severe weather events.
Thank you,

Joseph Wurtzbacher
Waterbury Center, VT

15. Tom Nelson, Putney

Another thing you should do with the IRA money for green tech is purchase battery backup systems. Like Tesla powerwalls. Then give them to whoever wants one. Doing this would be a win win win for Vermont as we already generate too much solar electricity to be used as it is collected. Giving battery backups to people would mean that we can continue to collect more solar power, convert more homes to electric heat and hot water AND not have to upgrade the grid to do so! (So I guess that is a win win win win)

As I've said before, just give this tech to people. Don't thwart efforts by trying to create rebates and tax credits. Just give it to people who will use it. Or at least scale discounts starting with !00% for people who have household incomes below the median.

Vermont is a bit off our goals because program designs loose sight of their purpose. We don't have enough republicans in legislature to worry about what anyone thinks about spending. Just use the money in the most efficient and effective way. Which is to implement the technology NOW! :)

Thank you for your consideration.

Tom Nelson - Putney, Vermont

16. Rep. Katherine Sims, Craftsbury

Hi Folks -

As you dig into long-term financing strategies for funding the climate action plan, I hope that you'll consider the mechanism outlined in H.105 An act relating to the Community Resilience and Disaster Mitigation Fund.

The purpose of the H.105 is to create the Community Resilience and Disaster Mitigation Fund to provide funding to municipalities for disaster mitigation and community resilient infrastructure. The bill is modeled after legislation passed by Colorado.

As we all know, over the last 40 years, there have been large-scale shifts in weather patterns. Our state has become both warmer and wetter. Escalating weather extremes have resulted and will continue to result in increased residential and commercial property losses. From 2010 to 2019, extreme weather caused $67M in insured losses across Vermont from approximately 12 percent of all policyholders.

Although State and federal funding is routinely made available to help local communities rebuild after a disaster, there is no long-term, consistent source of funds to support the investments needed to prevent disasters from happening and to make local communities more resilient against future disasters.

What this bill does is establish the Community Resilience and Disaster Mitigation Fund to award grants to municipalities to provide support for disaster mitigation activities. Those disaster mitigation measures could include things like grid hardening, slope stabilization, watershed restoration, drought mitigation, construction of emergency shelters, and similar activities that directly reduce risks to communities, lives, and property and decrease costs associated with disaster recovery. Revenue for the fund is generated by increasing the assessment on certain casualty insurance company premiums. Funding would be awarded to municipalities with priority for projects that use funding as a match for other grants, projects that are in hazard mitigation plans, and projects that are in communities identified as high on the municipal vulnerability index.

Many of our communities are not prepared for the impact of extreme weather. This bill will provide critical support that ALL municipalities, especially our most vulnerable, can access to be more resilient against future disasters and climate change. Making these upfront investments will decrease losses that would otherwise be largely paid by insurers.

best, ks

Katherine Sims (she/her)
State Representative, Orl-4
Serving Albany, Craftsbury, Glover, Greensboro
KatherineSimsforHouse.com

17. Robert S. Childs, Tunbridge

While currently available resources, time and need will ultimately determine our future with regard to energy it should be up to the inventors, and users of trending technology to pay for it. It should not be placed on the backs of those that work hard, live within their means and pay their own bills.

The climate alarmists have duped Vermonters into paying for their attempt to reduce climate change. Since the beginning of time earth has had continuous changes to its climate. While some of the most recent changes have been influenced by the increased human population and their actions, much of the proposed energy changes will contribute just as much if not more to climate change and negatively impact our environment.

While the current proposals of these alarmists creates a financial cost to Vermonters that is unsustainable, the climate and environmental impacts of the many changes proposed are astronomical.

The mining of the materials needed for the production of solar panels and batteries is destroying thousands of acres of the earths outer crust penetrating hundreds of feet into the surface. Dust

and the massive amounts of toxic fumes emitted into the atmosphere during the mining and refining of these raw products alone out ways the current carbon emissions. Say nothing about the labor atrocities occurring in the countries that produce these raw materials.

The waste products of the current proposed electrification of everything are not recyclable and hazardous to dispose of. Solar farms are creating micro climates contributing much to climate change within our state and destroying our once beautiful vistas. Current battery design is a fire hazard that is killing and injuring hundreds as well as creating additional financial burdens on all.

Without a doubt there will come a time that an alternate energy source will be developed that will meet the needs of Vermonters without the climate and environmental impacts of the current and proposed energy.

Just as in the 1920's when there were more electric cars than gas, it was the inventors and users that ultimately determined the most effective means of utilizing the energy available and where to apply it. So, too it should be, that the same process be utilized today to meet the future needs of our citizens.

Robert S. Childs
Tunbridge, VT

18. Kevin Downey, Wilmington

Mr. Treasurer, Mike,

My name is Kevin Downey retired Union Millwright from Wilmington. I'm excited to finally see an effort to take the Energy Transition seriously. You asked, so here are my ideas for an energy transition plan.

1. As someone who began his personal transition in '08 by installing a geothermal heat pump system to replace my propane furnace, I strongly urge some sort of State subsidy or tax credit formula for homes to tackle such aa project. It's not cheap, but a State assist will bring a larger number of converts than without the help. As to new construction of homes AND businesses, it seems some sort of "green mandate" would push those too stubborn to change or hesitant and uncertain about new green technologies. With new construction, it should be suggested that by pairing any geothermal system with solar designed into the roof, the owner will save additional money by buying less energy off the grid. Over a 5 or 10 year period, the savings of $$$ and cutting greenhouse gases out of the equation will show impressive results in personal pocketbook savings AND a significant reduction in the State's climate goals of greening the Green Mountain State.

2. Routes 7, 100, and 5/10, our N/S routes, and 9, 4 and 2, our E/W routes, should be prioritized to installing strategically placed EV charging stations in preparation for EV adoption here in Vermont. Perhaps team with the Feds and come up with a plan to do the same thing on I-91, a

true artery of Vermont travelers. Perhaps contracting with cafe' type businesses to occupy these charging areas to make EV stops to recharge much more relaxing and convenient for their time.

3. There are numerous Vermont roads that have significant acreage on their sides for applying solar panels for GMPC to tap into for electricity. My 1st thought in this regard is Route 7 out of Bennington going North. I dare say the miles of wide clearings along 7 would likely generate several megawatts of power if utilized. I believe the formula for solar is roughly 2 acres /megawatt, meaning, the hundreds of acres on both sides of Route 7 would generate at least 50 Mw, maybe even more than that. Now that takes a bite out of our State's carbon footprint, doesn't it?! As it is currently, this fallow land just sits there having to be mowed once or twice costing the State $$$; why not employ these acres to offset these expenditures, even add $$$ to State coffers. No brainer to me.

4. While the technology hasn't fully matured yet, thin layer solar is an up and coming technology that will apply solar to many latent surfaces around us in our everyday lives. Perhaps Vermont could start a pilot program employing these products and over a years time to determine if it is indeed something worth investing in. The potential of applying this product to building wall faces and bridge structure and any inanimate structure with square footage to exploit is vast.

5. Every parking lot in Vermont should have solar canopies over them. My 1st thought on this is Hospitals. With their enormous use of energy 24/7, and their very large parking lots, building parking lot canopies would bring major savings to their bottom line. But my design envisions these canopies as multi purpose, not just solar generation. With these large 'roofs over the area, You'll have large amounts of runoff during rainstorms. Instead of the rain being directed into the gutter and eventually the sewer system, the rain water is diverted into a cistern system that would supplement the Hospital's water use, thereby saving on their water bill's with their host city or town. This diversion would also have a positive effect of the city's water infrastructure and supply. Additionally, these canopies would also host EV chargers that could generate more monies for the Hospital. These canopies would also, by shading the parking areas, lower the reflective albedo effect of asphalt parking lots "reflecting" heat into the atmosphere raising ambient air temps that make our summer days that much hotter and uncomfortable. Therefore, this canopy idea is a multiple pronged positive asset; money generator/saver, water saver, EV charger, and greenhouse gas reducer. Not just Hospitals; municipal parking lots abound throughout Vermont. By installing canopies over these as well, I dare say Vermont could possibly avoid the import of power, certainly importing far less than sans canopy.

Thank-you for a piece of your valuable time, Mike, I appreciate what you're doing by putting out this request. Someone should have done this long before you. I've formulated these ideas over the last decade, believe it or not. I've shared them with the likes of Bernie, Leahy, GMPC, and the Feds too regarding I-91, all to no avail. As a grandfather of 3 precious children, my purpose here is to make every effort to save what I can for them and their generational peers. We've dragged our feet for far too long in regard to climate change, and there is nothing I'd rather do that to stick it to Big Oil and Big Business in general for their blinders-on attitudes towards those of us who follow the TRUTH!! If you'd like to further discuss my ideas I'd be more that welcoming to your emails and/or calls, as I'm an idle retiree. Do have a good Wednesday; hope to here from you soon.

Sincerely,
Kevin Downey
Wilmington, Vt

PS: I have no scientific background, but I think the simultaneous solar panel absorption/shading of the pavement thus reducing reflected heat into the atmosphere could be a very big deal. I'd love someone with number crunching skills to see if this is correct. KD

19. Ed Bonnyman, South Burlington

States can have their own banks. Start a state bank, get nh to start their own bank, loan each other money at 0.15% or whatever, and you just fractional reserve printed a crapton of money for yourselves. It is what large private universities do, and the balance sheets cancel basically. This is how you float bonds essentially, without having to pay usurious rates. It only really works like this if you issue the loans between entities that have the power to tax, and are large. Dont do this for municipalities. The catch with this is that constitutionally, for a state, it has to be backed by gold or silver. Not a big deal though, because youre only loaning between states, in equal amounts from one state to the other. If you write the loans correctly, if one is callable, the other is callable, and they cancel.

Separately, you want to build this so that the legislature isnt doing dumb crap with the money and blowing up the whole system. Idk how you do that without creating a different monster, but you could probably do some sort of underwriting requirement thing in an agreement with the other state such that you cant finance dumb things, or things which dont have x return in real dollars within x years, or something, with no substitutions of arbitrary or semiarbitrary values for nonmonetary results of projects. While there are a bunch of projects that are good and just and wise etc etc for the government to undertake, it would be better if they were financed the normal way so that the infinite free money button isnt an option for them by current or future legislatures that may decide to be irresponsible. Ie, fund weatherization/efficiency/infra repair etc that has measurable fuel savings results rather than carbon capture or something. Cant put a true value on that reliably, even within two orders of magnitude. People have pretended to make such calculations, but if you dig into them, theyre functionally arbitrary. Given that vt is so small, this is not something for us to lead on.

Instead, could fund other things like keyline design which have other extremely valuable returns and which also sequester a stupid amount of carbon. In Vermont, current keyline design results add about an inch of topsoil per year, more or less depending on location. Would boost ag yields, lower or eliminate fertilizer use, and reduce runoff sharply from farms, restoring our waters and making farms more productive, and restore lost ecosystems if patches of hill farming were added to existing stock of farms. Keyline design makes that viable, and is pretty low cost. Wouldnt expand ecosystems if most hills were completely farmed, as they were 100 years ago, but some farms on on some of most hills utilizing keyline design would do that, and considerably faster

than letting beavers go wild (the process before colonization) would do. We're not going to let beavers run rampant anyway though because it would trash most of our roads and lots of people's property, but some increase of them is desirable, and keyline design would facilitate that.

Thank you for considering my comments. I will close with the thought that any infrastructure work that yields 2% or even 1%, or better, *in real terms* indefinitely, is an excellent project. Consider all of the beautiful Roman infrastructure built 1900 years ago that is still being used today, or which was still being used 500 years ago. Build things that people will always appreciate, and build them to last.

Sincerely,
Ed Bonnyman
South Burlington

20. Matthew LeFluer, Alburgh

Greetings
My Name is Matthew LeFluer From Alburgh Vermont and I was suggest an idea when making climate change funding messaging easy to understand read documentation materials curriculums one pager / glossary or summary of the individual ask or the Statewide ask of stakeholders advocates community Partnership climate partnership etc moving forward so accessibility and accommodation would be helpful for individuals with disabilities and other specific learning needs.

I think this is very exciting and the perfect opportunity to design programs that work. What I mean by that is that many programs miss their goals by attempting to make participants liable for some of the cost of the products and services. In my opinion, that is a foolish way to design programs. Programs, instead, should focus on function and meeting goals. If those goals are decarbonization and efficiency, then apply the money directly to those efforts. Give everyone the opportunity to participate by making products available to them directly, without discounts, rebates, tax credits... etc..

So, if working with VT companies is important. Then give money directly to those companies in exchange for their services. For example, you could give $1 million to a local HVAC company to install 200 heat pumps. Then the company just says to the public "hey we have free heat pumps, who wants one?" Do the same with solar installers, power storage, e bikes, electric cars, weatherization... just use the money and get it done!

21. Isaac Evans-Frantz, Vermont

Hi Mike,

Hope you're doing well. Thanks for asking for ideas about climate finance. I'd like to ask you to recommend creation of a climate superfund. We need large-scale action to protect people who are most vulnerable.

Thanks for thinking ahead on this,
Isaac

Isaac Evans-Frantz
isaacforvermont.com

22. Catherine M. Nelson, Vermont

My husband and I couldn't have purchased solar panels without the special financing available, now some years ago. I advocate more of the same and even more help for low-income families who can benefit more from lower electric bills.

Without those solar panels, I can't be sure that I would have installed mini-split heat pumps this year. I'm counting on a lower propane bill this winter and an overall lower energy bill because of solar panels.

We also had a lot of new insulation installed, and I've replaced windows and doors. For some people, these costs would be overwhelming, yet they are money-savers over time. Assistance with such expense needs to be another route to ameliorate climate change and help people live more cheaply.

Ultimately, I think all the things I've mentioned will benefit Vermonters and the state of Vermont.

Sincerely,
Catherine M. Nelson

23. Phil Harrington, Bolton

Hello,
It should be noted that not all households currently have electrical service to their house. I recently built a small house in Bolton but Green Mountain Power was going to charge an exorbitant price of $20,000 to install the power service, compounded by the fact there is a 30% state tax on new power services. This made it too expensive to do. I instead use a few solar panels to charge a couple batteries but mostly a fossil-fuel generator for my electricity.

The State should instead give a 30% tax CREDIT for new power service so my family can enjoy reliable electricity and can participate in the green energy movement, rather than using a fossil fuel generator.
Thank you,
Phil Harrington

24. Jeanne and Kurt Norris, East Berkshire

Mr Pieciak,

The best thing Vermont can do to help VERMONTERS, is not to make our fuels so expensive! Last year we paid more for heating our house then we have Ever paid!! We have been here since 1992!!

We are not rich, and are trying to get by as best we can. Both my husband and I have fixed incomes we have tried our best to scale back so we can afford to live in Vermont, but we are getting down to the wire! There is not much left to cut!! Please please do whatever you can to help VERMONTERS like us!! Everything has gone up ! But not the amount of money we have to get by! I am all for green energy, but Sensibly spaced out so people don't get hit in the face over and over again!!

Thanks for your time

Jeanne and Kurt Norris
East Berkshire, Vt.

25. Sara Boucher, Williston

I read the article on WCAX.com about this office getting green energy ideas from Vermonters. We have solar energy at our house, and could not be happier. We have not had an electric bill in 10 years, and use electric heaters, and our wood stove in the winter to keep our oil usage to a minimum.

Here are some of my ideas that I preach to my husband constantly:

1. All new buildings should be required to be solar. Particularly industrial or public buildings. I think it is an outrage that the new State Police building in Williston has no solar panels. And the parking lots at 'park and rides' could have awnings of solar panels (what a great thing to have covered parking!).
2. We live in Williston (luckily on the Vermont side, not the New Jersey side), and I find it such a wasteland of flat roofed buildings that could all be used to hold solar panels that would generate more than enough electricity for their own buildings and more.

3. There was such attention to the new development in South Burlington that will be designed as energy efficient/solar. However that is only one of probably 5 new developments going up in South Burlington. And many of the apartment buildings going up are flat-roofed- and could support solar panels on the roofs. Lost opportunity and wasted space.

Thanks for listening,
Sarah Boucher
Williston VT

center for public enterprise

Putting the public sector back to work.

November 3, 2023

State of Vermont, Office of the State Treasurer
Attn: Treasurer Pieciak
Office of the State Treasurer
109 State Street
Montpelier, VT 05609

Green Finance Recommendations to the Vermont State Treasurer

Dear Treasurer Pieciak,

The Center for Public Enterprise is grateful for the chance to submit comments in the stakeholders' process launched to comply with the legislature's mandate to coordinate the State of Vermont's climate infrastructure financing efforts with a view to submit recommendations to the Vermont legislature before January 15, 2024.

The Center for Public Enterprise is a non-profit think tank based in Vermont and New York that specializes in building the capacity to accelerate publicly financed housing and energy development. The authors of this letter are experts in energy project financing and in Inflation Reduction Act implementation, particularly with regards to the Act's elective pay provisions.

We wholly endorse the creation of a statewide green finance entity to meet Vermont's mitigation, adaptation, and resilience needs by mobilizing sources of private, philanthropic, and public funding at scale and in a coordinated manner. To that end, our letter focuses on two topics: **(1) the need for Vermont's climate financing entity to be housed within an existing state financial institution and (2) the kinds of functionalities and capabilities this entity should have in order to meet the state's climate, equity, and community development missions.** Our Appendix provides more detail into our arguments on both these topics.

(1) Deploying an Existing State Financial Institution

Vermont's climate financing entity should be more than just a financial institution. It must be an entity that can balance complex public goals, empowered to coordinate among state, nonprofit, private, and community actors to achieve those goals. To that end, this entity must be a public entity housed within an existing state instrumentality like the Vermont Housing & Conservation Board.

A public financing entity with a public mission, accountable governance structure, and sufficient financial and technical capacities can avoid excluding vulnerable, particularly rural, communities and displaced workers. Direct affiliation with and accountability to state leaders ensures that it can internalize legislative mandates and prioritize equity goals.

A public financing entity can coordinate among Vermont state institutions, federal financing programs (*e.g.*, Solar For All), nonprofits, and philanthropies to meet economic development goals, provide technical assistance, and target financial support toward vulnerable communities. As a central coordinator of both financing and administrative programming, the entity can more easily integrate and balance climate, development, equity, and justice goals by aligning the missions of its partners to Vermont's climate planning and goals. And as a state instrumentality, it can be designated as a SEFI, or state energy financing institution, making it eligible for federal loan guarantees from the LPO.

This central coordinator function allows the public financing entity to build administrative capacity within Vermont's state government to plan and execute the kinds of complex legal, procurement, and financial activities needed to prepare clean energy and nature-based resilience projects, mobilize investment toward them, and provide support to vulnerable communities.

A public financing entity can already take on more risk and undertake longer-term investment plans than its private and nonprofit counterparts could, especially by making use of the existing creditworthiness of the Vermont state government when issuing bonds and providing credit enhancements. As a centrally coordinated institution for raising public finance for green investment, this entity avoids the transaction costs associated with raising funds for state investment needs outside state financial instrumentalities. It may also be eligible for particular federal benefits or programs geared toward state instrumentalities, such as SEFI lending, the elective pay credits, and Solar for All.

A nonprofit housed outside the Vermont state government apparatus will have a harder time executing these functions because it would lack the convening authorities and public mandates necessary to work with the many instrumentalities that currently undertake lending or investment programs. It would be less accountable to the state, legislature, and communities; less able to coordinate the expertise and financing sources required to meet these goals; and would place the administrative capacity needed to manage a complex green transition process outside the state government. It is also likely that a nonprofit would be less able to utilize certain financial tools or would eventually have to be empowered by state legislation to use those tools anyway. Empowering an existing entity that already has experience with some of these tools will save valuable time.

(2) Potential Capabilities and Functionalities for a Climate Financial Institution

We believe a public green financing entity must be able to exercise certain capabilities and functionalities in order to deliver on climate and community development goals. Below, we describe some of the most necessary capabilities and functionalities. This list is not exhaustive—see our Appendix for a more detailed list—but we believe it allows stakeholders like your office to better understand what a green financing entity is capable of doing and why empowering one with these functionalities can serve public goals.

This public green financing entity should seek not simply to access funds, but to design and deploy innovative financing tools to leverage all available forms of capital to meet the state's climate and just transition goals. Such tools include but should not be limited to: co-financing alongside other investors; issuing concessional loans; building loan underwriting capacity; providing short-term construction bridge financing; deploying revolving funds; offering credit enhancements like loan guarantees, loan loss reserves, first-loss guarantees, and interest rate buydowns; buying out private developers' stranded projects; making equity instruments and swaps (debt-to-equity and debt-to-grant swaps); warehousing assets and securitizing them; monetizing tax credits through the Inflation Reduction Act's elective pay provisions; centrally procuring key project inputs through bulk orders; allocating grants; and developing partnerships with state universities.

Tools like concessional loans and credit enhancements, enable the entity to mobilize and complement private investment. And other tools such as providing short-term construction bridge financing, perhaps through a revolving fund, and executing bulk orders for key input materials empower the entity to do what the private and nonprofit sectors cannot do at reasonable cost. Ensuring that the

entity can securitize and warehouse assets, deploy revolving funds, and buy out stranded projects also allows it to become a financial backstop and central counterparty institution for green investment across the state. And loan underwriting capacity is absolutely essential for building the entity's capacity to develop close working relationships with borrowers, particularly to assess their creditworthiness.

And partnerships with state universities can serve a key capacity-building function: close collaboration builds a pipeline of interested students, researchers, professors, and workers whose scientific, business, policy, and technical expertise can be directed toward state climate investment goals.

On top of the above functionalities, such a public green financing entity should support project preparation and pre-development activities, including site identification, contract structuring, tax credit and elective pay advisory work, project labor agreement and community benefit agreement advisory, and other forms of technical assistance as necessary to meet Vermont's needs. This kind of coordination work is not easily executed by private or nonprofit stakeholders; undertaking it allows the public green financing entity to build key technical assistance and political coordination expertise.

Building these capabilities is critical given today's market conditions and private investor hesitance to commit to large capital expenditures. These capabilities also generate positive externalities. For example, by creating steady demand for construction work, a public green financing entity will decrease volatility of construction costs and supply chains for *all* capital investment statewide while backstopping the work of civil engineering firms, which stakeholders are worried will leave Vermont.

Our Appendix has a more detailed explanation of how these functionalities work and how empowering a state financial institution to deploy them will serve Vermont's climate and just transition goals.

Thank you for taking the time to read our letter, and thank you for your leadership in driving this process forward to ensure that Vermont becomes a leader in nationwide efforts to establish high-quality, transformative green financial institutions.

Yours truly,
The Center for Public Enterprise

Contact:

Advait Arun, Energy Policy Associate
advait.arun@publicenterprise.org

Chirag Lala, Energy Policy Director
chirag.lala@publicenterprise.org

Appendix: Additional Resources

1. Potential Functionalities and Structural Goals for a Vermont Green Bank | Center for Public Enterprise
2. State and Local Government and the Formation of Green Banks | David Wood & Jordan Haedtler
3. Letter to VT Treasurer's Office | Vero Bourg-Meyer
4. Letter to VT Treasurer's Office | Authors of July 2023 whitepaper

Overview of the Vermont Soil Health Trust

The **goal** of the Vermont Soil Health Trust (the Trust) is to support the transformation of farming in Vermont toward **dramatically improved environmental and financial performance**. The trust will achieve this goal by helping farmers transform their operations to build soil health and pay farmers for the environmental benefits that their healthy soil creates. Initially, the Trust is focused on dairy farms because they are in a financial crisis and they are facing pressure to reduce their environmental impact. However, other types of farms could and should also be included.

There are many ways to improve soil health. Although **not prescriptive** on specific practices, the Trust is focused on the concept of **"all-in soil health"** which is achieved by **stacking multiple agronomic practices in appropriate combinations**, such as cover crops, no-till, and soil-conserving crop rotations, or through well-managed grazing systems. This approach is known as **"regenerative agriculture."** Regenerative agriculture can **generate several crucial ecosystem services (ES)**, such as mitigating global climate change, improving water quality, and reducing the severity of flooding events. Regenerative agriculture can improve soil productivity and reduce costs of production, which will improve farm financial performance and resilience. As more farmers realize the benefits, regenerative agriculture will become an on-going and permanent approach and adoption will increase.

Regenerative agriculture produces improved water quality, carbon sequestration and flood resilience. These ESs are of great and increasing value to society and paying farmers is a very cost-effective way to secure them, as well as the rural community benefits that a healthy farm sector provides. Many farms will need to transform their production system to deliver these ESs. Transformation can be risky and/or expensive and farms are likely to need financial and technical support.

