

2021 Climate Action Plan Progress | Updated September 2024

This table tracks progress made on actions from the *Initial Climate Action Plan 2021*. These actions are different from those in the *Vermont Climate Action Plan 2025*, which may be found in [Appendix 3: Full Suite of Pathways, Strategies, and Actions](#). The statuses of these actions were last updated in September 2024, except where noted, and may differ from the current status today.

Action	Status
Pathway 1 (Transportation): Light Duty Electrification	
Strategy 1a: Market-Driving Technology Forcing Regulatory Programs	
Adopt California Air Resources Board Advanced Clean Cars II Regulations beginning no later than Model Year 2026, which includes, as proposed, a 100% ZEV sales requirement by 2035, more stringent criteria pollutant emissions standards, robust vehicle durability standard, warranty provisions, battery state of health standardization, battery labeling, and availability of repair information to independent repair shops. <i>*Status updated June 2025 due to Executive Order 04-25</i>	Paused*
Strategy 1b: Light Duty Electric Vehicle Purchase Incentives	
Fund incentives for and further administration of the Incentive Program for New Plug-in Electric Vehicles (PEVs), MileageSmart, Replace Your Ride Incentive Program and Electric Bike Incentive Program. New PEV is currently being administered by DEV and utilities, and VTrans is planning to procure an administrator for three of the aforementioned programs, except Mileage Smart which is being administered by Capstone Community Action. Amend program parameters (incentive amounts, income threshold requirements, etc.) based on analysis of current program, consumer data and the anticipated scale of need correlated to this and corresponding recommendations. Specifically, expand EV incentives; fund used EV vehicle incentives, determine the dollar amounts and makeup of purchase incentive needed to achieve EV deployment and equity goals, such as, if incentives are tiered, create income tiers instead of vehicle price tiers. Include eligibility for business and municipal fleet EV purchases. Maximize existing revenue streams, maximize American Rescue Plan Act and other potential federal funding streams to expand these programs and determine long term funding source(s) as needed.	Being Implemented
Further fund and implement the Replace Your Ride purchase incentives, which can be accessed in combination with programs like Mileage Smart.	Being Implemented

Design and implement a vehicle efficiency price adjustment linked to new vehicle purchase and use tax within vehicle classes to incentivize purchase of more efficient vehicles (electric vehicles in particular) and disincentivize purchase of less efficient vehicles. Factor income and business use into the rate for potential fee relief. Determine how to best integrate this program with the purchase incentives implemented in complimentary actions.	Advancing (Action Modified)
Strategy 1c: Public Investment in Electric Vehicle Supply Equipment (EVSE)	
Fund further build-out of DCFC (Level 3) and Level 2 EVSE based on the EVSE Deployment Plan developed by Drive Electric Vermont pursuant to VTrans' Multipronged Vehicle Electrification Strategy and continue to coordinate regional efforts. Incorporate prioritization of multi-family and workplace charging availability, such as equity principles and environmental justice mapping tools into implementation of program and funding decisions.	Advancing
Direct the PUC to work with electric utilities in developing beneficial EV charging electricity rates and alternative demand charge rate designs for low utilization, high power charging locations.	Advancing
Strategy 1d: Join the Transportation and Climate Initiative Program (TCI-P) when regional market viability exists	
Join the Transportation and Climate Initiative Program, when regional market viability exists; adopt rules to participate in the TCI program starting in 2023. Enact a complementary policy that goes further to ensure equity outcomes (consider a firewalled fund, establish an expanded equity board, direct a minimum/significant investment in LI, rural, overburdened and underserved communities, e.g. 70%) and have funds go to transportation related or efficient transportation enabling investments.	No Action Taken
Strategy 1e: Educate drivers on benefits of electrification and other transportation options to reduce vehicle miles traveled (VMT)	
Fund implementation and further enhancement of a unit within Vermont's driver education curriculum to educate student drivers about electric and high efficiency transportation options, as well as how to reduce VMT via use of other transportation options.	Being Implemented (Action Modified)
Pathway 2 (Transportation): Heavy Duty Electrification	
Strategy 2a: Market Driving, Technology-Forcing Regulatory Programs	

Adopt California Air Resources Board Advanced Clean Trucks Rule (an increasing percent ZEV sales requirement for manufacturers), Low Nox Omnibus Rule (includes a more stringent NOx emission standard and lengthened useful life and warranty), and Phase II GHG Rule for Truck Trailers beginning no later than Model Year 2025. Fund incentives for medium and heavy duty electric fleet purchases. <i>*Status updated June 2025 due to Executive Order 04-25</i>	Paused*
Strategy 2b: Electrify medium and heavy-duty vehicle auxiliary systems	
Fund programs that incentivize electric auxiliary systems, such as (but not limited to) hybrid-electric bucket trucks and electric transport refrigeration units.	Advancing (Action Modified)
Strategy 2c: Same as Strategy 1d	
See Strategy 1d	
Pathway 3 (Transportation): Reduction in Vehicle Miles Traveled	
Strategy 3a: Increase state, regional and local capacity to plan for VMT reduction and implement sustainable transportation strategies.	
Require VTrans, in coordination with the Climate Council and legislative committees of jurisdiction, to develop a state sustainable transportation implementation plan to include: 1) Identification of VMT benefits of Smart Growth, 2) VMT reduction targets, 3) Determination of the appropriate level of investment across transportation modes to achieve short and long-term goals and funding necessary to achieve those goals, 4) Support of RPCs and municipalities to develop local and regional transportation planning. Plan should incorporate recommendations from UVM Transportation Research Center's and Transportation for America/State Smart Transportation Initiative's analyses, respectively.	Advancing (Action Modified)
Extend fare-free transit to all public transit users.	Advancing (Action Modified)
Continue and expand the state's commitment to Amtrak and inter-city bus service, including micro-transit	Advancing
As a core component of developing a state sustainable transportation implementation plan, require VTrans to develop a multi-year plan to increase availability and use of transit and micro-transit to achieve a more robust, integrated public transportation system.	Advancing
Fund and expand the state's Complete Streets, trails, and other bike/ped funding programs.	Being Implemented
Pathway 4 (Transportation): Lower the carbon intensity of fuels	
Strategy 4a: Same as Strategy 1d	
See Strategy 1d	

Pathway 5 (Buildings & Thermal): Reduce energy use in buildings by at least 25% through cost-effective and affordable weatherization and energy efficiency improvements, as well as through use and enforcement of energy codes.

Strategy 5a: Develop and implement a multi-year statewide Weatherization at Scale initiative

Legislature authorizes administration to coordinate WWG recommendations into Vermont Climate Action Plan.	Action not defined
Adopt legislative or administrative recommendations made by the Weatherization at Scale EAN Action Team (WWG)	Being Implemented
Develop and implement a plan for coordinating and enhancing counseling services to Vermonters with low and moderate- income who could benefit from the State's energy savings programs (Public Service Department)	Being Implemented
Encourage utilities to develop and submit tariff on-bill financing proposals to fund efficiency investments to the Public Utilities Commission for review and approval pursuant to 30 V.S.A. § 209	Being Implemented
Administration appoints lead agency to coordinate government workforce development efforts to avoid duplication of effort across state government	Being Implemented (Action Modified)

Strategy 5b: Institute a rental property efficiency standard (RPES)

Authorize the adoption of efficiency standards for existing rental properties, allowing for an 8-year implementation plan, the first 5 years of which would be marked by significant education and funding to ease the implementation for property owners. This would be a relatively *modest standard. For example, the approach adopted for this purpose in Boulder CO, uses a point scale that roughly equates to the 1999 IECC. *For reference, in 1998 Vermont enacted a more stringent statewide residential energy code than what is being proposed here. that code was based on the 1995 CABO/MEC and Vermont amendments to the 2000 IECC.	No Action Taken
---	-----------------

Strategy 5c: Improve the energy performance of all new buildings in Vermont

Regular update of the statewide residential and commercial building and energy codes by the Public Service Department culminating in a net-zero requirement by 2030	Advancing
Develop and fund a state-level Energy Code Circuit Rider initiative that provides code training and enforcement assistance to municipalities throughout the state to ensure awareness of and compliance with existing and future building and energy codes (Public Service Department)	No Action Taken

Pathway 6 (Buildings & Thermal): Reduce building-related carbon emissions by reducing the carbon content of the fuels they use

