

Vermont Climate Council

Building the Climate Action Plan

Initial Suite of Sectoral Pathways and Strategies

July 26th, 2021

Vermont Climate Council

**Transportation Task
Cross-Sector Mitigation Subcommittee
Johanna Miller & Gina Campoli**



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

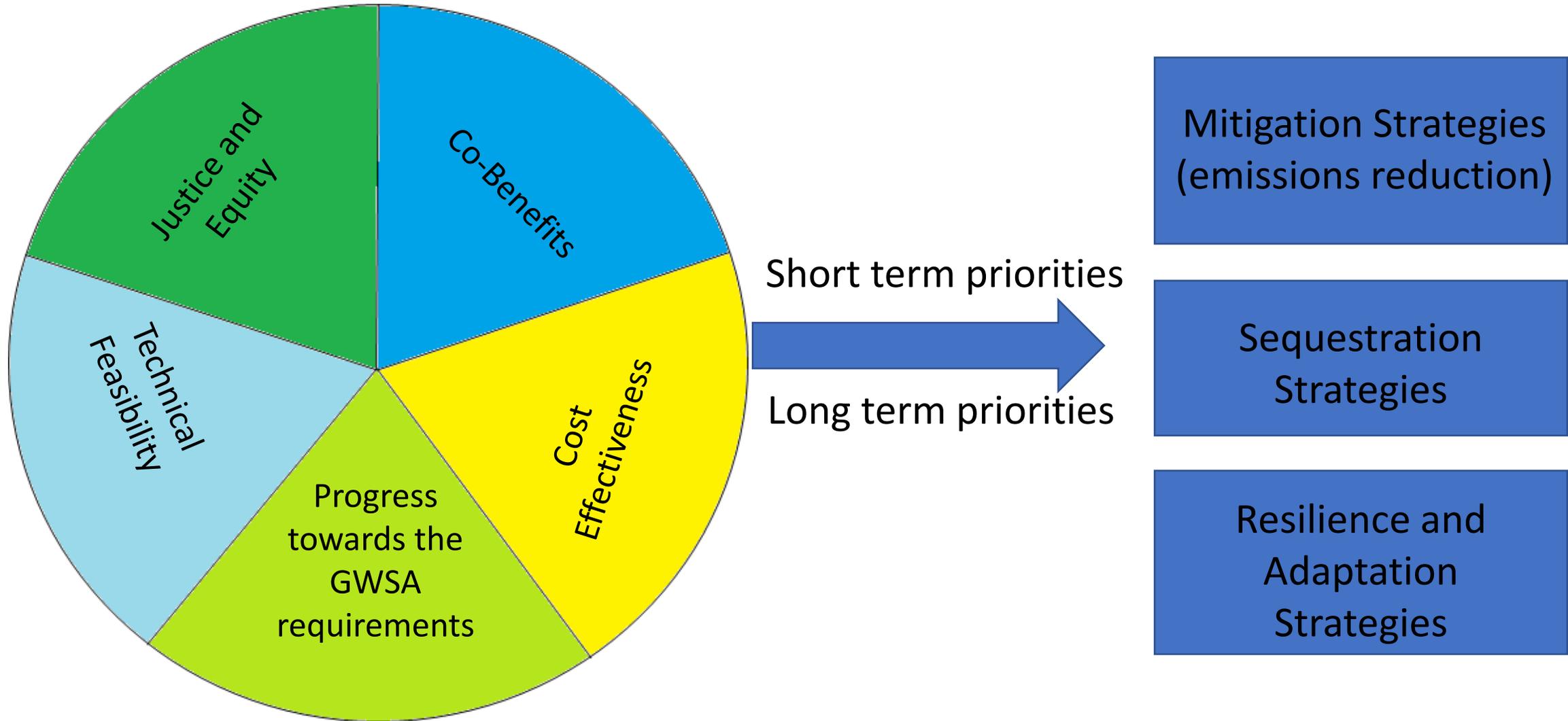
Moving at the Speed of Trust

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

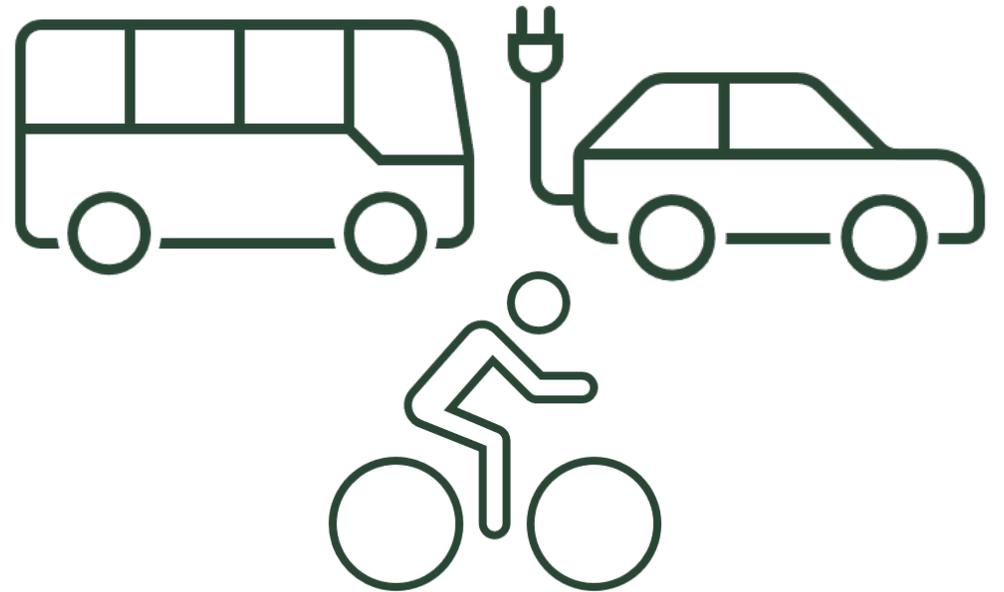


Transportation Task Leads

- Johanna Miller
- Gina Campoli

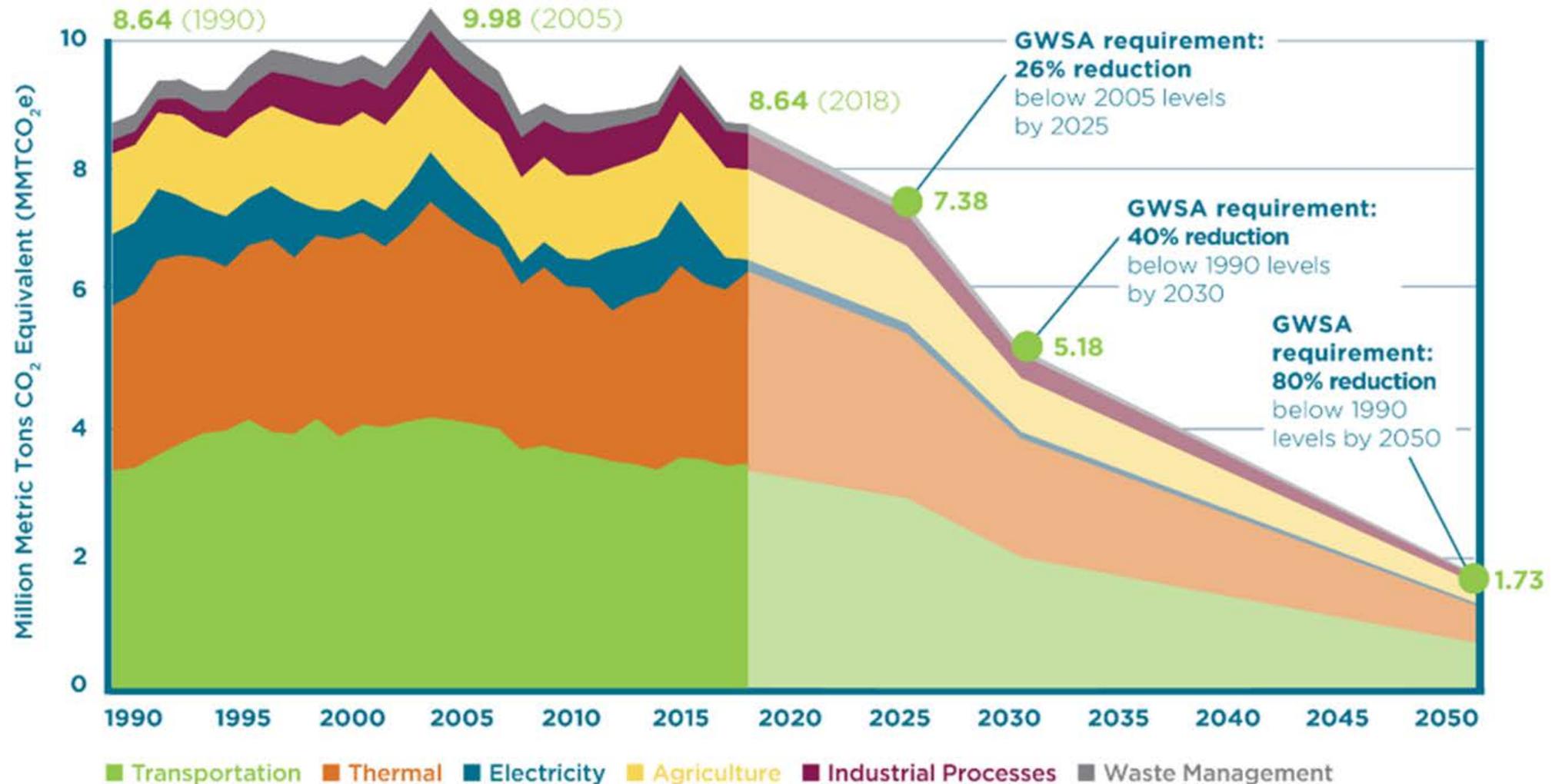
Developed with input from:

