

Vermont Comprehensive Energy Plan

Overview for the Vermont Climate Council
March 22, 2021

Objectives

Orient VCC to
Comprehensive
Energy Plan
(CEP)

Discuss
relationship of
CEP and Climate
Action Plan

Review the
timeline and
process for the
2022 CEP

Describe
Timeline and
Process for CEP
modeling

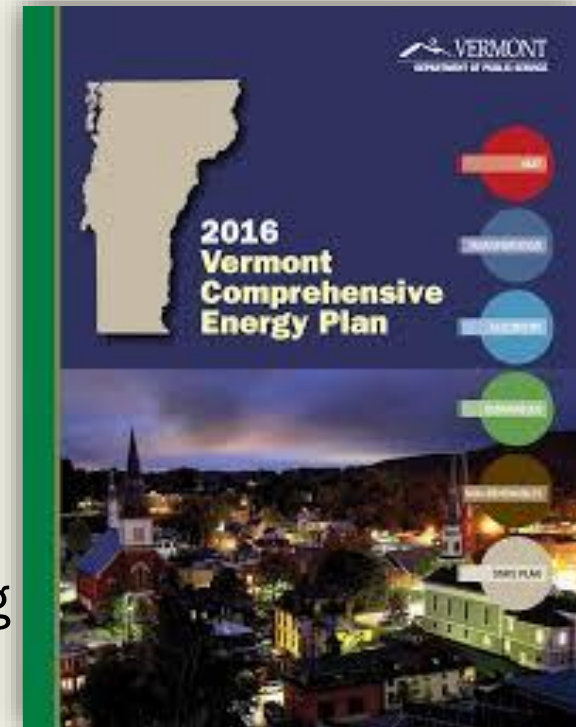
Vermont Energy Policy

Title 30, Section 202a:

- To ensure, to the greatest extent practicable, that Vermont can meet its energy service needs:
 - In a manner that is **adequate, reliable, secure, and sustainable**
 - Ensuring **affordability** and encouraging the state's **economic vitality**
 - Using energy resources **efficiently** and managing demands **cost effectively**
 - In a manner that will **achieve greenhouse gas reductions requirements**

Comprehensive Energy Plan - *What is it?*

- Title 30, Section 202b – the Comprehensive Energy Plan (CEP) must include:
 - Comprehensive 20-year analysis and projections of the use, supply, cost, environmental effects all energy sources used in VT
- Title 30, Section 202 – Electric Plan must include:
 - 20-yr assessment of *electric* demand, supply, strategies
- Last published in one document January 2016
 - Over 300 Recommendations – 90% by 2050 Vision
 - CEP Required Every 6 years – next due **January 2022**
- Must include standards and recommendations for Act 174 energy planning as well as recommendations for State actions
- Must be consistent with GHG goals, Climate Action Plan, relevant goals of Title 24, Section 4302



CEP and Climate Action Plan

Related and overlapping, but distinct planning requirements imposed by statute, two different reports. One does not obviate the need for the other. They will inform one another.

CEP

- 30 V.S.A. §202(b)
- Energy system planning & reliability of electric system given pathways to meet energy goals and energy service needs
 - Adequacy, reliability, security, sustainability
 - Affordability, economic vitality
 - Resource efficiency and cost-effectiveness
 - Greenhouse gas reduction requirements
- Consistency with requirements of Global Warming Solutions Act, and with Climate Action Plan
- **Every 6 years**

CAP

- 10 V.S.A. §592
- Sets forth specific initiatives, programs, and strategies, including regulatory and legislative changes, necessary to achieve the State's greenhouse gas emissions reduction requirements and build resilience
- To be informed by both the Council's analysis and "reports, plans, and information pertaining to greenhouse gas emissions reduction and climate resilience strategies" prepared by ANR and PSD, with specific reference to the CEP.
- **Every 4 years**

Energy Plan & Climate Plan

Overlap

Climate Action Plan

- Climate Adaptation
- Non-Energy GHG Emissions: Agriculture, Waste, etc.
- Sequestration
- GHG Inventory Review

