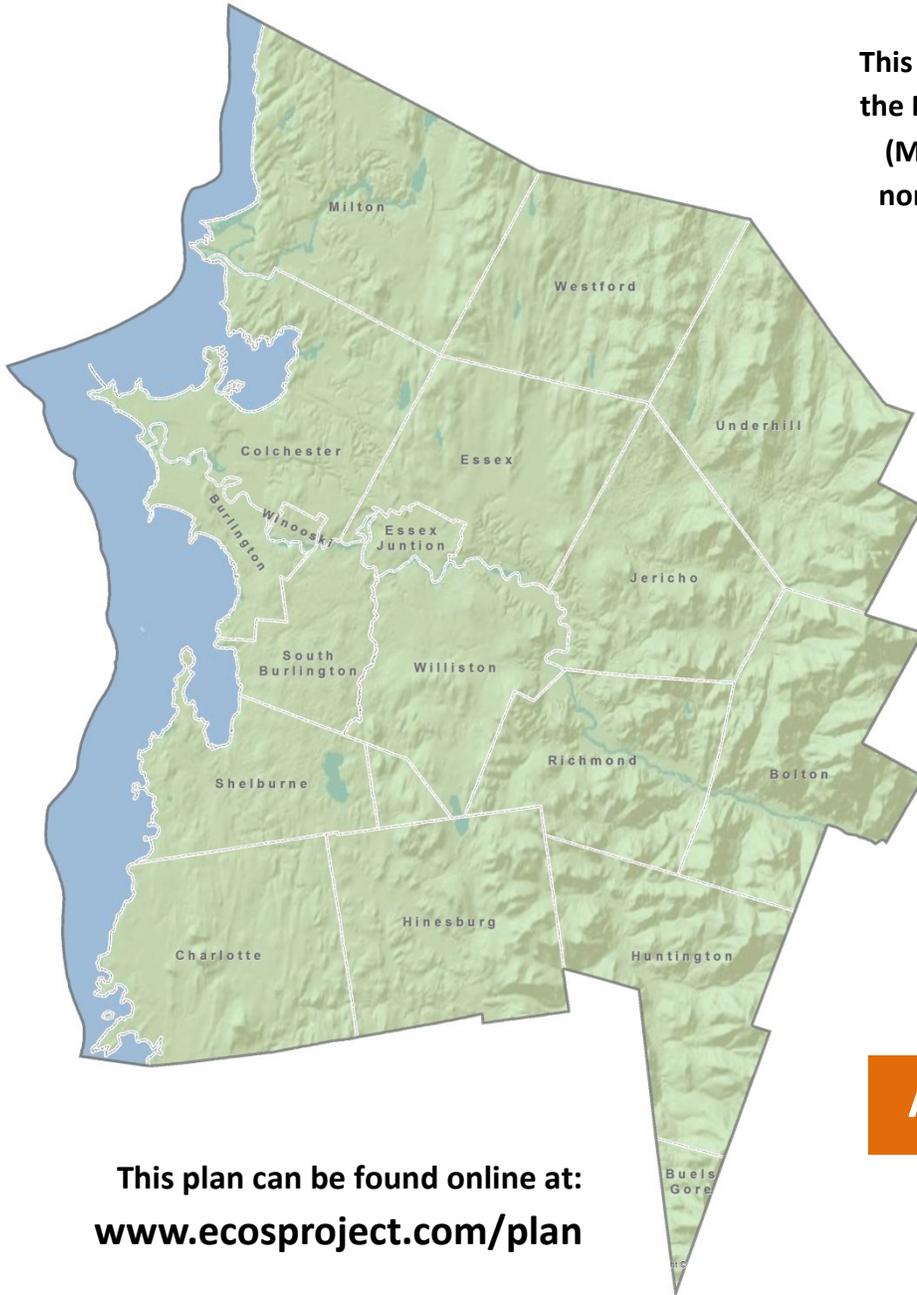


# 2013 Chittenden County **ecos** Plan



This plan combines the Regional Plan, the Metropolitan Transportation Plan (MTP), and the Comprehensive Economic Development Strategy (CEDS) into one integrated plan.

For a  
healthy,  
inclusive,  
and  
prosperous  
community.

Adopted 6/19/2013

This plan can be found online at:  
[www.ecosproject.com/plan](http://www.ecosproject.com/plan)



## 2.2.2 SCENIC, RECREATIONAL, AND HISTORIC RESOURCES

**Scenic and Recreational Resources Goal:** Conserve, protect and improve valued scenic, recreational, and historic resources and opportunities.