Climate Council Cross Sector Mitigation members, state officials, and other state transportation and land use experts



GWSA Emission Reduction Requirements

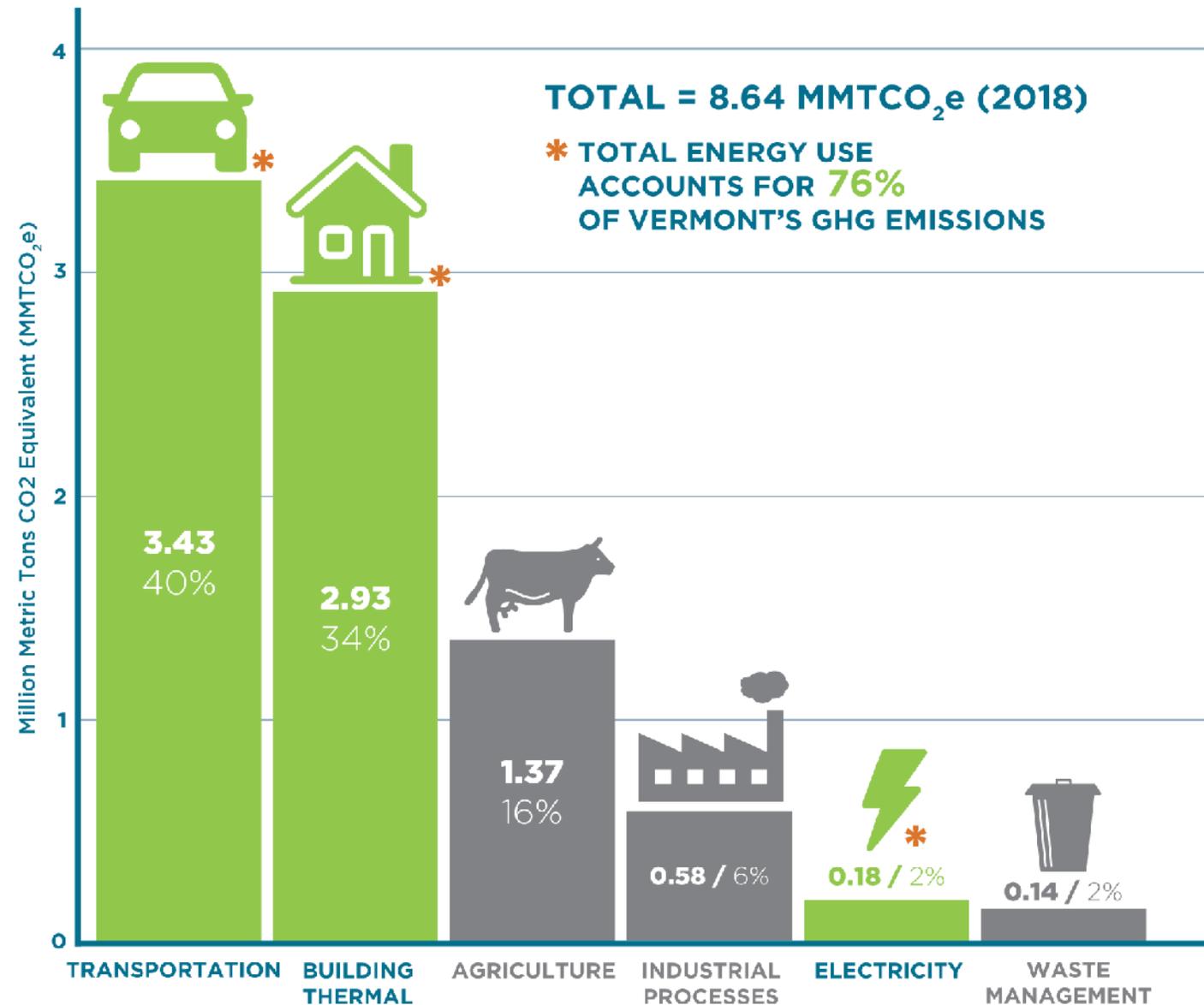
The green band is transportation: What these pathways aim to address