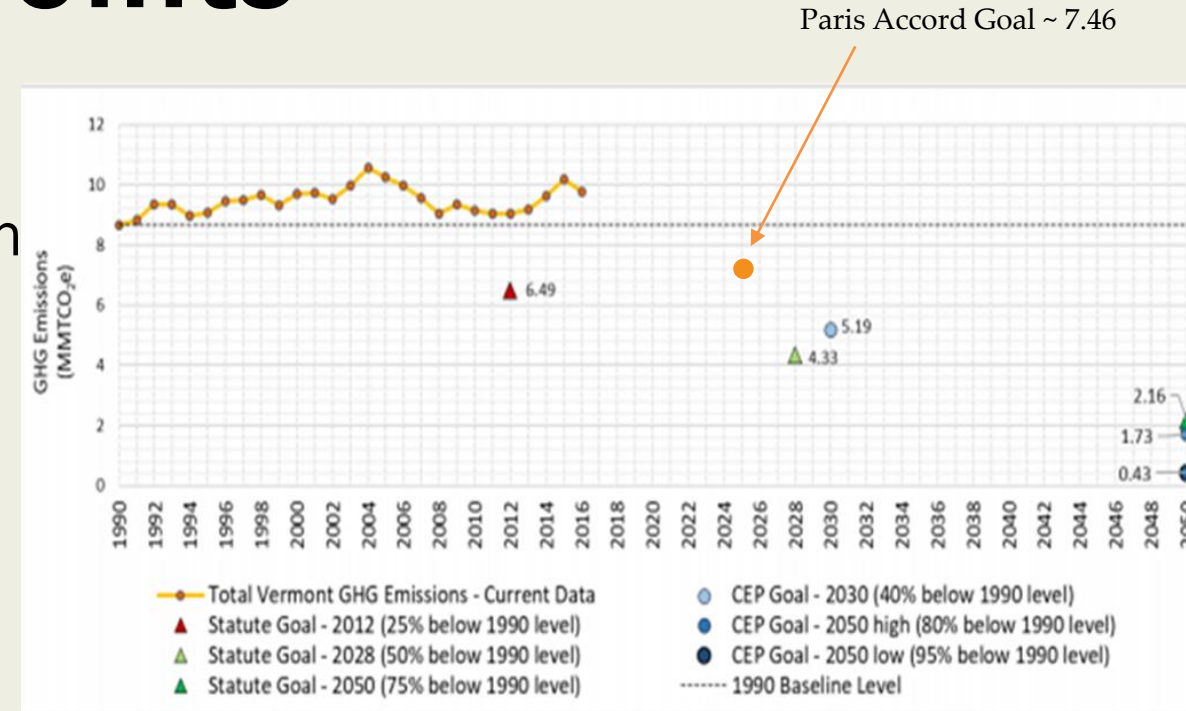
- GHG Reduction Targets
- Energy Sector Analysis incl. policy & technology scenarios & pathways
- Public Engagement Efforts
- Equity Concerns

Comprehensive Energy Plan

- Renewable Energy Development
- Electric Plan including Reliability
- Energy System Planning: Adequacy, security, sustainability, Affordability, Economic vitality
- Standards for Local Planning (Act 174)