To help build and maintain a healthy farm sector in Vermont, **the Trust would provide coordinated financing and technical assistance (TA)** to farmers interested in transformation, **as well as ES payments** to any interested farmer based on quantified outcomes. For maximum effect, the Trust would operate two related funds:

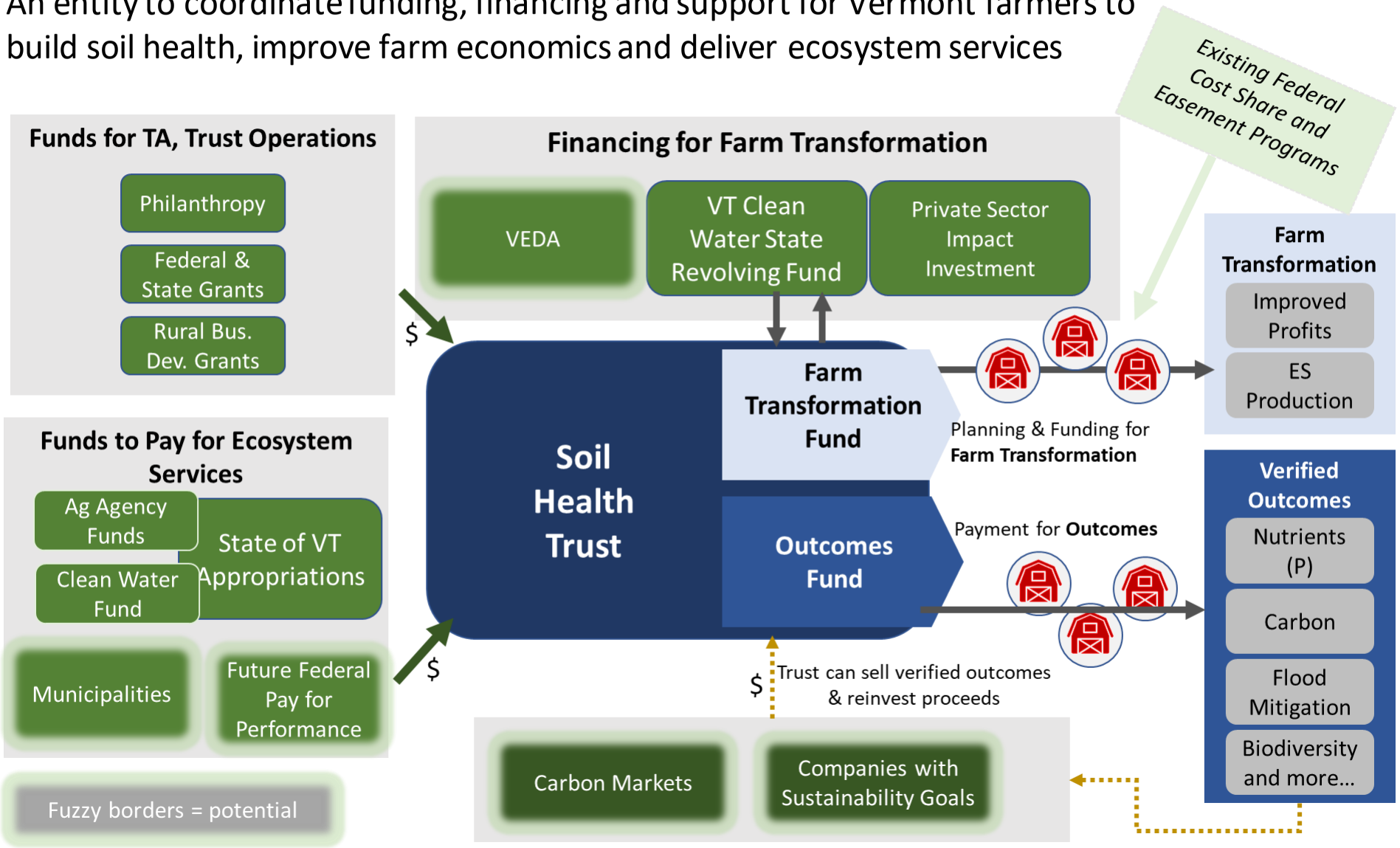
- **The Outcomes Fund** would implement one or more pay-for-performance (PFP) programs that provide the framework, metrics and tools to quantify the relevant ESs and pay farmers for what they produce. The Outcomes Fund would aggregate carbon and water quality credits and market them through all available channels. Revenue from credit sales would be used to reward more farmers for environmental outcomes.
- **The Farm Transformation Fund** would provide interested farmers with the financial and TA resources necessary to achieve all-in soil health. A TA team of agronomy, dairy/livestock, and farm finance experts would work with each farmer to develop a farm transformation plan. Each farm-specific plan would contain estimates of productivity and financial performance, as well as ES generation. Improved profitability and divestment of unnecessary equipment would free up cash for new investment. Debt restructuring may be necessary for some farms. The projected flow of ES could inform financing terms and justify public investment in the transformation.

The environmental, rural community, and farm financial benefits produced by the Trust could generate significant interest from the private sector. Based on its success, the Trust will also seek to harness funding and financing from impact investors, as well as companies in the supply chain.

Produced by Jonathan Winsten and Sarah Andrysiak as part of project titled *Coordinating Public and Private Funding with a Science-Based and Stakeholder-Driven Pay-for-Performance Conservation Approach*. Funded by USDA-NRCS under Grant Number: NR191644XXXXG002.

Framework for the Vermont **Soil Health Trust**

An entity to coordinate funding, financing and support for Vermont farmers to build soil health, improve farm economics and deliver ecosystem services



October 27, 2023

State of Vermont Office of the State Treasurer
Attn: Treasurer Pieciak
Office of the State Treasurer
109 State Street
Montpelier, Vermont 05609

Re: Comments pertaining to Vermont's climate infrastructure coordination efforts

Treasurer Pieciak,

It is our great pleasure to offer these comments in the stakeholders' process launched to comply with the legislature's mandate to coordinate the State's climate infrastructure financing efforts with a view to submit recommendations to the Vermont legislature before January 15, 2024.

The authors, a group of individuals with experience across a range of disciplines relating to green finance, forest conservation and watershed protection, regenerative agriculture, and ecosystem protection, drafted a white paper in July 2023 proposing **the creation of a comprehensive financing strategy by a new climate financing entity, most likely a restructured existing organization with the authority and capacity to coordinate, prioritize, and guide the state's efforts to invest in a manner that will achieve meaningful progress in climate mitigation, adaptation and resilience, and to ensure that the state's more rural, marginalized or underserved communities are also benefiting from these investments.**

The paper is summarized below for your consideration during the stakeholders' process, along with additional thoughts on the type of activities that could be investigated by the State team as part of the development activities of a comprehensive and unified climate finance strategy. The white paper is available in Appendix 1 below.

Vermont needs a comprehensive climate financing strategy developed and implemented by a broad group of stakeholders to enable the state to achieve related and overlapping climate, energy, and environment-related goals. A climate finance strategy is immediately needed because we are missing opportunities to leverage available public, private, and philanthropic funding sources, including financing, to support the coordinated and targeted deployment of climate mitigation, adaptation, and resilience solutions.

To successfully leverage the myriad existing sources of federal, state, local, private and philanthropic funds, and support the implementation of climate mitigation, adaptation and resilience projects to the measure of our ambitions, the state of Vermont must provide the state infrastructure with adequate and sustainable funding sources and the human resources to seek and deploy funds.

This is particularly necessary to help the rural, marginalized, and underserved communities benefit from once-in-a-generation levels of investments in climate mitigation, adaptation and resilience from the federal government, a fact made all the more visible as we witness the recovery from the 7/11 flooding.

In addition to the obvious benefits of bringing a maximum amount of funding to Vermonters in need, growing in-state climate financing would support a vibrant workforce, and economic and job opportunities for all Vermonters.

Investing in both mitigation (e.g., low-carbon energy generation, weatherization, or conservation) and adaptation and resilience activities (e.g., watershed management, ecosystem restoration) is a necessity for the state to meet our climate goals, and to improve community resilience to future flooding and other hazards, contributing to public safety, and the health and wellbeing of our communities.

Multiple gaps need to be addressed in our current approach. First and foremost, the state lacks a comprehensive strategy and no institution has clear authority, agency, and staffing to lead the development of such strategy. Progress does not happen in a vacuum; what the state needs now is clear vision, and the leadership to confer that authority and agency to a dedicated team. That team would:

- Coordinate existing state agencies and instrumentalities, funds, and initiatives to achieve broad strategic goals;
- Develop comprehensive, transparent, and iterative investment plans;
- Make use of federal financing programs and technical assistance, avoiding missed opportunities to secure financial support and achieve complementarity with other public, private, and philanthropic partners; and
- Respond quickly to the needs of the market, and of Vermonters, including underserved communities, to urgently address the climate crisis.

The quasi-public agency or fund that is reorganized to define such strategy along with stakeholders, and proactively and forcefully organize Vermont's climate finance programs for mitigation, adaptation and resilience actions should meet project developers' specific financing needs with creativity and flexibility. It should seek to develop its own administrative capacity as well as that of all of its in-state partners, and offer a range of new programs and products or seek additional funding for existing successful programs that could be made more impactful with adequate funding sources.

The organization should seek not simply to access funds, but to use innovative financing tools to leverage all forms of available capital to meet the state's climate and economic goals. Such tools include but should not be limited to: co-financing alongside other investors; issuing concessional loans; building loan underwriting capacity; providing short-term construction bridge financing; deploying revolving funds; offering credit enhancements like loan guarantees, loan loss reserves, first-loss guarantees, and interest rate buydowns; buying out private developers' stranded

projects; making equity instruments and swaps (debt-to-equity and debt-to-grant swaps); warehousing assets and securitizing them; monetizing tax credits; allocating grants; and developing partnerships with state universities.

In addition, such an organization should support project preparation and pre-development activities, including site identification, contract structuring, tax credit and elective pay advisory work, project labor agreement and community benefit agreement advisory, and other forms of technical assistance as necessary to meet Vermont's needs.

Areas in need of investment are plenty. Most urgently, the state has a duty to mitigate greenhouse gas emissions through increased adoption of efficiency measures and renewable energy, but also to reduce the substantial costs associated with the damages and economic disruption that follow natural disasters through nature-based solutions. Long-term carbon sequestration and storage, land conservation, air and water quality, soil health, and working landscapes are all areas dear and near to Vermonters' hearts that tax funding alone will not be sufficient to address.

Lastly, we urge the state to accelerate priority projects in rural, underserved, and disadvantaged communities and empower communities to take action to achieve a more climate resilient future through a climate-oriented economic development and redevelopment.

Thank you for your leadership.

Warmly,

Vero Bourg-Meyer, resident of Montpelier, VT

Robin Jeffers, independent Consultant, BOD- VT Regenerative Agriculture Ctr

Chirag Lala, Energy Policy, Center for Public Enterprise

Trey Martin and Katie Michels, Vermont Housing and Conservation Board

David K. Mears, Executive Director, Audubon Vermont

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Tee Thomas, Vice President, Quantified Ventures

Appendix 1: Establishing a Comprehensive Climate Financing Strategy for Vermont - July 21, 2023

Authors

The list of undersigned individuals have experience across a range of disciplines relating to green finance, forest conservation and watershed protection, regenerative agriculture, and ecosystem protection. We share a common interest in helping the State of Vermont achieve its climate and environmental goals through a coordinated investment strategy supported by public, private and philanthropic sources. This white paper provides background and summary of our conclusions formed over the course of discussions, research and partner engagement over the past six months. We offer the following information in support of the State of Vermont Treasurer's Climate Infrastructure Financing recommendations, due to the General Assembly in 2024.[1]

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[1] Language from the Fiscal Year 2024 State of Vermont Budget: Sec. E.131 TREASURER CLIMATE INFRASTRUCTURE FINANCING 10 COORDINATION 11 (a) The Treasurer may use funds appropriated in fiscal year 2024 to coordinate the State's climate infrastructure financing efforts. Use of funds can include administrative costs and third-party consultation. The Treasurer shall collaborate with, among others, the Vermont Climate Council, the Agency of Natural Resources – Climate Action Office, the Public Service Department, Vermont members of the Coalition for Green Capital, and the three financial instrumentalities of the State to create a framework for effective collaboration among Vermont organizations, agencies, and the financial instrumentalities of the State to maximize the amount of federal Greenhouse Gas Reduction Funds the State may receive and effectively coordinate the deployment of these and other greenhouse gas reduction funds. The Treasurer shall submit recommendations to the General Assembly regarding legislation for Vermont's climate infrastructure financing on or before January 15, 2024.

Overview

A comprehensive climate financing strategy developed and implemented by a Vermont climate center[2] with input from stakeholders will enable Vermont to achieve a broad range of related and overlapping climate and environment-related goals including the following:

- Greenhouse gas emissions reductions;
- Adaptation and resilience to natural disasters resulting from climate change such as flooding;
- Long-term carbon sequestration and storage;
- Land conservation; and
- Air and water quality, and soil health.

A climate finance strategy is needed immediately because we are missing opportunities to leverage public, private and philanthropic funding sources available to support coordinated and targeted financing and deployment of climate mitigation, adaptation and resilience solutions.

Further, Vermont is already experiencing the impacts of a changing climate, such as the severity and frequency of severe weather events, heat waves and droughts, economic hardship in managing our working lands - our farms and forests - public health risks, and impacts to the health of our ecosystems. These impacts are disproportionately affecting rural and underserved communities and, as the recent impacts of severe flooding on our roads and downtowns reminds us, our community and economic infrastructure is also at risk. As we invest in carbon mitigation efforts to curb emissions, we must also invest in actions to help our human and ecological communities adapt in order to become more resilient.

[2] For short-hand purposes, our group frequently references such a climate finance center as a “Green Bank”. We use the term “green bank” in this case to refer to the type of quasi-public entity created by the State of Connecticut, not a commercial “bank” in the common use of that term. Vermont may decide on a different type of entity, or a different name. This entity could be a new entity, or result from a restructuring or enhancement of an existing entity.

Background

State of Vermont Plans and Strategies

Vermont's climate mitigation, adaptation and resilience commitments require greenhouse gas emission reductions across all major sectors, as well as improvements in adaptation and resilience statewide. Relevant to this need, Vermont already has the following plans and strategies in place or under development:

- Statutorily required greenhouse gas emission reduction goals along with a Climate Action Plan to achieve those goals (Vermont Global Warming Solutions Act of 2020 -- Act 152)
    - Climate Council of stakeholders to offer on-going public engagement in support of this work
    - Climate Action Office within the Vermont Agency of Natural Resources supports monitoring, assessing and tracking climate-related activities
- 2022 Comprehensive Energy Plan to ensure that, among other goals, Vermont meets its energy needs in manner that will meet greenhouse gas emission reduction goals;
- State Hazard Mitigation Plan that identifies strategies to help build more resilient communities
- Vermont Agriculture & Food System Strategic Plan, 2021-2030 to revitalize Vermont's agricultural economy in the face of climate change
- Community Resilience and Biodiversity Protection Act of 2023 (Act 59) creating a statutory framework and mandated public process to oversee conservation and land protection goals
- Public Financing Climate Collaborative made up of the state's financing instrumentalities to help support the financing as projects develop.

What is missing, and what we propose, is the creation of a comprehensive financing strategy by a new climate financing entity, which could be a new or restructured organization to function in the same manner as the State of Connecticut's Green Bank. This new or restructured organization would have the authority and capacity to coordinate, prioritize and guide the state's efforts to invest in a manner that will achieve meaningful progress in climate mitigation, adaptation and resilience, and ensure that the state's more rural, marginalized or under-served communities are also benefiting from these investments.

Vermont's Landscape

Vermont is a rural state with a working landscape of farms and forests, surrounding compact town centers and villages largely built along or at the confluence of major waterways. Over 75% of the state is in forest cover, and nearly 20% is in agriculture (crop and pastureland). The economic, social, carbon storage and sequestering capacity, and ecological importance of Vermont forests cannot be overstated. In fact, Vermont's forests sequester four times the amount

of greenhouse gas emissions that vehicles emit in Vermont, and our forests, floodplains, and wetlands, where they have been protected, provide critical protection to our built landscape. Vermont has a tremendous opportunity and obligation to invest in both emissions-reducing solutions and practices that improve long-term carbon sequestration and storage in the agriculture and forestry sectors, as well as prioritizing investments in conservation and land protection that achieve the multiple goals of flood resilience, water quality, and ecosystem functions and services (including habitat protection, species passage and connectivity).

Nature Based Solutions

The 2021 Vermont Climate Assessment recommends nature-based solutions as proven, low-cost strategies for climate adaptation and resilience. For this reason, the Vermont "Initial Climate Action Plan" issued in 2022 includes recommendations for nature based solutions. Such investments in our farms, forests, and natural-based solutions are not only cost-effective in helping Vermont make progress in meeting its climate mitigation, adaptation and resilience objectives, but these investments support a whole host of other benefits such as economic vitality, enhancement of local food systems, improvements in clean water and clean air, improvements in ecosystem functions, and access to recreational and open spaces.

Finally, as noted above, Vermont has just enacted Act 59 of 2023 (aka H.126 or 30x30), an act relating to community resilience and biodiversity protection. This first-in-the-nation legislation mandates a comprehensive, multi-year strategic planning process to prioritize investments that support carbon sequestration and storage, enhance climate resilience, sustain working lands, conserve biodiversity and maintain ecosystem functions. A comprehensive climate financing strategy is a necessary component of this process, and will enhance the state commitment to maximize these important public benefits.

Funding Opportunities

Establishing a comprehensive strategy will help Vermont pursue its share of the substantial amount of federal funding that is available now and over the next four to six years, including:

- Federal Inflation Reduction Act (IRA): Includes a Greenhouse Gas Reduction Fund that provides $27 billion in direct or financing support to reduce greenhouse gas emissions, with 40% of those funds dedicated to low-income and disadvantaged communities. Includes increased funds for climate mitigation (through carbon sequestration and storage) and to achieve greater climate resilience of our working lands.
- Tax Credit Features and Adders in the IRA, including Elective pay: Broadens the range of actors that can benefit from tax credits such as Vermont state and municipal governments, nonprofits, and tribal governments to claim payments from the IRS on decarbonizing investments that they own, and operate, and provides additional funding for projects that

meet certain additional requirements, e.g., domestic content or location in disadvantaged communities.
- IRA and Farm Bill: Contains an additional $1.4 billion for the Farm Bill's Agricultural Conservation Easement Program.
- Federal Land and Water Conservation Fund, Forest Legacy Program: Is now permanent, containing $1 billion annually for working forests.
- Federal Infrastructure Investment Jobs Act (or the Bipartisan Infrastructure Framework, BIF): Adds $2.34 billion annually for each water infrastructure state revolving fund (SRF) to support both gray and green infrastructure.
- Federal Emergency Management Agency (FEMA) Building Resilient Infrastructure and Communities (BRIC) program: Contains a greater focus on improving climate resilience.

In addition to direct investment into climate mitigation, adaptation and resilience solutions, greater access to these public financial resources will help Vermont leverage those funds to attract private investment and innovative financing structures, while also augmenting the state's ability to serve as a partner in decarbonization. Pooling these resources together can reduce risk facing private investors and mobilize more capital to achieve strategic, targeted outcomes. It would also enable Vermont to drive advancement in carbon sequestration and storage, and climate resilience, including flood resilience, such as establishing various incentives to deploy climate-smart practices across all sectors or through direct investments that the private sector cannot.

For these reasons, we the undersigned, propose the following:

Vision

- A climate finance center coordinates and targets financing and deployment of climate mitigation, adaptation and resilience solutions according to a climate finance strategy developed with broad public and stakeholder support and input.
- Strategic investments support and sustain Vermont's working farms and forests, rural enterprise, and our burgeoning outdoor recreation economy.
- Natural solutions sequester and store carbon as well as enhance connected and functioning ecosystems that support biodiversity, species passage, and provide valuable ecosystem services.
- Innovative water financing achieves multiple benefits including climate mitigation, adaptation and resilience including flood resilience, and clean water.
- Rural, marginalized or underserved communities benefit from Vermont's investments in climate mitigation, adaptation and resilience.
- Climate financing supports a vibrant workforce and economic opportunities.

What: Providing a Big Opportunity for a Small State

Public (especially Federal), private and philanthropic funding opportunities provide Vermont with a once-in-a-generation opportunity to promote initiatives that will provide environmental and economic benefits for generations to come. It is imperative and urgent that state leadership build a comprehensive climate financing strategy, accompanied by a new climate finance entity, that accesses all of these sources of funding, optimizes the ability of Vermont state government to leverage those funds with state funding and bonding authority, and taps into the broad and varied mix of private, philanthropic and local dollars in a coordinated and strategic manner.

- Statewide Coordination: Vermont would benefit from statewide coordination to cultivate, compete for, leverage, and deploy funding opportunities for climate change mitigation, adaptation and resilience.
    - Sources of funding include federal, private, and philanthropic sources.
    - Vermont has a number of state agencies, a climate council and state financing instrumentalities involved in climate mitigation, adaptation and resilience but with limited resources to support strategic planning and coordination.
    - Vermont's wealth in natural rural and working land resources presents a tremendous opportunity for the State to promote and maximize forest and agricultural carbon sequestration and storage. For this reason, Vermont would benefit from an increased and better coordinated effort to establish and expand markets that create value for carbon sequestration and storage, as well as innovating markets for other environmental outcomes.
    - Vermont has well-established stakeholder supported networks, creating a ready platform for coordination, collaboration and major investment for climate-based outcomes.
    - With a more coordinated approach, Vermont can be a magnet for climate funding, especially in sustainable forestry and agricultural investments for carbon sequestration and storage.
- Expanding potential for decarbonization, climate mitigation, adaptation, and resilience: Pursuing this strategy would increase the federal dollars flowing to public and private actors in Vermont and increase the number and diversity of actors participating in climate mitigation, adaptation, and resilience efforts in the state.
    - Elective pay eligible projects in Vermont can stack tax credit financing with additional sources of federal, state, private, and philanthropic money.
    - Diverse sources of financing must be paired with technical assistance and cohort building to ensure it is used effectively or that opportunities can be made known.
    - Builds capacity to proactively pursue resources including private investment. Meeting our climate mitigation, adaptation and resilience needs with taxpayer funds alone is neither effective nor efficient. Mobilizing more resources will help the state achieve its targeted climate mitigation, adaptation and resilience outcomes.

- Statewide Accountability:
    - Investing in a climate finance strategy and climate finance entity to implement that strategy would ensure that dollars invested help to meet statutory objectives and deliver public benefits, including support for rural, marginalized or underserved communities.
    - Meeting Vermont's climate ambitions, as set in Act 153, the Global Warming Solutions Act (GWSA), will require extensive funding for clean energy, efficiency, and nature-based solutions to climate change.
    - Investing in climate resilience efforts requires funding to help communities adapt and be more resilient to the impacts from a changing climate that are already underway.
    - As part of Act 59, the act relating to community resilience and biodiversity protection, on-going funding is necessary to build upon the planning process, continue to engage the public, employ the state's Conservation Design framework, and conduct strategic investments to meet the land conservation targets to further communities' resilience objectives and ensure landscape scale ecosystem functions.

Why - Overcoming Barriers

The reasons for pursuing a comprehensive climate finance strategy and a new climate finance entity include the following:

- Avoid "Missing Out:" Federal funding opportunities for climate mitigation, adaptation and resilience have brought on a once-in-a-generation opportunity for the state. Given our small size and relative lack of capacity compared to larger states, Vermont runs the risk of leaving resources "on the table" and missing this opportunity to secure its share of available federal, private, and philanthropic sources. Federal funding and the private investment it spurs often go to states with more climate financing infrastructure and clear investment pipelines.
- Provide a State Strategy and Coordination: Vermont does not have in place a coordinating body to cultivate, compete for, leverage, and deploy funding opportunities (some of federal funds listed above).
    - Individual agencies or quasi-public agencies focus on building and deploying individual programs that answer a small portion of the universe of climate needs and solutions. These programs can be pooled or partnered with for greater effectiveness.
    - Vermont's well-established stakeholder driven networks require capital, capacity and coordination to employ their planning processes and networks to meet outcomes.

    - Creative solutions require policy coordination at the highest level of the state, a broad view, and a clear measure of Vermont's funding needs against Vermont's statutory greenhouse gas emission reduction goals.
- Establish a State Level Climate Financing Team: Vermont is endowed with outstanding agencies, programs, and organizations deeply experienced in one or more topical areas of climate mitigation, adaptation and resilience. However, these entities typically work within their jurisdictions, and the state lacks a team dedicated to strategic statewide climate financing solutions.
- Bolster Existing Staff Resources: Agencies, programs, and organizations have limited staff and capacity to take on the additional work that will be required to deploy funding at scale.
- Accommodate as Climate Policy and Technology Continues to Evolve: As climate finance grows, the policy and the technological landscape is becoming increasingly complex, technical and specialized. A Vermont statewide strategy is an opportunity to clarify which avenues the state is investigating and developing and to assign responsibilities to new or existing state or partner entities.
- Utilizing a Broad Set of Climate-Focused Financial Tools: Lending is but one type of financial tool. An effective strategy establishes the state's approach to raising, deploying, and recycling capital, in addition to marketing and technical assistance (described below).
    - Raising Capital: Currently, our approach to raising capital is not centrally coordinated. Ideally, a Vermont green bank or similar entity would bring visibility, transparency, and leverage in all aspects of climate finance program design and project structuring, including proactive coordination with federal, state and market actors.
    - Deploying Capital: Capital deployment tools at our disposal for investment (e.g., direct equity investment, working capital loans, subordinated loans within a project finance structure, on-lending structures) and investment support (e.g., grants and credit enhancement tools such as guarantees, loan loss reserves, interest rate buydowns) are distributed across multiple organizations. A statewide climate financing strategy promotes exploration into a broader array of financial tools and a greater sharing of experiences.
    - Recycling Capital: Vermont does not currently have a statewide strategy to approach capital recycling for its investments across the climate space. A Vermont green bank, for example, could manage the revenue from investments and facilitate program designs that leverage accelerated repayments through securitization.
    - Standardizing capital: A Vermont green bank could create pro-forma portfolios of loans, grants and tax equity as models for future projects and also purchase assets from other lenders in the state. This would decrease capital costs, simplify the financing process, and allow the state to set standards on financing.