Transportation Task Focus:

- Transportation = 40% of VT's GHGs
- Vehicle electrification is a near term priority with clear benefits
- A continuous and equally important priority is to increase overall vehicle and transportation system efficiency
- Reducing single occupancy vehicle trips by growing transportation choices such as transit, biking and walking, carpooling and other strategies are required now and in the decades to come
- This can only occur if today's urban, town and village centers are strengthened and future growth is not car dependent

Vermont's GHG emissions by sector, 2018

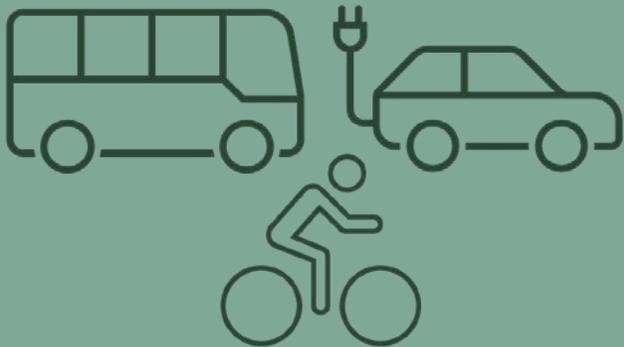


Modeling/Data Timeline and Needs



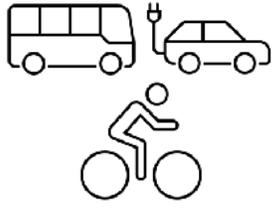
- Evaluating the emissions benefits and cost effectiveness of the state's current investment in EV purchase incentives, public charging, transit, demand management and other transportation and land use programs
- Calculating Vermonters current transportation costs and assess potential strategies for redirecting existing investments into more clean, cost effective alternatives
- Determining what additional investment, program modifications or new programs might be needed to achieve the state's emissions goals
- Calculating the economic, health and other benefits of policy and program recommendations
- Determining the extent of public charging necessary to address the required increase in EVs
- And more.....

Climate Action Plan recommended pathways



Transportation Pathways:

1. Increase transportation electrification
2. Improve vehicle efficiency
3. Explore opportunities for low carbon fuels
4. Increase transportation choices and improve transportation system efficiency
5. Foster compact communities with land use and smart growth

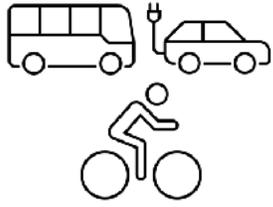


Pathway #1 Increase Transportation Electrification – Light Duty

- Grow the market for new & used, full & partial EVs by improving & increasing incentives for low and moderate income car purchasers
- Increase availability of public fast charging equipment focusing on roadway locations, workplaces & large institutions
- Make residential charging available to all through incentive programs prioritizing underserved communities and multi-family housing

Currently about 4,000 PEVs are registered in Vermont. The Energy Action Network estimates we need 46,000 EVs on the road by 2025. This would require 1 in 4 new annual vehicle lease/purchases to be electric. Currently, just over 7% of new passenger car registrations are now electric.

Energy Action Network

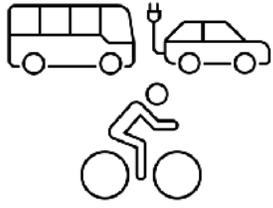


Pathway #1 Increase Transportation Electrification – Light Duty

- Help address the deficiency in consumer knowledge when purchasing and operating an EV. Create an EV “navigator service” for consumers.
- Work with car dealers & others re. EV supply chain challenges, workforce development/technician job training & market development strategies
- Expand state, municipal and private fleet lead by example programs

How do we make the info now available on the Drive Electric VT website available to all Vermonters?

