



CHITTENDEN COUNTY RPC
Communities Planning Together

Enhanced Energy Plan Overview

2018 ECOS Plan

Department of Public Service's
Public Hearing
August 6, 2018

Presentation Outline

- ECOS Plan Overview
- Enhanced Energy Plan Overview
- Public Outreach & Comments
- Act 174 Requirements

ECOS Plan Overview

What is the ECOS Plan?



Since 1976, the CCRPC has been producing a Regional Plan to protect Chittenden County's resources and guide its development. The ECOS Plan (Environment; Community; Opportunity; Sustainability) is the regional plan for Chittenden County and combines three plans into one: the Regional Plan, the Metropolitan Transportation Plan and the Comprehensive Economic Development Strategy. The ECOS Plan:



Provides guidelines for managing sustainable growth in Chittenden County.



Incorporates the visions and goals of municipalities, organizations, businesses and residents to preserve our quality of life.



Is collective in that no one piece will bring success without the others -- a concept visually described in the **Circle of Prosperity** below.



Is separated into **four broad categories:**



ECOS Vision Statement

*Our vision is that
Chittenden County be a
healthy, inclusive and
prosperous community.*

ECOS Plan Overview

8 STRATEGIES



Improve and strengthen the economic systems of our region to increase opportunities for Vermont employers and employees.



Strive for 80% of new development in areas planned for growth, which amounts to 15% of our land area.



Improve the safety, water quality, and habitat of our rivers, streams, wetlands and lakes in each watershed.



Increase investment in and decrease subdivision of working lands and significant habitats, and support local food systems.



Increase opportunity for every person in our community to achieve optimal health and personal safety.



Equip our residents with the education and skills they need to thrive.



Develop financing and governance systems to make the most efficient use of taxpayer dollars and reduce costs.



Ensure that the projects and actions in all ECOS strategies assess equity impacts, and that the design and development of programs are inclusive of all and engage underrepresented populations.

More detailed actions are included under each strategy.

Progress toward the ECOS Plan goals is tracked annually.

17 GOALS [within the 4 broad categories above]



NATURAL SYSTEMS

1. ECOLOGICAL SYSTEMS
2. SCENIC, RECREATIONAL & HISTORIC RESOURCES
3. CLIMATE CHANGE



SOCIAL COMMUNITY

4. EDUCATION, KNOWLEDGE & SKILLS
5. HEALTH
6. PUBLIC HEALTH, CRIMINAL JUSTICE & HAZARD MITIGATION
7. SOCIAL CONNECTEDNESS
8. ARTS, CULTURE & RECREATION
9. CIVIC ENGAGEMENT



ECONOMIC INFRASTRUCTURE

10. ECONOMY
11. HOUSEHOLD FINANCIAL SECURITY
12. WORKING LANDS AND LAND-BASED INDUSTRIES




BUILT ENVIRONMENT

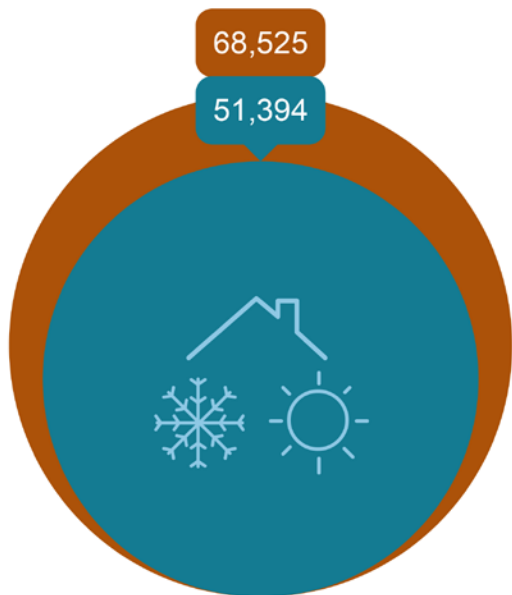
13. LAND USE
14. HOUSING
15. TRANSPORTATION
16. INFRASTRUCTURE & FACILITIES
17. ENERGY

Enhanced Energy Summary


USE 1/3 LESS ENERGY FOR HEATING, TRAVEL & APPLIANCES

 Collaborate with utilities to reduce energy use through weatherization of homes and businesses, and the installation of more efficient appliances.

75% of Chittenden County homes need to be weatherized by 2050.



 Total Homes  Homes Needing Weatherization

 Plan for a majority of new growth to take place in compact areas to reduce travel distances, provide for more energy efficient buildings, and encourage walking, biking, and transit use.

On average, 86% of homes built in Chittenden County since 2012 are in areas planned for growth, exceeding the 80% goal outlined in the ECOS Plan.