### Key Issues/Trends/Insights

[Data for this section drawn from [Natural Systems Analysis Report](#)]

- Chittenden County is rooted in its scenic, recreational, and historic resources. These provide residents a place to relax, play, gather, and learn about nature, conservation, and our heritage. They also provide important ecological functions including wildlife habitat, and water and air quality protection. These are supplemented by indoor and outdoor recreation facilities. An extensive system of shared-use paths, on-road bike lanes, and off-road trails connect the County's recreational facilities and areas (this data can be found under the Natural Systems section of the online map located here: <http://maps.ccrpcvt.org/ChittendenCountyVT/>).
- Scenic resources represent an important element of the region's landscape and contribute directly to sense of place, quality of life and economic vitality through tourism and by attracting new residents and businesses.
- Historic resources include buildings, structures, landscapes, and archeological sites, both on land and under water. There are over 4,400 designated historic sites in Chittenden County and over 80 designated historic districts (this data can be found under the Natural Systems section of the online map located here: <http://maps.ccrpcvt.org/ChittendenCountyVT/>).
- The recreational value of our water bodies (swimming, fishing, boating, etc.) is critically dependent on water quality. E-coli and algal blooms lead to beach closures, while invasive species threaten our native fish populations. Events and encroachments such as these are exacerbated by the effects of climate change.
- As we work toward encouraging future development in areas planned for growth to maintain VT's historic settlement pattern of villages and urban centers, surrounded by rural countryside, **access** to valued scenic, recreation and historic resources should also be maintained and improved for all residents and visitors.
- Eight of the County's municipalities (Milton, Colchester, Essex Junction, Winooski, Burlington, South Burlington, Shelburne and Charlotte) are member communities of the Lake Champlain Byway, a State-designated Scenic Byway that extends from Alburg in the Champlain Islands through Chittenden County on U.S. 7 and south into several towns in Addison County. Since 2002 these communities have secured competitive grants from the National Scenic Byway Program to improve the visitor experience by implementing projects such as wayfinding signage, interpretive panels, brochures, kiosks, and other amenities. In particular, the Byway focuses on improving interpretation and information about municipal and non-profit intrinsic resource sites such as parks, town forests, natural areas, trails and smaller museums.
- There is low compatibility between municipal plan recommendations for natural and scenic resources and the implementation of those recommendations through zoning bylaws and subdivision regulation. Further, there are often contradictory goals within municipal plans regarding natural and scenic preservation and new infrastructure for energy generation and transmission. Reconciliation of these is necessary to meet community visions and bring predictability to the development process.

## Key Indicators

- **50,789 acres or 15% of Chittenden County's land area is protected from development.**  
Source: UVM SAL Conserved Land Database and municipalities.
- **56,450 acres or 17% of Chittenden County's land area is available for recreation in the form of town & state parks, athletic fields, and natural areas.** Source: CCRPC
- **Local Zoning Lags behind Plans** (Source: ECOS Natural Resources Analysis Report, Landworks). Municipal Zoning Regulations vary.
  - 16% of towns provide specific standards and guidelines for protecting identified scenic resources.
  - 68% of towns provide general recommendations for protecting scenic resources (e.g., views and landscapes along scenic roads should be protected).
  - 16% of towns reference scenic resources but provide no goals, standards, guidelines, or recommendations.
  - 57% of scenic resources identified are of roads or views from roads.
  - The majority (74%) of towns reference scenic resources in relation to their value as open space.
  - 42% of towns recognize that woodlands provide scenic as well as ecological values.
  - About 40% of towns consider historic structures and settlement patterns a scenic resource.
  - 21% of towns have a scenic overlay/preservation district.

## 2.5.5 ENERGY

**Energy Goal:** Reduce Chittenden County's consumption of energy and reliance on non-renewable, energy. Improve the cost-effectiveness, efficiency and reliability of the energy production, transmission, and distribution system.

### Key Issues/Trends/Insights

[Data for this section drawn from: [Energy Analysis Report](#) and [Climate Change Trends and Impacts Report](#)].

