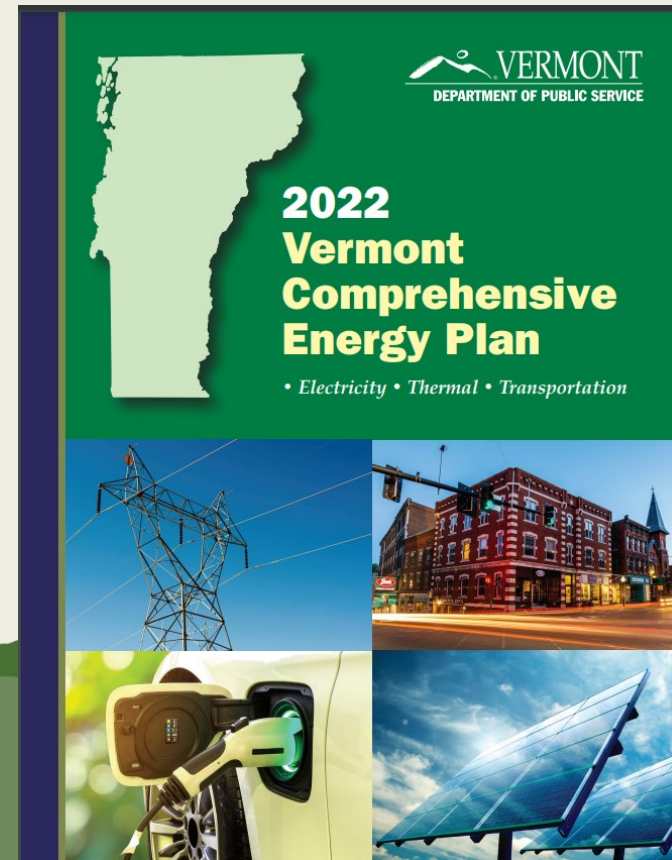


# Presentation to Vermont Energy & Climate Action Network: *Initial Request for Input on Comprehensive Review of VT's Renewable & Clean Electricity Policy & Programs*

Anne Margolis & Claire McIlvennie  
VT Department of Public Service  
July 29, 2022



# Agenda for Today

- Context for the Request for Input
  - The 2022 Comprehensive Energy Plan & Electric Sector Recommendations
- Overview of the Request for Input
  - Timeline for review of renewable and clean electricity programs
  - Decision criteria
  - Key issues for consideration
  - Deadline & next steps
- Questions & Discussion

# 2022 Comprehensive Energy Plan (CEP)

- Published in January 2022
- References Title 30, Section 202a:  
Aims 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**

# CEP Structure

PRINCIPLES & GOALS: 2016 CEP Renewable Targets, GWSA GHG Reduction Requirements, 30 V.S.A. §202a (Affordability, Cost-effectiveness, Reliability, Security, Econ Development etc.), Equity, Transparency

PATHWAYS: For example, Further Decarbonization of the Electric Sector

Theme:  
Equity

STRATEGIES: For Example, Consider Design Options for a Carbon-Free or 100% Renewable Energy Standard

Theme: Grid  
Evolution

RECOMMENDATIONS:  
E.g., Consider a  
cohesive set of  
programs

# CEP Electricity: 100% Renewable or Carbon-free by 2032

## Pathway: Comprehensive PUC Review of RES Design and Complementary programs – Options to meet

- Current Programs
  - Renewable Energy Standard
    - Passed 2015, effective 2017 (replaced SPEED program)
  - Net Metering
    - Effective 1998, significant changes 2008, 2011, 2014, 2017
  - Standard Offer Program
    - Effective 2009, expanded 2012
- Considerations for New Programs
  - Time & Locational Values
  - New versus existing generation
  - In-state vs. Out-of-state generation
  - Sizes & types of resources
  - Etc.!

