

Addison County Top Climate Change Mitigation Priorities

Thermal

- Conduct energy audits of all municipal buildings;
- Weatherize at least one historic building in each Municipality;
- Provide sustainably harvested cordwood from town forests;
- **55%** of municipal households weatherized by 2050;
- **51%** of commercial establishments weatherized by 2050;
- New Efficient Wood Heat Systems: **600+** units by 2050;
- New Heat Pumps: **7000+** units by 2050;

Electrical

- Install electric vehicle charging infrastructure on municipal property;
- Install efficient electric equipment in municipal buildings;
- Purchase and install, cost-effective municipal solar and /or wind net-metered facilities to power municipal energy use;
- Install community funded and owned renewable energy projects;
- Upgrade and optimize the VELCO and GMP electricity transmission and distribution system;
- Increase electrical efficiency and conservation by nearly **60%** by 2050;
- Significant electric usage **reduction** in Commercial and Industrial sectors;
- **Increase** electric usage in Residential and Transportation sectors (with switches to heat pumps and electric vehicles);

Transportation

- Provide walking and biking paths connecting population densities with critical infrastructure, like in and between villages and elementary schools;
- Expand public transportation service in rural areas of the Region, including small capacity ride-share, ZipCar style micro-leases, and even self-driving EVs;
- Enhance existing state and municipal park-and-ride lots for better utilization;
- Create better connectivity between public transit and park-and-ride locations;
- Support telecommuting, carpooling, vanpooling, for employees' commute trips;
- Support construction of a rail platform in Middlebury and completion of the rail station in Vergennes/Ferrisburgh;
- Support the use of biofuels for on-farm and other commercial and heavy vehicle use;
- New Electric Vehicles in use by Addison Region owners by 2050: **30,000**
- New Biodiesel Vehicles in use by Addison Region by 2050: **1,200+**

Land Use, Generation and Transmission

- Expand regional and local energy storage and promote local microgrids;
- Install additional municipal solar and/or wind net-metering facilities to off-set municipal electric use;
- Support continued improvements in broadband connectivity and encourage telecommuting;
- Encourage programs to support infill growth and economic development;

Goals, Policies and Recommended Actions from Addison County Regional Plan Energy Section

Given the significant changes that the Region and its residents and businesses will need to make in conservation and efficiency in order to make its targets, ACRPC promotes the following Goals, Policies and Recommended Actions for itself and its citizens.

Thermal Pathways to Implementation

Goal: Increase the Region's thermal energy efficiency and self-sufficiency by reducing both its energy use and carbon footprint to meet local and State targets of 90% renewable energy by 2050.

Policies and Recommended Actions

1. Promote thermal efficiency in the Region's municipal buildings:
 - a. Help the Region's member municipalities conduct energy audits of all municipal buildings to identify weatherization retrofits and other strategies, and to incorporate the cost of the audit's recommendations into the municipal capital budget.
2. Encourage and promote local and sustainably harvested wood and efficient wood heating:
 - a. Require outdoor wood boilers in the Region to comply with state efficiency and emission standards;
 - b. Promote EPA III approved energy efficient wood stoves through education and outreach;
 - c. Promote the management and use of town forests for sustainably harvested cordwood for low-income citizens;
 - d. Support a regional energy fair;
 - e. Work with forestry organizations to promote landowner education and sustainable forestry operations.
3. Encourage and support the Region's resident's efforts to weatherize their homes:
 - a. Coordinate with CVOEO, Neighborworks of Western Vermont, Efficiency Vermont and other weatherization service providers to encourage the Region's residents to participate in weatherization programs.
4. Encourage proposed development to optimize design features and energy systems that conserve energy and use renewable sources:
 - a. Promote the installation of air source and geothermal heat pumps;
 - b. Promote compliance with existing residential and commercial building energy standards by educating and working with Zoning Administrators and encouraging them to distribute information about Vermont's Energy Codes to permit applicants and explain energy efficient options to builders and owners;
 - c. Encourage municipalities, businesses, organizations and homeowners to build to higher energy standards to increase efficiency and use renewable resources as heating or cooling

sources (e.g. the Energy Star Home Program, the “Stretch Code” or passive solar homes such as PassivHaus);

- d. Work with local planning commissions to incorporate additional energy standards into municipal plans and zoning regulations;
- e. Work with existing energy providers in the Region (Fuel dealers, GMP and Vermont Gas) to encourage them to transition their business models to that of “energy service providers”, offering efficiency improvements and a diverse range of renewable energy products.