- Chittenden County citizens, businesses, and industries spent about \$617 million on energy in 2009 (25% of Vermont's total). Much of this money leaves the County and state immediately. This outflow of energy dollars acts as a drain on the local economy.
- The price of energy is forecasted to continue increasing in the future, which will result in an additional burden on the County's residents and businesses, unless energy consumption can be reduced.
- Chittenden County has a long history of electrical and natural gas energy efficiency programs, dating back to 1990, which have provided significant energy savings and economic benefits to the state and County. These programs along with improvements in federal standards have led to a reduction in per household and per employee energy consumption of electricity and natural gas. Reduction in energy consumption directly results in a reduction in energy bills.
- While efficiency programs targeting electricity and natural gas have been largely successful, there is an urgent need to fund and develop similar programs for non-regulated thermal fuels and for the transportation sector.
- Fossil fuel combustion increases the atmospheric concentration of carbon dioxide and other greenhouse gases, which are the causes of global climate change. Climate change will have profound impacts on the environment, public health, infrastructure, and economy of Chittenden County.
- Vermont, and the County, relies heavily on fuel oil for building heat and on gasoline and diesel for transportation. Gasoline consumption has increased as more residents drive to and from work, run errands, and consume for goods.
- Vermont's rural nature offers challenges for the transmission and distribution of energy. It is important to maintain and develop an energy production, transmission, and distribution infrastructure in Chittenden County that is efficient, reliable, cost-effective, and environmentally responsible.
- The cost of electricity is related to the distance it travels. When electricity is transmitted over long distances, a significant amount of electricity is lost. Improving line efficiency or encouraging distributed generation (such as locally sited small scale renewable projects) reduces losses and could result in more cost effective rates.
- Every three years, Vermont Systems Planning Committee (VSPC) launches a process to update and identify constrained areas and reliability needs for the electric transmission grid. Chittenden County has areas identified as needing improvement.
- Electric efficiency programs have always worked to reduce electrical demand especially during peak periods but the development of the Smart Grid will provide a powerful tool to address this issue. Smart Grid coupled with education, behavior change, and load control technologies can help reduce peak demand and defer substation upgrades which can result in substantial cost saving.
- Chittenden County has many non-fossil fuel based, renewable energy production sites owned by utilities, private parties, and municipalities. Reliable, cost effective, and environmentally

sustainable energy availability is critical to support the economy and natural resources of Chittenden County.

- The more widespread adoption of electric vehicles should reduce the total energy consumption in the County, due to better efficiency (an EV gets the equivalent of 100 miles/gallon). To prepare for widespread adoption of electric vehicles, charging infrastructure should be developed. In addition, policies and pricing structures to encourage off peak charging need to be considered to mitigate grid constraints.
- Chittenden County is home to an international airport and a National Guard base, therefore the transportation fuel consumption in the County not only includes gasoline, diesel, and compressed natural gas, but also aviation gasoline and jet fuel.

**Key Indicators**

➤ **Energy Consumption Estimates and Population Trend in Chittenden County**

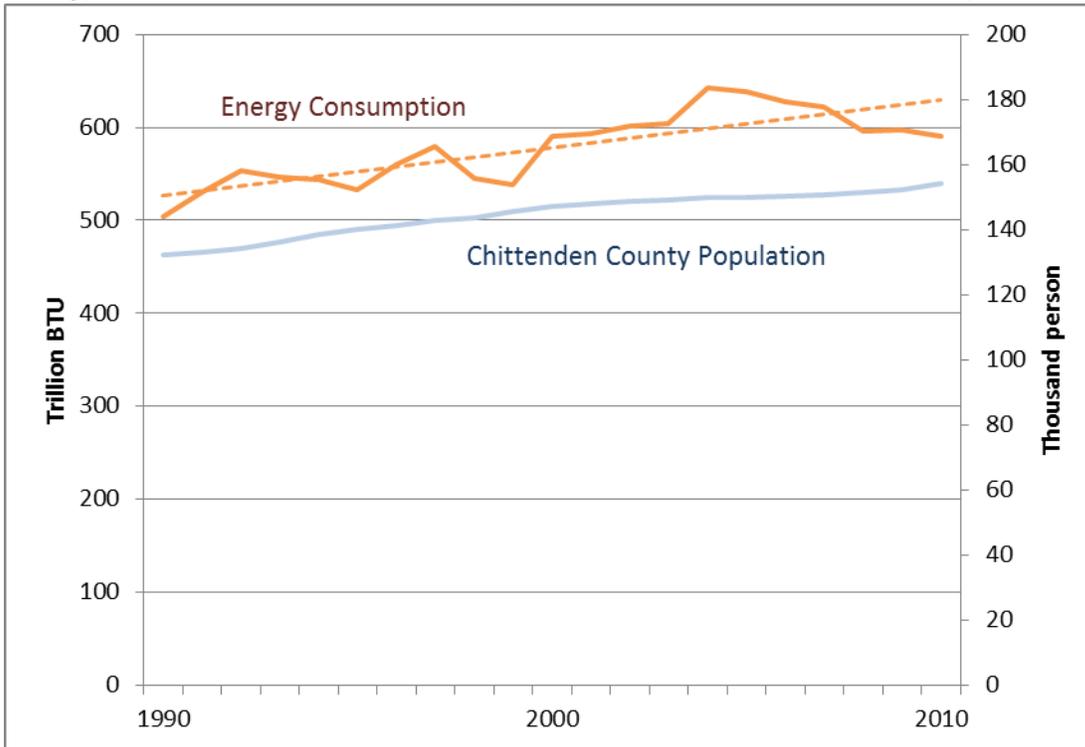


FIGURE 49 - ENERGY CONSUMPTION ESTIMATES AND POPULATION TREND IN CHITTENDEN COUNTY

- **2009/2010 Total energy consumption per person (per household for the residential sector) and by sector (transportation, residential, commercial, and industrial).** Reduction in consumption will lead to a reduction in energy bills, relative to what they would be without that reduction in consumption.

