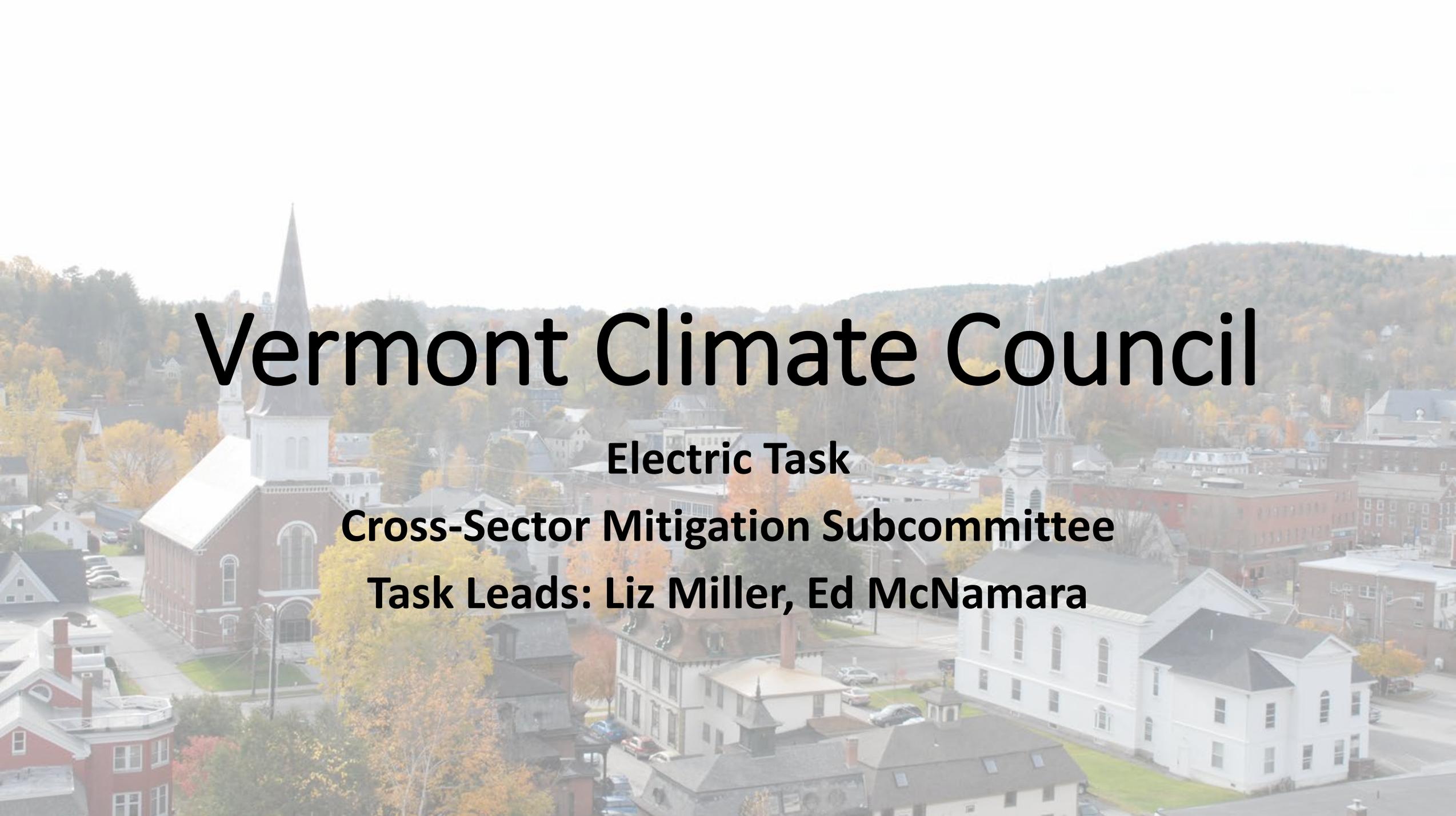


Vermont Climate Council

Building the Climate Action Plan

Initial Suite of Sectoral Pathways and Strategies

July 26th, 2021

An aerial photograph of a Vermont town, likely Burlington, showing a mix of historic and modern buildings. A prominent brick church with a tall steeple is on the left. The background features rolling hills with trees in autumn colors. The text is overlaid on the center of the image.