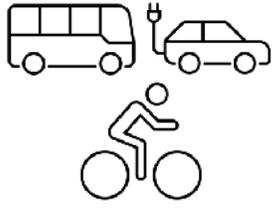
The screenshot shows the website header for Drive Electric Vermont. The logo is in purple and green. Navigation links include 'Why Go Electric', 'Benefits For Vermont', 'Charging Stations', 'For Businesses', and 'Blog'. A 'Download our Fact Sheet' button is visible. The main content area is titled 'Introduction to Electric Vehicles' and contains text about the benefits of plug-in electric vehicles (EVs), including their efficiency and lower maintenance costs compared to gas vehicles. It also mentions that purchase incentives are available to help reduce the cost of an EV purchase.



Pathway #1 Increase Transportation Electrification - Light Duty and Heavy Duty

- Continue to exercise the state's authority as a "Section 177 state" by adopting the CA emissions standards
- Continue DEC's participation in multi-state "ZEV" programs and develop and implement a state action plan for light and heavy duty

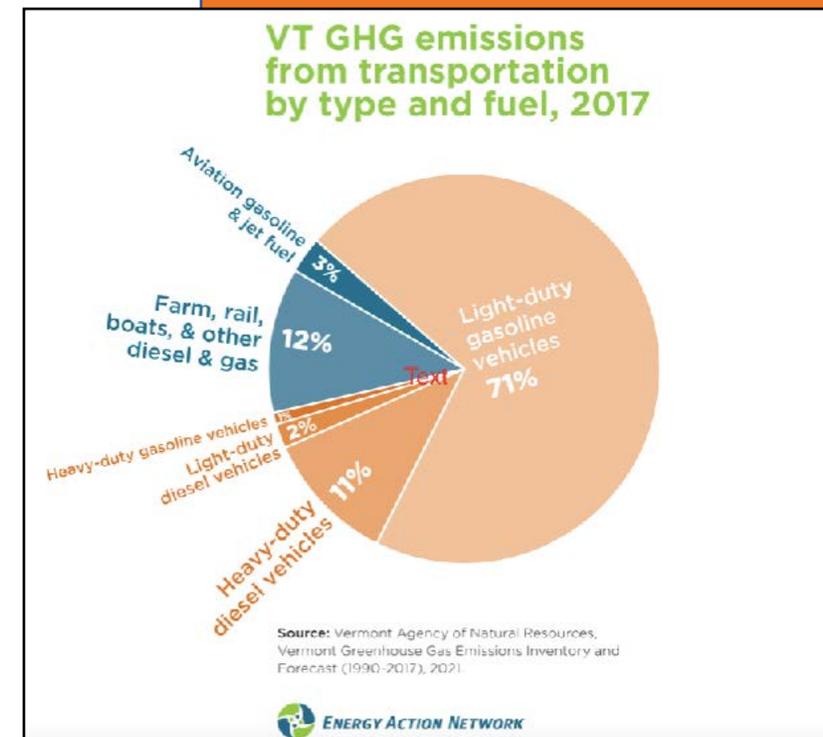
California, other states and the EU have proposed banning the sale of new fossil fuel vehicles after 2035.

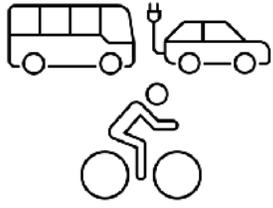


Pathway #1 Increase Transportation Electrification - Heavy Duty

- Create purchase incentives for state transit & bus fleets and expand capacity in state government to assist with school bus electrification programs
- Expand R&D Programs and outreach and education programs for public and private HD fleet operators
- Set a HD fleet conversion date requirement - a goal of all new, public HD trucks and busses sold after 2025 are electric when cost-effective equivalent technology is available

Heavy duty vehicles registered in VT represent a relatively small but important % of transportation emissions. ereduReducing





Pathway #1 Increase Transportation Electrification – Bike, Motorcycles, Scooters, ATVs, etc.

- By 2025, institute a time of purchase policy or program that incentivizes the purchase of electric alternatives for all transportation related equipment, as it becomes available

From the Drive Electric VT Website - E Bike incentives are available now.

Electric Utility e-Bike Incentives

Burlington Electric Department

BED offers a **\$200 discount on an e-bike purchase** for existing customers.

Green Mountain Power

GMP offers a **\$300 discount on an e-bike purchase** for their customers.