Electrical Pathways to Implementation

Goal A: Conserve renewable and non-renewable electrical energy resources.

Policies and Recommended Actions

1. Support energy conservation efforts and the efficient use of energy by installing efficient electric equipment:
 - a. Help municipalities explore funding opportunities and capital budgeting to implement energy efficiency in all municipal buildings;
 - b. Discourage the use of “always on” lighting in parking lots and other indoor and outdoor lighting in public places. Encourage the use of technology like motion sensors to light areas when needed;
 - c. Plan for and install electric vehicle charging infrastructure on municipal property;
 - d. Educate consumers regarding efficiency and energy conservation;
 - e. Advocate for the availability of smart meter technology to help consumers understand and regulate their electricity usage.
2. Promote energy efficiency in all buildings, including retrofits and new construction:
 - a. Promote improved compliance with the residential and commercial building energy standards by distributing code information to permit applicants and working closely with the Region’s Zoning Administrators;
 - b. Encourage municipalities to consider requiring new construction to comply with the “stretch energy code”

Goal B: Shift energy use from non-renewable energy sources, like oil and gasoline, which emit greenhouse gasses and cause acid rain, to electricity from renewable sources using technologies like electric heat pumps and electric vehicles.

Policies and Recommended Actions

1. Work with municipalities, electric utilities and community groups to lead and support the transition:
 - a. Help the Regions municipalities investigate and install, or purchase, cost-effective municipal solar and /or wind net-metered facilities to power municipal energy use;
 - b. Help the Region’s municipalities, their Energy Committees, and community groups, such as ACORN, install community funded and owned renewable energy projects, and allow local citizens to participate in the economic benefits of local energy generation;
 - c. Work with utilities serving the Region to ensure that during the transition to distributed electric generation and increasing consumer reliance on electricity for power, that the distribution and transmission grid improves regularly to continue to provide cost effective, reliable service and opportunity for growth to all communities in the Region;
 - d. Support utilities globalizing the cost of improving local distribution and sub-station infrastructure necessary to support residential scale distributed generation;

- e. Advocate for the retention of the current State policy that requires commercial and industrial generators to fund the cost of improvements to the distribution system necessary to accommodate their proposed projects;
- f. Share info with VELCO, GMP and VECOOP to ensure that targets for generation in the Region and across the state are optimized to enhance the cost effectiveness of the transmission and distribution system for the State of Vermont; and,
- g. Require systems 500 kW or greater to follow the IEEE1547 standard for connection to the grid.

Transportation Pathways to Implementation

Goal A: Reduce reliance on nonrenewable fossil fuels, and shift reliance to renewable energy sources.

Policy and Recommended Actions

1. Create infrastructure and policies supporting electric vehicle use within the Region:
 - a. Plan for and install electric vehicle charging infrastructure on municipal property;
 - b. Incorporate EV ready standards into building code. (This can be as simple as requiring 220v outlets in garages);
 - c. Encourage major employers in the Region, to install (additional) EV charging stations for employees;
 - d. Identify strategic locations where EV charging stations should be added or expanded including existing service stations;
 - e. Promote the Drive Electric Vermont website.

Goal B: Maintain or reduce vehicle miles traveled per capita to 2011 levels by reducing the amount of single occupancy vehicle (SOV) commute trips.

Policies and Recommended Actions

1. Support regional efforts to increase access to safe, every day walking and cycling within and across municipal borders:
 - a. Review municipal road standards to ensure that they reflect all “complete streets” principles applicable to our rural roads;
 - b. Provide walking and biking paths connecting population densities with critical infrastructure, like in and between villages and elementary schools;
 - c. Promote municipal membership on the *Walk-Bike Council of Addison County* to foster safe and accessible opportunities for walking and cycling as an alternative to SOVs;
 - d. Help municipalities find and apply for funding sources for building walk/bike infrastructure;
 - e. Help the Walk-Bicycle Council of Addison County work with municipal road foremen and select boards to plan for incremental development of critical bicycle infrastructure within their municipalities as road work is completed annually.
2. Support public transportation programs serving the Region. Bus routes, car and vanpools, and elderly and disabled services all fall under the umbrella of public transit:
 - a. Work with ACTR (TVT) to explore creative approaches to expanding service in rural areas of the Region, including small capacity ride-share, ZipCar style micro-leases, and even self-driving EVs for a connecting service between small villages and major arterial corridors;
 - b. Encourage additional municipal representatives on the Tri-Valley Transit (“TVT) Board and the Addison County Transit Resources Regional Operating Committee (“AROC”) to bring issues facing smaller, more isolated towns to the table;
 - c. Support the use of a Park and Rides in the Region and encourage the Region’s residents to consider ride-sharing programs;