Strategy 6a: Implement a Clean Heat Standard

Adopt legislation authorizing the PUC to administer a Clean Heat Standard	Advancing
Strategy 6b: Transition the water heater market in Vermont to ensure the availability of water heaters whose total cost of ownership is lower than other models, and which can be controlled by electric utilities to help manage their power grids at low cost.	
Authorize the Department of Public Service to engage with neighboring states and stakeholders to adopt appliance standards for Vermont and the region that require electric storage water heaters for sale in Vermont to have a modular demand response communications port that complies with the ANSI/CTA-2045-A or an equivalent communication interface standard	No Action Taken
Pathway 7 (Electricity): Further decrease GHG emissions from electric sector purchases	
Strategy 7a: 100% Carbon-free or Renewable Electricity	
Review design parameters of 100% carbon-free electric portfolio standard that equitably promotes electrification - Here are the questions reviewed by the CC previously that we would expect to include: Mechanisms to support equitable access to renewable energy Supporting existing versus new resources In-state versus out-of-state generation Supporting generation of all sizes (ex. small scale distributed energy resources (DERs) versus utility-scale/larger DERs) • Scale of deployment • Energy storage (both short and long duration) Time scale on which renewability is measured (ex, annual, quarterly, monthly, hourly) • Incentivizing resources to deliver when needed (e.g. during peak hours, noting that these are likely to shift over time; seasonal needs such as winter loads; how storage may fit in) Siting, including environmental, community, and transmission system considerations Carbon impact of resources; what source/criteria are utilized • Informed by GHG inventory recommendations Timeline for reaching 100%	Advancing (Action Modified)
Pathway 8 (Electricity): Enable All Vermonters to Choose Electrification	
Strategy 8a: Providing financial and technical assistance for Vermonters to upgrade electric service and to purchase and install equipment.	
Develop programs for implementation regarding 200-amp service and related building upgrades, coordinated with weatherization, efficiency, and equipment incentive programs (EV chargers, HP, storage, etc.) and ensure that any potentially related statewide programs (such as Clean Heat Standard, if adopted, or enhanced weatherization efforts) includes building electrical upgrades in their design and funding models in order to enable decarbonization.	Being Implemented

Pathway 9 (Electricity): Load Management and Grid Optimization	
Strategy 9a: Support and expand on existing programs and policies that encourage load management and grid optimization.	
Support direct utility load control programs, including implementation of management platform	Advancing
Encourage dynamic rate offerings, including those designed to encourage direct load/generation matching, and rate design to support electrification through shared customer savings	Advancing
Pathway 10 (Agriculture & Ecosystems): Maintain and expand Vermont's natural and working lands' role in the mitigation of climate change through human interventions to reduce the sources and enhance the sinks of greenhouse gases.	
Strategies	
Expand Capital Equipment Assistance Program (CEAP) program to extend beyond water quality and incorporate climate change criteria	Advancing
Implement agroforestry and silvopasture practices that integrate woody vegetation in agricultural production.	Advancing
Implement agronomic practices that reduce tillage and increase vegetative cover, e.g., no-till, cover crop.	Advancing
Implement edge-of-field practices that increase herbaceous and woody vegetation, e.g. riparian forest buffer (e.g. CREP).	Advancing
Implement grazing practices that increase vegetative cover and forage quality, e.g. rotational grazing.	Advancing
Implement methane capture and energy generation on farms, e.g., anaerobic digesters and covers.	Advancing
Implement Nutrient Management and Amendments (e.g., biochar, compost) on cropland and grazing land.	Advancing
Research and develop a climate feed management program, including both feed amendments (e.g. seaweed, biochar) and feed quality (e.g. forage quality) to reduce enteric methane emissions; consider downstream impacts, sustainability and equity.	Advancing
Research and pilot improved manure management and storage programs.	Advancing
Implement natural resource restoration practices that support climate mitigation and resilience, including river corridor easements, wetland restoration, and afforestation practices with consideration to agricultural land loss.	Being Implemented
Pathway 11 (Non-Energy): Reducing Emissions of Refrigerants in Vermont	

Strategy 11a: Adopting a Refrigerant Management Program (RMP) and Related Actions	
Work with VEIC and additional stakeholders to better understand the number and type of entities that would be potentially subject to a refrigerant management program (RMP) and the associated costs and benefits. 2) Work with VEIC to perform additional outreach and education to help determine the scope and thresholds for such a program. 3) Consider whether to require permanent leak detection systems for entities using over a certain threshold of high GWP refrigerant and if a cost share should be provided, with additional outreach through work with VEIC and other stakeholders to better understand the number of applicable entities and the costs and benefits of such a requirement.	Advancing
Provide incentives for businesses to transition from high GWP refrigerants to lower GWP alternatives using data from outreach for RMP development to target appropriate facilities. This would be a voluntary program that would speed the transition to lower GWP refrigerants and supplement/compliment reductions achieved through the Act 65 rulemaking.	No Action Taken
Pathway 12 (Non-Energy): Reduce Process Emissions from Semiconductor Manufacturing in Vermont	
Strategy 12a: Continue to Explore Efficiencies and Alternatives to High GWP Fluorinated Gases in the Semiconductor Manufacturing Process	
Global Foundries has been pursuing several actions (use of technologies in the manufacturing process to destroy high GWP gases when emitted and chemical substitutions) already and discussions have been ongoing between Global Foundries, the Public Service Department (PSD), and the Agency of Natural Resources (ANR) through a pending Public Utilities Commission (PUC) proceeding considering Global Foundries' petition to become a Self-Managed Utility (SMU). The PUC proceeding may or may not result in emission reductions for Global Foundries consistent with the GWSA requirements. As of the date of this plan, the PUC proceeding has not been concluded. In the absence of sufficient and/or binding emissions reductions consistent with the GWSA requirements, ANR will promulgate rules in a timely manner necessary to ensure the 2025, 2030, and 2050 emissions reductions requirements are met. In the event that the PUC proceeding has not concluded by December 1, 2022, ANR will commence rulemaking.	No Action Taken
Pathway 13 (Non-Energy): Reduce Fugitive Emissions from Wastewater Treatment Facilities	
Strategy 13a: Ensure Flares are Operational at Existing Anaerobic Digesters at Wastewater Treatment Facilities	

1. Complete a survey of WWTFs with Anaerobic Digestors (ADs) and their operational status. 2. For ADs without current beneficial use, require an engineering evaluation (cost subsidized) to determine cost of capital investment and asset management to install beneficial use system. 3. Work with municipalities to discuss funding options for implementation of beneficial use systems 4. Provide subsidies to encourage the implementation of beneficial use or flaring of methane where beneficial use systems cannot be implemented. 4. Require all applicable facilities that are not implementing beneficial use to have functional flares installed by January 1, 2030.	Action not defined
Pathway 14: Increase capacity for climate resilience planning and implementation, and address inequities of under-resourced communities.	
Strategy 14a: Provide tools and resources to help communities assess climate vulnerabilities and create climate resilience plans.	
Develop a climate planning toolkit to help towns assess vulnerabilities to climate change impacts, such as heat, air quality, drought, flooding, high winds, heavy rain, hail and sleet, and identify and prioritize actions to increase their resilience to climate change. Include newly developed tools, such as the vulnerability index, and existing tools, such as the AOT Repeat Flood Damage Inventory Tool, and the NOAA Climate Resilience Toolkit.	Being Implemented
Strategy 14b: Establish permanent statewide funding and technical support for local and regional climate resilience planning and project implementation to enhance rural resilience to impacts of climate change.	
Create and fund one natural resource staff position at every Regional Planning Commissions to assist with implementation of climate policies and natural resources requirements such as Act 171 (forestry and habitat blocks). Use the Transportation Planning Initiative as a model to fund RPC natural resource staff and support trainings with ANR and other partners.	Advancing
Provide technical assistance to municipalities to assess the flood and erosion risks facing their drinking water and wastewater systems and identify potential mitigation improvements.	Advancing
Increase funding to Regional Planning Commissions and local municipalities to support climate and energy planning and target funds to support towns with limited staff and marginalized populations that score high on the climate vulnerability index.	Advancing
Increase and create a permanent state fund for design and implementation of local and regional climate adaptation and resilience projects.	No Action Taken
Establish a state level individual assistance program to provide financial assistance to uninsured or underinsured households impacted by disasters not federally declared. Program should incorporate Community Action Agencies and supporting networks to ensure assistance is received expeditiously by those that need it most.	No Action Taken
Strategy 14c: Expand cross-sector collaboration to align efforts, share best practices, and leverage resources to advance resilience and preparedness efforts statewide.	