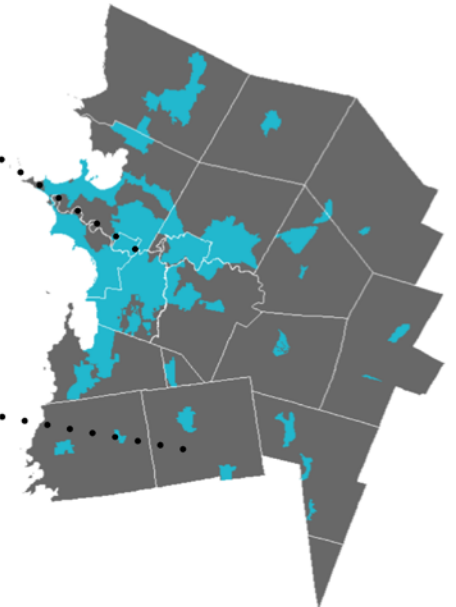
86%

In areas planned for growth




14%


In rural areas



90% OF ENERGY NEEDS TO BE FROM RENEWABLE SOURCES BY 2050


 We've estimated how much additional renewable energy (wind, solar, biomass, and hydro) the region needs to generate.

Chittenden County needs to generate 756,250 Mwh (Megawatt hours) of energy to meet the low target, or a 51% increase -- and 1,265,134 Mwh to meet the high target, or a 153% increase. The low and high ranges represent two pathways toward meeting the State's 90% renewable goal.

 We've estimated how much land area is needed to meet the renewable energy generation target if solar is the only type of technology deployed.



At 100% solar the county has approximately 2x to 5x the amount of land area assumed to be "good" for achieving the high and low-range targets respectively. Other generation types (i.e. wind, hydro, and biomass) are options for meeting the targets. CCRPC is only showing 100% solar as an example to demonstrate a pathway for moving to 90% renewable.


TRANSFORM THE TRANSPORTATION & HEATING SECTORS TO ELECTRICITY POWERED BY RENEWABLE SOURCES

 Because the transportation sector accounts for 38% of the county's energy use, it's important that we transform it through the promotion of electric vehicles and installation of electric vehicle charging stations.

Target: 89% of passenger cars should be electric.

Currently, there are
 **106,936**
 total passenger cars in Chittenden County

  **601**
 are electric/plug-in hybrid
 (less than 1%)

 Because the heating sector accounts for 44% of the county's energy use, it's important that we collaborate with partners to reduce fossil fuel use in the heating sector through installation of heat pumps.

Cold climate heat pumps are more efficient than oil heating systems.

\$27.41 /MMBTU
 Oil heating system cost

VS.

\$17.58 /MMBTU
 Cold climate heat pump cost

Outreach During Development of the Plan

- CCRPC formed an **Energy Sub-Committee** to inform the development of the Enhanced Energy Plan. The Sub-Committee was comprised of a diverse group of municipal representatives with knowledge of various aspects of energy planning. The Energy Sub-Committee **met 17 times**.
- CCRPC also conducted presentations for Planning Commissions, Energy Committees, and Conservation Commissions around Chittenden County. In total, between 2016 and 2017, CCRPC staff offered to present to every municipality, and ended up **presenting to 16 of our member municipalities**.
- **Public comment period** was open from Oct. 31, 2017 to Nov. 22, 2017. 79 comments were received.

Outreach During Adoption of Plan

- Official Public Hearings
 - First Public Hearing on Feb 21st
 - Incorporated comments (approx. 40 comments from 20 individuals/ organizations/agencies etc.) and warned 2nd public hearing draft
 - Second Public Hearing on May 16th
- Adopted at Annual Meeting on June 20th

Enhanced Energy Plan Comments

- Technical in nature and addressed
- Municipal siting constraints added
- Natural Gas v. 90% renewable; and included renewable natural gas as something to be analyzed in the future
- Weakness of suitability language
- Goals unrealistic without market changes
- Consistent & enforceable energy code

Comments Not Resolved

- Request to shift off of fossil fuels completely within this Plan, particularly in relation to the transportation section
- Request from Vermont Gas to accommodate natural gas as a bridge fuel, and a shift to renewable natural gas as a method for meeting the state's energy goals

Enhanced Energy Act 174 Requirements

Location of Required Components:

1. Analysis and Targets Standards
 - a. Supplement 6 – Energy Analysis, Targets & Methodology
 - b. Supplement 2 Regional Analysis
2. Pathways (Implementation Actions) Standards
 - a. Implementation Strategies – Main Document
3. Mapping Standards
 - a. Main Document - Land Use Constraints and Energy Generation Suitability Policies
 - b. Supplement 3 - Land Use Constraints Table and Map Descriptions

Comments & Questions