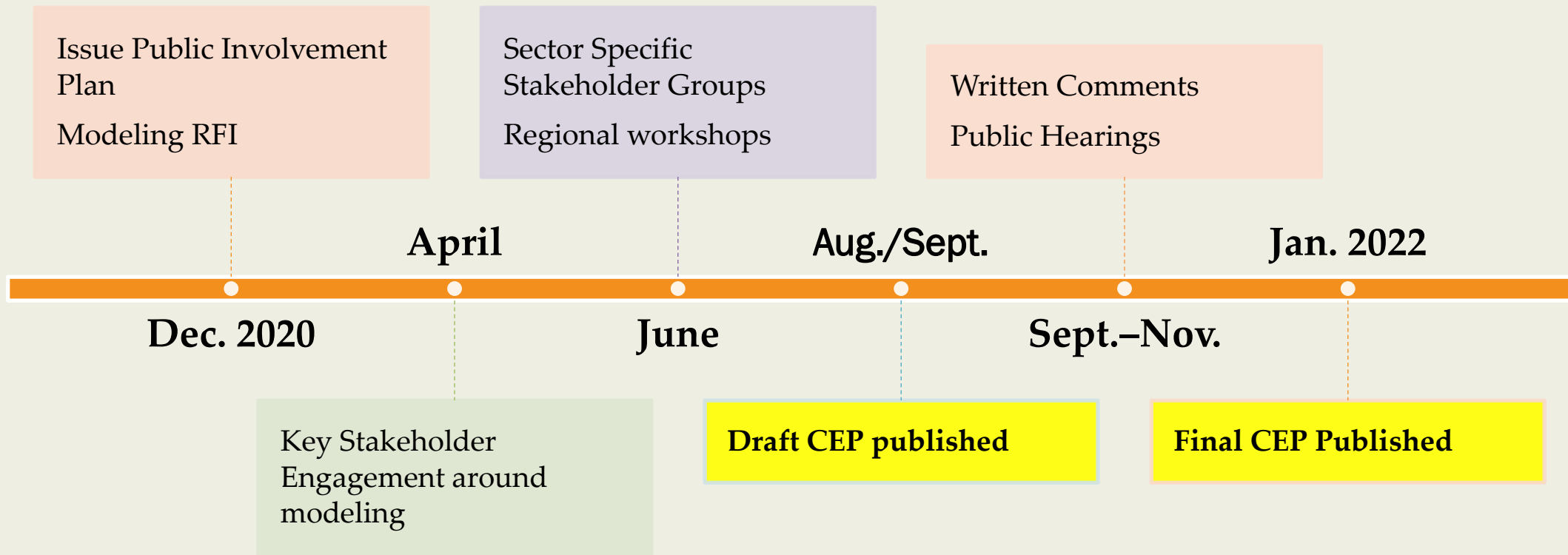
2022 CEP Starting Points

- 90% renewable by 2050 as a starting point
- 10 V.S.A. 578 Requirements – GHG Emission reductions equal to:
 - Not less than 26% relative to 2005 emissions by 2025 (Paris Accord)
 - Not less than 40% from 1990 emissions by 2030 (2016 CEP)
 - Not less than 80% from 1990 emissions by 2050 (2016 CEP)