Identify and develop new programs to address the full range of climate impacts, especially those that impact important Vermont industries, including drought, less or irregular snowfall, and shorter or irregular sugaring season.	Advancing
Complete a Statewide climate change impact assessment for Vermont's commercial sector and natural resource based industries including but not limited to the ski, sugaring, and logging industries.	No Action Taken
Strategy 14d: Increase community participation in local governance and support civic engagement and citizen involvement.	
Require remote meeting options, including a call-in option for all meetings of public bodies; allow fully virtual meetings of public bodies with guidelines similar to the State of Emergencies; evaluate options for online collaboration in preparation for a meeting that can be done with transparency.	Completed
Pathway 15: Proactively and strategically invest to enhance resilience in transportation, communications, water/wastewater, and energy infrastructure statewide.	
Strategy 15a: Create a policy, planning and organizational foundation to support effective investments in infrastructure resilience.	
Create a framework for identifying and evaluating climate resilience threats and impacts to energy systems serving rural communities.	Advancing (Action Modified)
Increase funding for floodplain restoration, including buy-out programs.	Advancing
Seek federal stimulus (ARPA), infrastructure bill, and other non-ratepayer funding to defray costs of utility resilience upgrades that exceed benefits to ratepayers, such as: • Ubiquitous communications networks that enable full utilization and participation of distributed energy resources in an interactive grid. • Resilience Zones: batteries installed at or near critical facilities, potentially paired with solar (and/or small wind) and with a microgrid /islanding where possible, to allow them to continue to operate in the event of extended disruptions to electric service. • Strategic upgrades to substations, distribution, and transmission capacity across the Vermont grid needed to enable the state's renewable and electrification goals, after first exploring feasibility of any lower-cost options, e.g. flexible load management, curtailment, and storage. • Emerging non-wires technologies that address major challenges system resilience (e.g. long-duration outages).	Advancing
Complete the flood vulnerability assessment of all bridges, culverts and road segments on the state and town highway systems, identify and prioritize needed investments. This action includes completing the statewide expansion of the Transportation Resilience Planning Tool.	Being Implemented
Develop a vulnerability index methodology and tool for broad use by stakeholders to identify priority areas for investment. The index will account for the vulnerability communication, energy, transportation, and water infrastructure in addition to socioeconomic and equity factors that affect community resilience.	Being Implemented

Increase the number of public water systems and publicly owned wastewater treatment works implementing an asset management program. Expanding programs, funding opportunities, and incentives to develop and implement these programs.	Being Implemented
Incorporate GHG reduction goals and CAP strategies, and actions related to resilience in the VTrans transportation planning and project development process.	Being Implemented
Update or adopt as appropriate infrastructure planning and design standards to reflect impacts from a changing climate, such as more frequent extreme weather as well as an increasing range of high and low temperatures, freeze/thaw cycles, and mixed precipitation (harden, incorporate redundancies, maximize life span, reduce annual maintenance and operational costs. etc.)	No Action Taken
Understand source water vulnerabilities and invest in planning efforts to assist communities, especially those that are vulnerable for their long-term water supply needs. Revamp funding programs for source protection programs, increase funding for programs (include existing and new water sources) and conservation easements.	No Action Taken
Complete a flood vulnerability assessment of state-owned rail infrastructure to identify and prioritize needed improvements.	Being Implemented
Encourage adoption of low impact development regulations for municipal zoning, including low water usage landscaping practices and increased density outside of flood prone areas.	No Action Taken
Increase investment to municipalities to support reductions in inflow and infiltration into wastewater collection systems.	Action not defined
Examine the climate impacts of sludge and biosolids to determine if regional facilities can reduce utility costs and climate impacts. Support investment in strategically placed facilities for sludge and septage processing (much is currently trucked to Montpelier/Chittenden Co.)	Advancing
Increase efforts and funding towards pollution prevention programs at wastewater facilities to ensure that facilities protect available treatment capacity, which can focus development on already-served designated centers.	Being Implemented
Continue investments in traditional and green infrastructure to intercept, sink and treat stormwater.	Being Implemented
Strategy 15b: Public, private, and nonprofit entities should be prepared to respond and recover quickly to disruptions caused by severe weather and other climate change threats.	
Strategically integrate planning and preparedness across disciplines and geographies addressing the interdependencies of transportation, energy, communications, and other systems.	No Action Taken
Strategy 15c: Increase the resilience of critical infrastructure to severe weather and other climate change threats by reducing vulnerabilities of specific facilities.	

Increase infrastructure investment needed to for walking, biking and transit; support planning for regional bike corridors to improve safety and transportation options between community centers. Identify and eliminate barriers to development, including inequities resulting from match, maintenance, and other requirements.	Advancing
Strategy 15d: Increase the resilience of critical infrastructure to severe weather and other climate change threats by improving system efficiency, reliability and redundancies.	
Deploy foundational informational and operational technology statewide to enable and optimize storage and other distributed energy resources (e.g., GridLogic, Virtual Peaker, other emerging distributed energy resource management systems, in particular those that are open-source to various technologies and vendors)	Advancing
Expand broadband to support remote work and tele-services to reduce the impact of travel disruptions.	Advancing
Update the 1995 Vermont State Highway Design Standards to create context sensitive, multi-modal projects that support smart growth per the Act 167 (2014) Sec 26 Report - VT State Standards Work Plan.	Advancing
Evaluate the risks and opportunities created by potential climate change in-migration to VT's critical infrastructure.	No Action Taken
Create a transportation flood resilience funding program to meet the requirements and related funding that are anticipated to be part of the 2021 reauthorization of the federal transportation act.	Advancing (Action Modified)
Improve road drainage around lakes / ponds to reduce stormwater runoff and erosion, especially on municipal roads.	Being Implemented (Action Modified)
Replace aging electric and communication infrastructure with the most appropriate resilient alternative when cost effective. For example, during normal replacement schedules for aging and unreliable lines, evaluate and where cost effective and feasible, improve resilience by relocating lines underground or through other options.	Advancing
Identify mission critical facilities in collaboration with local and regional planners, utilities and transportation providers to identify actions, procedures, or investments to mitigate the impact of extreme weather events to services provided by these facilities. Examples of mission-critical facilities include designated emergency shelters, first responder facilities, hospitals and other medical facilities, key infrastructure such as water/wastewater pumping and treatment and sewer, key communications infrastructure such as fiber nodes, government offices, fuel suppliers, transportation hubs, supermarkets and other facilities municipalities identify as critical to serving communities during extreme weather events.	No Action Taken
Work with Vermont villages and property owners to relocate septic systems and public or private drinking water wells that are at risk due to floods.	No Action Taken

Develop programs to achieve net zero energy drinking water and wastewater treatment facilities Including microhydro, solar energy, heat exchange, building envelope; AND operational and technological efficiencies.	No Action Taken
Expand public investment, particularly hazard mitigation funding to flood-proof or relocate drinking water and wastewater treatment infrastructure at significant risk of flooding, when flood damaged, or during end-of-life refurbishment.	Being Implemented
Pathway 16: Support the reduction of municipal, school district, residential, university, and hospital fossil fuel use in rural areas through equitable best practices that address the unique challenges of rural communities.	
Strategy 16a: Provide tools and resources to help assess data needs and establish best practices for rural communities, businesses, and institutions to reduce fossil fuel use.	
Ensure data on fossil fuel usage at the municipal level is available and accessible in one location for municipal and public use.	No Action Taken
Require the collection of fossil fuel usage data for municipal operations for buildings, vehicle fleets, and utilities; identify data gaps and ways to collect that data for measuring change in fossil fuel use going forward.	No Action Taken
Identify, develop, and share best practices for reducing municipal, school district, residential, commercial, and industrial fossil fuel consumption. Identify and assess existing practices and note gaps.	Advancing
Engage higher education institutions to actively participate in developing systems to gather, compile, update, extrapolate fossil fuel data and make that available to the public.	No Action Taken
Strategy 16b: Equitably expand access to programs that provide options to rural homeowners, landlords, municipalities, school districts, universities, and hospitals for weatherization, electrification, and utility upgrades.	
Develop cost-effective programs to support renewable energy development on school and other municipal property and evaluate and eliminate unnecessary statutory barriers related to capital financing and land purchase/lease.	Advancing (Action Modified)
Entities that provide rebates for weatherization should stabilize rebate values year to year.	Advancing (Action Modified)
Evaluate all existing state-funded programs for effectiveness, access, and equity and consider increased funding for weatherization, energy efficiency and electrification programs in order to expand access to all Vermonters, and to expand programs with zero up-front costs. Existing programs may include Efficiency Vermont rebates, HEAT Squad - NeighborWorks of Western Vermont home energy audit program, and the Shared Equity program . In addition, the private sector should be engaged to provide innovative third-party financing opportunities that are paid for over time by the customer	Advancing