Vermont Climate Council

Electric Task

Cross-Sector Mitigation Subcommittee

Task Leads: Liz Miller, Ed McNamara

Global Warnings Solutions Act

Vermont Climate Action Plan Requirements

1. Reduce greenhouse gas emissions from the transportation, building, regulated utility, industrial, commercial, and agricultural sectors;
2. Encourage smart growth and related strategies;
3. Achieve long-term sequestration and storage of carbon and promote best management practices to achieve climate mitigation, adaptation, and resilience on natural working lands;
4. Achieve net zero emissions by 2050 across all sectors;
5. Reduce energy burdens for rural and marginalized communities;
6. Limit the use of chemicals, substances, or products that contribute to climate change; and
7. Build and encourage climate adaptation and resilience of Vermont communities and natural systems.

Global Warmings Solutions Act

Clear Sequence of Work

1. Five Subcommittees Defined in Statute to Develop the Work
 - Rural Resilience and Adaptation, Agriculture and Ecosystems, Cross Sector Mitigation, Just Transitions and Science and Data
2. Each Subcommittee following Clear Sequence of Work
 - Inventory existing programs to meet GWSA requirements
 - Identify, analyze and evaluate new strategies/programs needed to meet GHG requirements
 - Develop financing strategies for actions ready to implement
3. Develop monitoring strategy for assessing
4. Identify rules to be adopted (by ANR) by 2022
5. Adopt the Vermont Climate Action Plan by Dec 1, 2021 and update the Plan every four years thereafter.

Framework for Climate Action Plan

Pathways → Strategies → Actions

Cross-Sector Mitigation, Agriculture and Ecosystems and Rural Resilience and Adaptation

- A **pathway** is a high-level means of achieving GHG emissions reductions or adaptation, resilience, and sequestration goals. While written broadly, pathways should be stated specifically enough so that it is possible to assess whether progress has been made in achieving them.
- A **strategy** is a statement of measurable activity, a benchmark, to be reached in pursuit of the pathway. Strategies should be measurable and are a more specific subset of pathways.
- **Actions** are the “operational” tasks that the state will undertake to meet the pathways and strategies. Actions may be written around existing, or propose new, policies, programs, projects, initiatives, plans, etc. *These will be further developed in the coming months, informed by public engagement and technical analyses.*

Leading with Equity as a Core Component

The term “Just Transitions” is a way of framing for government and business action on climate change. Its work encompasses both public policies and business action to deal with the impacts of industry transition away from greenhouse gas emissions for jobs and livelihoods (the transition “out”) and aims to generate the low or zero greenhouse gas emission jobs and livelihoods of a sustainable society (the transition “in”). [Guiding Principles for a Just Transition, June 2021](#)