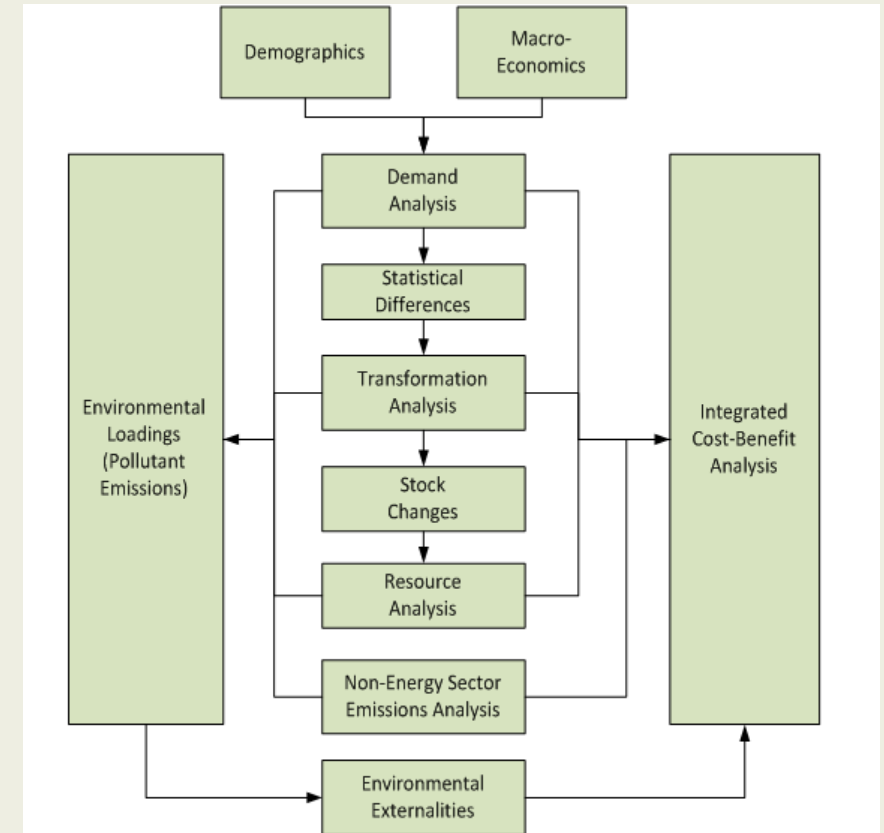
VT GHG Inventory. VT DEC AQCD Jan 2020

2022 CEP Tentative Timeline

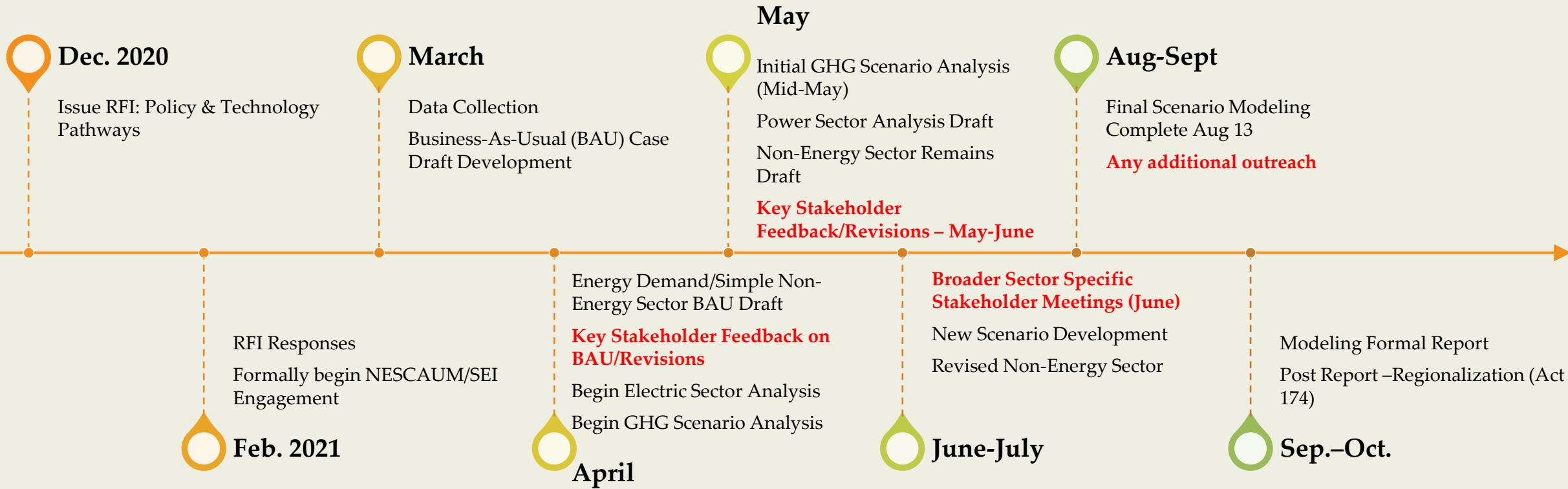


2022 CEP Modeling

- Scenario analysis
 - Working with ANR, NESCAUM, Stockholm Environment Institute using Low Emissions Analysis Platform (LEAP)
 - Reference, “Do Nothing” case plus policy and technology scenarios
- Energy modeling for CEP, non-energy sectors already planned
 - LEAP is scenario-based modeling tool that can track consumption, production, and resources in all sectors
 - Plan to regionalize results after initial modeling effort is complete
 - Local and regional air pollutants in addition to GHG
- LEAP model, training included – and license for a small annual fee allows for ANR & PSD to continue to have access to conduct future scenario analyses



Current Modeling Timeline



Questions?

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<https://publicservice.vermont.gov/content/2022-plan>

Purpose & Requirements of Comprehensive Energy Plan (CEP)

30 V.S.A. § 202a:

- (1) Ensure that VT can meet its energy needs in a manner that is adequate, reliable, secure, and sustainable; that ensures affordability and encourages the State's economic vitality, the efficient use of energy resources, and cost-effective demand-side management; and that is environmentally sound.
- (2) Identify and evaluate resources that will meet VT's energy needs in accordance with the reduction of greenhouse gas emissions and least-cost integrated planning, including efficiency, conservation, and load management alternatives; wise use of renewable resources; and environmentally sound energy supply.
- (3) Meet VT's energy needs in a manner that will achieve the greenhouse gas emissions reductions requirements and is consistent with the Vermont Climate Action Plan.

30 V.S.A. § 202b:

- PSD, in conjunction with other state agencies, shall prepare a comprehensive state energy plan covering at least a 20-year period.
- The plan shall implement the state energy policy set forth in 30 V.S.A. § 202a and shall be consistent with the relevant goals of 24 V.S.A. § 4302 (to encourage the appropriate development of lands).

Purpose & Requirements of Electric Plan

30 VSA §202 – cover a 20-year period and shall be based on the principles of "least-cost integrated planning" and shall include the following:

- (1) Overview of statewide growth and development as they relate to future requirements for electrical energy, including patterns of urban expansion, statewide and service area economic growth, shifts in transportation modes, modifications in housing types, and design, conservation, and other factors
- (2) Assessment of all energy resources available to the State for electrical generation or to supply electrical power and strategies for minimizing the economic and environmental costs of energy supply, including the production of pollutants, by means of efficiency and emission improvements, fuel shifting, and other appropriate means
- (3) Estimates of the projected level of electrical energy demand
- (4) Detailed exposition, including capital requirements and the estimated cost to consumers, for how electrical demand shall be met
- (5) Strategies for reducing electric rates and for achieving and maintaining the lowest possible electric rates over the full 20-years
- (6) Recommendations for regional and municipal energy planning and standards for issuing a determination of energy compliance pursuant