Provide funding to assist low-income homeowners to upgrade electric service to 200 Amps. Electric utilities and renewable energy developers could provide new incentives and financing options through third-party financing mechanisms, on bill financing, RES Tier III incentives, third-party power purchase agreements, and grants. All programs must include equal access to renters.	Advancing
Implement a statewide program to support electrification of municipal fleet vehicles ensuring it is designed to allow equitable access and participation to municipalities regardless of tax base.	Advancing
Ensure that there is broad and statewide public education and promotion of benefits, economic and otherwise, and opportunities for fossil fuel reduction.	Being Implemented
Revise state building energy codes and standards to require a minimum 200 Amp service for new construction as electrification expands.	Completed
Help individuals, municipalities, and businesses through the process of weatherization, energy efficiency and fuel switching upgrades by establishing and funding Weatherization and Efficiency Navigators at each Regional Planning Commission (RPC), expanding the services currently available at CAA agencies and VEIC, and ensuring coordination and a whole systems approach among the entities providing services.	No Action Taken
Explore Commercial PACE (Property Assessment Clean Energy) program for municipalities and other programs to elevate, such as bonding to support a statewide Tariffed On-Bill Finance Pilot and funding for a revolving loan fund for Public-Serving Institutions with retrofits. There may also be a need to continue providing the funding to support interest rate buydown (IRB) in EVT's Home Energy Loan and Business Energy Loan programs.	No Action Taken
The Public Service Department should ensure that all utilities provide similar opportunities for all customers (rebates, incentives) to encourage fossil fuel reduction, electrification, and energy savings.	No Action Taken
Support water and wastewater systems in conducting and implementing energy audits and recommendations for energy reduction and electrification.	More Information Needed
Create new educational programs to increase public outreach for existing energy efficiency, electrification, and utility upgrade programs.	More Information Needed
Review and expand existing programs to support landlords in weatherizing rental properties, including St. Johnsbury Rental Housing Improvement Program, and other programs in counties and towns.	Advancing (Action Modified)
Increase low-income weatherization through the State Weatherization Assistance Program including technical assistance to help households and landlords manage the process.	Being Implemented
Expand workforce development programs such as the VT Training Program or the Department of Labor's Workforce Education & Training Fund; cover costs for businesses to train in-house auditors/technicians. Pilot new programs in rural areas where workforce needed is greater.	Action not defined

Pathway 17: Change Vermont's land-use policies so current and future land development will be adaptive and resilient to climate change impacts	
Strategy 17a: Increase investment in the infrastructure (sewer, water, stormwater, sidewalks, bike lanes, EV charging, broadband, energy supply) needed to support communities that are more resilient to climate disruptions, equitable, resource efficient, and protects the adaptive capacity of natural resources.	
Invest in enhancing water sources in vulnerable communities to enhance resilience to long-term drought.	Advancing
Increase investment to municipalities for new and expanded water and wastewater facilities to support reductions in inflow and infiltration into wastewater collection systems.	Advancing
Monitor and update stormwater permitting process as needed to ensure green infrastructure is preferred in design considerations.	Being Implemented
Complete a Climate Readiness assessments of drinking water, stormwater, and wastewater infrastructure. (This is an EPA tool that looks at all climate impacts including, fires, droughts, flooding, etc.).	No Action Taken
Examine regionalization efforts and sharing of resources for all water utilities.	No Action Taken
Increase investment in stormwater and green infrastructure, including separating combined wastewater and storm water systems, to protect public health and water quality.	Being Implemented
Strategy 17b: Develop permanent private and public funding sources to floodproof, elevate and purchase commercial and residential properties, as well as conserve and restore ecosystem services upstream to protect our people, property, environment, and economy from flooding.	
Fund ERAF for non-federal disasters in towns that have adopted floodplain and/or river corridor bylaws and to support the 25% non-federal match for buyouts and develop criteria for distribution when funding is limited.	No Action Taken
Establish a dedicated, comprehensive state level program with funding to strategically purchase or match funding for hazard-prone properties, easements to conserve river corridors, floodplains, forests, and wetlands to reduce overall flood risk and enhance flood storage statewide.	Advancing
Expand the eligibility criteria and increase funding for VHCB's conservation and buyout program, to address any flood-vulnerable structures.	No Action Taken
Pathway 18: Ensure that all people have access to safe, accessible, energy efficient, and affordable housing.	
Strategy 18a: Update state and local land-use governance, regulations, practices, and investments to eliminate barriers to housing development.	
Increase manufactured housing tax credits to replace older and inefficient manufactured homes.	Being Implemented

Expand pilot program to train a network of local builders in the design and building of small and mid-sized and accessory dwelling units (mother-in-law apartments) and fund homes starts within communities planning and investing in development-ready infrastructure, building development partnerships, and updating zoning bylaws to welcome new homes.	Being Implemented
Convene a statewide conversation on the Vermont Municipal and Regional Planning and Development Act's (24 VSA, Chapter 117) provisions on land use and housing to outline amendments and strategies that will expand housing choice, opportunity, and improve community resilience.	Completed
Expand the existing program to relocate mobile home park homes and residents outside of flood vulnerable locations.	No Action Taken
Create a rental registry and inspection program to locate all of Vermont's rental housing and improve their quality and safety.	No Action Taken
Strategy 18b: Increase investments in the preservation and development of both private-market and nonprofit-owned affordable housing.	
Continue to fund housing investments that leverage private initiative and funding to cost-effectively create housing units under models like the Re-Housing Recovery Program funding and the proposed Vermont Housing Investment Program.	Being Implemented
Create programs to assist prospective homebuyers to purchase and make improvements to homes that are energy inefficient and otherwise in need of immediate investment.	Being Implemented
Increase support for mission-driven, non-profit housing developers to maintain their ability to produce high-quality, energy- and location-efficient housing.	Being Implemented
Strategy 18c: Increase access to fair and affordable housing for Vermonters who are housing instable	
Implement the recommendations of the Analysis of Impediments to Fair Housing.	Being Implemented
Increase funding for community-based homelessness prevention and rapid re-housing.	Advancing
Audit existing residential building codes to ensure that standards account for anticipated climate change impacts to Vermont, including but not limited to increased temperatures extremes and precipitation (combine into a single building code action)	No Action Taken
Pathway 19: Adaptation—Sustain, restore, and enhance the health and function of Vermont's lands and water to help both natural and human communities adapt to climate change	
Strategy 19a: Increase technical assistance, capacity, education, and resources to support private and municipal farm and forestland owners, planners, and managers for climate change adaptation.	

