



# 2016 Vermont Comprehensive Energy Plan



# Major themes

- Clean energy jobs
  - 1 in 16 workers employed in clean energy jobs
  - Up 29% 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)

# CEP Illustrative Goals

- CEP developed general signposts for reaching 90% by 2050 goal
- Reduce total energy consumption per capita by 15% by 2025 (1/3 by 2050)
- Meet 25% of the remaining energy need from renewable sources by 2025 (40% by 2035, 90% by 2050)
- End-use sector specific 2025 illustrative goals
  - 10% renewable transportation
  - 30% renewable buildings
  - 67% renewable electric power

# Electricity Goals

- Goal: 67% renewable by 2025
  - Status: 55% renewable in 2017\*
- Progress and funding opportunities
  - Electrification of heating and transportation
  - Renewable Energy Standard, Net Metering, Standard Offer
  - Managing high penetrations of renewables
  - Rate design

\* Assuming utilities meet RES obligations; will be verified in 2018

# Heat Goals

- Goal: 30% renewable heat in buildings by 2025
  - Status: 24% in 2015\*
- Progress and funding opportunities
  - Heat from electricity and renewables
  - RES Tier 3
  - Weatherization
  - Thermal Efficiency Finance pilot

\*Predominantly wood heat

# Transportation Goals

- Goal: 10% renewable by 2025
  - Status: 5.5% renewable as of 2015
- Progress and funding opportunities
  - Tier 3
  - Charging infrastructure
  - Rate design



For more information on the energy plan go to:

<http://energyplan.vt.gov>

# EXTRA SLIDES

# 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

# Public Process

*Thank you VECAN*

## Prior to draft

- Regional forums in
  - Woodstock
  - Middlebury
  - Manchester
  - St Albans
- General written comments
- Topical forums on
  - energy efficiency
  - energy supply resources
  - transportation
  - electric grid/utility issues
- Online survey

## Following draft

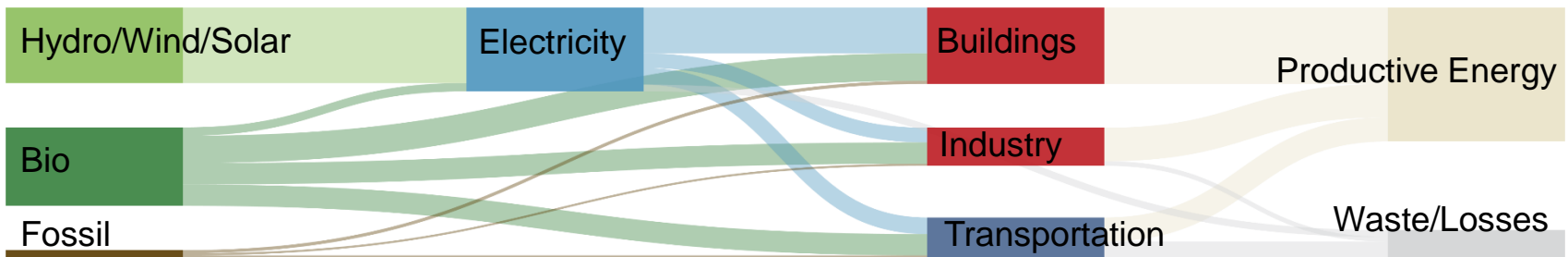
- Hearings in
  - Lyndonville
  - Essex
  - Montpelier
  - Westminster/Bellows Falls
- General written comments

# What the CEP does

Scale of the transformation needed in

1. Buildings,
2. Transportation
3. Electricity

One illustrative distribution of energy - 90% by 2050



# What the CEP does

Provides **over 300** specific recommendations

Example:

*“Build on prior activities to evaluate finance tools currently available that have potential to accelerate renewable energy and energy efficiency deployment (e.g., Heat Saver Loan, PACE, VEDA commercial loans, CEDF incentives, on-bill programs, etc.) and expand the use of those tools as appropriate.”*

Example:

*“Additional thermal efficiency funding should consider how to best provide services to lower-income households that do not meet eligibility requirements for Weatherization Assistance Program services. Investigate potential opportunities, such as “do-it-yourself” programs, no-interest loans, and needs-based tiered incentives for those who are unable to afford efficiency measures.”*

# What the CEP Does NOT do

- Does not address particular projects
- Does not presume to know every choice we will make along the way
- Is not a climate change plan
  - non-energy related GHG emissions not included
  - Adaptation and resiliency planning not included