	Total Energy (MMBTU)	Gallons of Gas
Residential Energy per Household	89	
Commercial and Industrial Energy per Employee	120	
Transportation Energy per Person		420

Source: Efficiency VT, Energy Information Administration, CCRPC, UVM VT Transportation Energy Report (2009, 2010)

FIGURE 50 – 2009/2010 TOTAL ENERGY CONSUMPTION PER CAPITA

- Percent of natural gas saved in 2010 from building weatherization and heating equipment upgrades.

Natural Gas (McF)	2010
Consumed	6,363,760
Savings	82,151
% Efficiency Savings	1%

Source: VT GAS, 2010

FIGURE 51 - 2010 NATURAL GAS EFFICIENCY SAVINGS AS A PERCENTAGE OF THE NATURAL GAS CONSUMED

- Electricity Efficiency Savings as a percent of total electricity consumed.

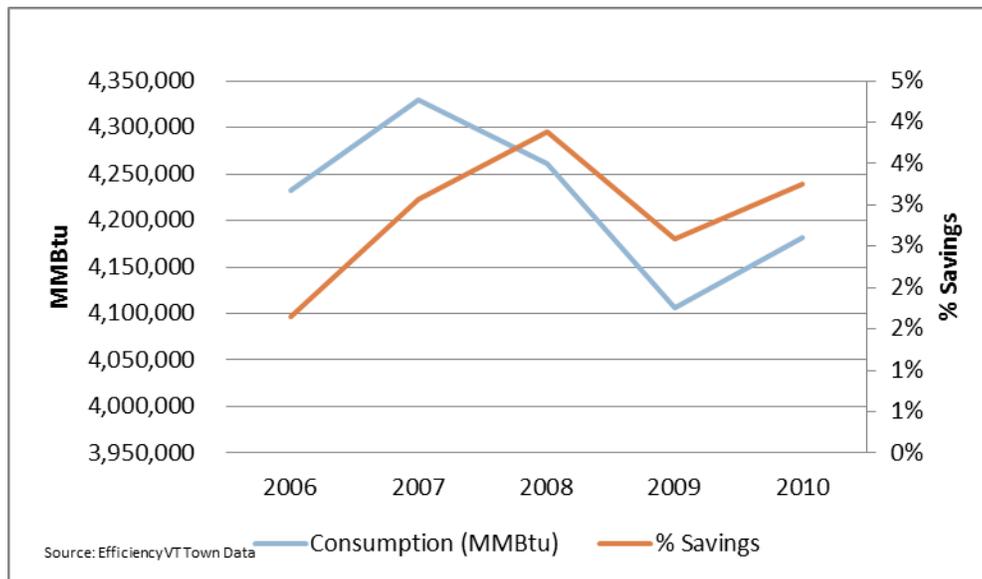


FIGURE 52 - ELECTRICITY EFFICIENCY SAVINGS AS A PERCENT OF TOTAL ELECTRICITY CONSUMED

- According to the Vermont Energy Atlas, in 2009, .06% of electricity consumed in Chittenden County is from privately owned renewable energy sources. Utility renewable energy generation is excluded because utility energy generated may not be used in Chittenden County.
- Number and capacity of renewable energy production sites in the County (Source: VT Energy Atlas, Oct. 12, 2011)

	# of sites	Capacity (kW)	MWh	Capacity (Thousand Btu)
Solar Photovoltaic	297	6,101		
Solar Thermal	42			2,975
Combined systems	12	86		588
Wind	28	491		
Hydro <sup>1</sup>	6		152,000	
Wood Thermal <sup>2</sup>	9			3,900
Wood Electric <sup>3</sup>	1	50,000		665,760

1- Six utility owned hydro stations generate electricity for Chittenden County and surrounding area. 2-Thermal capacity not recorded, only tons of wood consumed as a proxy for system size is available. 3-McNeil Power

FIGURE 53 - NUMBER AND CAPACITY OF RENEWABLE ENERGY PRODUCTION SITES IN THE COUNTY