Develop & fund climate adaptation planning and training for all farmers and foresters.	Advancing (Action Modified)
Increase funding to Regional Planning Commissions (RPCs) to hire and support natural resource staff, potentially through Natural Resource Conservation districts.	Advancing
Enhance and support funding for technical assistance to farmers (e.g. fully fund UVM Extension to support climate adaptation training for agriculture and support other institutions of higher education in this endeavor), landowners (e.g. fund climate adaptation training through FPR's Forests & Climate program), and municipalities (e.g. fully implement Act 171).	Being Implemented
Strategy 19b: Promote and incentivize Climate Adaptation forest management practices	
Make the state guide to maintaining and creating resilient forests more usable	Advancing
Develop education/outreach materials and training regarding climate adaptation forestry specific for Vermont forest types and conditions.	Being Implemented
Where appropriate, promote planting future climate adapted tree and crop species	Being Implemented
Strategy 19c: Promote funding for nature-based solutions and traditional ecological knowledge efforts and incorporate into state funding and planning efforts.	
Develop financial mechanisms (e.g. a revolving loan fund, green bank, loan guarantees, pension fund investments, etc.) to de-risk capital investment in and support for NBS and TEK projects	Advancing
Elevate the role traditional ecological knowledge (TEK) plays in climate adaptation and resilience and incorporate TEK into state- led climate assessments, planning efforts, and prioritization frameworks	Advancing
Incentivize nature-based solutions and traditional ecological knowledge (TEK) in state regulatory processes and funding programs	Advancing
Include Tribal members, traditional ecological knowledge traditional ecological knowledge (TEK), youth in state, regional and municipal resource management planning	Being Implemented
Complete a statewide audit of technical assistance, funding, and regulatory programs to review support for NBS and TEK and assess the degree to which they support or hinder climate adaptation, and use the findings to create planning and/or funding prioritization criteria that better align state programs	No Action Taken
Strategy 19d: Manage natural and working lands for biodiversity, forest health, and climate resilience.	
Fund support for local academic institutions, researchers, and applied research to evaluate best climate management practices for our lands	Advancing

Through direction to VT Fish & Wildlife and VT Forests, Parks and Recreation, establish primary land management objectives of protecting and improving forest health and biodiversity on state lands, and private lands enrolled in UVA; and promote adoption of these objectives through outreach to regional and municipal planners.	Being Implemented
Support research efforts to better understand forest ecosystems, local climate change and impacts to forests and ecosystem services	Being Implemented
Enhance resilience funds to support the financial capacity of land managers to respond and adapt to natural hazard and climate impacts	Being Implemented
Incentivize and provide appropriate support for invasive species control efforts, specifically where populations threaten the perpetuation of forest cover	Being Implemented
Fund increased investment in healthy soils education and implementation of practices	Being Implemented
Strategy 19e: Plan and regulate for climate resilience and adaptation.	
Establish "climate resilience zones" informed by existing data, bolstered with new research/science, to identify locations that have high resilience potential for both the natural and built environments and use to inform land use development and regulations	No Action Taken
Per the formula in statute, fully fund Regional Planning Commissions (RPCs) to ensure sufficient capacity necessary to address climate change in regional and municipal plans	More Information Needed
Strategy 19f: Increase flood resilience of the natural and built environments.	
Invest transportation funding in improving flood resilience and aquatic and terrestrial connectivity	Being Implemented
Incentivize water storage in natural areas to promote flood resilience and biodiversity through expansion of wetland, floodplain, and/or river corridor easements that better compensate landowners/managers	Action not defined
Ensure opportunities for floodplain reconnection and nature-based solutions are considered a high priority in the Statewide Conservation & Buyout Program through incorporation of multi-stakeholder developed prioritization criteria	Being Implemented
Strategy 19g: Promote healthy, connected river corridors, floodplains, and wetlands.	
Support and fund research and design to strategically invest in floodplain and river corridor reforestation efforts. Specifically, develop an inventory of priority/critical headwater and floodplain storage areas, prioritize investments for restoration and protection in these areas, and use to inform Compact Settlement planning efforts	No Action Taken
Expand support for riparian buffer enhancements to easements with a goal of increasing the amount of vegetation and biodiversity in riparian areas	Being Implemented
Increase support for wetland restoration and protection	Action not defined

Develop a ‘pay-for-practice’ incentive program and explore state tax policy incentives for forest landowners and farmers to adopt climate adaptive management practices	No Action Taken
Create a mechanism, position, or body within the Executive Branch to ensure coordinated climate action across state government with just transitions and environmental justice expertise. This interagency body or mechanism is intended to connect actions both within and beyond the scope of the GWSA-required Climate Action Plan, with a goal of ensuring effective communication across agencies that work together to promote climate change mitigation/adaptation/resilience, and adding a consistent climate lens to the myriad of regulatory and funding programs.	Completed
Pathway 20: Viability—Support and empower Vermont’s natural and working lands owners, managers, and caretakers to enhance farm and forest viability and to make informed decisions to increase resilience and adaptation to climate change.	
Strategy 20a: Support and enhance local food markets for greater viability, mitigation, and resilience benefits.	
	More Information Needed
Strategy 20b: Foster partnerships at all levels (state, federal, nonprofit, and private sector): essential to recognizing, capacitating, and building strategies for landowners to address climate change and enhance community resilience.	
Dedicate funds to support Vermont Natural Resources Conservation Districts and farmer watershed organizations with the specific objective of allowing them to reach other farmers and do farmer-to-farmer education about improved soil and manure management.	Being Implemented
Maintain Ag & Ecosystems Subcommittee through development and implementation of GWSA and CAP to cultivate, build and reinforce state, federal, nonprofit, and private sector collaborations	No Action Taken
Fund a research project to fully understand household food insecurity in Vermont and how to invest in its elimination. The design and implementation of the research project should engage academics, advocacy groups, and impacted individuals, and include research on geographic spread, root causes, and costs to the health care, educational, and emergency response systems (as written in the 2021-2030 F2P Strategic Plan pg. 158). (collaborate with Hunger Free Vermont, Vermont Foodbank, VT Releaf Collective)	No Action Taken
Work closely with USDA NRCS’s 2021 Action Plan for Climate Adaptation and Resilience to leverage resources and increase efficiencies of practice education and implementation	Advancing
Strategy 20c: Expand funding for existing programs dedicated to farmland access, forestland ownership, and conservation, and leverage this funding to increase land access through flexible and new ownership financing mechanisms, policies, and models.	

Assist food and farm businesses with navigation of municipal and state permit requirements and regulations. This will create a more supportive environment for business growth and diversification, especially as it relates to on-farm accessory businesses, farm employee housing, and development of off-farm processing, distribution, and storage infrastructure (as written in the 2021-2030 F2P Strategic Plan pg. 33).	Advancing
Investigate innovative funding mechanisms for assisting with implementation of climate smart agriculture practices, crop insurance for diversified Vermont-scale farms, and emergency recovery following extreme weather events, to better respond when climate change related events occur	Being Implemented
Pathway 21: Economies—Grow and connect local and sustainable natural and working lands’ economies, markets, and food systems while ensuring and providing equitable access to said economies, markets, and food systems for Vermont's people.	
Strategy 21a: Develop, expand, and sustain local markets specifically for food, agricultural, and forest products in ways that ensure food sovereignty and security and provide for all Vermont’s peoples.	
Support research and development efforts, and expansion of new markets and opportunities for local wood products processing and manufacturing in Vermont	Advancing
Develop supply chain substitutions which better support local products	Advancing
Research the efficacy of food hubs as public infrastructure (e.g. libraries and public infrastructure)	Advancing
Map Vermont’s agricultural land base and production capacity, including geographic data about predicted climate change impacts, aggregation and distribution infrastructure, and regional dietary needs (as written in the 2021-2030 F2P Strategic Plan pg. 32)	Advancing

Provide additional support for critical programs that help Vermont’s agricultural sustainability and ability to address climate issues including: • Support the growth of VAAFM Meat Inspection and Agricultural Development programs, which will help expand Vermont products into the regional marketplace and develop consumer education and public awareness campaigns around the steps involved in getting meat products from farm to table; • Fund a pilot aggregation and sales system that effectively serves both the charitable food system and institutional and other market channels, through a structured partnership among established processors, aggregators, and gleaners. The pilot would include data collection on specific marketable surplus food products; • Support the Vermont Farm to School Network; • Support organizations in the charitable food system to source food directly from Vermont farmers; • Create a Local Food Access Funding Program; • Develop a distribution and logistics infrastructure investment plan to guide strategic transportation investments with the express purpose of improving the efficiency and cost-effectiveness of in-state and regional food distribution. Include a business plan analysis for a public/private Vermont wholesale terminal market that would provide cross-docking, cold storage, and logistical service between Vermont producers and regional wholesale buyers; • Using the infrastructure study as a guide, increase public-private investment in intermediated market distributors to improve operational efficiencies and overall sales through improved marketing, infrastructure, route optimization and shared transportation-management software, and access to logistics professional development and consulting.	Advancing
Develop a strategic plan for the forest economy, modeled on the Farm-to-Plate strategic plan but improved to better incorporate impacted stakeholders and principles of equity, as well as examining our current language and approach to forest management.	Being Implemented
Develop alternative markets for residue, by-products and otherwise not used wood, focusing on cellulose insulation, bioplastic composites, or biofuels	No Action Taken
Support robust funding for Working Lands Enterprise Initiative and prioritize funding to businesses that have climate/low carbon goals	Being Implemented
Strategy 21b: Promote workforce development in all working lands sectors along all points of the supply chain.	
Develop, endorse and implement fair trade and equitable labor practices and just livelihoods for the natural and working lands sector	Action not defined
Better resource state programs to support landowners’ personal and professional development, and where needed, develop additional affordable and accessible training programs such as apprenticeships, certificates, stackable credentials, and concurrent degrees. Provide training to natural land managers in securing, retaining and supporting employees	Action not defined