\*\*This is consistent with the 2021 Climate Action Plan which recommends Vermont move from a 75% Renewable Energy Standard to a 100% Carbon-free or Renewable Energy Standard no later than 2030

# Implementing CEP Electric Sector Recommendations

- First step: Issued Request for Input on July 5
- Goal: Get public input on the process for this review, as well as what is important to Vermonters regarding the State's supply of electricity
- Represents *the first* step in the process and is not intended to seek final positions on any specific program or policy

# Request for Input Topics

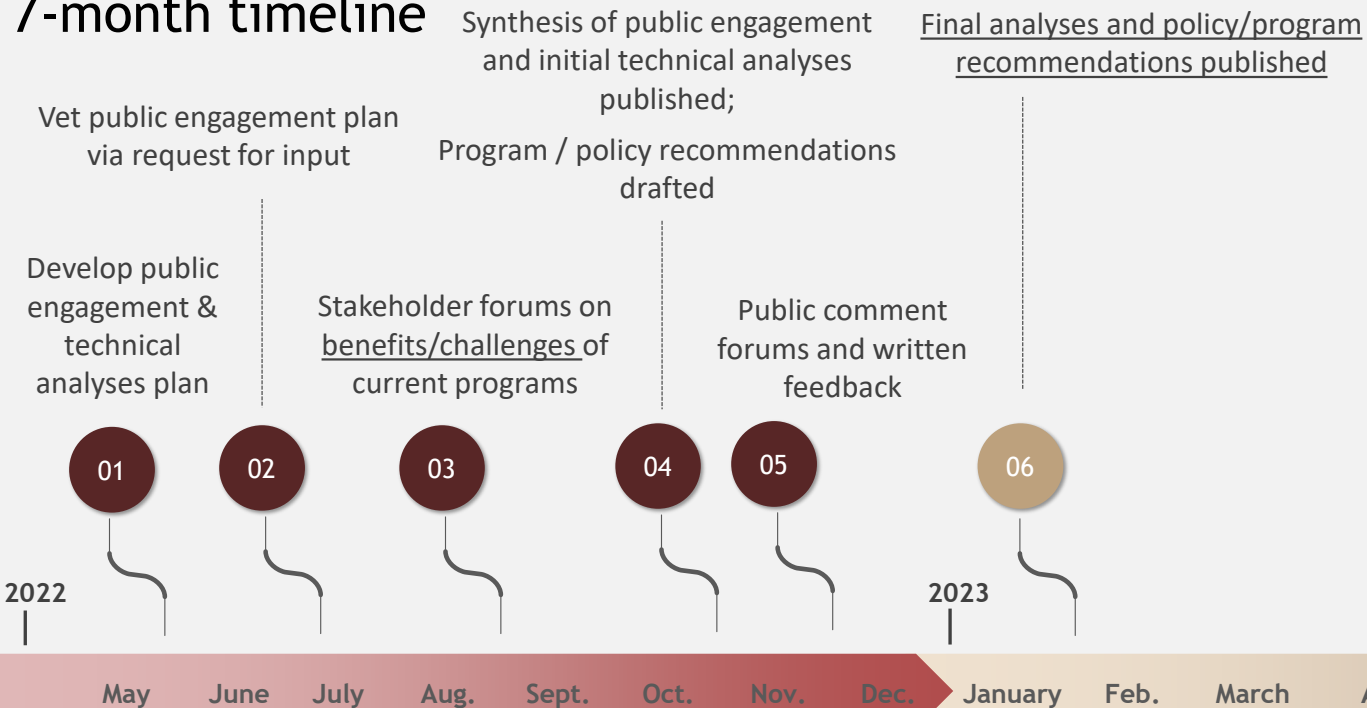
1. Timeline
2. Decision criteria
3. Key issues for consideration
4. Other considerations