Guiding Principles for a Just Transition

Inclusive, Transparent & Innovative Engagement

Accountable & Restorative

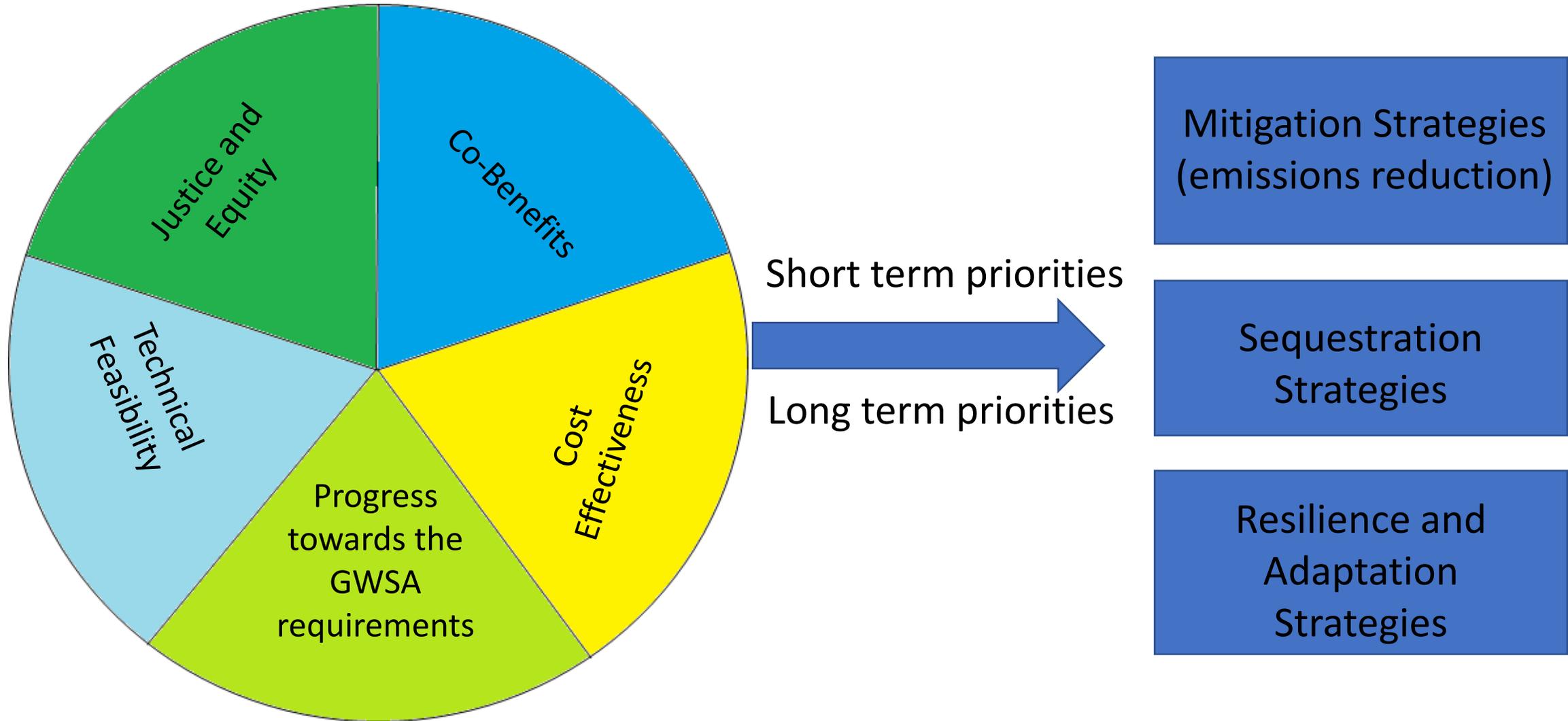
Moving at the Speed of Trust

Solidarity

The Most Impacted First

Supports Workers, Families & Communities

Climate Action Plan



Process to Date

1. Scope of Work Refined for Subcommittees
2. Subcommittee membership developed - technical expertise and diversity considered
3. Initial Ideas Explored by Task Leads
4. Presentation and Discussion
5. Pathways Presented

