



2016 Vermont Comprehensive Energy Plan



Comprehensive Energy Plan

Team Effort

State Government

- Public Service Dept.
- Agency of Natural Resources
- Agency of Transportation
- Agency of Agriculture, Food, & Markets
- Agency of Commerce & Community Development
- Agency of Human Services
- Dept. of Bldgs & General Services

Community & Business Partners

- Public Comments
- Utilities
- Energy Services Companies and Consultants
- Public Interest Organizations and Community Groups
- Business Community
- Town Energy Committees

Major themes

- Clean energy jobs
 - 6% of the state's workforce in CE jobs
 - Up 20% since 2013
- Affordable and stable energy supply
 - Retain our energy dollars
 - Stable and low electric rates
- Focus on most vulnerable Vermonters
 - Low-income efficiency and weatherization programs
 - Heat saver loan and other financing options
 - Codes and standards

Goals in Statute

- Meet energy needs in a reliable, secure, sustainable, and affordable manner. (30 V.S.A. § 202a)
- Renewable policies that promote economic benefit, efficient use of resources, stable prices, market development, air and water quality, grid stability, climate change mitigation, and diversity of resources. (30 V.S.A. § 8001)
- 25% renewable by 2025. (10 V.S.A. § 580(a))
- 50% GHG emission reduction by 2028, and 75% (if practicable) by 2050. (10 V.S.A. § 578(a))
- Building efficiency – weatherize 25% of housing stock by 2025. (10 V.S.A. § 581)

Requirements in Statute

- Renewable Energy Standard will grow the share of renewable energy in Vermont's portfolio through market-based mechanism (renewable energy credits). (30 V.S.A. § 8005)
 - 55% renewable in 2017, rising 4% every three years to 75% in 2032; and
 - 1% from distributed generators connected to Vermont's electric grid in 2017, rising 0.6% per year, to 10% in 2032.
 - Energy transformation projects will reduce fossil fuel use. Equivalent of 2% of retail sales, escalating to 12% in 2032.
- Standard Offer Program provides for long-term contracts for resources that are 2.2 MW or less (up to 127.5 MW). (30 V.S.A. § 8005a)

Efficiency – 3 ways

- Continuing improvements in thermal and electric efficiency.
- Fuel switching away from combustion technologies to more efficient electric-powered technologies. (e.g. EVs are 3-times more efficient than combustion engines.)
- Declining source energy requirements of electricity generation because fossil generators are inefficient at capturing primary energy.

Illustrative Pathways

- The CEP presents some “illustrative” pathways to achieve 90 percent renewable by 2050.
- These are based on the best available information as of when the CEP was written, but technology, costs, concerns, and markets will inevitably take unexpected turns.
- The state should remain nimble in our approach to reaching our goal. (e.g. solar costs)

Buildings

Goals:

- 30% renewable by 2025
 - One way to get there:
 - Building shell improvements reduce heat demand by 14%
 - Heat pumps in ~15% of homes
 - Increase use of wood and/or bioheat by 20%
- All new buildings net zero by 2030
- Advanced wood heat technologies and sustainable forestry must be a priority.

Transportation

Goal: 10% renewable by 2025

One way to get there:

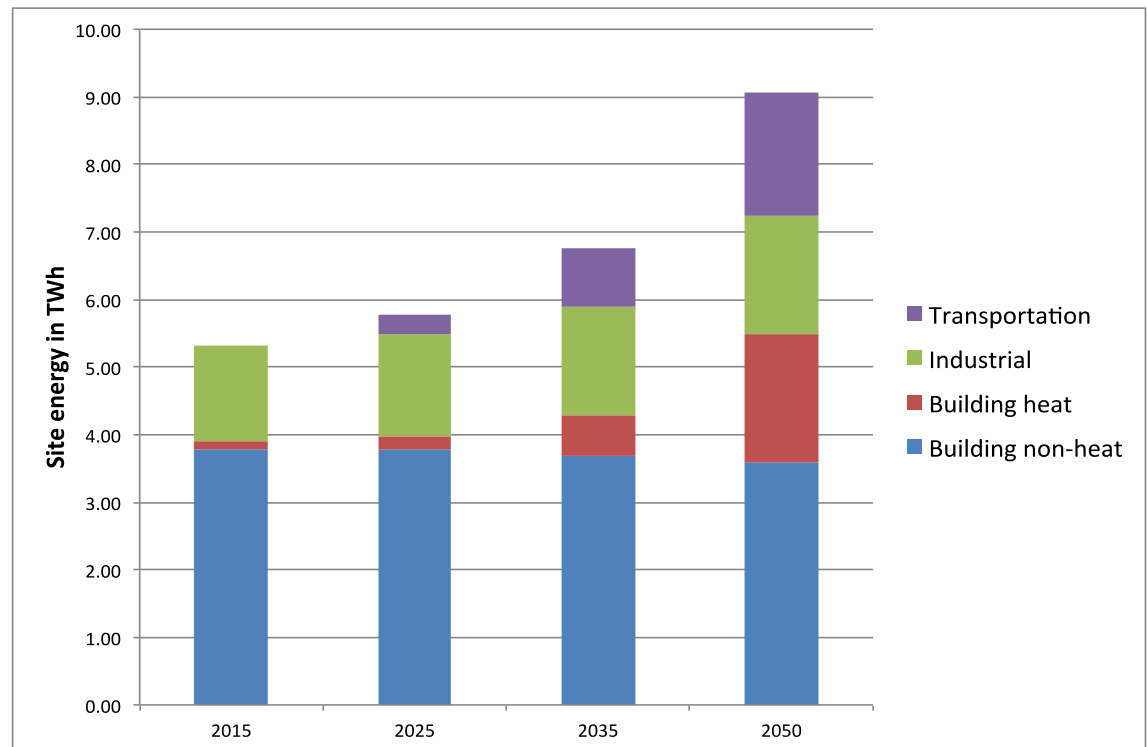
- Keep vehicle miles traveled (VMT) per capita at or below 2011 levels
- 10% of all light-duty vehicles plug in
- 10% average bio-content in diesel

Electric Power

Goal: 67% renewable by 2025

Electrifying heat and transport will increase electric energy demand:

- Load control on new electric demand is key.
- Storage, demand response, and smart rates will play a more important role.



For more information on the energy plan go to:

<http://energyplan.vt.gov>



Joan White
Department of Public Service
joanna.white@vermont.gov
802-828-0554