- d. Help municipalities without park and rides to find a convenient location and apply for funding to create lots from Vermont's small park and ride program;
- e. Plan and advocate for enhanced access to public transit, particularly during relevant Act 250 proceedings;
- f. Promote better utilization of existing state and municipal park-and-ride lots;
- g. Work with ACTR to create better connectivity between public transit and park-and-ride locations. Support employer programs to encourage telecommuting, carpooling, vanpooling, for employees' commute trips;

Goal C. Increase the use of rail for freight and passenger services.

Policy and Recommended Actions

- 1. Support improvements to the Western Rail Corridor that improve safety and the ability of the corridor to carry additional freight and passengers:
 - a. Support Amtrak's expansion on the Ethan Allen line from Rutland to Burlington with stops in Middlebury and Vergennes;
 - b. Support construction of a rail platform in Middlebury and completion of the rail station in Vergennes/Ferrisburgh;
 - c. Encourage local businesses to explore the opportunity to use rail for freight.

Goal D. Encourage citizens and businesses to transition from oil and gasoline to cleaner products and technologies and/or to renewable, non-fossil-fuel transportation options.

Policy and Recommended Actions

- 2. Encourage options for cleaner fuel availability:
 - a. Work with Clean Cities Coalition to encourage large fleets to switch to natural gas use where transition to biodiesel is impractical;
 - b. Encourage use of renewable natural gas through Vermont Gas's forthcoming renewable natural gas green pricing program;
 - c. Support the agricultural industry as it investigates growing, processing and using biofuels for on farm and other commercial and heavy vehicle use.

Land Use, Generation and Transmission Pathways to Implementation

Goal A: Plan for increased electric demand in partnership with Green Mountain Power and Efficiency Vermont.

Policies and Recommended Actions

1. Lead by example. Encourage the use of renewable energy production in town buildings, schools and residences:
 - a. Investigate and support the installation of additional municipal solar and/or wind net-metering facilities that are compliant with the standards enumerated in this plan to off-set municipal electric use.
2. Support the development and siting of renewable energy resources in the Region that are in conformance with the goals, strategies, and mapping outlined in this Plan.
 - a. Support responsibly sited and responsibly developed renewable energy projects, which shall include solar panels, wind turbines and all associated supporting infrastructure;
 - b. Work closely with the Municipal Planning Commissions and Select boards from municipalities impacted by proposed energy development projects within the Region;
 - c. Investigate and support installation of community-owned renewable energy project(s) that are compliant with the standards enumerated in this plan to allow the Region's citizens to participate in the economic benefits of local energy production;
 - d. Expand regional and local energy storage and promote local microgrids to improve energy resiliency and efficiency;
 - e. Support local on-farm or residential scale renewable distributed generation projects;
 - f. Encourage GMP to develop distribution systems to support increased local, residential generation;
 - g. Support and retain current State policy requiring developers of proposed commercial generation projects to fund all upgrades to the distribution system necessary to support their projects;
3. Favor the development of generation utilities in identified preferred locations over the development on other sites.

Goal B: Promote Land Use planning that supports reducing energy usage and conserving resources

Policies and Recommended Actions

1. Encourage settlement patterns that reduce travel requirements for work, services, and recreation by helping member municipalities to create plans and zoning that:
 - a. Encourage development of compact neighborhoods within the Region's Neighborhood Commercial, High Density Residential and Medium Density Residential Planning Areas;
 - b. Support general stores and other businesses in municipal village areas;

- c. Allow infilling of existing large-lot development where higher density development is desirable and appropriate;
 - d. Provide opportunities for appropriate home occupations and telecommuting;
 - e. Support continued improvements in broadband connectivity and encourage telecommuting;
 - f. Encourage applications to State Designated Downtown, Village Center and New Neighborhood programs to support infill growth and economic development.
2. Continue to encourage and support local food systems and farmers' markets
 3. Conserve forest land as a renewable energy resource and promote the responsible and efficient use of wood for biomass energy production.
 4. Conserve viable agricultural lands for potential use in local food system production, and/or potential use in raising biofuel crops.