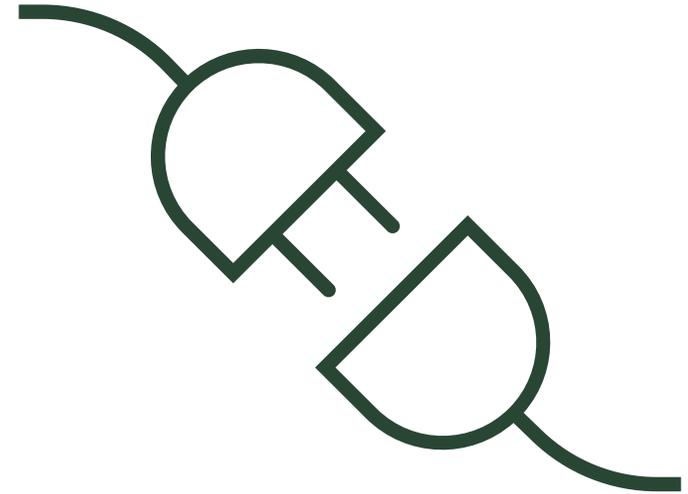


Electric Task Leads

- Liz Miller
- Ed McNamara

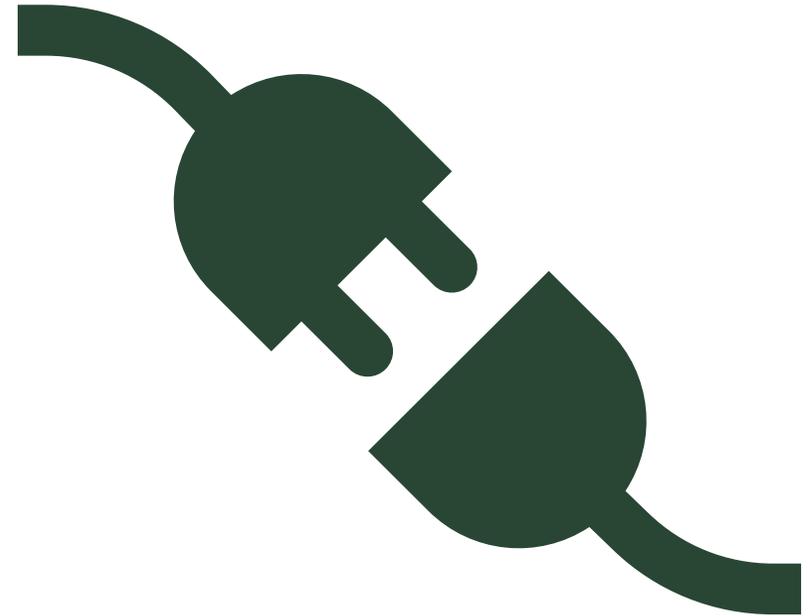
Developed with input so
far from

- Cross-sector members
- ISO New England
- SunRun
- Encore Renewable Energy

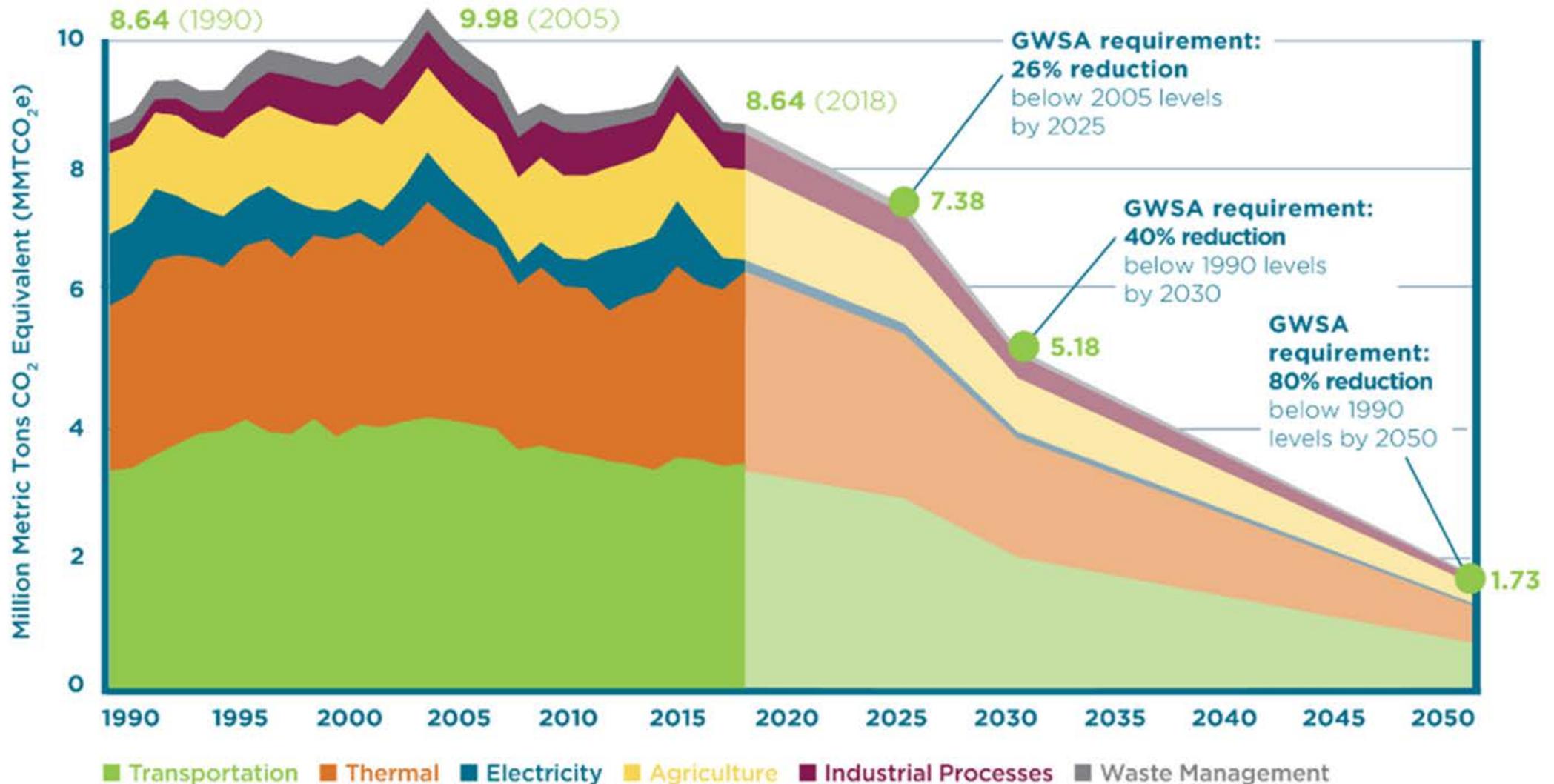


Process

1. Development of preliminary policies
2. Subcommittee discussion
3. Presentation to Climate Council
Public comment
4. Technical workshop in conjunction with Comprehensive Energy Plan process
5. Public-facing workshop