- Focus on Market Development: The state wide adoption of solar in Vermont showcases the impact of effective market development. The same level of coordinated market development is needed to active investors, operators, producers, and other actors relevant to other climate mitigation, adaptation and resilience actions, such as in nature-based solutions, sustainable forestry, green infrastructure, weatherization, and food system infrastructure.
- Help Vermonters Access Resources Via Education, Outreach, and Technical Assistance: Federal funding is complex, shaped by extensive regulation and sometimes contradictory precedents. Applications are released on short timeframes while requiring extensive documentation and compliance with often murky, ambiguous terms. Existing technical assistance networks are already at capacity.

How - Next Steps

In the past, targeting and implementing climate mitigation, adaptation and resilience solutions, including nature-based solutions, have been siloed and targeted to address local opportunities. Vermont needs a comprehensive strategy led within the state infrastructure by a coordinated team sharing deep expertise across sectors which will help the state to:

- Take advantage of federal resources that are available now.
- Improve Vermont's competitiveness in seeking federal and private resources.
- Pool and leverage available federal, state, local, philanthropic and private resources.
- Pursue large scale solutions.
- Target priority investments to maximize public benefits.
- Sustain the state's farms and forests.

Proposed Strategy: Scale Through Alignment

In keeping with the successful models of the Connecticut Green Bank (CGB) and the Rhode Island Infrastructure Bank (RIIB), a Vermont coordinated entity (green bank) can accelerate and leverage all-sector investments in climate mitigation, adaptation and resilience needs. Vermont's small size, comprehensive climate planning, and public support for climate investments makes it an ideal candidate to create a model for rural states across the country.

A Vermont green bank can be a quasi-governmental centralized entity with a holistic plan to match investments to necessary greenhouse gas reductions and resilience measures across the state. Beyond setting standards for outcome measurements, reporting, and bringing expertise in financial offerings to achieve these outcomes, a green bank will spur significant private co-investment (surrounding state green banks have shown that every $1 a state invests in this mechanism equates to $6 of private capital investment).

Governance for a Vermont green bank can capitalize on a partnership with a number of state institutions including Vermont Economic Development Authority, Vermont Bond Bank,

Vermont Treasurer, and Vermont Housing and Finance Authority. Representatives of these organizations would serve on a deployment committee that would approve and help shape all offerings of the Vermont green bank.

Preliminary List of Organizations to Involve in Planning Discussions

- Center for Public Enterprise
- Council of Development Finance Agencies (CDFAs), Vermont Community Loan Fund, Sustainable Jobs Fund, others?)
- Energy Action Network Vermont
- Environmental Organizations (Vermont Natural Resources Council (VNRC), Audubon Vermont, Vermont Public Interest Research Group (VPIRG), The Nature Conservancy Vermont (TNC), Conservation Law Foundation (CLF), Trust for Public Land Vermont (TPL), etc.)
- Gund Institute for the Environment / The University of Vermont
- Renewable Energy Vermont
- Vermont Agency of Agriculture Food and Markets
- Vermont Agency of Natural Resources (ANR) - Climate Office
- Vermont Bankers Association
- Vermont Climate Council
- Vermont General Assembly Climate Solutions Caucus
- Vermont General Assembly, House Agriculture, Food Resiliency and Forestry Committee, House Environment and Energy Committee, Senate Agriculture Committee, Natural Resources and Energy Committee
- Vermont Housing and Conservation Board (VHCB)
- Vermont Instrumentalities of the State: Vermont Economic Development Authority (VEDA), Vermont Housing Finance Agency (VHFA), Vermont Bond Bank
- Vermont Public Service Department (PSD)
- Vermont State Employees Credit Union (VSECU) & other interested credit unions

Case Studies

The case studies below are examples of models, both policies and programs, that a Vermont green bank could adapt to the Vermont context. They are offered here to demonstrate the breadth of activities that an organization with an ambitious climate finance strategy could undertake.

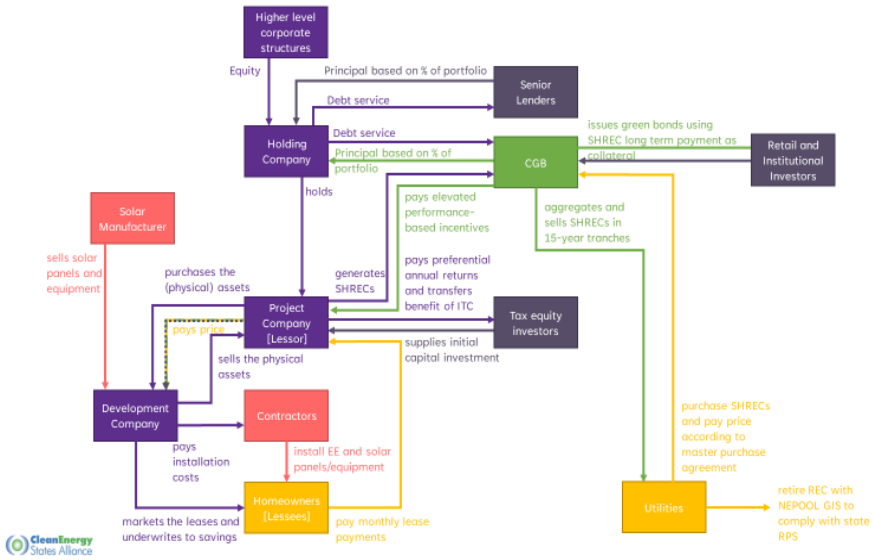
1. Low- and Moderate-Income Solar and Solar+Storage

The Inflation Reduction Act (IRA) offers opportunities to fund clean energy projects focused on serving disadvantaged communities and low-income customers. The Connecticut and Rhode Island approach to low- and moderate-income (LMI) solar is a public private partnership where a

state via a competitive process selects a third-party developer to finance, deploy, and own solar (and related assets as relevant) for the benefit of LMI consumers. The no-money down cash flow positive from day one model allows the monetization of the investment tax credit (ITC) to flow down to consumers and uses community-based marketing techniques that are appropriate and effective with low-income populations. The model led to the adoption of more than 3,000 solar projects for LMI homeowners in Connecticut in just a few years. Under the Rhode Island model, developers compete to set a level of incentives that will achieve a specific savings target. Vermont has a burgeoning solar industry, which would greatly benefit, along with LMI customers, from a dedicated support from the state using federal funds such as the Greenhouse Gas Reduction Fund (GGRF).

Additional resources are available about the program model on the Clean Energy States Alliance's website, which includes a template RFP and a guidance document designed to comply with the GGRF NOFO requirements as well as work in tandem with the program administration proposed by the U.S. Treasury for the low-income tax credit bonus program. Among other things, it includes "enabling upgrades," such as efficiency measures and roof repairs by default. It also proposes a flexible approach to customer eligibility using both geographic and income criteria.

- Request for Proposals (RFP) Template for States: https://www.cesa.org/resource-library/resource/single-family-home-lmi-solar-program-request-for-proposals-template/
- Clean Energy States Alliance (CESA) Program Design Guidance: https://www.cesa.org/resource-library/resource/single-family-home-lmi-solar-program-design-guidance/
- Notice of Funding Opportunity (NOFO): https://www.grants.gov/web/grants/view-opportunity.html?oppId=348957



CT Program Financial Structure

Additional models exist to support solar and solar+storage, in tandem with efficiency, for LMI customers, including for multifamily affordable housing residents and manufactured homes.

- Solar for manufactured homes: https://www.cesa.org/resource-library/resource/solar-for-manufactured-homes/

2. Leveraging Tax Credits in the Inflation Reduction Act

The Inflation Reduction Act allows tax-exempt entities (state, local, and tribal government agencies and instrumentalities and nonprofits) to receive certain tax credits for applicable projects they own and operate–even if those entities do not owe or file federal income taxes. This significantly reduces public and nonprofit weighted average cost of capital on energy projects - a measure of financing costs accounting for the total mix of tax credits, loans, subsidies, and grants (see the figure below for illustrative capital stacks). Elective pay in conjunction with green bank financing would lower project costs even further.

- Elective Pay and Transferability (IRS): https://www.irs.gov/credits-deductions/elective-pay-and-transferability
- Elective pay one-pager: https://www.irs.gov/pub/irs-pdf/p5817.pdf
- List of elective pay tax credits: https://www.irs.gov/pub/irs-pdf/p5817g.pdf
- Relevant application information for state and local governments, tribal governments, and tax-exempt organizations
- Center for Public Enterprise Elective Pay (Direct Pay) Report: https://www.publicenterprise.org/reports/direct-pay-uncapped-ira
- Update on Elective Pay Rulemaking (implementation details): https://www.publicenterprise.org/blog/june-update-elective-pay
- Clean Energy States Alliance FAQs on the Low-Income Adder to the ITC: https://www.cesa.org/resource-library/resource/low-income-communities-bonus-energy-investment-credit-program-faqs/

3. Climate Investment Using Water Infrastructure Financing

Clean Water State Revolving Fund (CWSRF): The CWSRF is a federal and state partnership to deliver low-cost financing for water quality infrastructure projects. As money is paid back, states then make new loans. The program is flexible, allowing states to use innovative approaches to address priority needs. Eligible projects include wastewater treatment, stormwater mitigation, green infrastructure and runoff-related pollution control projects. For example, New York created a Storm Mitigation Loan Program as part of its SRF Program to implement storm resilience and mitigation projects. New York also established a Green innovation Grant Program to support grey and green infrastructure, an example of which is the restoration of floodplains

and wetlands in the Upper Susquehanna Watershed. Some states are using the SRF's Green Project Reserve (GPR) to finance green infrastructure projects. The City of El Cerrito in California, for example, used the GPR to implement a green streets project to improve water quality, reduce the risk of sewer overflows, and improve the livability of the urban community.

- Case Studies: https://www.epa.gov/sites/default/files/2018-09/documents/srf_gpr_case_studies.pdf
- Green Project Reserve: https://www.epa.gov/sites/default/files/2015-04/documents/integrating_green_infrastructure_with_community_needs-california.pdf.

4. Conservation Financing for Climate Mitigation

Over 75% of Vermont's landscape is in forest cover. Vermont's forests sequester 4 times the amount of GHG emissions that vehicles emit in Vermont, making forest conservation a crucial part of our climate mitigation, adaptation and resilience strategy. However, Vermont forests are under threat from conversion to non-forest uses such as real estate development, poor management practices and fragmentation. The U.S. Forest Service estimates that Vermont is losing upwards of 12,000 acres of forestland every year. If this rate continues, more than 300,000 acres of Vermont's forestland may be lost by 2050 with significant negative consequences for ecosystem health, habitat for wildlife species, the ecological viability of natural lands, and our working lands economy.[3]

The Trust for Public Land (TPL) received interim financing under the Vermont Clean Water State Resolving Fund (CWSRF) to fund three natural solutions-based projects to improve water quality and flood resilience and avoid more costly gray infrastructure stormwater and flood resilience solutions. These projects involved financing of $6.2 million to permanently conserve and restore over 10,000 acres of forested headwaters, focused on the headwaters of the North Branch of the Winooski River in Worcester and Middlesex (Hunger Mountain Project), the Huntington River in Huntington and the headwaters of tributaries to the Connecticut River and Lake Champlain in Chittenden, Killington and Mendon – all regions highly vulnerable to flooding. The latter project helped to connect and insulate 140 thousand acres of adjacent and existing conserved public lands. Both projects offer added benefits of water quality protection and public access.

This Conservation Finance Case Study above demonstrates the tremendous opportunity for Vermont to continue to bring together non-governmental organizations (NGOs), state and Federal agencies and private investment firms to address the challenges facing Vermont's forests

[3] USDA Forest Service. 2021. Forests of Vermont, 2020. Resource Update FS-337. Madison, WI: U.S. Department of Agriculture, Forest Service. 2p. https://doi.org/10.2737/FS-RU-337.)

in order to maximize carbon storage/sequestration, water quality, economic, recreational and ecological benefits that our forests can provide.

- Hunger Mountain Headwaters https://www.tpl.org/our-work/hunger-mountain-headwaters
- Rolston Rest: https://www.tpl.org/our-work/rolston-rest

Headwaters Resilience Projects (left to right): (a) Huntington River; (b) Rolston Rest; (c) Hunger Mountain

5. Climate Investment Using Nature-Based Solutions: Forestland Conservation

The ability to monitor and measure forest carbon sequestration and storage have led to the creation of forest carbon markets. Selling forest carbon credits to companies and individuals working to reduce their carbon footprints provides a new source of income for individual forest landowners which helps them protect their forests. However, forming a carbon market can be costly, creating a barrier for smaller forest parcel owners to participate in them.

The Vermont Land Trust formed Vermont Forest Carbon LLC and teamed up with The Nature Conservancy, the Carbon Dynamics Lab at the University of Vermont, and Cold Hollow to Canada, a local land stewardship and conservation organization. The Vermont Forest Carbon LLC helps landowners overcome the cost barrier by working together as a single carbon project. This is the first large-scale aggregated forest carbon project in the country, with fifteen neighbors teaming up to sell carbon credits from their land. Together the landowners and organizations proved that not only can forest carbon offsets be a viable revenue stream for Vermont forestland owners, but through improved management practices, that they can provide enhanced water quality, flood mitigation, and ecological functions.

- https://familyforestcarbon.org.

6. Commercial Property Assessed Clean Energy

There are 151 Property Assessed Clean Energy (PACE) programs operating in 32 states and Washington DC. Vermont has yet to establish a PACE program. The Weatherization Repayment

Assistance Program (WRAP) that the Vermont Housing Finance Agency (VHFA) administers works similarly in that the financing for the energy improvements are secured by the electric bill and connected to the electric meter instead of through a loan.

Commercial PACE (C-PACE) is widely considered an easier program to get up and running than a residential program. Local governments collect C-PACE repayments through annual property taxes. C-PACE financing has an advantage over conventional financing because it is attached to the property, rather than the building owner and is transferrable upon sale. Vermont has the enabling legislation for residential PACE which could be used as a template to establish C-PACE in Vermont.

- https://www.npaonline.org/ (National PACE Association)
- Case studies from Mid-Atlantic states: https://www.pacealliance.org/case-studies

7. Regenerative Agriculture

Vermont has 30% of the farmland in New England and only 4% of the population. This breadbasket role, producing food for millions of households in the Northeast, has sustained Vermont's agricultural base in working farmland for generations. When managed with regenerative practices, the landscape also provides a host of tangible ecological, community and economic benefits. In doing so, regenerative agriculture practices preserve an active landscape of farms and forests, increasing water retention to mitigate flood and drought, sequestering carbon, preventing erosion and nutrient runoff, and supporting dignified rural livelihoods alongside rich biodiversity across the state and region.

A Sector-Based Framework for Investment in Vermont Agriculture completed in early 2023 identifies $194M in food system investment needed in Vermont alone, but it is challenging and time consuming to secure – let alone effectively deploy – financial resources on an individual project basis. A primary barrier to wider adoption of regenerative practices is the lack of appropriate scale infrastructure to reliably process, transport, and market regional food products from the many small farms of the Northeast – especially those practicing organic, regenerative, and perennial management. This 'middle' infrastructure is essential for a resilient regenerative regional food system to scale and succeed. Vermont Sustainable Jobs Fund (VSJF) and Larklea are collaborating to establish a self-sustaining, well-capitalized team and impact fund for this food system development – a partnership that engages VSJF's role as a collective impact backbone organization for Vermont and the Northeast, and Larklea's experience securing values-aligned capital and developing regional food infrastructure.

Signatories

Vero Bourg-Meyer - Vermont Resident

Jared Carpenter - Public Policy Professional

Tad Cooke - Principal, Larklea

Kari Dolan - Vermont Resident

Robin Jeffers - Director, VT Regenerative Agriculture Research & Education Center

Chirag Lala - Center for Public Enterprise

Trey Martin - Director, Vermont Housing and Conservation Board

David Mears - Executive Director, Audubon Vermont

Andrew Perchlik - Vermont Resident

Peter Stein - Managing Director, Lime Timber Company

Shelby Semmes - Vice President New England, Trust for Public Land

Tee Thomas - Vice President, Quantified Ventures

Signatory Biographies

Vero Bourg-Meyer is the senior project director for solar and offshore wind at the Clean Energy States Alliance, where she works with states and green banks on developing clean energy programs and policies that benefit LMI communities and accessing the Greenhouse Gas Reduction Fund.

Jared Carpenter is an environmental lawyer who works with conservation, environmental advocacy, and watershed organizations.

Tad Cooke brings over a decade of impact finance experience in conservation and regenerative agriculture. Through his work with Larklea, LLC, he shepherds capital and resources into regional food systems, resilient landscapes, and natural climate solutions.

Kari Dolan is a Vermont State Representative. She has nearly 30 years of work experience in water quality restoration and protection, Clean Water Fund administration, state floodplain and river management, toxics mitigation, and civil rights compliance.

Robin Jeffers is an independent consultant working directly with farmers and other key persons in Vermont's nature based solutions work through regenerative agriculture practices to find funding solutions to meet their ever present needs to stay in business, and Executive Director of the VT Regenerative Agriculture Research and Education Center.

Chirag Lala is a doctoral candidate in economics at the University of Massachusetts Amherst and specializes in macroeconomics, finance, and the economics of industrial policy and public investment. His research focuses on the implementation of the Inflation Reduction Act– particularly its elective pay tax credits– and the macroeconomic policies necessary to sustain rapid decarbonization.

Trey Martin is an environmental lawyer, currently serving as Director of Conservation and Rural Community Development at the Vermont Housing and Conservation Board.

David Mears is an environmental attorney with over three decades of experience in environmental law and policy and is the executive director of Audubon Vermont.

Andrew Perchlik is a Vermont State Senator representing the Washington District. He has over 25 years of experience in Vermont working on renewable energy policy, program development, and market development.

Shelby Semmes serves as the New England Region Vice President for Trust for Public Land (TPL) and brings over a decade of experience in conservation and community engagement.

Peter Stein is the Managing Director of The Lyme Timber Company and serves as an Investment Committee member for Sustainable Land Management Partners, and member of the advisory board for Upstream Technology, Quantified Ventures and Center for Geospatial Solutions for Lincoln Institute of Land Policy. Mr. Stein is also the Former Senior Vice President at The Trust for Public Land.

Tee Thomas brings 15+ years of water financing and environmental equity experience to Quantified Ventures. Most recently, she served as the Water Finance Director for the state of Vermont. In this role, she managed more than $500M worth of loans, grants, and contracts related to water financing.

Appendix 2: Additional Resources

- Webinar on Financing Nature-Based Solutions Using Green Banks
- Potential Functionalities and Structural Goals for a Vermont Green Bank
- Yale School of Management Case Study on the Connecticut Green Bank Formation and Operation
- State and Local Government and the Formation of Green Banks

November 1, 2023

Office of the State Treasurer
109 State Street
Montpelier, Vermont 05609
Re: Stakeholder Outreach on Climate Financing Report

Dear Treasurer Pieciak,

On behalf of VSECU, a division of New England Federal Credit Union, we thank you for the opportunity to submit public comments to inform your report to the General Assembly regarding climate infrastructure financing coordination as the Federal Green House Gas Reduction Funds (GHGRF) become available and are deployed.

VSECU is a Vermont-based credit union, recently merged with New England Federal Credit Union. We are now a combined organization with assets of just over $3B. In addition to traditional credit union deposit, loan products, and in-person and digital banking services, we operate a unique long-standing green lending program. The program started in 2012 and grew organically through relationship building and partnerships to address the needs of members and the green economy. Our green loan portfolio is now $133M.

We have extensive partnerships and experience in deploying grant program funds through credit enhancements such as interest rate buydowns and loan loss reserves. We are a legacy lender in Efficiency Vermont's Home Energy Loan program, a low- to moderate-household income program that deploys zero or low-interest loans to qualifying Vermonters for thermal upgrades and electrification transition improvements. We also lend in a complementary program for businesses. In the past we have participated as a grant subrecipient to deploy low interest solar loans to targeted areas in Vermont, and we work regularly to consider energy savings in our underwriting criteria.

At our organization, we are focused on providing affordable, accessible financing products for our members and building our capacity to scale up this work to serve more diverse communities. We are investing significant capital and time into the clean energy transition and in low income and disadvantaged communities and see this as a core part of our mission.

We submit the following comments as you develop your recommendations:

- **Scale Up Existing Programs** – We have several successful programs and partnerships developed in Vermont aimed to finance investments to increase energy efficiency and reduce carbon emissions for municipalities, businesses, families, and individuals. Some of these programs have built-in income sensitivity to enable low- and middle-income borrowers to access affordable lending options for project financing. Standing up new programs takes time and resources, and this should be considered for identified gaps in Vermont's funding/financing landscape. With the existing program infrastructure in place, we have opportunities to efficiently scale up deployment of available funds to reach deeper into the low- to moderate-income communities across the state.

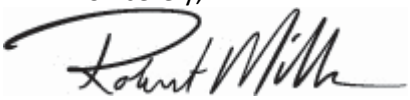
- **Fund Outreach, Technical Assistance, and Project Management** – Our experience shows that technical assistance and coaching is essential for uptake in energy efficiency investments in low-income communities. The day-to-day demands on low-income families make it incredibly difficult to plan for the benefits of energy efficiency, navigate the complexities of lending and rebate programs, and manage contractors. Strategic outreach to enroll individuals and significant assistance and coaching to support through the process will be essential to meeting the GHGRF intent to deliver lower energy costs and economic revitalization to communities that have historically been left behind.

- **Pre-bate, Not Rebate** – In the financing instruments used to deploy funds, seek the ability to lower the loan total to the borrower by pre-bating incentives when possible. Pre-bate funds can be delivered to project builders/contractors directly when appropriate to avoid the borrower needing to have a loan that includes the expected incentive. When the traditional 'downstream' rebate is moved to the front of the process, the project cost is reduced from the start, so more Vermonters can participate.

- **Enable Coordination, Performance Reporting, and Monitoring** – Currently there is not an entity established to receive and coordinate climate funds, collect performance reporting, or monitor outcomes. Establishing a centralized entity, or assigning the role to an existing entity, would support clarity among deployment partners, utilities, agencies, and grant seekers and efficacy for the funds drawn down.

Thank you for considering these comments as you finalize your report and recommendations to the legislature. We are available at your request to further illustrate these comments or offer additional feedback and support as we move towards financing a more resilient Vermont.

Sincerely,



Robert Miller
President, Chief Operating Officer

November 2, 2023

Treasurer Mike Pieciak
Office of the State Treasurer
109 State St, Ste 4
Montpelier, VT 05609-6200

Re: Stakeholder Outreach on Climate Financing Report

Dear Treasurer Pieciak:

This letter is authored by three instrumentalities of the state of Vermont: the Vermont Bond Bank (VBB), the Vermont Economic Development Authority (VEDA), and Vermont Housing Finance Agency (VHFA). Together, operating as the Vermont Public Finance Climate Collaborative (PFCC), we would like to describe our current work to finance climate infrastructure and access emerging funding opportunities, as well as sharing our vision for how statewide coordination could further leverage resources to support Vermonters and achieve the state's climate goals.

The Public Finance Climate Collaborative (PFCC) was formed in 2022 by the VBB, VEDA, and VHFA. Our three organizations are united as state instrumentalities that fill market gaps and accelerate capital deployment in the municipal, commercial, and housing sectors. Our organizations have decades of experience in financing energy efficiency and resiliency projects in these sectors and our quasi-governmental roles make us uniquely well-placed to access both private capital and public dollars.

We originally organized the collaborative because we saw a need to create a collective home for project development and information sharing for climate financing initiatives in Vermont as new resources become available through the Inflation Reduction Act (IRA). Our organizations are prepared to leverage IRA funding to ensure that low-income households and disadvantaged communities are equitably reached by these resources. Proof of this concept is described in more detail below.

We feel that the outreach process being led by the Treasurer's Office can be a valuable opportunity to inform the public about what resources are available through the IRA and Infrastructure Investment and Jobs Act (IIJA), and when and how that funding will become available. Both pieces of legislation are an extensive patchwork of tax credits, grants and financing programs. Currently, the Department of Energy (DOE), the U.S. Environmental Protection Agency (EPA) and other federal agencies are in the rule-making process or have released Notices of Funding Opportunities for many related programs.

Relatively little of the funding available from IRA is yet available to be deployed in Vermont. Some pieces will require state sponsorship, while others will benefit from the experiences of the PFCC, and still others will directly benefit project owners. This diverse range of applicants and uses of funds speaks to the informational barriers among participating entities that would benefit from information sharing to ensure the greatest impact of the funding and financing opportunities.

The $27 billion Greenhouse Gas Reduction Fund (GGRF) is one of the IRA opportunities available to financing entities. The Vermont Department of Public Service has already submitted an application to EPA for the $7 billion Solar for All competition of the GRRF. The remaining $20 billion in GRRF funds will be distributed through a number of national entities, such as the Coalition for Green Capital and Climate United, which will be announced in Spring 2024. PFCC members joined coalitions, submitted project pipelines, and intend to seek financing from these national entities for funding to support greenhouse gas reduction projects in Vermont across the sectors we serve.