Strategy 21c: Strengthen all aspects of working lands’ supply chains and the associated infrastructure to support them.	
Make significant investment in storage, processing, and distribution infrastructure in order to enhance product innovation and quality across all Vermont food and forest products.	Advancing
Support product-specific value chain development through facilitation of producer, distributor and buyer matchups and supporting producer-driven aggregation, distribution, and marketing enterprises.	Advancing
Strategy 21d: Ensure equitable access to local foods, culturally relevant foods, land, funds, grants, and technical assistance for people who have been historically marginalized and come from impacted communities.	
Uplift and resource the work of the Vermont Releaf Collective and other BIPOC led organizations	Advancing
Build out and utilize TEK to build out connections to our Tribal and Indigenous communities in the development and utilization of traditional products, e.g. birch syrup, sumac spices, etc.	No Action Taken
Improve funding opportunities and create equitable access for BIPOC organizations and BIPOC owned businesses by developing multi-year, unrestricted BIPOC centered grants and loan programs.	Action not defined
Strategy 21e: Develop a Vermont food security and sovereignty plan, centered around a thriving food system, and inspired by community-based responses to food insecurity and disruptive events.	
Involve food insecure individuals as well as farmers in the planning, and investigate questions including, but not limited to, affordable housing, health care, transportation, siting of retail grocery stores, food distribution, and ensuring the continued production of food in Vermont.	Advancing
Work to adopt state and regional level policies, procedures, and plans to ensure that the Vermont food supply is sufficient to withstand global or national food supply chain disruptions caused by climate change and other disasters (as written in the 2021-2030 F2P Strategic Plan pg. 32).	Advancing
Pathway 22: Land Use—Shape land use and development that support carbon sequestration and storage, climate resilience and adaptation, and natural and human communities for a sustainable and equitable future.	
Strategy 22a: Promote and incentivize compact settlement and reduce forest fragmentation.	
Develop required climate-based framework and/or criteria for state grant and regulatory programs.	Advancing
Provide enhanced technical assistance and support to municipalities and regions, including outreach and education for landowners and community members, to develop and implement town plans intended to maintain forest blocks and connecting habitat as authorized by Act 171, and effective zoning and subdivision bylaws to maintain forest blocks and connecting habitat.	Being Implemented

Strategy 22b: Include biodiversity and resilience goals in the planning and management of natural and working lands (both public and private).	
Support efforts to research, educate about, and implement practices informed by traditional ecological knowledge such as using fire to promote regeneration and coppicing, where appropriate for Vermont’s forests and ecosystems	Advancing
Identify lands needing conservation because they are in or adjacent to the built environment that have large impact to human health, wellbeing, and equity	Advancing
Improve statewide forest planning efforts on State and Federal Lands, including development of an action plan by ANR for how State Lands will help accomplish Vermont Conservation Design targets by 2030 and 2050, and collaborate with the U.S. Forest Service (Green Mountain National Forest) planners for more unified forest planning across the state.	Being Implemented
Examine the implications and consider establishing a state policy of no net-loss of natural and working lands (including active and passively managed forests, agricultural lands, and wetlands) accounting for the transitions of lands within and between these conditions, with aspiration for a net gain. (1) As part of this effort, track land use trends to quantify degree of no net-loss, including aggregating data on subdivision, land transfers, and the loss and/or fragmentation of forests, agricultural lands and wetlands to inform progress and state policy. (2) Develop a strategy to increase the area of land in functioning wetlands, with an initial focus on protecting and recovering the highest quality wetlands (“Class I Wetlands” in ANR’s wetlands rules), consistent with the goal of ensuring no net loss of other categories of natural and working lands.	Being Implemented
Recommend amending the Use Value Appraisal (UVA) program to allow for (1) greater development of old forest structure as articulated in the targets of Vermont Conservation Design; (2) the enrollment of wildland reserves under the existing forestland category where conditions and eligibility criteria are met as defined by Forest Parks and Recreation, facilitating the development of old forest conditions through active restoration and/or passive management as a means of enrollment in the Old Forest ESTA (ecologically significant treatment area) category; (3) privately held parcels with 'Forever Wild' easements on them, held by a qualified 501c(3), to be enrolled in the UVA Program in the Conservation Category; and (4) the potential for, and implications of, developing a new category of enrollment for land in UVA which allows for passive management modeled on the ‘open-space’ designation included in similar programs elsewhere in New England.	Completed
Adopt legislation to authorize ANR to revise the Flood Hazard Area & River Corridor (FHARC) rule to incorporate statewide jurisdiction and permitting authority for river corridors for all kinds of development.	Advancing

Strategy 22c: Invest in strategic conservation in order to increase the pace of permanent conservation towards 30x30 targets (described in federal report “Conserving and Restoring America the Beautiful”), with Vermont Conservation Design acting as the guiding plan for prioritization of efforts.	
Expand use of the Water Infrastructure Sponsorship Program (WISPr) to improve accessibility and use for restoration projects.	Advancing
Use best available data and mapping to analyze existing portfolio of conserved agricultural lands to identify forest, wetland or natural community restoration opportunities and prioritize funding for these projects	Advancing
Maintain a suite of Farmland Conservation & Protection tool ranging from voluntary, regulatory and planning (e.g. easements, Act 250, planning, zoning).	Advancing
Per the formula in statute, fully fund the Vermont Housing & Conservation Board (VHCB); including \$3M for the Farm & Forest Viability Program, and increase annual VHCB funding above the statutory amount by 15%, targeting those funds for implementation of conservation actions recommended in CAP, especially those related to forests.	No Action Taken
Promote statewide landscape connectivity and forest blocks conservation planning through robust support of the Staying Connective Initiative and use of Vermont Conservation Design and TNC’s Resilient and Connected Landscape in state program prioritization frameworks.	Being Implemented
Through permanent conservation coupled with both active and passive restoration efforts on both public and private lands, allow approximately 9% of Vermont's forest to become (or be maintained as) old forest, specifically targeting 15% of the matrix forest within the highest priority forest blocks identified in Vermont Conservation Design to achieve this condition.	Advancing
Identify and protect climate refugia.	Action not defined
Strategy 22d: Increase technical assistance, capacity, education, and resources to support private farm and forest landowners in addressing the trends relating to intergenerational transfer.	
Support forestland succession/estate planning efforts to reduce forest parcelization and fragmentation through implementation of the Act 171 'Intergenerational Transfer of Forestland Working Group Recommendations' of 2017.	Being Implemented
Develop and implement a farmer retirement program to facilitate the transfer of intact farmland.	Being Implemented
Strategy 22e: Avoid, minimize, and mitigate the negative impacts of renewable energy generation, like other land development, on natural and working lands.	
Incentivize or carefully consider mandating solar and wind capacity on new buildings as well as in previously-disturbed/developed areas and avoid and minimize forest clearing for renewables through incentives and other siting policies, rules, and regulations	Advancing (Action Modified)

Consider the need for incentives to site new renewable energy generation on parking lots, rooftops, and already altered locations. And discourage and penalize siting of new renewable energy generation on intact ecosystems, forests, and natural land	Advancing (Action Modified)
Evaluate the effectiveness of the program of Regional Enhanced Energy Plans and the application of these plans to decisions by the PUC in terms of their ability to direct the siting of renewable energy projects in a manner that avoids the conversion of working and natural lands and the loss of the carbon storage and sequestration, climate resilience, and other co-benefits that are associated with those lands. If the process of developing and implementing the system of Regional Enhanced Energy Plans is not achieving this goal, then adjust the laws and regulations applicable to renewable energy siting to ensure the effectiveness of the plans	No Action Taken
Create statewide environmental justice policy.	Completed
Pathway 23: Maintain and expand Vermont's natural and working lands' role in the mitigation of climate change through human interventions to reduce the sources and enhance the sinks of greenhouse gases.	
Strategy 23a: Leverage, expand, and adapt existing State of Vermont programs that support the agricultural sector's mitigation of climate change.	
	More Information Needed
Strategy 23b: Create a system for tracking and accounting metrics and indicators for natural and working lands.	
Based on the findings of the technical RFP mentioned in action step (b) of this strategy, the VCC should consider recommending that the State of Vermont GHG emissions inventory protocol established in 10 V.S.A. § 582 be amended to include an inventory of GHG emissions that align with the intent and standards of the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories that will include a net GHG emission accounting for the agriculture, forestry and other land use (AFOLU) sector.	Advancing
Develop a methodology and protocol for quantifying climate mitigation, resilience, and adaptation impacts of existing state and federal water quality implementation programs as reported through the annual Clean Water Initiative Performance Report. The Clean Water Initiative Performance Report "summarizes the State of Vermont's clean water efforts and demonstrates how investments are making a difference through accountability measures." As mentioned, most water quality conservation practices and programs also have climate mitigation, resilience, and adaptation benefits. Recommend using existing tracking systems and quantify the climate benefits from this existing implementation and data tracking. The data spans state and federal funding programs and regulatory programs that drive clean water efforts and coordinates across agencies to track these efforts and monitor progress.	No Action Taken