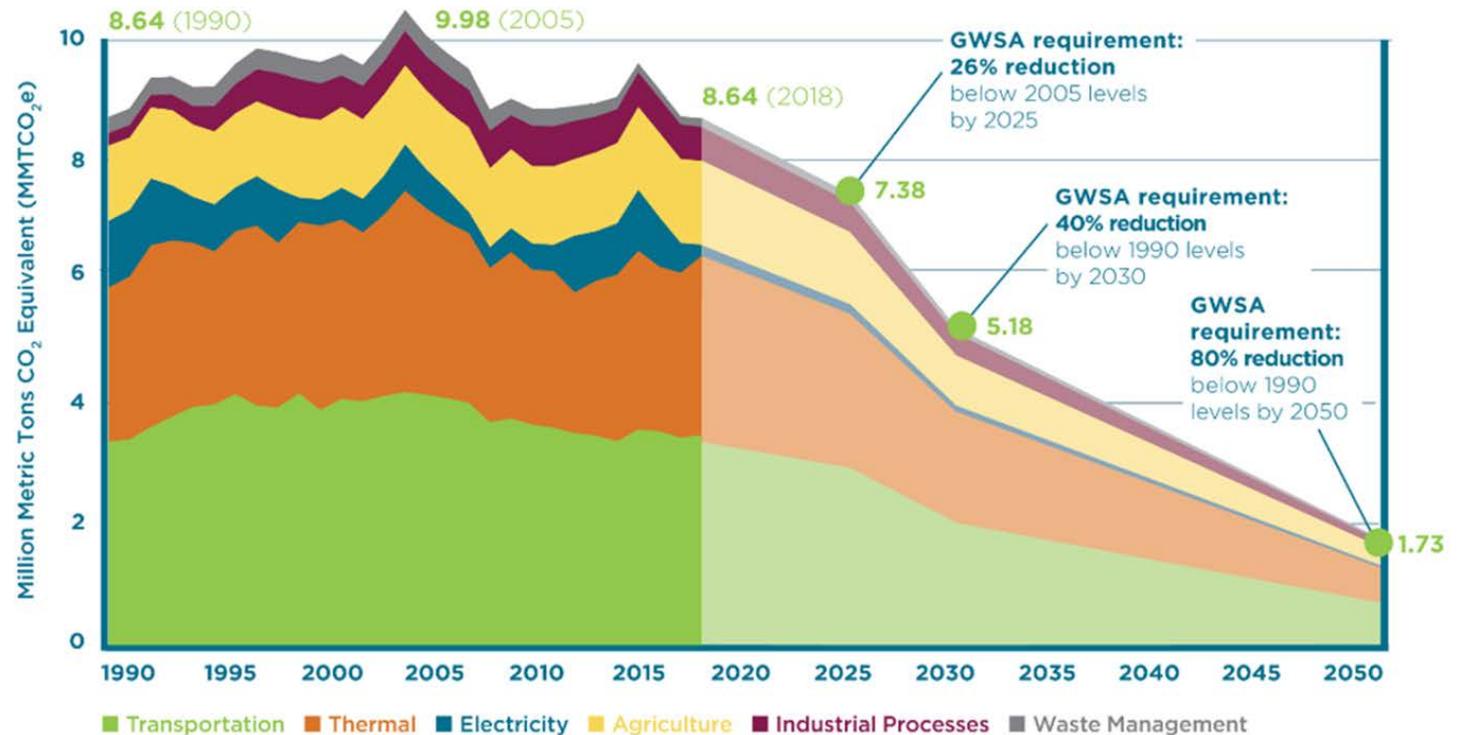
GWSA Emission Reduction Requirements



Electricity Task Focus

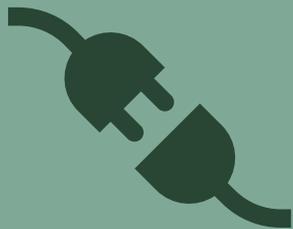
- Electric sector progress enables decarbonization in the transportation and thermal sectors.
- Renewable Energy Standard provides general framework for future decarbonization of electric sector

The blue band is what we are addressing with these proposals



Source: Vermont Agency of Natural Resources, Vermont GHG Emissions Inventory and Forecast (1990-2017), 2021.

Climate Action Plan recommended pathways



1. Achieve 100 % Renewable Electricity Supply Statewide
2. Promote Flexible Load Management to Maximize Benefits of Electrification
3. Enable “Electrification for All” in support of resiliency for Vermonters and communities



Pathway #1: Achieve 100 % Renewable Electricity Supply Statewide

This Pathway ensures Vermont's electric supply supports decarbonization of all sectors, esp. heating and transportation.

Strategy:

- ✓ Implement a 100% Renewable Energy Standard – Legislation to Amend Current RES
 - Existing power supply = 94% carbon free
 - 27% nuclear; 67% renewable
 - Current RES reaches 75% renewable by 2032
 - Percentage requirements in current legislation ensures increased load from electric vehicles, heat pumps, etc., are captured
 - Could focus on carbon free, rather than renewable, as in some other states, but focus here likely to continue to be renewable



RES Amendment Considerations

Important policy issues need to be considered in RES Amendment:

- In-state requirements; level from resources delivered into New England grid; diversity of supply considerations
- Supporting continued operation of existing renewables here and regionally while ensuring significant, new resources are built cost effectively to support decarbonization and other state economic goals
- Measurement period (annual, as now, or eventually seasonal or daily)
- What to do about projects from SPEED program?
- How to be mindful of costs to ensure electrification is cost competitive