Our statewide mission-driven roles, with 50 years of experience and strong balance sheets, make us uniquely positioned to work with these national intermediaries to maximize the funding available to Vermont. Underscoring this capability is the utility recognized by our national partners in our collective capacity as they conceive of us as "green banks" for our respective constituencies and place us side by side well known entities like the Connecticut Green Bank.

Our ability to access these resources will be largely dependent on the terms and uses these national organizations set for awards. As GGRF awards increasingly appear targeted to specific sectors, PFCC members will likely apply individually to the national entities rather than as a single application. However, we intend to coordinate amongst ourselves to ensure that we are fully aware of potential funding opportunities.

A brief summary of the work our organizations are doing to leverage IRA and other energy financing opportunities is below.

<u>Joint PFCC efforts</u>

- Submitted joint feedback to the EPA in response to their RFI on the development of the GGRF in December 2022, advocating for a framework that encouraged collaboration and leveraged the capacity of public instrumentalities.
- Coordinated with the Treasurer to lead a Green Lending Webinar in February 2023 to inform stakeholders of potential opportunities available under the GGRF.
- Followed discussions with national organizations applying to administer GGRF funds, laying the groundwork for collaboration once awards are announced. PFCC members submitted project pipeline data and letters of support to several organizations that may serve our respective sectors.

VBB

- Modernized the Bond Bank's statute via Act 72 to allow the Bond Bank to enter all types of municipal loans that are otherwise allowed in statute. This includes municipal loans under the "alternative financing of assets" provision that is the preferred method governmental units use to authorize energy projects that pay for themselves with savings or energy production.
- Received a $40 million commitment from the USDA's Rural Energy Savings Program that will provide a loan to the Bond Bank at 0%. In turn, the Bond Bank will relend these dollars at an estimated rate of between 2 and 3%. Eligible activities include both energy savings projects as well as renewable energy production and battery storage.
- Financed nearly $17 million in energy efficiency, net zero energy buildings, and waste diversion projects.
- Responded to the needs of borrowers following the Summer Floods of 2023, which included opportunistic debt restructurings and new loan products to enhance Vermont's climate resiliency.
- Formed strong partnership with Climate United with a focus on net zero school buildings that informed a Vermont specific case study used by the organization.

VEDA

- Updated VEDA's energy lending policies to enable greater public financing support on clean energy projects.
- Applied to USDA's Rural Energy Savings Program (RESP) for $10 million which, if approved, will provide up to 0% financing to VEDA which will be used to provide capital and subsidize interest rates on clean energy projects.
- Applied to the State Treasurer's "10% for Vermont" local investment program for up to $25 million in a low interest loan which will be used to subsidize interest rates on clean energy projects.
- Submitted pipelines and letters of support to Coalition for Green Capital's NCIF and CCIA grant applications and the Council of Development Finance Agencies' CCIA application.

VHFA

- Collaborated with the Vermont Department of Public Service on their Solar for All application to EPA, which was submitted on October 12th. Should Vermont receive its requested award, VHFA expects to receive a subgrant for solar arrays and community solar projects supporting subsidized affordable housing.
- Led outreach to multifamily property owners to inform them of opportunities under HUD's Green and Resilient Retrofit Program (GRRP). The GRRP is an IRA program for comprehensive energy efficiency and carbon reduction projects in housing supported through HUD rental assistance contracts. Applications are currently open in rolling waves, and property owners must apply directly to HUD.
- Launched the Weatherization Repayment Assistance Program (WRAP), an on-bill program to help moderate-income Vermonters participate in comprehensive home energy projects. VHFA continues to explore new funding sources to expand the program beyond the state-funded pilot.

Although the PFCC members are actively pursuing the IRA funding that we are currently eligible to receive, *we feel that the Treasurer's Office could play an important role as an information clearinghouse*, ensuring that all new and existing federal climate funding opportunities are identified and brought to the attention of the entities or the state agencies that are the intended recipients.

Further, we believe the *Treasurer should also help to evaluate the supply and demand for climate related funding and financing sources* on an on-going basis in consideration of the risks faced by the state from a changing climate as well as the mandates outlined in Vermont's Climate Action Plan and Comprehensive Energy Plan. This evaluation would incorporate the missions, competency, and existing programs of PFCC members in their sectors. This should also include advocating for climate infrastructure financing to be broadly inclusive of adaptation programs. From insurance to grants, these programs may take many forms but should not be ignored from climate discussions around climate finance.

We know that some states have, or will, pursue setting up a new Green Bank as a way of accessing federal funds and we do not recommend that path for Vermont. Because of the PFCC's willingness – and eagerness – to work together and ensure there are no market gaps or lost funding opportunities for our small state, we feel confident in our ability to apply for, access, and deploy the available funding without adding a new entity. Any new organization would require tens of millions of dollars to capitalize a balance sheet similar to the PFCC, and would not have the 50-year history of lending that investors and rating agencies would need to see. The organizational overhead, untested governance, and additional coordination that a duplicate agency would add to the state would be wasteful.

Instead, the PFCC sees a role for itself as a shared "front door" for the state's climate financing. Our organizations will continue our work in our respective fields, while coordinating with stakeholders and amongst ourselves. Using existing organizations within a new framework will allow us to utilize and expand our programs and leverage our existing funding streams, private partnerships, and credit capacity. This structure will allow us to avoid duplicative efforts and ensure that all parts of Vermont and all the different sectors we serve have equitable access to funding opportunities.

This effort will require continued outreach to Vermont's energy stakeholders, including the State, nonprofits, and the private sector. We will need to form expanded partnerships to reach consumers, connect with the state's contractor workforce, leverage new technology, and measure the impact of our joint work.

We welcome your input on this framework, and we applaud your efforts to ensure that Vermont is effectively using all available resources to assist our communities in responding to climate change.

Sincerely,

Vermont Bond Bank
Vermont Economic Development Authority
Vermont Housing Finance Agency

From: **Vero Bourg-Meyer**
Montpelier resident

To: **State of Vermont Office of the State Treasurer**
Attn: **Treasurer Pieciak**
Office of the State Treasurer
109 State Street
Montpelier, Vermont 05609

November 2, 2023

Re: Comments Pertaining to Climate Infrastructure Finance in Vermont

Treasurer Pieciak,

I am delighted to submit these comments in the stakeholder process organized by your office to comply with the legislature's request to "coordinate the State's climate infrastructure financing efforts."[1] Thank you for your leadership and the opportunity granted to Vermonters to participate in this process and shape your recommendations to the General Assembly in January 2024. I write today as a resident of Montpelier, informed by my decades of experience working with governments across the world and the U.S. on public private partnerships for infrastructure, on project finance structuring, and on clean energy policy.

It is time for the Vermont legislature to imbue one of our existing governmental or quasi-governmental entities with the authority, the mandate, the staff, and the funding to (a) create a statewide climate finance strategy, (b) raise capital, (c) deploy, recycle, and leverage capital, (d) coordinate and support the work of relevant partner agencies, (e) provide technical assistance and train the market, and (f) promote and market its own and others' programs to achieve our climate goals.

Transitioning from OPEX-heavy fossil fuel infrastructure to CAPEX-heavy clean energy systems and nature-based solutions requires an *upfront* supply of capital, which tax funding alone will not sufficiently address. Without access to upfront capital and innovative leveraged financing solutions, Vermont will simply not meet its climate ambitions.

Vermont's Climate Action Plan recognizes that for the plan to be successful "the support and engagement of Vermonters is critical — to mobilize a broad coalition of state, local, and regional

[1] Sec. E.131 e of the Fiscal Year 2024 Appropriations Act

governments, nonprofits, academic institutions, and private interests taking collaborative, decisive action. Significant and sustained investments, well-financed programs, properly capitalized lending entities and individual financial commitments will all be needed to implement the Climate Action Plan and realize important outcomes (...)."[2] The Climate Council goes on to state, "No single funding stream will achieve our climate goals. **Climate action requires leveraging a variety of sources — existing and new, private and public, local, state, and federal — and innovative financing mechanisms to support sector-level transformations and the ability of Vermont lenders to make crucial long-term investments in climate-focused projects and initiatives**."[3]

Yet, no one entity has been given a clear mandate by the Governor's office or the Legislature to do all it can to develop these "innovative financing mechanisms" or only minimally so. While we have many programs, driven by more existing entities than in most states, we do not have a coordinated statewide strategy for climate finance. Each one of our quasi-public organizations dutifully pursues the mandate it was given, and it is unlikely, without specific authority, expert staff, or adequate funding, that one of them will suddenly find itself moving beyond what it currently does. More of the same, perhaps slightly bigger, will not cut it.

Promoting coordination across organizations is indeed necessary, as many have said, but climate finance is technical, broad-ranging, and cross-sectoral so our government should not expect a loosely connected web of existing organizations without sufficient funding, staffing, or authority to successfully tackle what is the most consequential challenge of our generation and that of our children.

This is not to say that we lack institutional knowledge or goodwill. I do not in any way impugn the usefulness of our existing programs or institutions. On the contrary, I am immensely grateful for the many public servants dedicated to meeting clean energy and conservation goals in Vermont. Without them, we would not see any progress toward meeting our climate and conservation goals.

I do, however, very much question the scale that we purport to achieve without an entity with the designated authority to steer the state in a clear direction when it comes to financial strategy, and to guide partners, existing and new, along with it toward our decarbonized future. It does not take much vision or work experience to recognize that accessing the once-in-a-generation opportunities afforded by the federal Infrastructure Investment and Jobs Act (**IIJA**) and the Inflation Reduction Act (**IRA**) will be impossible without dedicated staff and funding.

If I find this letter hard to write, it is because it argues the very fundamental notion that good ideas do not materialize into reality unless a champion makes them so and unless we give ourselves the resources to meet our goals. The "action" part of the Climate Action Plan requires that we do not stop at saying "we need innovation and funding" but that we move on to the "do" part with renewed vision and ambition.

Therefore, I propose that the legislature should take the following concrete steps.

First, and most urgently, the legislature should require that the Treasurer's Office be given the explicit authority, mandate, and funding to aggressively pursue funding opportunities for climate

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[2] Vermont Climate Action Plan, page 250
[3] Id.

mitigation, adaptation, and resilience, across both clean energy and nature-based solutions spaces. The Treasurer's Office does not need to be the organization that ultimately will be responsible for all of the activities listed in the second paragraph above in (a) through (f). However, the Treasurer's Office should coordinate with other entities on the short-term deployment of such funds and help them apply to funding. This would include supporting financial intermediaries with existing networks as appropriate, as well as existing agencies working on climate solutions and communities.

The Treasurer Office is the right organization to pursue funding this way as its expressed function is to "serve as the State's (...) chief investment officer."[4] In the wake of transformational federal legislation, many states have launched funds dedicated to help the state apparatus and communities seek federal funding, to provide cost-share funds, to enable leverage, or to provide technical assistance to communities. For example, in Colorado, the Infrastructure Investment And Jobs Act Cash Fund provides $80,250,000 in funding to the Governor's Office as a nonfederal match for the state or a local government for certain categories of infrastructure projects allowed under IIJA.[5]

In Connecticut, Public Act 22-25, the Commissioner of the Connecticut Department of Energy and Environmental Protection (**DEEP**) was required to "establish and administer a grant program for the purpose of providing matching funds necessary for municipalities, school districts and school bus operators to submit federal grant applications in order to maximize federal funding for the purchase or lease of zero-emission school buses and electric vehicle charging or fueling infrastructure." The Act requires that the DEEP Commissioner give preference to applications relevant to environmental justice communities.[6]

In Kansas, the $200 million Build Kansas Fund provides matching dollars to Kansas communities for infrastructure projects approved under IIJA. Projects that can receive funding include "water, transportation, energy, cybersecurity and broadband through Fiscal Year 2027." At least $10 million will be reserved for investment in eight "Economic Development Districts." The Build Kansas Fund is administered by the Kansas Infrastructure Hub.[7] The Kansas Infrastructure Hub includes "representatives from the Kansas Departments of Administration, Agriculture, Commerce, Health and Environment and Transportation, along with the Kansas Corporation Commission and the Kansas Water Office, will manage the Build Kansas Fund, offering technical assistance, tracking funds and promoting grant opportunities."[8]

In Kentucky, the legislature appropriated $17.3 million from the general fund to match $69.4 million in IIJA funds for fiscal years 2022-2023 for IIJA electric vehicle charging infrastructure support programs.

In Minnesota, the State Competitiveness Fund was created as a special revenue fund in the Minnesota State Treasury and $115 million appropriated and remain available until June 30, 2034,

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[4] See Homepage of the Treasurer's Office.
[5] See Colorado Senate Bill 22-215.
[6] See Connecticut Public Act 22-25.
[7] See additional details, including application processes and eligibility requirements here and here.
[8] Shayndel Jones, *Gov. Kelly announces launch of $200M fund to accelerate infrastructure projects*, 13WIBW, September 19, 2023

under the management of the Minnesota State Treasury to facilitate accessing federal funding under IIJA and the IRA. The State Competitiveness Fund is meant to "(1) pay all or any portion of the state match required as a condition of receiving federal funds, or to otherwise reduce the cost for projects that are awarded federal funds; (2) award grants under subdivision 4 to obtain grant development assistance for eligible entities; [9] and (3) pay the reasonable costs incurred by the department to assist eligible entities to successfully compete for available federal funds."[10] These funds can be applied to a large array of uses, including accessing formula funding, funds directed to political subdivision of the state or Tribal governments, nonprofits, businesses, utilities, and other grant opportunities "directed to eligible entities that do not require a match but for which the commissioner determines that a grant made under this section is likely to enhance the likelihood of an applicant receiving federal funds, or to increase the potential amount of federal funds received." The broad-ranging nature of Minnesota's matching funds strategy demonstrates how serious the state is about accessing federal funding and utilizing all available dollars to boost its competitiveness and investments.

In North Carolina, Governor Cooper's administration established a $225 million Federal Match Reserve investment for state agencies to meet federal matching requirements from IIJA, the CHIPS and Science Act, and the IRA. The Federal Match Reserve "allows the state to participate in the paradigm shift created by these catalyzing federal bills and access an extraordinary amount of federal funds for infrastructure, research, climate initiatives, manufacturing, and STEM education [and] [p]ositions our state to compete for hundreds of billions of dollars, bringing our share of taxpayer funds back to North Carolina."[11]

In Oregon, the legislature passed the climate resilience package (HB 3409 and HB 3630), which included over $90 million in new climate spending "to access as much as $1 billion from IRA programs. The new law provides funds to help marginalized communities, local governments and community organizations apply for federal grants."[12]

While Vermont may not have the same level of resources at its disposal, these examples highlight that **these states, both red and blue, understand that accessing federal funds takes resources, both human and financial. The political and geographic diversity should be enough to give the Vermont Legislature pause about its strategy so far to support the implementation of the Climate Action Plan and of the Vermont Global Warming Solutions Act (GWSA).** Enabling access to funding is but a step for the legislature, and should not replace other necessary steps to develop and implement a coordinated strategic approach to climate finance, executed by a centralized team. A lot of the states above have both "matching funds" and green banks as is the case for Connecticut, Minnesota, Colorado, or North Carolina, among others.

Second, the legislature should pick one to two existing organizations to lead the development of Vermont's climate finance strategy, fund it/them adequately, requires that it/they hire staff,

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[9] Eligible entities are those that will provide grant development support to regional development commissions, the West Central Initiative Foundation, the Minnesota Municipal Utilities Association, the Minnesota Rural Electric Association, consumer-owned utilities, Tribal governments and others.
[10] See MINN. STAT. 216C.391 (2023) Subd.2(b).
[11] See Governor Cooper Recommended Budget 2023-2025.
[12] US Green Building Council

including shared staff for key functions, and place them under the authority of a shared governing body within the Treasurer's Office.

The explicit modified mission/mandates of such organization(s) should be to stimulate market transformation in Vermont for the benefit of Vermonters and Vermont-based enterprises, to develop a climate finance strategy, to pursue funding sources and financing programs that will enable the climate policy goals of state agencies, as required by the legislature, to offer technical assistance, to lead the implementation of such state strategy, and to support the marketing of programs and products. Such organization(s) should also actively support and promote the activities of the quasi-public organizations and nonprofits pursuing climate goals in the state.

Ideally, one organization would lead financial activities for both clean energy and nature-based solutions. However, given the existing slate of organizations in Vermont, **I recommend that the legislature authorize and require that (a) the Clean Energy Development Fund (CEDF) and (b) the Vermont Housing & Conservation Board (VHCB) become Vermont's climate finance authority.** CEDF already has most of the attributes necessary for an expanded mission but will have to be given broad autonomy to pursue climate mitigation goals and the flexibility to hire new staff quickly and raise/deploy capital. Similarly, VHCB can rapidly scale operations to finance nature-based solutions in the state.

These organizations should work together, with guidance from the existing Local Investment Advisory Committee, and other relevant agency staff. Besides co-developing a strategy over time, working closely with the new staff at the Treasurer's Office on capital raise, these organizations under a new climate finance authority branding would be the main conduit for program development, and would have the option to deploy capital directly or through existing organizations, as relevant and appropriate.

They would provide clear communication to financial partners and private sector investors about the programs and policies of Vermont, act as a technical assistance provider, and proactively seek to grow the pipeline of projects in both their core areas. They would not seek to replace the existing organizations, but to lead the market, send clear signals, and develop opportunities for our climate economy.

Both organizations should be given broad latitude to utilize all of the tools in the financial toolbox and to invest using a range of debt and equity tools, including securitization and tax credit optimization, as well as to deploy grants, either directly or as a passthrough entity for other organizations such as Efficiency Vermont or VSECU. Both organizations should explicitly support low-income families and underserved communities in our rural and urban environments, not as an afterthought, but as a structural part of their vision and mission.

Key staff for financial, legal, marketing, and data/reporting functions should be shared to promote cross-learning, create efficiencies, and to facilitate strict compliance and reporting requirements attached with federal funding.

The legislature should seek to encourage flexibility, creativity, and engagement with the market and communities, including by allowing the Treasurer's Office, CEDF, and VHCB to create the special purpose vehicles or nonprofits that may be necessary to pursue philanthropic sources of funding or to create financial structures that are adapted to our state.

Reaching the goals of the GWSA and implementing the Climate Action Plan will require your leadership not to simply coordinate the good work already being done, but to proactively pursue funding sources for climate financing solutions, and to empower CEDF and VHCB to build and implement a statewide climate finance strategy that leverages public investment. We have many of the ships we need to get us where we committed to going. It is high time that we hired ourselves a captain.

Respectfully,

Vero Bourg-Meyer, Montpelier resident

CHITTENDEN COUNTY RPC
Communities Planning Together

110 West Canal Street, Suite 202
Williston, VT 05404-2109
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November 3, 2023

Michael Pieciak
Office of the State Treasurer
109 State Street
Montpelier, VT 05609

RE: Climate Infrastructure Financing Coordination Comments from CCRPC Staff

Dear State Treasurer Pieciak,

Thank you for the opportunity to provide input regarding climate infrastructure financing. Like many of our partner regional planning commissions (RPCs), the Chittenden County Regional Planning Commission (CCRPC) has had an enhanced energy plan as a part of the ECOS Regional Plan since 2018. Through developing an enhanced energy plan, our organization has developed relationships with state agencies, utilities, and non-profits working on energy and climate changes issues in Vermont. Our work has also involved assisting many of our member municipalities with the development of their own enhanced energy plans and climate actions plans. Both the local and regional enhanced energy plans identify actionable strategies for mitigating climate change. These strategies range from building and vehicle electrification to weatherization to nature-based solutions. These strategies are ripe for implementation. Therefore, the state's RPCs and municipalities are well positioned to assist with the effective coordination of funds to implement climate and energy plans.

Below are the questions posed by the Treasurer's public comment solicitation and responses from CCRPC staff:

Topic 1: Why Pursue Federal Funding/Financing? How can we do this in a way that is more inclusive of local and underserved community priorities?

New federal funding and programs present a great opportunity to enhance Vermont's climate related programs that are already successful, significantly reduce greenhouse gas emissions, and that meet the needs of underserved and rural communities. Here are our suggestions:

- The Weatherization Assistance Program should be expanded. This program reaches underserved, low-income residents in all areas of Vermont. Specifically, consideration should be given to the following programmatic changes:
    - Increase the cap on income eligibility.
    - More funding should be provided specifically for heat pump installation and work related to decarbonizing home heating. This will help the State to reach its goal of significantly reducing greenhouse gas emissions. Heat pump adoption is a high priority action that can significantly reduce greenhouse gas emissions in the thermal sector.
    - The program must provide competitive wages to attract and retain the necessary workforce. Employee retention has historically been a challenge due to the working

conditions of weatherizing homes, low compensation, and the high demand for weatherization work in Vermont. This needs to be addressed for low-income Vermonters to continue to benefit from the program.

- The Electric Vehicle Supply Equipment (EVSE) Grant Program should be expanded to prioritize reaching underserved, BIPOC, low-income and older residents in all areas of the state. The expansion of the program for increasing EVSE at existing multi-unit properties, workplace charging, and public attractions will serve all residents, especially marginalized populations, who make the transition to electric vehicles. Transitioning to electric vehicles is a high priority action that can significantly reduce greenhouse gas emissions from the transportation sector. Expansion of the program in Chittenden County has the potential to reach the State's largest BIPOC population and Vermont's largest share of drivers statewide.

- The Municipal Energy Resilience Program (MERP) should be expanded to include schools and non-profit commercial buildings that serve underserved and rural communities. This program is currently being administered by the Vermont Department of Buildings and General Services in partnership with the State's Regional Planning Commissions.

- The State Energy Revolving Loan Fund, administered by Building and General Services (BGS), could be expanded to include municipal projects. Payments back to the fund are made with energy savings on the project until the loan is repaid, resulting in no cost to the municipality. See how Harvard's energy revolving loan fund operates: https://sustainable.harvard.edu/green-revolving-fund/

- Some electric distribution utilities, in cooperation with Efficiency Vermont, have a considerable number of rebate and incentive programs that could have more substantial impacts if additional funding was provided. Specifically, we recommend larger incentives to help cover the upfront costs of geothermal heat pump installations in new affordable housing projects. Geothermal heat pumps are often a better option for affordable multi-unit housing than air source heat pumps because they require less maintenance and cost the residents less to heat and cool than natural gas or air source heat pumps. However, geothermal heat pumps have a much higher up front capital cost for the owner/developer.

- The Vermont Low Income Trust of Electricity (VLITE) has historically supported a wide range of projects designed to support the energy needs of low- and moderate-income Vermonters. VLITE should specifically be consulted to see if there are opportunities for collaboration on existing programs. VLITE should also be consulted regarding how low-income Vermonters can be assisted with increased future electricity rates that will likely be necessary to support capital improvements to Vermont's electric transmission and distribution networks. CCRPC is particularly concerned about future electricity costs for low-income residents living in electric-heated multi-family buildings that do not have sufficient space to install solar panels for net-metering.

How can we better connect community groups and technical expertise, to mutually identify needs?

The Department of Public Service's Public Participation Plan has effective actionable strategies for connecting to community groups about the energy transformation needed to reduce our emissions. The State of Vermont's Climate Action Public Engagement Plan is also a resource for understanding which community groups to reach out to marginalized communities.

Specifically working directly with marginalized communities to mutually identify needs is important. However, this typically ends up looking like those with the technical expertise "going into" community groups when something is needed, asking for feedback, and leaving. This practice is extractive. The challenge is that community groups in marginalized communities often lack capacity and are already struggling to carry out their own mission. To ask more of them adds to their already too-heavy load. Thus, we need to make sure that we can create reciprocal and ongoing relationships with key community organizations in marginalized communities in a way that supports and furthers their work before asking them to support additional work.

Lastly, community needs in marginalized communities have been, and continue to be shared, through a multitude of ongoing engagement efforts at any given moment. Another strategy for imbuing technical expertise with community knowledge and needs is to better collaborate with others on the back end to share community feedback that has already been collected before asking the same questions to the same groups of people. Only once we have determined what needs have already been recorded should governmental organizations determine where gaps remain.

What do small, underserved, rural communities need to pursue these funds? How do we maximize our ability to do this collectively, without competing with one another?

Asking small communities and/or schools to work on complex grant applications and reporting as a way to access funds is unfair and burdensome due to limited administrative capacity. Applying for and administering grant funds takes resources and expertise that underserved and rural communities do not have.

Expansion of the Municipal Technical Assistance Program (MTAP), a program created by the Agency of Administration last year could create additional capacity for Regional Planning Commissions (RPCs) to assist small, underserved, rural communities. RPCs may also be able to help municipalities within the same region cooperate or collaborate on projects to avoid competition amongst each other. Creating programs that communities can opt into with minimal effort (e.g. Municipal Energy Resilience Program a.k.a. MERP) is another way to increase the accessibility of funds.

Future federal grant applications, like the EPA's Climate Pollution Reduction Act Implementation Grant, should ideally be coordinated through the State of Vermont. Municipal or RPC applications should be discouraged.

There is a higher probability of coordination and success if future State applications to federal grant programs treat Chittenden County equally to other geographic parts of the State. CCRPC is particularly bringing attention to this issue because recent State programs, like MERP and MTAP, have treated Chittenden County differently than more rural parts of the State. While this approach may work for State programs, it may put a coordinated statewide grant application in a disadvantageous position given Federal Justice 40 requirements. Chittenden County includes three of Vermont's disadvantaged areas, as defined by the Federal Justice 40 criteria. Additionally, Chittenden County is Vermont's most racially diverse region and has more households living in poverty than any other county in the State. The County also has several very rural municipalities with fewer than 2,000 residents. Statewide grant applications need to take this information into consideration when coordinating future grant efforts.