The Vermont Climate Council has recommended developing and issuing a Request for Proposals (RFP) that will review and analyze methodological gaps of emission inventory tools currently used by the State of Vermont to quantify greenhouse gas emissions for evaluating changes in the Agriculture, Forestry and Other Land Use (AFOLU) sector and the tools' alignment with the Intergovernmental Panel on Climate Change (IPCC), Environmental Protection Agency (EPA), and peer state methodologies and approaches. The specific recommendations for this RFP can be found in the Carbon Budget Report memo found in Appendix 10.	Completed
Strategy 23c: Implement a Payment for Ecosystem Services (PES) program for natural and working lands.	
Develop and implement a PES program for healthy soils and soil carbon sequestration on farms. Act 83 of 2019 convened the Payment for Ecosystems Services Working Group whose purpose is to recommend financial incentives designed to encourage farmers in Vermont to implement agricultural practices that improve soil health, enhance crop resilience, increase carbon storage and stormwater storage capacity, and reduce agricultural runoff to waters. Final program recommendations from the PES Working Group are due in January 2023.	Advancing
Develop and implement a PES program for forestland owners including water filtration/cycling, carbon sequestration, etc.	No Action Taken
Incentivize management for ecosystem services through a tax credit system that compensates landowners/managers for maintaining or restoring ecosystem services.	No Action Taken
Strategy 23d: Address upstream waste and downstream emissions from food waste and synthetic fossil-fuel based inputs.	
Develop program for tracking and limiting the use of chemicals, substances, or products that contribute to climate change in Vermont and leverage existing legislative activity on this topic i. VAAFM currently tracks statewide commercial pesticide use as well as statewide fertilizer use. This data is currently used to establish trends in the use of these inputs as our agricultural systems evolve. ii. Programs to track these agricultural inputs already exist at VAAFM but have not been assessed through the lens of contributions to climate change. VAAFM or the new newly established Agricultural Innovation Board (AIB) established by Act 49 of 2021 can prioritize an assessment of the impacts and benefits our agronomic management systems have on offsetting climate change. iii. An assessment of Vermont's different agronomic practices and management, such as, conventional, organic, no-till, and cover cropping, should be weighted for impacts on climate change based on agricultural inputs, fuel consumption, carbon sequestration and other measurable factors	Being Implemented

The state should identify simple, low- and no-cost mechanisms to increase organics diversion and provide incentives and business and workforce development to private organics haulers and composters (including farms). i. Act 41 of 2021 created an Agricultural Residuals Management Program to be administered by VAAFM. The purpose of this new chapter of law is to establish a program for the management of residual wastes generated, imported to, or managed on a farm for farming in Vermont	Being Implemented
Strategy 23e: Develop and implement programs which incentivize management practices which maintain or increase forest carbon storage.	
Apply these certification standards to the procurement of forest products utilized in energy or thermal generation facilities subject to PUC oversight (parallel to the existing review for state mapped deer winter yard, etc.) through potential revisions to the renewable energy standard.	No Action Taken
Create or adopt existing certification standards where management activities account for principles of Improved Forest Management towards increased carbon storage, as well as maintaining and creating resiliency (as described in existing state guidance such as Maintaining and Creating Resilient Forests in Vermont: Adapting Forests to Climate Change, VTFPR 2015, or as modeled in existing programs such as the American Forest Foundation's Family Forest Carbon Program).	No Action Taken
Explore additional market opportunities for certified products, expanding the potential revenue base to support Improvement Forest Management (parallel FSC, SFI, etc.)	No Action Taken
Strategy 23f: Leverage market-based solutions, such as existing or new regional carbon market opportunities, to incentivize forest management practices which sequester and store greater amounts of carbon in our forests.	
Incentivize in-state purchase of carbon credits developed by Vermont-based or regional carbon projects through a system which addresses concerns of accounting (i.e. additionality and leakage)	No Action Taken
Work to develop a new Vermont-Based or regional (modeled on RGGI) Carbon Credit marketplace with necessary research and standards which address concerns around the efficacy of baseline establishment, accounting for additionality, the potential for leakage, and address equity for the diversity of wood lot owners across the state	No Action Taken
Strategy 23g: Increase tree coverage.	
Expand tree and other planting efforts on private land to promote restoration efforts to reforest riparian areas, wetland buffers, and degraded lands	Advancing
Increase funding to tree planting via Renewable Energy Standard (RES).	No Action Taken

Expand funding and support to the Vermont Community Canopy Program	Being Implemented
Increase support, funding, and education for increased urban tree planting efforts expansion to increase access to natural spaces and improve carbon sequestration/storage in the urban environment	Being Implemented
Provide incentives for restoration and expansion of floodplain forests	Being Implemented
Pathway 24: Support and empower Vermont’s farmers, foresters, and land workers to capacitate renewable energy and building product transitions.	
Strategy 24a: Educate, track, and appropriately reward on-farm renewable energy.	
Increase outreach and incentives to on-farm solar installation on existing built infrastructure.	Advancing
Reward and support renewables on farms on rooftops, barns, storage facilities, and minimize or avoid loss of working and natural lands to renewables development by siting solar in areas that retain some agricultural use, such as grazing, or in locations that do not meaningfully diminish the agricultural viability of a farm.	Advancing
Strategy 24b: Promote and incentivize use of local wood and agricultural products to reduce embodied carbon footprint.	
Develop alternative markets for non-timber wood, focusing on cellulose insulation, bioplastic composites, or biofuels	Advancing
Promote and incentivize use of agricultural and sustainably harvested wood -based construction materials (subject to existing certification criteria or procurement standards to be developed) over imported wood and/or non-wood materials with high carbon footprints (such as steel, concrete, etc.) Continue to research life-cycle accounting of these products for greatest impact.	No Action Taken
Develop a regional certification standard for forestry to validate carbon storage values for forest building products (methodologies supporting supply chain validation for carbon storage are frequently using FSC as a proxy; regional-scale certification standards focused around net carbon benefit are needed for product transparency)	No Action Taken
Through state procurement standards, require that publicly funded building projects use chain of custody certified wood products (MASS timber, cellulose insulation, etc.) that have been harvested under sustainable procurement standards over materials with a higher carbon footprint (such as steel, concrete, etc.), prioritize locally sourced wood products when possible.	No Action Taken

Strategy 24c: Transition fuel sources for the forestry and maple sector.	
Provide funding to incentivize sugar makers to switch evaporators from fossil fuels to wood pellets and incentivize elimination of diesel generators for sap vacuum pumps.	Being Implemented
Incentivize alternative fuels such as biofuels or offsets for logging equipment.	No Action Taken
Strategy 24d: Sustainably source renewable energy products and materials.	
Fund competitive research to track and innovate on the sustainability and ethical implications of renewable energy materials and products being consumed to meet the CAP	Advancing (Action Modified)
Pathway 25: Support compact settlement patterns that contribute to the reduction of GHG emissions, enhance community and built environment resilience, and help conserve natural and working lands.	
Strategy 25a: Increase investment in the infrastructure (sewer, water, stormwater, mixed-use development, housing, sidewalks, bike lanes, EV charging, broadband, energy supply) needed to support compact, walkable development.	
Expand the eligibility of the existing downtown and village center tax credit programs to revitalize neighborhood housing in and around state designated centers.	Being Implemented (Action Modified)
Support public private partnerships to fund the design and construction of new infill housing in existing neighborhoods.	Advancing
Increase Municipal Planning Grant (MPG) funds to support physical planning and design, zoning modernization and bylaw adoption that creates housing growth opportunities and more housing choices.	Completed
Expand the existing downtown and village tax credit program eligibility to offset the cost to elevate or flood proof existing buildings located in areas with increased flood risks.	Completed
Increase investment in municipalities to improve, expand and build new drinking water and wastewater infrastructure to support compact development, including asset management tools to support long-term operation and maintenance.	More Information Needed
Establish a rolling planning grant for communities in need of consulting assistance to prepare Neighborhood Development Area (NDAs) applications. This designation works to align state and local regulations to increase housing options within compact centers.	Advancing (Action Modified)