...Supporting 100% and developing common understanding of tradeoffs/choices on design to inform legislative discussion will be a worthwhile accomplishment for the Climate Plan, while 100% RES ensures overall further carbon reduction



Pathway #2: Promote Flexible Load Management to Maximize Benefits of Electrification

This Pathway helps enable electrification by limiting cost impacts that otherwise would occur for the grid and individual users, and helps create more carbon reduction

Strategies:

- ✓ Continue/expand cost-effective direct load control programs
 - e.g., Programs for managed charging by utility with agreement of customers for multiple devices (EV chargers, heat pumps, water heaters, etc.)
- ✓ Enable customer programs that match load and generation
 - e.g., Storage paired at homes with distributed renewable generation - creates resilience at individual home level for and of load control for grid by homeowner, energy services companies, utilities
- ✓ Encourage Rate Design to Promote Electrification
 - e.g., Time-of-use rates – shifted rate design to have peaks at “right” hours
- ✓ Encourage overall energy reductions while enabling fuel switching
 - e.g., Energy efficiency, weatherization (for homes with heat pumps)



Pathway #3: Enable “Electrification for All”

This Pathway supports equity and resiliency for Vermonters & their communities as we decarbonize.

Strategies:

- ✓ Create policies & funding sources to support Vermonters’ ability to make in-home/ in-business infrastructure upgrades to promote decarbonization, with equity in mind
 - e.g., Grants/incentives and low-cost financing for multifamily homes and older buildings
 - e.g., Coordination hand-in-hand with utility programs and weatherization efforts so that panels, service, equipment are not a barrier to switching from fossil fuels for transportation and heating
- ✓ Support Community Resiliency Zones through community-level planning for recovery and resilience
 - e.g., Plan areas of local generation + local storage + local communications hub in central place suited to core community services when weather or other events affect infrastructure and impact Vermonters