Topic 2: Who is proactively engaged and are there any barriers impeding Vermont's efforts?

Are you aware of any agency or entity that is pursuing or has recently pursued/applied for federal funding/financing, private capital or philanthropic funds for climate infrastructure improvements, such in the areas of clean energy, weatherization or climate resiliency? If so, what are the entities and how successful are they?

CCRPC staff is aware of several active federal grants in Vermont related to climate infrastructure improvements:

- The Agency of Natural Resources' Climate Action Office has secured planning funds through the EPA Climate Pollution Reduction Grant. The Agency intends to apply for implementation funds through the same program in April 2024.
- Energy Futures Group, a non-profit in Hinesburg, Vermont, recently received a grant from the US Department of Energy (DOE) to study state-wide building energy code compliance. Our understanding is that these funds have been used to support the work of the Building Energy Code Study Committee, which was created as a part of the HOME Act.
- Northeast Energy Efficiency Partnerships (NEEP) and Vermont Clean Cities Coalition (VCCC) were recently granted an award from the US DOE Vehicle Technologies Office (VTO). The $1.2 million grant will support the development of Community Driven Transportation Plans in New England (including Chittenden County).
- Burlington Electric Department (BED) and VELCO were both granted awards via the US DOE, Grid Deployment Office Grid Resilience and Innovation Partnerships Program (GRIP). The BED grant is to support better utilize Smart Grid technology ($1.2M) and the VELCO grant is to install grid enhancing technology in Northwest VT.
- Burlington International Airport Voluntary Residential Sound Insulation Program, funded partially through a Federal Aviation Administration (FAA) grant, will mitigate noise from the airport and also offer the co-benefit of weatherization for 2,500 homes in Winooski, South Burlington, Williston, Colchester, and Burlington.

- The Energy Efficiency and Conservation Block Grant (EECBG) Program allocated money to Vermont Counties (e.g. county courts) and the ten highest populated municipalities in the State. Each were

awarded around $75,000 in funding. The program can be used to support energy efficiency and fossil fuel emission reduction-related work. Chittenden County Regional Planning Commission has provided funding and staff resources for energy planning for our member municipalities.

What do you estimate as the total investment amount required by your industry to support necessary climate infrastructure needs in Vermont? How did you arrive at this estimate? Alternatively, do you have suggestions on approaches / frameworks to estimate this need?

CCRPC does not have an estimate of total investment required to support necessary climate infrastructure.

ISO-NE and VELCO have some estimates about the cost of upgrading the transmission system. CCRPC recommends consulting with the Climate Action Office and the Public Service Department to understand if there are total cost estimates in the Climate Action Plan or the Comprehensive Energy Plan.

How can we build on these efforts and unlock the door to additional capital import? How do we integrate various efforts so they are not competing for time, attention, etc.

CCRPC recommends focusing on refining and enhancing existing programs with a renewed commitment to decarbonizing transportation and building thermal energy use (primarily via EVs and heat pumps) in conjunction with energy efficiency and vehicle miles traveled (VMT) reduction. Greenhouse gas reduction should be the primary goal.

Coordination among state agencies is necessary to efficiently and effectively combat climate change. RPCs are a key player in assisting and supporting the planning and implementing of state programs at the municipal level. RPCs have strong existing relationships and familiarity with municipalities. Additionally, RPCs have the ability to assist the state with making changes at a regional scale.

What are the gaps or barriers in this work?

Vermont's historical focus in the energy sector has been on energy efficiency because consensus regarding human induced climate change caused by the burning of fossil fuels had not yet been reached. Our investments now need to reflect a pivot from efficiency to decarbonization and reducing greenhouse gas emissions according to the Global Warming Solutions Act requirements.

This change will face some local opposition from businesses and workers that have historically made their living from fossil fuel consumption. Educating businesses on how to profit from decarbonized solutions, educating workers and Vermont residents regarding new technologies must be part of the investment and be a large part of the implementation of the Affordable Heat Act.

Climate change has been shown to disproportionately affect marginalized communities. These communities often face higher levels of vulnerability due to factors such as limited access to resources, inadequate infrastructure, and socioeconomic disparities. For example, VT Digger reports that "Market pressures … are constantly pushing lower income people further and further toward options that reduce their quality of life — older, more degraded housing stock, or housing stock that churns through natural

disasters more quickly."[1] This problem could be exacerbated as Vermont develops a national reputation as a climate refuge and people with the financial means relocate to Vermont to avoid the impacts on climate change in other parts of the country.

The initial up-front cost of transitioning to electrification in the renewable energy generation, heating, and transportation sectors will be burdensome to marginalized communities. Therefore, investments should tackle the needs of marginalized communities first by including targeted strategies that consider their specific histories, sociocultural, and economic realities.

Careful consideration of the cost of decarbonizing and upgrading grid infrastructure is needed to ensure that policies are not burdening Vermont's electricity rate payers. Currently, rate payers are faced with substantial costs for paying for weatherizing buildings, converting to electric heating sources, purchasing cleaner vehicles, and for paying for grid infrastructure upgrades that are passed on to the customer through utility bills. Federal and state policy leadership is needed to reduce the cost to low-income households and marginalized communities. The responsibility to decarbonize and fight climate change should not completely be passed off to individual Vermonters or municipalities.

Lastly, the importance of land use planning that can effectively achieve our state planning goals to "maintain the historic settlement pattern of compact villages and urban centers separated by rural countryside" cannot be underestimated. Our state greenhouse gas emission reduction goals, our working lands goals, our housing goals, and our transportation goals (particularly related to public transit) are all directly tied to the effectiveness of our land use planning and regulation. This policy and planning work cannot be forgotten during our state's energy transformation.

Topic 3: What does Vermont need to pursue its share of federal, private, or philanthropic funds to conduct climate infrastructure improvements?

How could financing address these barriers experienced by underserved and rural communities? What other barriers exist?

Financing municipal projects with local tax revenues is unpopular and municipal officials are hesitant to raise municipal taxes for projects deemed not urgent. Free programs and grants are very popular as municipalities are constantly scanning for ways to show taxpayers that they are fiscally responsible by keeping tax rates low. However, staff resources to apply for grants at the municipal level are very limited so funding mechanisms should remove unnecessary applications or reporting processes for accessing funding. Consider learning more about trust-based philanthropy to remove funding barriers to make fighting climate change more just and equitable.

Financing is always considered a last resort at the municipal level; successful financing options must be very attractive and will be more popular when they provide a tangible return on investment, such as lower energy costs.

What resources (including technical assistance) does Vermont need to pursue currently available federal funding/financing, private capital or philanthropic funds and be more competitive?

[1] Duffort, Lola. " The flood waters disproportionately hit Vermont's affordable housing stock — at the worst time." *VTDigger* July 31, 2023, Economy section. https://vtdigger.org/2023/07/31/the-flood-waters-disproportionately-hit-vermonts-affordable-housing-stock-at-the-worst-time/

Vermont needs to develop an updated greenhouse gas emissions inventory and monitoring program. This will be an ongoing requirement for future federal funding and state-wide policy decisions. This resource should also be shared with RPCS and municipalities to achieve alignment.

What is needed to improve clean energy and resilience project identification and implementation? How would strategic planning or a focus on coordination among parties and/or financing entities support project implementation? What entities do you currently look to (can include your own) for this strategic coordination?

The ANR Climate Action Office (CAO) is in the best position to coordinate state-wide strategic planning and funding allocation for greenhouse gas reduction and climate adaptation projects. Build upon the EPA's Climate Pollution Reduction Planning Grant (CPRG) model where the Vermont CAO tapped RPCs to help identify municipal projects to be included in the State's Priority Climate Action Plan. This CPRG-funded Priority Climate Action Plan is a prerequisite to apply for a portion of the $4.3 billion available to states, tribes, and local governments for implementing the Priority Climate Action Plan by funding projects to substantially reduce greenhouse gas emissions by 2030.

The Vermont Public Service Department is an entity and resource for coordinating clean energy projects with RPCs and municipalities. Additionally, Vermont Department of Buildings and General Services in partnership with RPCs has developed the MERP program in a way that is relatively easy for municipalities to participate in decarbonizing public buildings.

RPCs provide coordination between state agencies and municipalities across a wide range of topics including energy planning. Many RPCs have a dedicated energy planner. Some larger municipalities also have staff dedicated to climate, energy, or sustainability issues. These folks should also be consulted with as a part of any statewide project.

Are current state agency programs and existing nongovernmental organizations in Vermont sufficient to achieve these goals or does there need to be a new governmental, quasi-governmental, or nonprofit to assist in this? What do you envision its role to be and how would it work with current state agencies and groups?

Current state agency programs are generally sufficient at providing adequate staffing of state agencies. The State CAO should coordinate work to achieve state-wide targets and goals. The CAO will likely need additional capacity to scale up into this coordinating role. The State should also consider funding existing organizations that can also assist with statewide coordination (such as RPCs), if deemed appropriate.

Thanks again for the ability to provide feedback. If I can provide any additional information, please contact me at 802-846-4490 or cbaker@ccrpcvt.org. Thank you for your consideration.

Sincerely,

Charles Baker, Executive Director

November 3, 2023

Mike Pieciak
Office of the State Treasurer
109 State Street
Montpelier, Vermont 05609

Re: Financing Vermont's Climate Infrastructure

Dear Treasurer Pieciak,

The Vermont Housing & Conservation Board (VHCB) is pleased to submit comments about the needs we see for financing climate infrastructure in Vermont, and the role VHCB can play in addressing these needs. We see needs for investments across the spectrum of climate adaptation, mitigation, and resilience, and VHCB is interested to discuss what role we can play in any green finance initiative. In particular, we recommend further consideration of how to use our existing funding infrastructure to finance nature-based solutions that address our climate goals.

1) Introduction and Background on VHCB

The Vermont Housing & Conservation Board supports the preservation and development of affordable housing; the conservation of agricultural land, forestland, natural areas, and recreational land; the restoration of historic public properties; and provision of technical assistance to working lands businesses. Since our creation in 1987, we have worked with robust networks of affordable housing developers, land conservation organizations, farm and forest business planners, municipalities, and others to fund and implement projects. We have administered and awarded over $400 million in Housing and Conservation Trust funds, leveraging $2.2 billion in federal, philanthropic, and private funds. We are increasingly focused on climate resilience through our work - particularly in the area of nature-based solutions to climate change - and thank the Treasurer's Office for engaging in this process of exploring how to better coordinate, fund, and implement climate solutions in Vermont.

2) VHCB's existing programs and how they support investments in climate solutions

Since our creation in 1987, the Vermont Housing & Conservation Board (VHCB) has supported the creation and preservation of over 15,000 units of affordable housing in Vermont; the conservation of 446,617 acres of agricultural and recreational lands, forestland and natural areas;

and the restoration of 81 historic community buildings for public use. We have awarded over $400 million in state resources to nonprofit housing and conservation organizations, towns, municipalities and state agencies to conserve land, develop housing and restore historic community buildings in more than 200 towns. This investment has directly leveraged approximately $2.2 billion from other private and public sources.

Since our founding 35 years ago, through our conservation investments we have helped keep 446,617 acres of land open and protected from development, and in so doing contributed to rural economic development, farm and forest viability, and ecological conservation goals. We have supported the protection of over 900 individual farm parcels, preserving 170,918 acres of open space and food production capacities. We have supported the protection of 275,699 acres of natural areas, forestland and public recreation lands, many of which yield important ecosystem functions such as clean water and air, water storage and retention, biodiversity protection, and protecting the ability of our natural communities to adapt and migrate to a changing climate. Our conservation programs match federal funds from agencies like the Natural Resources Conservation Service Agricultural Conservation Easement Program or the U.S. Forest Service's Forest Legacy Program. VHCB is recognized as a national farmland conservation leader, conserving more acres and utilizing more NRCS funding than most other states. We are also one of just a handful of NRCS certified entities nationwide, a designation which has eased our work with partners to draw down federal funds and conserve land at an expedited pace.

VHCB's Farm and Forest Viability Program supports business planning, technical assistance, and succession planning for farms, forest businesses, and forestland owners, and awards grants to support water quality improvements and business plan implementation. The Viability Program has worked with over 900 businesses since its inception 20 years ago. Our Rural Economic Development Program supports municipalities and working lands businesses with writing grant applications. In 2022 alone we used $200,000 in REDI funds to help 27 small communities to apply for grants, resulting in more than $3.1M in awards.

VHCB has also funded projects that cross the conservation and housing elements of our mission, particularly to reduce risk for homes located in flood-prone areas. For instance, following Tropical Storm Irene, we supported a project that included the buyout of 7 homes located on Water Street in Northfield. We leveraged FEMA and other funds to support the removal of homes that flooded during Tropical Storm Irene to create the Water Street River Park in Northfield. This park project included restoration of floodplain areas along the Dog River, so that in future floods this parcel can retain and slow the downstream flow of waters.

3) *Enhancing Funding for Resilience, Adaptation, and Mitigation Through Nature-Based solutions*

VHCB is interested in enhancing our existing investments and developing new programs to support climate resilience through nature-based solutions. In particular, we can play a role in leveraging emerging federal and philanthropic sources and allocating funds to support nature-based solutions. We already fund projects with an established network of conservation and land trust partners. We are interested in drawing down federal funds that support climate mitigation and resilience and in bringing in new partners to implement and steward this work.

As we engage in the Vermont Conservation Strategy Initiative (Act 59, 2023), we will explore the types of investments that are needed to support biodiversity conservation and community resilience across the state. Notably, this legislation requires us to protect 30% of the state's lands and waters by 2030, and 50% by 2050. This will require both increasing the pace and scale of our existing conservation work, and exploring new tools, in new places, for accomplishing new types of conservation work (i.e. aquatic conservation tools). We are especially interested in working with partners to explore new areas of resilience work such as restoring floodplains, conserving wetlands, and river meanders. As we engage in our conservation strategy work, which is primarily a planning process, we are simultaneously beginning to explore new federal and other funding sources so that we are prepared to implement this vision.

Our Farm and Forest Viability Program sees many ways that enhanced investments in working lands businesses can support increased climate resilience outcomes. For instance, we see enabling land access for farmers as a critical part of climate infrastructure. Increasing affordable access to agricultural land makes it possible for young farmers to access land to grow food, invest in soil health, and implement conservation practices on their land. However, a lack of available, affordable farmland and few farmland financing tools limit this pathway. Most farm and forest businesses are actively seeking ways to increase their land stewardship, whether to meet RAPs or AMPs, or to exceed them. However, administrative burdens, long timelines, and low payments for incentive programs can be barriers to working lands businesses adopting new technologies or practices. Thus, we are supportive of new programs to support farmers in improving land management practices. Working lands businesses need financial support to access the next-generation equipment and infrastructure that will contribute to Vermont's energy reduction goals - such as increased use of solar, electrification, and harvesting equipment that has a low impact to soil health.

4) *Enhancing Funding for Mitigation through Energy Investments*

Through our housing investments, we encourage consideration of climate resilience through requiring (and funding) energy efficiency measures. Since 2008, VHCB has had policies in place requiring that advanced energy efficiency measures be considered in the design of housing projects. VHCB includes energy efficiency requirements in our design standards because of the critical economic and health benefits that accrue to the low- and moderate-income residents of these homes, and to help the state meet its goals for carbon reduction. According to VHCB's current building design standards, funded housing units must be developed to the Efficiency Vermont Multifamily high performance energy tier. These advanced energy efficiency standards increase the cost of affordable housing production substantially. VHCB commissioned a cost study in 2021 by Naylor and Breen that indicated that energy efficiency requirements increases the cost per unit by 16%. Vermont's energy incentives do not currently sustain this scale of investment.

VHCB views it as critical that Vermont continue to enhance its energy efficiency incentives as a key tool to help low- and moderate-income Vermonters share in the benefit of the state's energy efficiency policies. We see much existing strength in Vermont's energy sector and have confidence that existing service providers and funders of energy efficiency, weatherization, and renewable energy generation are developing systems to leverage energy infrastructure dollars.

However, we also believe it is critical that as we transition our energy systems to use more renewable sources and make investments in existing housing stock, equity must be a central guiding principle. Increased investment and coordination will be necessary to ensure that the benefits of energy investments are available to all. Affordable housing developers and partners can play a role in targeting energy investments to low income household, and VHCB can play a role connecting housing development partners to energy incentives.

5) *Working in Partnership*

Vermont is fortunate to have strong networks of state agencies, nonprofit, and for-profit entities who are working together to address climate adaption, mitigation, and resilience goals. VHCB has long worked across affordable housing, land conservation, community development, and working lands business assistance communities of practice, and in partnership with our state agencies, to enact our mission. We provide partner's with capacity funding so that they can develop a robust pipeline of projects, and we fund implementation of these projects. We are primarily a funder, administering both our own and federal sources of funds, and we rely on our

partners to have boots on the ground to develop and implement projects. We believe the same approach is needed as we explore how Vermont can access funding for and implement climate adaption, mitigation, and resilience projects. We must work across existing organizations and networks of partners, while adding new connective tissue to ensure that investments are strategic and well-coordinated.

6) In Conclusion

We are ready to work with our existing and new partners to administer funding for nature-based solutions that support resilience and adaptation measures. We aim to support on-the-ground needs across multiple facets of climate finance: sequestering more carbon through improved land management practices; fostering adaptation and resilience through nature-based solutions; and encouraging investments in energy efficiency and renewable generations through our network of affordable housing partners to ensure that these investments reach all Vermonters. We also see increased roles we can play in funding new types of nature-based solutions, and administering new types of funds to support these investments. We look forward to doing this work together with our partners, and in coordination with other entities in the state focused on climate action, adaptation, and resilience.

Sincerely,
Gus Seelig
Executive Director
Vermont Housing & Conservation Board

VERMONT

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Agency of Natural Resources

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MEMORANDUM

To: Office of the State Treasurer

From: Climate Action Office

Date: November 3, 2023

Re: Request for Public Comment: Climate Infrastructure Spending

This memo is intended to provide comments to the Treasurer's Office to support the development of recommendations to the Legislature around how to coordinate the State's climate infrastructure financing efforts. In developing these recommendations, the Treasurer's Office has been collaborating with stakeholders to create a framework for effective collaboration among Vermont organizations, agencies, and the financial instrumentalities of the State to maximize the amount of federal Greenhouse Gas Reduction Funds the State may receive and effectively coordinate the deployment of these and other greenhouse gas reduction funds. These comments are intended to provide background information in support of this initiative. A more detailed conversation is expected when we have our one-on-one meeting with the Treasurer's Office.

Climate Action Office

The Climate Action Office (CAO) is named as one of a few specific stakeholders the Treasurer's Office is required to speak with in the governing legislation driving this initiative. Housed in the Secretary's Office of the Agency of Natural Resources (ANR), the CAO plays a unique role in government and one that should be considered closely as an infrastructure for climate financing is contemplated. Vermont's Act 153 (2020) – the Global Warming Solutions Act, or GWSA – established an ambitious timeframe and scope of work to advance climate action in Vermont. The first objective was the development of the Initial Vermont Climate Action Plan ("Plan") which was developed by the Vermont Climate Council, with significant support from state staff, and adopted on December 1, 2021. The Plan identifies specific initiatives, programs, and strategies necessary to achieve the State's greenhouse gas (GHG) emission reduction requirements, enhance carbons storage and sequestration, achieve net zero emissions by 2050, and build resilience and adaptation in our natural systems and built environment. A key recommendation of the Plan was the creation of the CAO.

The policies, programs and tools needed to implement climate mitigation, adaptation, and resilience strategies require a long-term intergovernmental structure to coordinate and manage this statewide effort. The CAO coordinates and provides significant expertise and capacity on state-led climate initiatives, as well as the monitoring, assessment and tracking of climate adaptation, mitigation, and resilience activities necessary to evaluate progress over time in achieving the requirements of the GWSA through implementation of the Plan. To carry out this work, the CAO works closely with staff across ANR, other state Agencies, the state climatologist, and key stakeholders. This coordination is critical to ensure the programmatic functions of the CAO are additive and supportive of existing climate action work in state government.

The CAO supports a state vision for climate action across state government. To do so, it works closely with the Departments and Programs in ANR, but also across state Agencies, to understand the actions state government are taking to make measurable progress to meeting the requirements and goals of the Global Warming Solutions Act. To further advance coordination across state Agencies, an Inter-Agency Advisory Board (IAAB) was set up that meets regularly. It was a priority to stand up this advisory board early in the process as they were critical to the development of the CAO work priorities. It includes senior level officials from the various agencies engaged in climate action.

The objectives of this group are as follows:

1. To provide a space for proactive coordination on climate action across state government.
2. Articulating where policy and financial implications overlap around climate action to ensure resources are maximized.
3. To support the monitoring of progress over time in meeting the state's climate goals.
4. Identification and framing up of gaps where the climate action office might prioritize support.
5. Development of state positions on issues related to climate change.

It includes the following governmental agencies:

- Public Service Department
- Vermont Agency of Transportation
- Agency of Natural Resources
- Vermont Emergency Management
- Agency of Agriculture, Food, and Markets
- Buildings and General Services
- Agency of Human Services (Department of Children and Families and Vermont Department of Health)
- Agency of Commerce and Community Development
- State Climatologist

Over the last year, the IAAB to the CAO has collaborated on several notable efforts, including development of legislative talking points for the 2023 session, a comprehensive inventory of the status of actions in the Plan, an assimilation of priorities for the Congressional delegation in response to the flooding, and most notable to this effort, collaboration on the review and support needed to access funding from the Inflation Reduction Act (IRA). In support of the conversations around the IRA, CAO staff reviewed and prepared summary guidance to the IAAB on funding related to the covered Agencies. CAO efforts in this space were leveraged through its role representing the Governor on the U.S. Climate Alliance.

A particular example that highlights the significance of this Board in leveraging inter-Agency coordination to maximize resources to advance climate action is with respect to the Climate Pollution Reduction Grant (CPRG) authorized under the IRA. Through discussion with the IAAB, the CAO was determined to be best positioned to opt-in to the Planning Grant which was required to access the $4.6 billion competitive implementation grant fund. In July of 23, ANR was awarded a $3M Planning Grant as part of Environmental Protection Agency's CPRG Program. The first deliverable of the Planning Grant is a "Priority Climate Action Plan" or "PCAP". The PCAP is meant to include sector-specific climate mitigation measures that are ripe for implementation and that can have meaningful emissions reduction and sequestration impacts. The CAO has been taking a "whole of government" approach to determining what measures are appropriate for inclusion in the PCAP by working closely with the IAAB to review and prioritize actions included

in the Plan. This exercise has yielded a suite of measures that are based on the Plan's actions that have not been implemented or have been advanced or implemented but need further funding to achieve additional emission reductions or sequestration. The CAO will continue to work with our interagency partners to compile and submit the PCAP by the end of this calendar year.

Following the submittal of the PCAP, an entity of the state may submit an application to EPA for a CPRG Implementation Grant by April 1, 2024, which will fund measures put forward in the PCAP. Measures not included in the PCAP are ineligible for Implementation Grant funding. Guidance from EPA indicates that this will be a highly competitive funding opportunity, and only one round of funding will be awarded for the $4.6 billion dollars in funding available. Therefore, this represents a significant opportunity to gain access to federal funding to make progress on mitigation and sequestration program implementation that is tailored to meet Vermont's specific needs.

Based on the current measures conceived in the PCAP, the Implementation grant will include measures that would be implemented by the Secretary's Office, ANR Departments, the Public Service Department, the Agency of Transportation, the Agency of Commerce and Community Development, the Agency of Agriculture, Food, and Markets, Buildings and General Services, and Regional Planning Commissions. Other partners may be added to the list as the number and types of measures evolve in the planning process. As we finalize the list of measures to include, we are weighing how to put forward the most competitive grant knowing that the funding floor is $2 million, and the maximum is $500 million but the CAO has provided valuable coordination and oversight to maximize the state's opportunity in this space.

Civil Rights and Environmental Justice Unit

The communications and engagement work in the CAO is benefited and supported by the collaboration with the Civil Rights and Environmental Justice Unit (CREJU) which was established in the Secretary's Office of ANR in 2022. As a central theme of the stakeholder engagement questions asked by the Treasurer's Office focused on how to reach communities that have not traditionally been at the table, we recommend that the Treasurer's Office meet with the CREJU prior to drafting recommendations in this space. That conversation can be done in partnership with the CAO or separately as the two Offices work closely.

ANR is committed to ensuring that everyone living in and visiting Vermont has meaningful access and equal opportunity to participate in Agency programs, services, and activities and that everyone feels safe and welcome on Vermont's public lands. The CREJU supports and advances that mission. Additionally, the CREJU oversees the implementation of Vermont's Environmental Justice (EJ) Law. Also known as Act 154 of 2022, the Vermont EJ Law is the state's first law specifically meant to address environmental health disparities and improve the health and well-being of all Vermont residents. The EJ Law establishes Vermont's Environmental Justice State Policy.

The purpose of the EJ Law is to ensure all Vermonters regardless of race, cultural background, or income have equitable access to environmental benefits such as clean air and water, healthy food, and public transportation. The EJ Law also protects communities from disproportionate environmental burdens such as polluted air and water, climate change impacts, and limited access to green spaces. The Environmental Justice Law requires State agencies to meaningfully engage Vermonters in the environmental decision-making processes.