Make village centers permanently eligible for the downtown transportation fund that builds infrastructure needed to increase walking, biking and transit.	More Information Needed
Strategy 25b: Update state and local land-use governance, regulations, and practices to remove barriers to compact settlement and improve coordination on land use issues across agencies, departments, municipalities, boards, commissions, and authorities.	
Prioritize public funding for mixed-use developments near transit hubs in regional and rural centers	Advancing
Align development regulations and remove financial barriers to compact development in and around downtowns and village centers (i.e., Act 250, local zoning, aging infrastructure, etc.). Provide statewide guidance and incentivize housing in built up areas to encourage development away from open fields and forests, and river corridors.	Advancing
If a statewide land use planning policy and implementation plan is authorized, explore creation of a State Planning Office and/or other potential structures within the executive branch to implement the Plan at the state level.	No Action Taken
Create an office of Strategic Investment and Coordination that supports achievement of land use planning goals by aligning and resolving conflicts in state and local regulations and funding and provides a permitting platform from both the customer and policy objective perspective.	No Action Taken
Hire a consultant to review and assess the state designation programs that recognize and support Vermont's compact settlement areas.	Completed
Encourage the Legislature to authorize the creation a multi-stakeholder committee process with funding to support the development of a statewide land use planning policy and implementation plan that guides development to growth areas, town centers, and appropriate rural locations, and limits the development within ecologically sensitive/risk-prone areas. The Legislature should clarify how and if this plan informs or directs land use planning, policy and regulation at the local, regional, and state level.	Advancing (Action Modified)
Create a State-wide redevelopment authority to bank land , underwrite acceptable risk, address blight, vacancy, and brownfields, improve building flood resilience in settled areas, and plan for new neighborhood development and infrastructure.	No Action Taken

Provide enhanced technical assistance and support to municipalities and regions, including outreach and education for landowners and community members, to develop and implement town plans intended to maintain forest blocks and connecting habitat as authorized by Act 171, and effective zoning and subdivision bylaws to maintain forest blocks and connecting habitat. Because forest and habitat blocks do not end at state and national boundaries, support engagement in interstate and bi-national forest block and habitat connectivity efforts such as the Staying Connected Initiative at both the state and regional levels.	Advancing
Update Act 250 to promote compact settlement by: i. waiving the mitigation fees for prime agricultural soils for alternative or community wastewater systems that will serve a state designated center. ii. removing the population-based caps on the Act 250 exemption for priority housing projects iii. including criteria that better address climate change, forest fragmentation and forest loss, to incentivize growth in the state's designated centers and better address the specific challenges to working lands enterprises; iv. updating its governance, staffing, public engagement, and the role of State Agency permits in the Act 250 process to create the enterprise capacity necessary to implement new climate related criteria and respond to future land use pressure from climate change and in-migration of climate refugees. v. removing Act 250 jurisdictional thresholds for housing development within and immediately adjacent to certain state designated centers to incentivize compact, dense settlement in areas with adequate local land use laws and existing infrastructure, reducing development pressures on open spaces such as greenfields and forested locations. These centers should grow in a manner by which walking and biking are preferred means of mobility, and mobility infrastructure should be designed for universal accessibility.	Completed
Amend Neighborhood Development Area (NDA) enabling statute to allow the inclusion of river corridors upon local adoption of River Corridor bylaws.	Advancing (Action Modified)
Strategy 25c: Fund research, data collection and digital maps to provide insights on land use decisions in Vermont and the impact it can have on climate and resilience goals and outcomes.	
Fund a study that quantifies the vehicle miles traveled and GHGs for both compact and dispersed areas of development as well as the co-benefits of compact centers.	Completed

Pathway 26: Education: Create accessible, equitable research, partnerships, and education; promote shared understanding; and invest in sustainable workforce development for the natural and working lands sector.

Strategy 26a: Provide funding for climate-related education at all levels, outreach, research, and technical assistance programs.

Develop and make available accessible outreach and educational materials that communicate climate change science and local impacts to the general public, which include and highlight the role that Vermont's natural and working lands play in providing solutions to climate change.	Advancing
Enhance education, outreach, and technical assistance programming to support farmer learning and adoption of climate smart agricultural practices and ensure equitable access through the creation of two full time UVM Extension staff and part time staff for each National Resource Conservation District. Grow the capacity of additional VT academic institutions and indigenous-led & BIPOC organizations to offer technical support to farmers and foresters, such as Middlebury College perennial program with TEK.	Being Implemented
Establish and fund an educational program that explains the role that Vermont farmers and foragers and their high-quality, local food products play in maintaining a low climate impact	Being Implemented
Establish stronger relationships between state agencies and regional planning commissions, and faculty at Vermont and adjacent state institutes of higher learning, creating opportunities for state and regional research needs to become an aspect of faculty research agendas.	Advancing
Create a climate curriculum teachers fellowship program to engage teachers in leading and sharing their climate curriculum ideas with other teachers	Advancing
Amend the Vermont State Board of Education's Education Quality Standards to incorporate environmental and climate change education at all grade levels (consider folding under "Science" and "Social Studies" curricula)	No Action Taken
Redesign the state education funding model so that Career and Technical Education centers have independent funding streams and budgets, and create and fund legislation to support other educational programs that strengthen the workforce pipeline, including a range of accessible postsecondary educational models (e.g. apprenticeships, concurrent enrollment, and stackable credentials)	More Information Needed

Support increased investment in healthy soil education through educational mini-grants for teachers to all audiences (including agriculture, homeowner, forestry, publications, K-12 schools and institutions of higher learning) and implementation of practices through funding of Best Management Practices challenges, technical assistance programs, and cost shares.	Action not defined
Strategy 26b: Develop and promote climate-related educational materials for private landowners to empower them to make climate-informed decisions about their land and waters.	
Expand infrastructure and educational programs around community and backyard composting and recycling	Being Implemented
Further educate Vermont landowners about the benefits of reducing lawn mowing frequency, and amount of mowed lawns to increase biodiversity and ecosystem health, and ultimately reduce emissions.	No Action Taken
Promote the values of planting of future climate adapted tree species and crops in an effort to expand tree planting efforts on private land. Thereby promoting restoration efforts to 304 reforest riparian areas, wetland buffers, and unhealthy soil.	Advancing
Create and deploy a river corridor and floodplain buffers extension-type program that provides educational material and technical assistance for private landowners	No Action Taken
Strategy 26c: The language in Vermont agencies must be reviewed and updated to be more equitable.	
Educate state staff on the history of Vermont, the harm that has been done in the name of conservation, the history of state involvement in the eugenics movement, and the role that language plays in the continuation of oppression and misunderstandings.	Advancing
Identify and develop alternative terms and words to those that are rooted in historical injustices, and invest in community outreach to create broad understanding of de-colonized words.	Advancing
Recommend that the legislature create a board to systematically review state government institutions to ensure that language intrinsically tied to historical injustices is removed from all active documents and policies.	Advancing (Action Modified)
Leadership in all levels of state government must make this a top priority.	Advancing

Action_Status	Action Status Definitions
Action not defined	Needs refinement, clarity, re-writing, or further detail in order to be implementable.
No Action Taken	Lead Implementer or others have not taken any action
Advancing	Lead Implementer is in a planning or design phase
Being Implemented	Action is ongoing with resources allocated
Completed	Lead implementer has completed work on the specific action
Action Modified - Advancing	Modified version of a CAP action is in a planning or design phase
Action Modified - Being Implemented	Modified version of a CAP action is ongoing with resources allocated
Action Modified - Completed	Modified version of a CAP action has been completed
Need more information	Information on progress not provided