Vermont Public Power Supply Authority

VPPSA offers a **\$100 rebate on an e-bike purchase** for customers served by one of the following public power utilities: Barton Village, Village of Enosburg Falls, Hardwick Electric Department, Village of Jacksonville, Village of Johnson, Ludlow Electric Light Department, Lyndonville Electric Department, Morrisville Water and Light Department, Northfield Electric Department, Village of Orleans, and Swanton Village.

Washington Electric Coop

WEC offers a **\$200 discount on an e-bike purchase** for their customers.



Pathway #2: Improve Vehicle Efficiency

- Implement a point-of-purchase program that incentivizes electric vehicles & disincentivizes new low MPG ICE vehicles (per vehicle class)
- Expand or create programs that help provide more efficient vehicles for Vermonters with lower incomes, such as Mileage Smart
- Investigate the emissions benefits of reducing Interstate highway truck speeds

“Vermonters on average spend **over \$2,500 annually** on transportation fuels alone. Energy burden is around 10% on average for Vermont households, with spending on energy costing households over \$5,800.”

VEIC 2019 VT Energy Burden Report



Pathway #3: Explore Opportunities to Advance Low Carbon Fuels

- Follow research and explore potential opportunities in the transportation sector for biodiesel, RNG, hydrogen fuel cells etc.
- Explore strategies such as a regional Low Carbon Fuel Standard

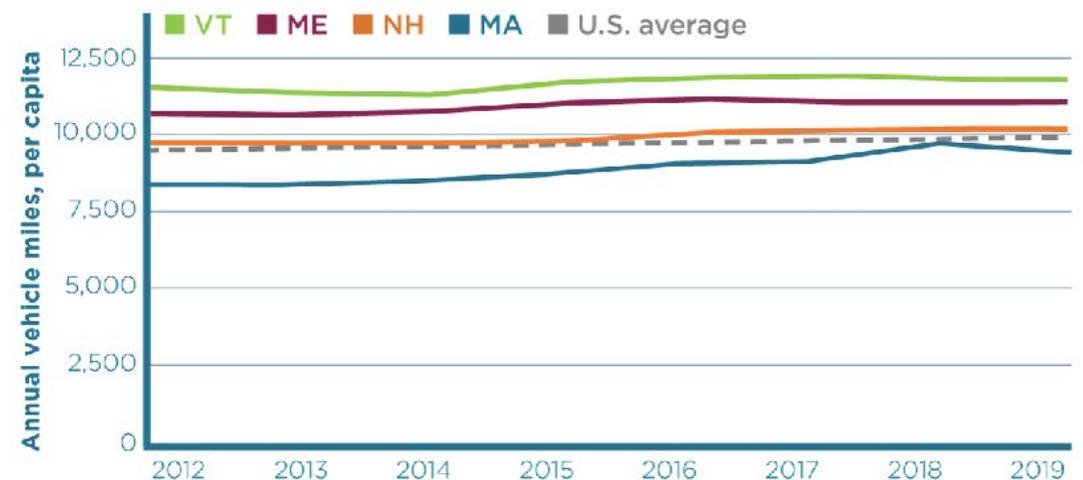


Pathway #4: Increase transportation choices

- Expand transit, inter-city bus, commuter rail, rail, ride share programs & more
- Obtain federal & other funding for rail, transit intermodal and other infrastructure
- Improve and increase bike & pedestrian facilities and infrastructure including expanding the Complete Streets program and increasing money and assistance to municipalities.

Make the way Vermonters move around more energy efficient and less fossil fuel dependent by encouraging and creating alternatives to the single occupancy vehicle.

Vehicle miles traveled, per capita



Source: Federal Highway Authority: Highway Statistics, 2019; U.S. Census Bureau, 2021.



Pathway #5: Land Use and Smart Growth

- Fund critical infrastructure (water, sewer+) in compact urban/village centers to facilitate land use density necessary for reducing VMT
- Increase downtown programs and other ACCD planning and funding opportunities
- Establish a State Planning Office to support smart growth & climate action plan implementation
- Improve integration of state, regional and local land use and sustainable transportation planning
- Provide guidance to communities regarding policies and regulations that promote alternatives to SOV use
- Conserve large forest blocks, farmland, and open spaces outside of downtowns and village areas

Vermont's distinctive sense of place is tied to its primary land use planning goal: to plan development so as to maintain the historic settlement pattern of compact village and urban centers separated by rural countryside.

Agency of Commerce and Community Development's website