Similar to the implementation of the GWSA, the EJ Law creates an EJ Advisory Council and an Interagency Environmental Justice Committee. The Advisory Council is composed of a range of community representatives, and they provide independent advice to State agencies and the General Assembly on matters related to environmental justice. The Interagency Committee is composed of representatives from ten State agencies, and they coordinate State agency implementation of the EJ Law. Over the coming years, the Advisory Council and Interagency Committee will work together to implement the EJ Law and ensure that State agencies embed environmental justice throughout the development, implementation, and enforcement of environmental laws, regulations, and policies.

Technical Analyses

The following technical analyses led by the CAO are relevant background information to support this initiative:

Final Pathways Analysis

The final analysis and detailed scenario modeling using the Low Emissions Analysis Platform (LEAP) model, presenting details on the pathways, strategies, policies, and actions that meet the requirements of the GWSA across three time periods: 2025, 2030, and 2050 was finalized in February of 2022. The LEAP model was also the basis for the Comprehensive Energy Plan which was updated in 2022. One of the key findings of this analysis showed that meeting the pollution reduction requirements of the GWSA is not only possible, but that it would be good for the state's economy. The analysis noted that in comparison to the baseline or "business as usual," by 2050 the central mitigation scenario modeled in LEAP offers $ 6.4 billion of net (economic) benefits.

Marginal Abatement Cost Curve Report

This report provides additional analysis of the projected net costs and savings over time for the measures needed to meet our emissions reductions requirements. The "measures" which are analyzed were the ones included in the central mitigation scenario developed in the Final Pathways Analysis designed to meet our emission reduction requirements. The analysis indicates that there are mitigation measures that will result in net savings over time while others will never overcome their upfront costs. In part, this will reduce the overall cost of reducing emissions to the required levels over time. However, all the measures analyzed need to be implemented to meet the 2030 and 2050 targets in the central mitigation scenario. So, while ideally the GWSA targets could be achieved by implementing only measures with negative or low marginal abatement costs, those measures cannot be scaled to meet the targets. A presentation was delivered to the Cross-Sector Mitigation Subcommittee which explores the challenges of considering individual measures on their own.

Forthcoming Resilience Investment Analysis

Through funding allocated to the CAO in the FY24 budget, staff are working to develop a resilience and adaptation investment analysis in collaboration with key stakeholders such as the Gund Institute and FEMA. This analysis will speak to the deferred damage cost savings of investing in resilience and adaptation strategies.

VPIRG
VERMONT'S VOICE

November 2, 2023

Michael S. Pieciak, Treasurer
Office of the State Treasurer
109 State Street
Montpelier, Vermont 05609

Subj: Climate Infrastructure Financing

Dear Treasurer Pieciak,

Thank you for the opportunity to submit comments on Vermont's climate infrastructure financing needs and opportunities. We applaud your efforts to maximize the amount of federal Greenhouse Gas Reduction Funds the State may receive and effectively coordinate the deployment of these and other greenhouse gas reduction funds, but **we encourage you to think beyond federal (i.e., taxpayer) dollars and seek infrastructure funding from the giant fossil fuel companies that knowingly polluted our atmosphere and created the climate crisis in the first place.**

It's clear that climate change is hitting Vermont hard and costing us billions. A recent report by Rebuild by Design, the Atlas of Disaster: Vermont, found that our state has experienced the 7th highest number of climate-related disasters in the country and has the 5th highest per capita spending recovering from those disasters. Preliminary estimates are that over 4,000 homes, 800 businesses, and more than 100 farms were damaged in this summer's flooding. And those figures do not capture the harms (and costs) caused by one of the warmest winters on record that forced ski areas to close and impacted tourism in January; the freak frost in May that damaged crops across the state; the wildfire smoke that affected worker productivity; and the record heat that contributed to algae blooms and impacted the health of many of Vermont's most vulnerable citizens. All this damage can, in part, be attributed to our changing climate; but those most responsible for changing the climate are not being held accountable.

Companies like ExxonMobil and Shell have known for decades that their products – when used as directed – would alter the climate. Instead of acting responsibly, however, they acted to protect their profits. They covered up what they knew and funded a massive disinformation campaign designed to confuse the press, the public and policymakers. That disinformation campaign continues to this day.

As you are aware, this ongoing deception is central to the Attorney General's argument in *Vermont v. Exxon Mobil Corp.,* which contends that Big Oil companies with Vermont business presence have been:

> *engaging over a long period of time in numerous deceptive acts and unfair practices in connection with their marketing, distribution, and sale of gasoline and other fossil fuel products to consumers within the State. Through their knowing, deceptive acts and practices, including multiple misrepresentations and knowing failures to disclose material*

facts, Defendants have sought to mislead Vermont consumers about the risks and dangers of their products, including the causal connection between the sale and use of their products and climate change, and thereby deny Vermont consumers their opportunity to make informed and different decisions regarding fossil fuel purchases and consumption. These unfair and deceptive acts and practices are ongoing.

Why should these companies – which are making billions in profits while deceiving Vermonters – be let off the hook for the damages their products have caused? Taxpayers should not be the only ones paying to rebuild and harden Vermont's infrastructure.

Big Oil has been reporting staggering profits this year. Of just the co-defendants in *Vermont v. Exxon Mobil Corp.*, they have reported more than $100 billion in profits so far this year:

Company	YTD Net Income (Billions)
ExxonMobil	$28.38 thru Q3
Shell	$11.84 thru Q2
Motiva Enterprises (Saudi Aramco)	$62.00 thru Q2
Sunoco	$0.23 thru Q2
Citgo	$1.37 thru Q2
Total YTD Net Income	**$103.77**

It is unconscionable that these massive corporations are allowed to pollute for free while raking in record profits off the backs of Vermont consumers. As you wrote on Earth Day earlier this year, "As Vermont explores ways to finance the necessary investments to help combat and adapt to climate change, it only seems fair to ask those who most significantly contribute to the problem to help foot the bill."

This is an opportunity to advance that sentiment. **The companies that created the mess in the first place should also pay a fair share and your recommendations to the General Assembly regarding legislation for Vermont's climate infrastructure financing should make that clear.**

Sincerely,

T. Hughes

Thomas Hughes
Senior Strategist

Climate Infrastructure Financing Report
Appendix B – Public Comment (Email) for AI Query

Funding municipal positions that could be shared between two or three municipalities would help address capacity issues in the Northeast Kingdom (NEK). Those job descriptions should include responsibilities related to advancing climate, energy, resilience, and sustainability goals within their communities and that are aligned with regional and state efforts.

As an organization that manages natural resources projects for landowners, CRC has noted that the bottlenecks that we run into generally are focused around lacking organizational capacity to accommodate the already existing funds that we have access to. We have multiple projects lined up based on communication that has already happened with willing landowners, and access to the funding streams to do them, but we don't have the staff to carry them out – basically managing the projects for the landowners, applying for grants, writing the RFPs and contracting with designers and construction crews. As an organization, we are desperately in need of additional funds to increase staff capacity, both in the management of projects, but also in the administrative management of those larger federal funds and the associated reporting and auditing required to accommodate them.

We have also noticed the gap in funding needed to do basic education and outreach to help landowners understand how natural resource projects can create community resilience, and how to access the funding and technical assistance to implement those projects. Many of the NGOs and watershed groups in the state are reaching out to do direct community education that can result in projects – we need additional funds to support organizational capacity around this type of education and outreach.

An additional very practical gap is that there are not enough nurseries in the state to accommodate the amount of natural resource projects that are currently being done. We need someone to be growing more native trees and bushes to supply for restoration projects.

The natural resource-based climate change resiliency work that we do is done in partnership with the local RPCs, Conservation Districts, watershed groups and other NGOs directly in relationship with local landowners who are willing to have these projects (such as dam removals, floodplain restoration, upsizing of culverts, riparian buffer plantings) done on their land. On the eastern side of the state there is a very collaborative effort to coordinate our work. We often refer a landowner to another partner that may have more expertise on a particular project, or we consolidate projects to bundle them to access funding, or if one organization does not have the capacity to take on a project, we may pass it off to a partner to manage. Information sharing is done through our DEC Tactical Basin Planners and regional check in meetings.

As a four-state watershed organization, we routinely apply for federal funds through the Regional Conservation Partnership Program, the National Fish and Wildlife Foundation, the Long Island Sound Futures Fund, etc., and we are one of the partners working to help stand up the Connecticut River Watershed Partnership Act. We are a large enough organization to cobble together multiple federal, state, and private foundation grants to provide match internally for our

work, but we are in a privileged position. Most of the smaller watershed organizations do not have the internal organizational infrastructure to access federal (or sometimes even state) funds. Developing a mechanism to pass through federal and state funding to smaller organizations without too much bureaucracy is key.

Centralizing access to federal and state funds in a way that is easy to access and flexible to use would help move the money into resilience projects more effectively. To be more effective in moving state Clean Water Fund moneys out, over the past several years the ANR developed block grants that consistently go to the same entities to distribute. This mechanism and the Clean Water Service Providers were put in place to solve the Agency's struggle with trying to get grants out and manage them, without being able to hire additional staff to do that. The process for this is better since the block grants have been established, but it is still complicated and cumbersome given the small amount of funding provided. CRC has consistently turned to relying on larger federal grants for a watershed wide approach to do multiple projects over several years, instead of applying for state funding that has to be focused on one aspect (eg. Design or implementation) of one project at a time. It would be amazing if the State could establish a pathway for block grants to be given to the partners already doing the work to use more flexibly to move multiple projects forward through multiple stages of project development. Could entities such as CRC, the Conservation Districts, and other NGOs be vetted through a preferred vendor process for the pass through of larger lump sums for work over multiple years?

[1]. Green Workforce Development
-Including bonus pay for weatherization workers to ensure that weatherization work pays more than other home contracting work. (This is important because folks skilled in weatherization are choosing to use their overall skillset to do easier work for the same pay. Similarly, folks skilled in home contracting see no need to gain skills in weatherization as they already have as much work as they want, at the same pay as weatherization, that is more pleasant to do than weatherization)

2. Sustainable transportation infrastructure, including bus only lanes on major corridors

3. Fare-free, expanded, electric public transportation

4. Larger subsidies at the point of sale for ebikes, as well as greater ebike marketing/advertising

5. Major expansion of EV charging infrastructure

6. Incentives for sustainable, mixed use, transit-oriented development, particularly when that development occurs on top of existing parking lots

7. Regulatory assistance for communities that adopt stronger building codes/decarbonization requirements than the state

In February 2018, Congress enacted key provisions of the Disaster Recovery Reform Act (DRRA), comprehensive legislation that created a national strategy for investing in disaster mitigation and response.

The Community Disaster Resilience Zones (CDRZs) Act of 2022 (S. 3875) requires FEMA to use data from its National Risk Index to establish CDRZs and designate communities across the country most in need of mitigation projects. These communities would be assisted in accessing federal funding for mitigation and resiliency purposes.

1) burning wood for heat has a larger net carbon footprint than propane or fuel oil (not to mention the particulate matter pollution from burning wood) so why provide incentives for wood burning appliances? Wood should be used for construction where it will store carbon for at least another century. Discourage burning wood for heat.

2) a) if reducing greenhouse gases is Vermont's priority why are the incentives income sensitive? If the incentives were not income sensitive more people that can actually afford to buy energy efficient appliances or electric vehicles may choose to do so. We would reach are carbon reduction goals faster if the incentives were not based on income.

b) what are the current lower income ev purchasers going to do when they need to replace the battery pack or purchase a replacement vehicle? They won't be able to do either without more assistance or they will purchase a used gasoline powered vehicle that they can afford. And then we will be back to square one : producing more greenhouse gases.

c) why phase out the incentives as the the vehicles become more expensive? Incentives should be available to all no matter how expensive the electric vehicle is.

d) greater incentives to purchase hybrid vehicles would be more valuable to owners living in cold rural regions like Vermont.

3) Food for thought: I'm not sure offering incentives for heat pumps is reducing our greenhouse gases because the heat pumps are installed to reduce carbon produced from our heating systems but now more electricity is used to also cool houses, a comfort benefit yes, when those houses did not have air cooling prior to the heat pump installation and may never have installed air condition if not for the heat pump. (this happened within my household).

The Utilities in Vermont have been the winners with huge financial profits AND have largely contributed to the emissions causing climate warming. It's time to tax those profits and penalize the damage they have contributed to.

While I understand that most of the focus is on maximizing federal funding, this is a great opportunity for policymakers to be aware that it shouldn't just be taxpayers who pay to repair the damage caused by the changing climate – those Big companies that knowingly had an active hand in creation of this mess while making billions in profits should pay, too.

With regard to strategies for financing climate infrastructure, I would strongly recommend the following worthy of investment:

• supporting roof top solar with more incentives, ideally installed in local networks
• continue to support installation of heat pumps and induction stoves
• FULL support of the Weatherization program. I have worked extensively with these programs all over the country and the one here in Vermont is among the very best anywhere. They need to be able to count on long term support of both personnel and training funds.

Different states have followed different routes to finance their climate mitigation efforts.

New York State has decided to amend their state finance law to include a special revolving fund to be known as the "Climate Change Adaptation Fund." The bill,

nysenate.gov/legislation/bills/2023/S2129

has passed the Senate and is making its way through the Assembly. They have used the standard of "strict liability"; that is, that the use of their products was responsible for damages to the environment.

California has taken a different route, filing a civil case which would create such a fund. A precedent for that route was established when several California cities sued makers of lead paint on similar grounds in order to create an abatement fund.In their version of a climate fund, the state of Maryland has determined that it has the authority to mandate that companies that do business within the state contribute. It is anticipating that many companies would sue but that the courts would most likely hold up the authority of the state:

https://www.wmdt.com/2023/03/md-bill-would-create-superfund-for-companies-that-contribute-climate-change-with-mandated-contributions/

And here in Vermont, a bill to create a Climate Superfund is being introduced to the Legislature. I hope that you support this and that we can join the other states in this endeavor.

As you must be aware, Vermont already has a lawsuit in the State court, Vt. vs. Exxon submitted by T.J. Donovan in 2021 and currently stewarded by Charity Clark.

Another option is filing a separate suit, based on the specific event of the July 11th flood. Precedents here include the Oregon suit around the "Heat Dome " event and the suit by 16 Puerto Rican municipalities around the damages from Hurricane Maria.

I realize that Vermont has few resources that can be devoted to litigation, especially compared to the deep pockets of the oil/gas companies, BUT possibilities exist to overcome this hurdle:

for example, contingency lawyers, pro-bono or "low-bono" lawyers, and climate philanthropists who underwrite climate lawsuits brought by states or municipalities. A great source of information about these options is the Center for Climate Integrity:

climateintegrity.org.

As these initiatives proliferate, whether in the form of legislative acts or lawsuits, Vermont can learn from other states and, as we move forward, can be a model for other states to follow.

As in the case of the tobacco industry, fossil fuel companies knew about the damage their products caused; they lied, and they now must be held accountable.

Absolutely, bad long-term planning on the part of the Wrightsville Damn players caused the flood in Montpelier this summer.

My question to you is, were they naive by failing to anticipate that the United States government would allow consumers to use a product that not only causes a range of health diseases (placing an immense strain on our healthcare system),(1) but also causes a range of "climate disease/disasters?"(2)

- Carbon tax: A carbon tax is a tax on the carbon content of fossil fuels. It would make fossil fuels more expensive, which would encourage people to use less of them and invest in cleaner energy sources. The revenue from a carbon tax could be used to fund climate infrastructure and other climate change mitigation and adaptation efforts.
- Fossil fuel subsidy reform: Governments around the world subsidize fossil fuels to the tune of hundreds of billions of dollars each year. This taxpayer money could be used instead to fund climate infrastructure and other climate change mitigation and adaptation efforts.
- Liability lawsuits: Fossil fuel companies are facing a number of lawsuits from communities and governments that are seeking compensation for climate change damages. These lawsuits could force fossil fuel companies to pay for some of the costs of climate change.
- Divestment: Divestment is the process of selling off investments in fossil fuel companies. Divestment campaigns have been successful in putting pressure on fossil fuel companies to change their behavior and to invest in clean energy.
- Public pressure: Public pressure can also be used to convince fossil fuel companies to help pay for climate change. For example, people can write to their elected officials, attend protests, and boycott fossil fuel companies.

1. Please come up with loans for green solutions to UMV MED center’s need for more energy and heat THAT DO NOT involve BURNING ANYTHING. Or just keep the focus on housing per the Seven Days article on McNeil.

2. There is no excuse for allowing the continued burning of wood in Vermont at this scale at McNeil, our single largest green house gas emitter in Vermont.
How are we going to meet our emission reductions in Global Warming Solutions act when strange use of words like renewable and sustainable don’t apply to anything that burns. Calling them something else and not counting these emissions does not slow climate change.

3. Wood is worse than coal.
It is the MOST toxic for human health and emits huge amounts of toxic fine particulate matter and other chemicals in the low income neighborhoods of Old North End and Winooski. See

attached excel spread sheet from McNeil. This is what is dumped in our air even with the Electrostatic Precipitator taking out some of the pollution on their stack. Figures on pollutants are most accurate for 2020 and 2021 before that they are too low. I ran the numbers by the State employees who monitor McNeil. The 2020 and 2021 figures for fine particulate matter are the most accurate because they started counting condensate fine particulate matter—which counts. In 2020-5.6 tons, in 2021 3.5 tons. Medical science recognizes no amount of fine particulate matter as healthy. That our top Medical Center is ignoring it's own scientists is disgusting.

3. Also do the math on the C02— 2021 (last full year of emissions) is
906,941,600 lbs = divide by 2,000 to get tons = 453,470.8 tons of Co2!

Wood emits the most green house gasses per kilowatt hour of energy produced of ANY burned fuel.

CO2 is CO2 the atmosphere does not care where that CO2 comes from. It is driving the climate crisis. Which brought us all the suffering this summer of wild fire smoke and flooding and non-stop rain. We are in a crisis, time to stop burning anything.

4. The best sequester of carbon is a mature tree. Vt native trees take 200-300 years to reach maturity to call wood "renewable" makes NO SENSE.
Climate Scientists say we only have 5-10 years to turn things around and prevent the worst of climate change.

5. Time to say and act on "the emperor has no clothes" when it comes to burning anything. It makes NO sense to replace fossil fuels with renewable gas or biomass (wood) when they emit the same or worse toxic stuff and green house gasses. And green solutions that are cheaper in the long run, healthier and reduce green house gasses already exist.

Green solutions exist, IRA has huge pay back and point of sale for non-profits.

With all the tax increases we have seen and will continue to see, this is just more wasteful spending. When Vermont legislators get a grip on spending, solving its current problems (taxing Social Security and retirement benefits, crime, reasons for increasing homelessness, increased drug abuse, overdoses and so much more) then maybe we can have the conversation about climate change. In the meantime, let's be more fiscally responsible and address infrastructure issues related to severe weather events.

Another thing you should do with the IRA money for green tech is purchase battery backup systems. Like Tesla powerwalls. Then give them to whoever wants one. Doing this would be a win win win for Vermont as we already generate too much solar electricity to be used as it is collected. Giving battery backups to people would mean that we can continue to collect more solar power, convert more homes to electric heat and hot water AND not have to upgrade the grid to do so! (So I guess that is a win win win win)

As I've said before, just give this tech to people. Don't thwart efforts by trying to create rebates

and tax credits. Just give it to people who will use it. Or at least scale discounts starting with !00% for people who have household incomes below the median.

Vermont is a bit off our goals because program designs loose sight of their purpose. We don't have enough republicans in legislature to worry about what anyone thinks about spending. Just use the money in the most efficient and effective way. Which is to implement the technology NOW! :)

As you dig into long-term financing strategies for funding the climate action plan, I hope that you'll consider the mechanism outlined in H.105 An act relating to the Community Resilience and Disaster Mitigation Fund.

The purpose of the H.105 is to create the Community Resilience and Disaster Mitigation Fund to provide funding to municipalities for disaster mitigation and community resilient infrastructure. The bill is modeled after legislation passed by Colorado.

What this bill does is establish the Community Resilience and Disaster Mitigation Fund to award grants to municipalities to provide support for disaster mitigation activities. Those disaster mitigation measures could include things like grid hardening, slope stabilization, watershed restoration, drought mitigation, construction of emergency shelters, and similar activities that directly reduce risks to communities, lives, and property and decrease costs associated with disaster recovery. Revenue for the fund is generated by increasing the assessment on certain casualty insurance company premiums. Funding would be awarded to municipalities with priority for projects that use funding as a match for other grants, projects that are in hazard mitigation plans, and projects that are in communities identified as high on the municipal vulnerability index.

Many of our communities are not prepared for the impact of extreme weather. This bill will provide critical support that ALL municipalities, especially our most vulnerable, can access to be more resilient against future disasters and climate change. Making these upfront investments will decrease losses that would otherwise be largely paid by insurers.

While currently available resources, time and need will ultimately determine our future with regard to energy it should be up to the inventors, and users of trending technology to pay for it. It should not be placed on the backs of those that work hard, live within their means and pay their own bills.

The climate alarmists have duped Vermonters into paying for their attempt to reduce climate change. Since the beginning of time earth has had continuous changes to its climate. While some of the most recent changes have been influenced by the increased human population and their actions, much of the proposed energy changes will contribute just as much if not more to climate change and negatively impact our environment.

While the current proposals of these alarmists creates a financial cost to Vermonters that is unsustainable, the climate and environmental impacts of the many changes proposed are astronomical.

The mining of the materials needed for the production of solar panels and batteries is destroying thousands of acres of the earths outer crust penetrating hundreds of feet into the surface. Dust and the massive amounts of toxic fumes emitted into the atmosphere during the mining and refining of these raw products alone out ways the current carbon emissions. Say nothing about the labor atrocities occurring in the countries that produce these raw materials.

The waste products of the current proposed electrification of everything are not recyclable and hazardous to dispose of. Solar farms are creating micro climates contributing much to climate change within our state and destroying our once beautiful vistas. Current battery design is a fire hazard that is killing and injuring hundreds as well as creating additional financial burdens on all.

Without a doubt there will come a time that an alternate energy source will be developed that will meet the needs of Vermonters without the climate and environmental impacts of the current and proposed energy.

1. As someone who began his personal transition in '08 by installing a geothermal heat pump system to replace my propane furnace, I strongly urge some sort of State subsidy or tax credit formula for homes to tackle such aa project. It's not cheap, but a State assist will bring a larger number of converts than without the help. As to new construction of homes AND businesses, it seems some sort of "green mandate" would push those too stubborn to change or hesitant and uncertain about new green technologies. With new construction, it should be suggested that by pairing any geothermal system with solar designed into the roof, the owner will save additional money by buying less energy off the grid. Over a 5 or 10 year period, the savings of $$$ and cutting greenhouse gases out of the equation will show impressive results in personal pocketbook savings AND a significant reduction in the State's climate goals of greening the Green Mountain State.

2. Routes 7, 100, and 5/10, our N/S routes, and 9, 4 and 2, our E/W routes, should be prioritized to installing strategically placed EV charging stations in preparation for EV adoption here in Vermont. Perhaps team with the Feds and come up with a plan to do the same thing on I-91, a true artery of Vermont travelers. Perhaps contracting with cafe' type businesses to occupy these charging areas to make EV stops to recharge much more relaxing and convenient for their time.

3. There are numerous Vermont roads that have significant acreage on their sides for applying solar panels for GMPC to tap into for electricity. My 1st thought in this regard is Route 7 out of Bennington going North. I dare say the miles of wide clearings along 7 would likely generate several megawatts of power if utilized. I believe the formula for solar is roughly 2 acres /megawatt, meaning, the hundreds of acres on both sides of Route 7 would generate at least 50 Mw, maybe even more than that. Now that takes a bite out of our State's carbon footprint, doesn't it?! As it is currently, this fallow land just sits there having to be mowed once or twice costing the State $$$; why not employ these acres to offset these expenditures, even add $$$ to State coffers. No brainer to me.

4. While the technology hasn't fully matured yet, thin layer solar is an up and coming technology that will apply solar to many latent surfaces around us in our everyday lives. Perhaps Vermont

could start a pilot program employing these products and over a years time to determine if it is indeed something worth investing in. The potential of applying this product to building wall faces and bridge structure and any inanimate structure with square footage to exploit is vast.

5. Every parking lot in Vermont should have solar canopies over them. My 1st thought on this is Hospitals. With their enormous use of energy 24/7, and their very large parking lots, building parking lot canopies would bring major savings to their bottom line. But my design envisions these canopies as multi purpose, not just solar generation. With these large 'roofs over the area, You'll have large amounts of runoff during rainstorms. Instead of the rain being directed into the gutter and eventually the sewer system, the rain water is diverted into a cistern system that would supplement the Hospital's water use, thereby saving on their water bill's with their host city or town. This diversion would also have a positive effect of the city's water infrastructure and supply. Additionally, these canopies would also host EV chargers that could generate more monies for the Hospital. These canopies would also, by shading the parking areas, lower the reflective albedo effect of asphalt parking lots "reflecting" heat into the atmosphere raising ambient air temps that make our summer days that much hotter and uncomfortable.

States can have their own banks. Start a state bank, get nh to start their own bank, loan each other money at 0.15% or whatever, and you just fractional reserve printed a crapton of money for yourselves. It is what large private universities do, and the balance sheets cancel basically.

Instead, could fund other things like keyline design which have other extremely valuable returns and which also sequester a stupid amount of carbon. In Vermont, current keyline design results add about an inch of topsoil per year, more or less depending on location. Would boost ag yields, lower or eliminate fertilizer use, and reduce runoff sharply from farms, restoring our waters and making farms more productive, and restore lost ecosystems if patches of hill farming were added to existing stock of farms. Keyline design makes that viable, and is pretty low cost. Wouldnt expand ecosystems if most hills were completely farmed, as they were 100 years ago, but some farms on on some of most hills utilizing keyline design would do that, and considerably faster than letting beavers go wild (the process before colonization) would do. We’re not going to let beavers run rampant anyway though because it would trash most of our roads and lots of people’s property, but some increase of them is desirable, and keyline design would facilitate that.

I suggest an idea when making climate change funding messaging easy to understand read documentation materials curriculums one pager / glossary or summary of the individual ask or the Statewide ask of stakeholders advocates community Partnership climate partnership etc moving forward so accessibility and accommodation would be helpful for individuals with disabilities and other specific learning needs.

I think this is very exciting and the perfect opportunity to design programs that work. What I mean by that is that many programs miss their goals by attempting to make participants liable for some of the cost of the products and services. In my opinion, that is a foolish way to design programs. Programs, instead, should focus on function and meeting goals. If those goals are

decarbonization and efficiency, then apply the money directly to those efforts. Give everyone the opportunity to participate by making products available to them directly, without discounts, rebates, tax credits... etc..

So, if working with VT companies is important. Then give money directly to those companies in exchange for their services. For example, you could give $1 million to a local HVAC company to install 200 heat pumps. Then the company just says to the public "hey we have free heat pumps, who wants one?" Do the same with solar installers, power storage, e bikes, electric cars, weatherization... just use the money and get it done!

I'd like to ask you to recommend creation of a climate superfund. We need large-scale action to protect people who are most vulnerable.

My husband and I couldn't have purchased solar panels without the special financing available, now some years ago. I advocate more of the same and even more help for low-income families who can benefit more from lower electric bills.

Without those solar panels, I can't be sure that I would have installed mini-split heat pumps this year. I'm counting on a lower propane bill this winter and an overall lower energy bill because of solar panels.

We also had a lot of new insulation installed, and I've replaced windows and doors. For some people, these costs would be overwhelming, yet they are money-savers over time. Assistance with such expense needs to be another route to ameliorate climate change and help people live more cheaply.

Ultimately, I think all the things I've mentioned will benefit Vermonters and the state of Vermont.

It should be noted that not all households currently have electrical service to their house. I recently built a small house in Bolton but Green Mountain Power was going to charge an exorbitant price of $20,000 to install the power service, compounded by the fact there is a 30% state tax on new power services. This made it too expensive to do. I instead use a few solar panels to charge a couple batteries but mostly a fossil-fuel generator for my electricity.

The State should instead give a 30% tax CREDIT for new power service so my family can enjoy reliable electricity and can participate in the green energy movement, rather than using a fossil fuel generator.

The best thing Vermont can do to help VERMONTERS, is not to make our fuels so expensive! Last year we paid more for heating our house then we have Ever paid!! We have been here since 1992!!

We are not rich, and are trying to get by as best we can. Both my husband and I have fixed incomes we have tried our best to scale back so we can afford to live in Vermont, but we are getting down to the wire! There is not much left to cut!! Please please do whatever you can to

help VERMONTERS like us!! Everything has gone up ! But not the amount of money we have to get by! I am all for green energy, but Sensibly spaced out so people don't get hit in the face over and over again!!

I read the article on WCAX.com about this office getting green energy ideas from Vermonters. We have solar energy at our house, and could not be happier. We have not had an electric bill in 10 years, and use electric heaters, and our wood stove in the winter to keep our oil usage to a minimum.

1. All new buildings should be required to be solar. Particularly industrial or public buildings. I think it is an outrage that the new State Police building in Williston has no solar panels. And the parking lots at 'park and rides' could have awnings of solar panels (what a great thing to have covered parking!).
2. We live in Williston (luckily on the Vermont side, not the New Jersey side), and I find it such a wasteland of flat roofed buildings that could all be used to hold solar panels that would generate more than enough electricity for their own buildings and more.
3. There was such attention to the new development in South Burlington that will be designed as energy efficient/solar. However that is only one of probably 5 new developments going up in South Burlington. And many of the apartment buildings going up are flat-roofed- and could support solar panels on the roofs. Lost opportunity and wasted space.

We wholly endorse the creation of a statewide green finance entity to meet Vermont's mitigation, adaptation, and resilience needs by mobilizing sources of private, philanthropic, and public funding at scale and in a coordinated manner. To that end, our letter focuses on two topics: **(1) the need for Vermont's climate financing entity to be housed within an existing state financial institution and (2) the kinds of functionalities and capabilities this entity should have in order to meet the state's climate, equity, and community development missions.**

Deploying an Existing State Financial Institution

Vermont's climate financing entity should be more than just a financial institution. It must be an entity that can balance complex public goals, empowered to coordinate among state, nonprofit, private, and community actors to achieve those goals. To that end, this entity must be a public entity housed within an existing state instrumentality like the Vermont Housing & Conservation Board.

A public financing entity with a public mission, accountable governance structure, and sufficient financial and technical capacities can avoid excluding vulnerable, particularly rural, communities and displaced workers. Direct affiliation with and accountability to state leaders ensures that it can internalize legislative mandates and prioritize equity goals.

A public financing entity can coordinate among Vermont state institutions, federal financing programs (*e.g.*, Solar For All), nonprofits, and philanthropies to meet economic development goals, provide technical assistance, and target financial support toward vulnerable communities. As a central coordinator of both financing and administrative programming, the entity can more easily integrate and balance climate, development, equity, and justice goals by aligning the missions of its partners to Vermont's climate planning and goals. And as a state instrumentality, it can be designated as a SEFI, or state energy financing institution, making it eligible for federal loan guarantees from the LPO.

This central coordinator function allows the public financing entity to build administrative capacity within Vermont's state government to plan and execute the kinds of complex legal, procurement, and financial activities needed to prepare clean energy and nature-based resilience projects, mobilize investment toward them, and provide support to vulnerable communities.

A public financing entity can already take on more risk and undertake longer-term investment plans than its private and nonprofit counterparts could, especially by making use of the existing creditworthiness of the Vermont state government when issuing bonds and providing credit enhancements. As a centrally coordinated institution for raising public finance for green investment, this entity avoids the transaction costs associated with raising funds for state investment needs outside state financial instrumentalities. It may also be eligible for particular federal benefits or programs geared toward state instrumentalities, such as SEFI lending, the elective pay credits, and Solar for All.

A nonprofit housed outside the Vermont state government apparatus will have a harder time executing these functions because it would lack the convening authorities and public mandates necessary to work with the many instrumentalities that currently undertake lending or investment programs. It would be less accountable to the state, legislature, and communities; less able to coordinate the expertise and financing sources required to meet these goals; and would place the administrative capacity needed to manage a complex green transition process outside the state government. It is also likely that a nonprofit would be less able to utilize certain financial tools or would eventually have to be empowered by state legislation to use those tools anyway. Empowering an existing entity that already has experience with some of these tools will save valuable time.

This public green financing entity should seek not simply to access funds, but to design and deploy innovative financing tools to leverage all available forms of capital to meet the state's climate and just transition goals. Such tools include but should not be limited to: co-financing alongside other investors; issuing concessional loans; building loan underwriting capacity; providing short-term construction bridge financing; deploying revolving funds; offering credit enhancements like loan guarantees, loan loss reserves, first-loss guarantees, and interest rate buydowns; buying out private developers' stranded projects; making equity instruments and swaps (debt-to-equity and debt-to-grant swaps); warehousing assets and securitizing them; monetizing tax credits through the Inflation Reduction Act's elective pay provisions; centrally procuring key project inputs through bulk orders; allocating grants; and developing partnerships with state universities.

Tools like concessional loans and credit enhancements, enable the entity to mobilize and complement private investment. And other tools such as providing short-term construction bridge financing, perhaps through a revolving fund, and executing bulk orders for key input materials empower the entity to do what the private and nonprofit sectors cannot do at reasonable cost. Ensuring that the entity can securitize and warehouse assets, deploy revolving funds, and buy out stranded projects also allows it to become a financial backstop and central counterparty institution for green investment across the state. And loan underwriting capacity is absolutely essential for building the entity's capacity to develop close working relationships with borrowers, particularly to assess their creditworthiness.

And partnerships with state universities can serve a key capacity-building function: close collaboration builds a pipeline of interested students, researchers, professors, and workers whose scientific, business, policy, and technical expertise can be directed toward state climate investment goals.

On top of the above functionalities, such a public green financing entity should support project preparation and pre-development activities, including site identification, contract structuring, tax credit and elective pay advisory work, project labor asgreement and community benefit agreement advisory, and other forms of technical assistance as necessary to meet Vermont's needs. This kind of coordination work is not easily executed by private or nonprofit stakeholders; undertaking it allows the public green financing entity to build key technical assistance and political coordination expertise.

For the past several years, at the direction of the Clean Water Board, the Enhancement Grant program has been funded at the statutory maximum of $5m. Eligible projects include things like wetland restoration, riparian buffer plantings, river corridor easements, and floodplain and

stream restoration. Currently the criteria used to rank eligible projects under (d) are focused almost exclusively on restoring channel stability and reducing erosive forces of rivers and streams, reflecting the larger charge to CWIP to reduce sediment and nutrient pollution. There is a real opportunity here to adjust the criteria to give weight to criteria beyond sediment and nutrient pollution reduction to place greater emphasis on resilience. It would also be my strong preference to look first at expanding funding for this program (as well as the Flood Resilient Communities Fund at VEM) as opposed to creating any sort of new program from whole cloth.

we encourage you to think beyond federal (i.e., taxpayer) dollars and seek infrastructure funding from the giant fossil fuel companies that knowingly polluted our atmosphere and created the climate crisis in the first place.

Why should these companies - which are making billions in profits while deceiving Vermonters - be let off the hook for the damages their products have caused? Taxpayers should not be the only ones paying to rebuild and harden Vermont's infrastructure.

Big Oil has been reporting staggering profits this year. Of just the co-defendants in *Vermont v. Exxon Mobil Corp.,* they have reported more than $100 billion in profits so far this year:

Company	YTD Net Income (Billions)
ExxonMobil	$28.38 thru Q3
Shell	$11.84 thru Q2
Motiva Enterprises (Saudi Aramco)	$62.00 thru Q2
Sunoco	$0.23 thru Q2
Citgo	$1.37 thru Q2
Total YTD Net Income	**$103.77**

The companies that created the mess in the first place should also pay a fair share and your recommendations to the General Assembly regarding legislation for Vermont's climate infrastructure financing should make that clear.

A particular example that highlights the significance of this Board in leveraging inter-Agency coordination to maximize resources to advance climate action is with respect to the Climate Pollution Reduction Grant (CPRG) authorized under the IRA. Through discussion with the IAAB, the CAO was determined to be best positioned to opt-in to the Planning Grant which was required to access the $4.6 billion competitive implementation grant fund. In July of 23, ANR was awarded a $3M Planning Grant as part of Environmental Protection Agency's CPRG Program. The first deliverable of the Planning Grant is a "Priority Climate Action Plan" or "PCAP". The PCAP is meant to include sector-specific climate mitigation measures that are ripe

for implementation and that can have meaningful emissions reduction and sequestration impacts. The CAO has been taking a "whole of government" approach to determining what measures are appropriate for inclusion in the PCAP by working closely with the IAAB to review and prioritize actions included in the Plan. This exercise has yielded a suite of measures that are based on the Plan's actions that have not been implemented or have been advanced or implemented but need further funding to achieve additional emission reductions or sequestration. The CAO will continue to work with our interagency partners to compile and submit the PCAP by the end of this calendar year.

We recommend further consideration of how to use our existing funding infrastructure to finance nature-based solutions that address our climate goals. VHCB is interested in enhancing our existing investments and developing new programs to support climate resilience through nature-based solutions. In particular, we can play a role in leveraging emerging federal and philanthropic sources and allocating funds to support nature- based solutions. We already fund projects with an established network of conservation and land trust partners. We are interested in drawing down federal funds that support climate mitigation and resilience and in bringing in new partners to implement and steward this work.

As we engage in the Vermont Conservation Strategy Initiative (Act 59, 2023), we will explore the types of investments that are needed to support biodiversity conservation and community resilience across the state. Notably, this legislation requires us to protect 30% of the state's lands and waters by 2030, and 50% by 2050. This will require both increasing the pace and scale of our existing conservation work, and exploring new tools, in new places, for accomplishing new types of conservation work (i.e. aquatic conservation tools). We are especially interested in working with partners to explore new areas of resilience work such as restoring floodplains, conserving wetlands, and river meanders. As we engage in our conservation strategy work, which is primarily a planning process, we are simultaneously beginning to explore new federal and other funding sources so that we are prepared to implement this vision.

Our Farm and Forest Viability Program sees many ways that enhanced investments in working lands businesses can support increased climate resilience outcomes. For instance, we see enabling land access for farmers as a critical part of climate infrastructure. Increasing affordable access to agricultural land makes it possible for young farmers to access land to grow food, invest in soil health, and implement conservation practices on their land. However, a lack of available, affordable farmland and few farmland financing tools limit this pathway. Most farm and forest businesses are actively seeking ways to increase their land stewardship, whether to meet RAPs or AMPs, or to exceed them. However, administrative burdens, long timelines, and low payments for incentive programs can be barriers to working lands businesses adopting new technologies or practices. Thus, we are supportive of new programs to support farmers in improving land management practices. Working lands businesses need financial support to access the next-generation equipment and infrastructure that will

contribute to Vermont's energy reduction goals - such as increased use of solar, electrification, and harvesting equipment that has a low impact to soil health. VHCB includes energy efficiency requirements in our design standards because of the critical economic and health benefits that accrue to the low- and moderate-income residents of these homes, and to help the state meet its goals for carbon reduction. According to VHCB's current building design standards, funded housing units must be developed to the Efficiency Vermont Multifamily high performance energy tier. These advanced energy efficiency standards increase the cost of affordable housing production substantially. VHCB commissioned a cost study in 2021 by Naylor and Breen that indicated that energy efficiency requirements increase the cost per unit by 16%. Vermont's energy incentives do not currently sustain this scale of investment.

VHCB views it as critical that Vermont continue to enhance its energy efficiency incentives as a key tool to help low- and moderate-income Vermonters share in the benefit of the state's energy efficiency policies. We see much existing strength in Vermont's energy sector and have confidence that existing service providers and funders of energy efficiency, weatherization, and renewable energy generation are developing systems to leverage energy infrastructure dollars.

However, we also believe it is critical that as we transition our energy systems to use more renewable sources and make investments in existing housing stock, equity must be a central guiding principle. Increased investment and coordination will be necessary to ensure that the benefits of energy investments are available to all. Affordable housing developers and partners can play a role in targeting energy investments to low income household, and VHCB can play a role connecting housing development partners to energy incentives.

New federal funding and programs present a great opportunity to enhance Vermont's climate related programs that are already successful, significantly reduce greenhouse gas emissions, and that meet the needs of underserved and rural communities. Here are our suggestions:

- The Weatherization Assistance Program should be expanded. This program reaches underserved, low-income residents in all areas of Vermont. Specifically, consideration should be given to the following programmatic changes:
    - Increase the cap on income eligibility.
    - More funding should be provided specifically for heat pump installation and work related to decarbonizing home heating. This will help the State to reach its goal of significantly reducing

greenhouse gas emissions. Heat pump adoption is a high priority action that can significantly reduce greenhouse gas emissions in the thermal sector.

- The program must provide competitive wages to attract and retain the necessary workforce. Employee retention has historically been a challenge due to the working conditions of weatherizing homes, low compensation, and the high demand for weatherization work in Vermont. This needs to be addressed for low-income Vermonters to continue to benefit from the program.

- The Electric Vehicle Supply Equipment (EVSE) Grant Program should be expanded to prioritize reaching underserved, BIPOC, low-income and older residents in all areas of the state. The expansion of the program for increasing EVSE at existing multi-unit properties, workplace charging, and public attractions will serve all residents, especially marginalized populations, who make the transition to electric vehicles. Transitioning to electric vehicles is a high priority action that can significantly reduce greenhouse gas emissions from the transportation sector. Expansion of the program in Chittenden County has the potential to reach the State's largest BIPOC population and Vermont's largest share of drivers statewide.

- The Municipal Energy Resilience Program (MERP) should be expanded to include schools and non-profit commercial buildings that serve underserved and rural communities. This program is currently being administered by the Vermont Department of Buildings and General Services in partnership with the State's Regional Planning Commissions.

- The State Energy Revolving Loan Fund, administered by Building and General Services (BGS), could be expanded to include municipal projects. Payments back to the fund are made with energy savings on the project until the loan is repaid, resulting in no cost to the municipality. See how Harvard's energy revolving loan fund operates: https://sustainable.harvard.edu/green-revolving-fund/

- Some electric distribution utilities, in cooperation with Efficiency Vermont, have a considerable number of rebate and incentive programs that could have more substantial impacts if additional funding was provided. Specifically, we recommend larger incentives to help cover the upfront costs of geothermal heat pump installations in new affordable housing projects. Geothermal heat pumps are often a better option for affordable multi-unit housing than air source heat

pumps because they require less maintenance and cost the residents less to heat and cool than natural gas or air source heat pumps. However, geothermal heat pumps have a much higher up front capital cost for the owner/developer.

- The Vermont Low Income Trust of Electricity (VLITE) has historically supported a wide range of projects designed to support the energy needs of low- and moderate-income Vermonters. VLITE should specifically be consulted to see if there are opportunities for collaboration on existing programs. VLITE should also be consulted regarding how low-income Vermonters can be assisted with increased future electricity rates that will likely be necessary to support capital improvements to Vermont's electric transmission and distribution networks. CCRPC is particularly concerned about future electricity costs for low-income residents living in electric-heated multi-family buildings that do not have sufficient space to install solar panels for net- metering

The Department of Public Service's Public Participation Plan has effective actionable strategies for connecting to community groups about the energy transformation needed to reduce our emissions. The State of Vermont's Climate Action Public Engagement Plan is also a resource for understanding which community groups to reach out to marginalized communities.

Specifically working directly with marginalized communities to mutually identify needs is important. However, this typically ends up looking like those with the technical expertise "going into" community groups when something is needed, asking for feedback, and leaving. This practice is extractive. The challenge is that community groups in marginalized communities often lack capacity and are already struggling to carry out their own mission. To ask more of them adds to their already too-heavy load. Thus, we need to make sure that we can create reciprocal and ongoing relationships with key community organizations in marginalized communities in a way that supports and furthers their work before asking them to support additional work.

Lastly, community needs in marginalized communities have been, and continue to be shared, through a multitude of ongoing engagement efforts at any given moment. Another strategy for imbuing technical expertise with community knowledge and needs is to better collaborate with others on the back end to share community feedback that has already been collected before asking the same questions to the same groups of people. Only once we have determined what needs have already been recorded should governmental organizations determine where gaps remain.

Asking small communities and/or schools to work on complex grant applications and reporting

as a way to access funds is unfair and burdensome due to limited administrative capacity. Applying for and administering grant funds takes resources and expertise that underserved and rural communities do not have.

Expansion of the Municipal Technical Assistance Program (MTAP), a program created by the Agency of Administration last year could create additional capacity for Regional Planning Commissions (RPCs) to assist small, underserved, rural communities. RPCs may also be able to help municipalities within the same region cooperate or collaborate on projects to avoid competition amongst each other. Creating programs that communities can opt into with minimal effort (e.g. Municipal Energy Resilience Program a.k.a. MERP) is another way to increase the accessibility of funds. Future federal grant applications, like the EPA's Climate Pollution Reduction Act Implementation Grant, should ideally be coordinated through the State of Vermont. Municipal or RPC applications should be discouraged.

There is a higher probability of coordination and success if future State applications to federal grant programs treat Chittenden County equally to other geographic parts of the State. CCRPC is particularly bringing attention to this issue because recent State programs, like MERP and MTAP, have treated Chittenden County differently than more rural parts of the State. While this approach may work for State programs, it may put a coordinated statewide grant application in a disadvantageous position given Federal Justice 40 requirements. Chittenden County includes three of Vermont's disadvantaged areas, as defined by the Federal Justice 40 criteria. Additionally, Chittenden County is Vermont's most racially diverse region and has more households living in poverty than any other county in the State. The County also has several very rural municipalities with fewer than 2,000 residents. Statewide grant applications need to take this information into consideration when coordinating future grant efforts.

- The Agency of Natural Resources' Climate Action Office has secured planning funds through the EPA Climate Pollution Reduction Grant. The Agency intends to apply for implementation funds through the same program in April 2024.
- Energy Futures Group, a non-profit in Hinesburg, Vermont, recently received a grant from the US Department of Energy (DOE) to study state-wide building energy code compliance. Our understanding is that these funds have been used to support the work of the Building Energy Code Study Committee, which was created as a part of the HOME Act.
- Northeast Energy Efficiency Partnerships (NEEP) and Vermont Clean Cities Coalition (VCCC) were recently granted an award from the US DOE Vehicle Technologies Office (VTO). The $1.2 million grant will support the development of Community Driven Transportation Plans in New England (including Chittenden County).
- Burlington Electric Department (BED) and VELCO were both granted awards

via the US DOE, Grid Deployment Office Grid Resilience and Innovation Partnerships Program (GRIP). The BED grant is to support better utilize Smart Grid technology ($1.2M) and the VELCO grant is to install grid enhancing technology in Northwest VT.

- Burlington International Airport Voluntary Residential Sound Insulation Program, funded partially through a Federal Aviation Administration (FAA) grant, will mitigate noise from the airport and also offer the co-benefit of weatherization for 2,500 homes in Winooski, South Burlington, Williston, Colchester, and Burlington.
- The Energy Efficiency and Conservation Block Grant (EECBG) Program allocated money to Vermont Counties (e.g. county courts) and the ten highest populated municipalities in the State. Each were awarded around $75,000 in funding. The program can be used to support energy efficiency and fossil fuel emission reduction-related work. Chittenden County Regional Planning Commission has provided funding and staff resources for energy planning for our member municipalities.

Focusing on refining and enhancing existing programs with a renewed commitment to decarbonizing transportation and building thermal energy use (primarily via EVs and heat pumps) in conjunction with energy efficiency and vehicle miles traveled (VMT) reduction. Greenhouse gas reduction should be the primary goal.

Coordination among state agencies is necessary to efficiently and effectively combat climate change. RPCs are a key player in assisting and supporting the planning and implementing of state programs at the municipal level. RPCs have strong existing relationships and familiarity with municipalities. Additionally, RPCs have the ability to assist the state with making changes at a regional scale.

Vermont's historical focus in the energy sector has been on energy efficiency because consensus regarding human induced climate change caused by the burning of fossil fuels had not yet been reached. Our investments now need to reflect a pivot from efficiency to decarbonization and reducing greenhouse gas emissions according to the Global Warming Solutions Act requirements.

This change will face some local opposition from businesses and workers that have historically made their living from fossil fuel consumption. Educating businesses on how to profit from decarbonized solutions, educating workers and Vermont residents regarding new technologies must be part of the investment and be a large part of the implementation of the Affordable Heat Act.

Climate change has been shown to disproportionately affect marginalized communities. These communities often face higher levels of vulnerability due to factors such as limited access to resources, inadequate infrastructure, and socioeconomic disparities. For example, VT Digger reports that "Market pressures … are constantly pushing lower income people further and further

toward options that reduce their quality of life — older, more degraded housing stock, or housing stock that churns through natural disasters more quickly." (Lola Duffort, "The flood waters disproportionately hit Vermont's affordable housing stock — at the worst time." *VTDigger* July 31, 2023). This problem could be exacerbated as Vermont develops a national reputation as a climate refuge and people with the financial means relocate to Vermont to avoid the impacts on climate change in other parts of the country.

The initial up-front cost of transitioning to electrification in the renewable energy generation, heating, and transportation sectors will be burdensome to marginalized communities. Therefore, investments should tackle the needs of marginalized communities first by including targeted strategies that consider their specific histories, sociocultural, and economic realities. Careful consideration of the cost of decarbonizing and upgrading grid infrastructure is needed to ensure that policies are not burdening Vermont's electricity rate payers. Currently, rate payers are faced with substantial costs for paying for weatherizing buildings, converting to electric heating sources, purchasing cleaner vehicles, and for paying for grid infrastructure upgrades that are passed on to the customer through utility bills. Federal and state policy leadership is needed to reduce the cost to low-income households and marginalized communities. The responsibility to decarbonize and fight climate change should not completely be passed off to individual Vermonters or municipalities.

Lastly, the importance of land use planning that can effectively achieve our state planning goals to "maintain the historic settlement pattern of compact villages and urban centers separated by rural countryside" cannot be underestimated. Our state greenhouse gas emission reduction goals, our working lands goals, our housing goals, and our transportation goals (particularly related to public transit) are all directly tied to the effectiveness of our land use planning and regulation. This policy and planning work cannot be forgotten during our state's energy transformation.

Financing municipal projects with local tax revenues is unpopular and municipal officials are hesitant to raise municipal taxes for projects deemed not urgent. Free programs and grants are very popular as municipalities are constantly scanning for ways to show taxpayers that they are fiscally responsible by keeping tax rates low. However, staff resources to apply for grants at the municipal level are very limited so funding mechanisms should remove unnecessary applications or reporting processes for accessing funding. Consider learning more about trust-based philanthropy to remove funding barriers to make fighting climate change more just and equitable.

Financing is always considered a last resort at the municipal level; successful financing options must be very attractive and will be more popular when they provide a tangible return on investment, such as lower energy costs.

Vermont needs to develop an updated greenhouse gas emissions inventory and monitoring program. This will be an ongoing requirement for future federal funding and state-wide policy decisions. This resource should also be shared with RPCS and municipalities to achieve alignment.

The ANR Climate Action Office (CAO) is in the best position to coordinate state-wide strategic planning and funding allocation for greenhouse gas reduction and climate adaptation projects. Build upon the EPA's Climate Pollution Reduction Planning Grant (CPRG) model where the Vermont CAO tapped RPCs to help identify municipal projects to be included in the State's Priority Climate Action Plan. This CPRG- funded Priority Climate Action Plan is a prerequisite to apply for a portion of the $4.3 billion available to states, tribes, and local governments for implementing the Priority Climate Action Plan by funding projects to substantially reduce greenhouse gas emissions by 2030.

The Vermont Public Service Department is an entity and resource for coordinating clean energy projects with RPCs and municipalities. Additionally, Vermont Department of Buildings and General Services in partnership with RPCs has developed the MERP program in a way that is relatively easy for municipalities to participate in decarbonizing public buildings.

RPCs provide coordination between state agencies and municipalities across a wide range of topics including energy planning. Many RPCs have a dedicated energy planner. Some larger municipalities also have staff dedicated to climate, energy, or sustainability issues. These folks should also be consulted with as a part of any statewide project.

Current state agency programs are generally sufficient at providing adequate staffing of state agencies. The State CAO should coordinate work to achieve state-wide targets and goals. The CAO will likely need additional capacity to scale up into this coordinating role. The State should also consider funding existing organizations that can also assist with statewide coordination (such as RPCs), if deemed appropriate.

It is time for the Vermont legislature to imbue one of our existing governmental or quasi- governmental entities with the authority, the mandate, the staff, and the funding to (a) create a statewide climate finance strategy, (b) raise capital, (c) deploy, recycle, and leverage capital, (d) coordinate and support the work of relevant partner agencies, (e) provide technical assistance and train the market, and (f) promote and market its own and others' programs to achieve our climate goals.

Transitioning from OPEX-heavy fossil fuel infrastructure to CAPEX-heavy clean energy systems and nature-based solutions requires an *upfront* supply of capital, which tax funding alone will not sufficiently address. Without access to upfront capital and innovative leveraged financing solutions, Vermont will simply not meet its climate ambitions.

Vermont's Climate Action Plan recognizes that for the plan to be successful "the support and engagement of Vermonters is critical — to mobilize a broad coalition of state, local, and l governments, nonprofits, academic institutions, and private interests taking collaborative, decisive action. Significant and sustained investments, well-financed programs, properly capitalized lending entities and individual financial commitments will all be needed to implement the Climate Action Plan and realize important outcomes (…)." The Climate Council goes on to state, "No single funding stream will achieve our climate goals. **Climate action requires leveraging a variety of sources — existing and new, private and public, local, state, and federal —**

and innovative financing mechanisms to support sector-level transformations and the ability of Vermont lenders to make crucial long-term investments in climate-focused projects and initiatives."

Yet, no one entity has been given a clear mandate by the Governor's office or the Legislature to do all it can to develop these "innovative financing mechanisms" or only minimally so. While we have many programs, driven by more existing entities than in most states, we do not have a coordinated statewide strategy for climate finance. Each one of our quasi-public organizations dutifully pursues the mandate it was given, and it is unlikely, without specific authority, expert staff, or adequate funding, that one of them will suddenly find itself moving beyond what it currently does. More of the same, perhaps slightly bigger, will not cut it.

Promoting coordination across organizations is indeed necessary, as many have said, but climate finance is technical, broad-ranging, and cross-sectoral so our government should not expect a loosely connected web of existing organizations without sufficient funding, staffing, or authority to successfully tackle what is the most consequential challenge of our generation and that of our children.

This is not to say that we lack institutional knowledge or goodwill. I do not in any way impugn the usefulness of our existing programs or institutions. On the contrary, I am immensely grateful for the many public servants dedicated to meeting clean energy and conservation goals in Vermont.

Without them, we would not see any progress toward meeting our climate and conservation goals. I do, however, very much question the scale that we purport to achieve without an entity with the designated authority to steer the state in a clear direction when it comes to financial strategy, and to guide partners, existing and new, along with it toward our decarbonized future. It does not take much vision or work experience to recognize that accessing the once-in-a-generation opportunities afforded by the federal Infrastructure Investment and Jobs Act (**IIJA**) and the Inflation Reduction Act (**IRA**) will be impossible without dedicated staff and funding.

If I find this letter hard to write, it is because it argues the very fundamental notion that good ideas do not materialize into reality unless a champion makes them so and unless we give ourselves the resources to meet our goals. The "action" part of the Climate Action Plan requires that we do not stop at saying "we need innovation and funding" but that we move on to the "do" part with renewed vision and ambition.

Therefore, I propose that the legislature should take the following concrete steps.

First, and most urgently, the legislature should require that the Treasurer's Office be given the explicit authority, mandate, and funding to aggressively pursue funding opportunities for climate mitigation, adaptation, and resilience, across both clean energy and nature-based solutions spaces. The Treasurer's Office does not need to be the organization that ultimately will be responsible for all of the activities listed in the second paragraph above in (a) through (f).

However, the Treasurer's Office should coordinate with other entities on the short-term deployment of such funds and help them apply to funding. This would include supporting financial intermediaries with existing networks as appropriate, as well as existing agencies working on climate solutions and communities.

The Treasurer Office is the right organization to pursue funding this way as its expressed function is to "serve as the State's (…) chief investment officer."[4] In the wake of transformational federal legislation, many states have launched funds dedicated to help the state apparatus and communities seek federal funding, to provide cost-share funds, to enable leverage, or to provide technical assistance to communities. For example, in Colorado, the Infrastructure Investment And Jobs Act Cash Fund provides $80,250,000 in funding to the Governor's Office as a nonfederal match for the state or a local government for certain categories of infrastructure projects allowed under IIJA.

In Connecticut, Public Act 22-25, the Commissioner of the Connecticut Department of Energy and Environmental Protection (**DEEP**) was required to "establish and administer a grant program for the purpose of providing matching funds necessary for municipalities, school districts and school bus operators to submit federal grant applications in order to maximize federal funding for the purchase or lease of zero-emission school buses and electric vehicle charging or fueling infrastructure." The Act requires that the DEEP Commissioner give preference to applications relevant to environmental justice communities.

In Kansas, the $200 million Build Kansas Fund provides matching dollars to Kansas communities for infrastructure projects approved under IIJA. Projects that can receive funding include "water, transportation, energy, cybersecurity and broadband through Fiscal Year 2027." At least $10 million will be reserved for investment in eight "Economic Development Districts." The Build Kansas Fund is administered by the Kansas Infrastructure Hub. The Kansas Infrastructure Hub includes "representatives from the Kansas Departments of Administration, Agriculture, Commerce, Health and Environment and Transportation, along with the Kansas Corporation Commission and the Kansas Water Office, will manage the Build Kansas Fund, offering technical assistance, tracking funds and promoting grant opportunities."

In Kentucky, the legislature appropriated $17.3 million from the general fund to match $69.4 million in IIJA funds for fiscal years 2022-2023 for IIJA electric vehicle charging infrastructure support programs.

In Minnesota, the State Competitiveness Fund was created as a special revenue fund in the Minnesota State Treasury and $115 million appropriated and remain available until June 30, 2034, under the management of the Minnesota State Treasury to facilitate accessing federal funding under IIJA and the IRA. The State Competitiveness Fund is meant to "(1) pay all or any portion of the state match required as a condition of receiving federal funds, or to otherwise reduce the cost for projects that are awarded federal funds; (2) award grants under subdivision 4 to obtain grant development assistance for eligible entities; and (3) pay the reasonable costs incurred by the

department to assist eligible entities to successfully compete for available federal funds." These funds can be applied to a large array of uses, including accessing formula funding, funds directed to political subdivision of the state or Tribal governments, nonprofits, businesses, utilities, and other grant opportunities "directed to eligible entities that do not require a match but for which the commissioner determines that a grant made under this section is likely to enhance the likelihood of an applicant receiving federal funds, or to increase the potential amount of federal funds received." The broad-ranging nature of Minnesota's matching funds strategy demonstrates how serious the state is about accessing federal funding and utilizing all available dollars to boost its competitiveness and investments.

In North Carolina, Governor Cooper's administration established a $225 million Federal Match Reserve investment for state agencies to meet federal matching requirements from IIJA, the CHIPS and Science Act, and the IRA. The Federal Match Reserve "allows the state to participate in the paradigm shift created by these catalyzing federal bills and access an extraordinary amount of federal funds for infrastructure, research, climate initiatives, manufacturing, and STEM education [and] [p]ositions our state to compete for hundreds of billions of dollars, bringing our share of taxpayer funds back to North Carolina."

In Oregon, the legislature passed the climate resilience package (HB 3409 and HB 3630), which included over $90 million in new climate spending "to access as much as $1 billion from IRA programs. The new law provides funds to help marginalized communities, local governments and community organizations apply for federal grants."

While Vermont may not have the same level of resources at its disposal, these examples highlight that **these states, both red and blue, understand that accessing federal funds takes resources, both human and financial. The political and geographic diversity should be enough to give the Vermont Legislature pause about its strategy so far to support the implementation of the Climate Action Plan and of the Vermont Global Warming Solutions Act (GWSA).** Enabling access to funding is but a step for the legislature, and should not replace other necessary steps to develop and implement a coordinated strategic approach to climate finance, executed by a centralized team. A lot of the states above have both "matching funds" and green banks as is the case for Connecticut, Minnesota, Colorado, or North Carolina, among others.

Second, the legislature should pick one to two existing organizations to lead the development of Vermont's climate finance strategy, fund it/them adequately, requires that it/they hire staff, including shared staff for key functions, and place them under the authority of a shared governing body within the Treasurer's Office.

The explicit modified mission/mandates of such organization(s) should be to stimulate market transformation in Vermont for the benefit of Vermonters and Vermont-based enterprises, to develop a climate finance strategy, to pursue funding sources and financing programs that will enable the climate policy goals of state agencies, as required by the legislature, to offer technical assistance, to lead the implementation of such state strategy, and to support the marketing of

programs and products. Such organization(s) should also actively support and promote the activities of the quasi-public organizations and nonprofits pursuing climate goals in the state.

Ideally, one organization would lead financial activities for both clean energy and nature-based solutions. However, given the existing slate of organizations in Vermont, **I recommend that the legislature authorize and require that (a) the Clean Energy Development Fund (CEDF) and (b) the Vermont Housing & Conservation Board (VHCB) become Vermont's climate finance authority.**

CEDF already has most of the attributes necessary for an expanded mission but will have to be given broad autonomy to pursue climate mitigation goals and the flexibility to hire new staff quickly and raise/deploy capital. Similarly, VHCB can rapidly scale operations to finance nature-based solutions in the state.

These organizations should work together, with guidance from the existing Local Investment Advisory Committee, and other relevant agency staff. Besides co-developing a strategy over time, working closely with the new staff at the Treasurer's Office on capital raise, these organizations under a new climate finance authority branding would be the main conduit for program development, and would have the option to deploy capital directly or through existing organizations, as relevant and appropriate.

They would provide clear communication to financial partners and private sector investors about the programs and policies of Vermont, act as a technical assistance provider, and proactively seek to grow the pipeline of projects in both their core areas. They would not seek to replace the existing organizations, but to lead the market, send clear signals, and develop opportunities for our climate economy.

Both organizations should be given broad latitude to utilize all of the tools in the financial toolbox and to invest using a range of debt and equity tools, including securitization and tax credit optimization, as well as to deploy grants, either directly or as a passthrough entity for other organizations such as Efficiency Vermont or VSECU. Both organizations should explicitly support low-income families and underserved communities in our rural and urban environments, not as an afterthought, but as a structural part of their vision and mission.

Key staff for financial, legal, marketing, and data/reporting functions should be shared to promote cross-learning, create efficiencies, and to facilitate strict compliance and reporting requirements attached with federal funding.

The legislature should seek to encourage flexibility, creativity, and engagement with the market and communities, including by allowing the Treasurer's Office, CEDF, and VHCB to create the special purpose vehicles or nonprofits that may be necessary to pursue philanthropic sources of funding or to create financial structures that are adapted to our state.

Reaching the goals of the GWSA and implementing the Climate Action Plan will require your leadership not to simply coordinate the good work already being done, but to proactively pursue funding sources for climate financing solutions, and to empower CEDF and VHCB to build and implement a statewide climate finance strategy that leverages public investment. We have many of the ships we need to get us where we committed to going. It is high time that we hired ourselves a captain.

Together, operating as the Vermont Public Finance Climate Collaborative (PFCC), we would like to describe our current work to finance climate infrastructure and access emerging funding opportunities, as well as sharing our vision for how statewide coordination could further leverage resources to support Vermonters and achieve the state's climate goals.

We originally organized the collaborative because we saw a need to create a collective home for project development and information sharing for climate financing initiatives in Vermont as new resources become available through the Inflation Reduction Act (IRA). Our organizations are prepared to leverage IRA funding to ensure that low-income households and disadvantaged communities are equitably reached by these resources. Proof of this concept is described in more detail below.

We feel that the outreach process being led by the Treasurer's Office can be a valuable opportunity to inform the public about what resources are available through the IRA and Infrastructure Investment and Jobs Act (IIJA), and when and how that funding will become available. Both pieces of legislation are an extensive patchwork of tax credits, grants and financing programs. Currently, the Department of Energy (DOE), the U.S. Environmental Protection Agency (EPA) and other federal agencies are in the rule- making process or have released Notices of Funding Opportunities for many related programs.

Relatively little of the funding available from IRA is yet available to be deployed in Vermont. Some pieces will require state sponsorship, while others will benefit from the experiences of the PFCC, and still others will directly benefit project owners. This diverse range of applicants and uses of funds speaks to the informational barriers among participating entities that would benefit from information sharing to ensure the greatest impact of the funding and financing opportunities.The $27 billion Greenhouse Gas Reduction Fund (GGRF) is one of the IRA opportunities available to financing entities. The Vermont Department of Public Service has already submitted an application to EPA for the $7 billion Solar for All competition of the GRRF. The remaining $20 billion in GRRF funds will be distributed through a number of national entities, such as the Coalition for Green Capital and Climate United, which will be announced in Spring 2024. PFCC members joined coalitions, submitted project pipelines, and intend to seek financing from these national entities for funding to support greenhouse gas reduction projects in Vermont across the sectors we serve.

Our statewide mission-driven roles, with 50 years of experience and strong balance sheets, make us uniquely positioned to work with these national intermediaries to maximize the funding

available to Vermont. Underscoring this capability is the utility recognized by our national partners in our collective capacity as they conceive of us as "green banks" for our respective constituencies and place us side by side well known entities like the Connecticut Green Bank. Our ability to access these resources will be largely dependent on the terms and uses these national organizations set for awards. As GGRF awards increasingly appear targeted to specific sectors, PFCC members will likely apply individually to the national entities rather than as a single application.

However, we intend to coordinate amongst ourselves to ensure that we are fully aware of potential funding opportunities.

> Although the PFCC members are actively pursuing the IRA funding that we are currently eligible to receive, *we feel that the Treasurer's Office could play an important role as an information clearinghouse*, ensuring that all new and existing federal climate funding opportunities are identified and brought to the attention of the entities or the state agencies that are the intended recipients.

Further, we believe the *Treasurer should also help to evaluate the supply and demand for climate related funding and financing sources* on an on-going basis in consideration of the risks faced by the state from a changing climate as well as the mandates outlined in Vermont's Climate Action Plan and Comprehensive Energy Plan. This evaluation would incorporate the missions, competency, and existing programs of PFCC members in their sectors. This should also include advocating for climate infrastructure financing to be broadly inclusive of adaptation programs. From insurance to grants, these programs may take many forms but should not be ignored from climate discussions around climate finance.

We know that some states have, or will, pursue setting up a new Green Bank as a way of accessing federal funds and we do not recommend that path for Vermont. Because of the PFCC's willingness – and eagerness – to work together and ensure there are no market gaps or lost funding opportunities for our small state, we feel confident in our ability to apply for, access, and deploy the available funding without adding a new entity. Any new organization would require tens of millions of dollars to capitalize a balance sheet similar to the PFCC, and would not have the 50-year history of lending that investors and rating agencies would need to see. The organizational overhead, untested governance, and additional coordination that a duplicate agency would add to the state would be wasteful.

Instead, the PFCC sees a role for itself as a shared "front door" for the state's climate financing. Our organizations will continue our work in our respective fields, while coordinating with stakeholders and amongst ourselves. Using existing organizations within a new framework will allow us to utilize and expand our programs and leverage our existing funding streams, private partnerships, and credit capacity. This structure will allow us to avoid duplicative efforts and ensure that all parts of Vermont and all the different sectors we serve have equitable access to funding opportunities.

This effort will require continued outreach to Vermont's energy stakeholders, including the State, nonprofits, and the private sector. We will need to form expanded partnerships to reach consumers, connect with the state's contractor workforce, leverage new technology, and measure the impact of our joint work.

The solar array represents a method of cost control for us. The changes we are contemplating are expensive and will likely end in higher annual operating costs for us. We need to be able to mitigate the costs in some fashion and the solar project seems to be practical.

The **feeling one gets** is that the utility has no real incentive in us moving forward with renewable energy. The **feeling** is backed up by the lack of control of the costs; the utility has to find the transformer, the utility has no real interest in controlling that cost as we will have to pay whatever they say it is. The installation is the same thing; why rush and the customer will pay whatever the cost is.

In the long term, what incentive does a utility have to help customers use less utility provided power?

Barriers

- Inability to plan with unknown costs, and delays.

- Utilities not being ready and open to solar and EV impact

- lack of real, supported programs within utilities to be ready and accommodating for EV's and solar arrays

- lack of transformers, utilities not up to date (many under-rated transformers in use), not stocking transformers, etc.)

- Create incentives for implementation of renewable energy that work at all levels of the programs needed to move forward

- Create programs that encourage sharing of resources (staff and inventory) amongst the various utilities

- Create practices / rules that would have the utility responsible for anything that is not part of the house. Responsible to the point of performance penalties (lack of performance). (Exception would be systems that are well above residential systems)

- Rising costs are an incentive to change to more economical systems, but it is hard to plan without knowing the costs and timing of enabling new systems.

- Come up with processes that insure consumers will not suffer for delays that they have no control over. This would help enable consumers to plan for projects.

- Utilities share **detailed specifications** on exactly what is needed. (Other resources might be found to provide "scarce" items and it removes the barrier of unknown costs and availability).

- Create some sort of teams to help with the unknown costs of projects (like the consumer burden of bringing transformers up to date – purchase and labor costs)

- Set deadlines on the delays that projects run into and define the remedy so that consumers are comfortable making commitments. As an example (maybe a little far fetched); When consumers make a significant commitment to a significant solar project, their utility bills ceases until the utility completes their portion of the project. This would need to include transformers and swaps, etc.

We submit the following comments as you develop your recommendations:

- **Scale Up Existing Programs** – We have several successful programs and partnerships developed in Vermont aimed to finance investments to increase energy efficiency and reduce carbon emissions for municipalities, businesses, families, and individuals. Some of these programs have built-in income sensitivity to enable low- and middle-income borrowers to access affordable lending options for project financing. Standing up new programs takes time and resources, and this should be considered for identified gaps in Vermont's funding/financing landscape.

- **Fund Outreach, Technical Assistance, and Project Management** – Our experience shows that technical assistance and coaching is essential for uptake in energy efficiency investments in low-income communities. The day-to-day demands on low-income families make it incredibly difficult to plan for the benefits of energy efficiency, navigate the complexities of lending and rebate programs, and manage contractors. Strategic outreach to enroll individuals and significant assistance and coaching to support through the process will be essential to meeting the GHGRF intent to deliver lower energy costs and economic revitalization to communities that have historically been left behind.

- **Pre-bate, Not Rebate** – In the financing instruments used to deploy funds, seek the ability to lower the loan total to the borrower by pre-bating incentives when possible. Pre-bate funds can be delivered to project builders/contractors directly when appropriate to avoid the borrower needing to have a loan that includes the expected incentive. When the traditional 'downstream' rebate is moved to the front of the process, the project cost is reduced from the start, so more Vermonters can participate.

- **Enable Coordination, Performance Reporting, and Monitoring** – Currently there is not an entity established to receive and coordinate climate funds, collect performance reporting, or monitor outcomes. Establishing a centralized entity, or assigning the role to an existing entity, would support clarity among deployment partners, utilities, agencies,

and grant seekers and efficacy for the funds drawn down.

Currently Vermont only supports community solar arrays – the easiest way for most low-income households to access renewable energy – with a few very modest, one-time programs such as the Affordable Community Renewable Energy (ACRE) program. Other states such as New York have much more advanced community solar programs that provide upfront incentives to build projects to the type that provide the easiest access to renewable benefits for low-income New Yorkers. Accessing federal money to create similar incentives in Vermont would be go a long way to advancing energy equity in Vermont.

Establishing a centralized structure in Vermont to pursue, receive and distribute Federal and other funds, operating in a manner similar to a green bank, would ensure that Vermont does not miss out on opportunities to utilize federal funding and that these funds can be used in a manner that is more inclusive of local and underserved communities. An issue brief on Green Banks and the Inflation Reduction Act by the National Caucus of Environmental Legislators emphasized that states without green banks – or public entities with a similar function – would struggle to access $20 billion of funding made available through the Nation Clean Investment Funds and the Clean Communities Investment Accelerator. Without such a centralized entity it is unclear where these funds would go within Vermont and the state would lose out on the ability to influence how these funds are used to ensure local and underserved communities are prioritized.

Since 2011 more than ten states have created green banks to leverage public funds to spur private capital investment in clean energy projects. Green banks work with public entities, large capital investors, and smaller scale consumer investors through a variety of financial instruments including direct market-based lending or co-lending, loan guarantees, Property Assessed Clean Energy (PACE) financing, on-bill repayment programs and renewable energy power purchase agreements.

Examples of the local benefits these banks have been able to provide include:

- **Support for Municipal Solar**: The Connecticut Green Bank's "Solar Marketplace Assistance Program" (Solar MAP) provides important technical assistance for municipalities that want to go solar, and a similar program would be highly beneficial helping Vermont's many small towns and municipalities access the benefits of solar. Through Solar MAP, the Connecticut Green Bank assists municipalities with an assessment of their energy needs, conducts site analysis, solicits and reviews project bids, and leads them through the contract execution process. This eliminates many of the knowledge barriers for town and municipal staff and enhances local benefits.
- **Support for Community Solar**: The New York Green Bank provides construction financing for community distributed generation. This avoids several market barriers that can slow the deployment of community solar such as the inefficient use of equity funds and difficulty pricing the risk exposure from distributed generation.

- **Support for Commercial & Residential Renewables**: The Connecticut Green Bank supports building owners investing in solar by arranging power purchase agreement for building owners that allow no-up front cost solar investments and long-term stability in electricity prices. In addition, the Green Bank provides low-cost financing for residential solar and solar plus storage projects, including financing for roof replacement if it is necessary to solar. Providing support for both roof replacement and solar plus storage would be incredibly valuable in Vermont given the state's aging housing stock and the increasing threats of power outages as a result of intensifying extreme weather.

In short, Green Banks are able to provide a combination of technical and financial assistance that would be very valuable to Vermont towns, businesses, and families. The development of similar institutional capacity within Vermont would dramatical improve our chance of securing federal funding and maximize the benefits that we could provide with such funding.

Regenerative agriculture produces improved water quality, carbon sequestration and flood resilience. These Ecosystem Services (ES) are of great and increasing value to society and paying farmers is a very cost-effective way to secure them, as well as the rural community benefits that a healthy farm sector provides. Many farms will need to transform their production system to deliver these ESs. Transformation can be risky and/or expensive and farms are likely to need financial and technical support.

To help build and maintain a healthy farm sector in Vermont, **the Trust would provide coordinated financing and technical assistance (TA)** to farmers interested in transformation, **as well as ES payments** to any interested farmer based on quantified outcomes. For maximum effect, the Trust would operate two related funds:

- **The Outcomes Fund** would implement one or more pay-for-performance (PFP) programs that provide the framework, metrics and tools to quantify the relevant ESs and pay farmers for what they produce. The Outcomes Fund would aggregate carbon and water quality credits and market them through all available channels. Revenue from credit sales would be used to reward more farmers for environmental outcomes.
- **The Farm Transformation Fund** would provide interested farmers with the financial and TA resources necessary to achieve all-in soil health. A TA team of agronomy, dairy/livestock, and farm finance experts would work with each farmer to develop a farm transformation plan. Each farm-specific plan would contain estimates of productivity and financial performance, as well as ES generation. Improved profitability and divestment of unnecessary equipment would free up cash for new investment. Debt restructuring may be necessary for some farms. The projected flow of ES could inform financing terms and justify public investment in the transformation.