# Topic 1: Timeline for Review

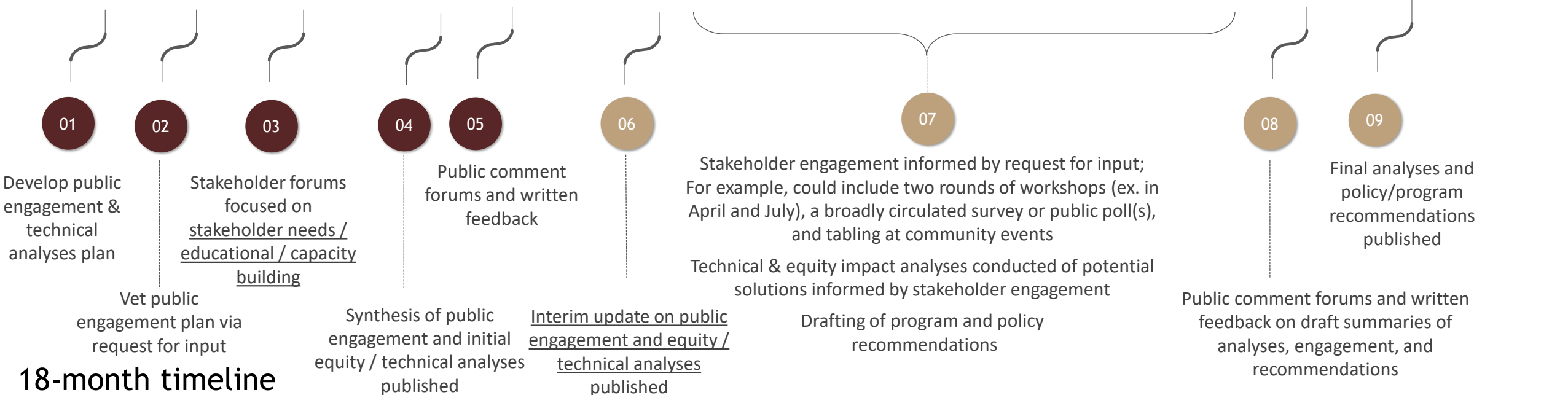
- References Appendix A of the Request for Input:
  - Two illustrative timelines
  - Stakeholder groups
  - Types of engagement



# 7-month timeline



# 18-month timeline



# RFI Questions

- a) What aspects of the proposed timelines should the Department prioritize?
- b) Which timeline provides adequate time and space for engagement and technical analyses?
- c) Attachment A identifies key stakeholders with whom the Department should engage.
  - i. What other stakeholders should be considered?
  - ii. Are there specific organizations with whom the Department should engage? If so, who?
- d) Attachment A identifies several different forms of engagement, including stakeholder forums, Department staff at community events, interactive workshops, polling, and written comments.
  - i. What format(s) of engagement would you prefer and why?
  - ii. Should the Department consider other forms of engagement beyond those listed? If so, please explain.

# Topic 2: Decision Criteria

## Statutory Criteria

Adequacy

Security

Reliability

Sustainability

Cost-effectiveness

Economic vitality

GHG requirements

## Additional Criteria?

Equity

Grid impact

Uncertainty

Simplicity

?

?

?

# RFI Questions

- a) Are there any additional criteria that should be applied to the evaluation of Vermont's renewable and clean electricity policies and programs?
- b) How should the Department prioritize these criteria?

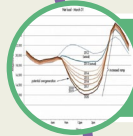
# Topic 3: Key Issues for Consideration



Cohesiveness of programs



New or existing resources



Time and locational value of resources



Carbon-free or renewable



In-state or regional resources



Size & technology diversity



Equitable access

# RFI Questions

- a) What is Vermont doing well when it comes to the deployment of and access to renewable and clean electricity to meet growing demand?
- b) What are key challenges / gaps in existing programs and policies that should be considered in this process?

# Additional Comments or Issues for Consideration

*Are there other programs related to Vermont's strategies for clean and renewable energy electricity that should be addressed in this review?*

*For example, should the Department consider updates to Tier 3 of the Renewable Energy Standard in this process?*

# Next Steps

- Responses due by August 15 (extended from August 5)
- Ways to respond:
  - Email: [PSD-REPrograms@vermont.gov](mailto:PSD-REPrograms@vermont.gov)
  - Physical Mail: 112 State Street, Montpelier Vermont, 05620-2601
  - *Coming soon!* Online webform:  
[https://publicservice.vermont.gov/renewable\\_energy](https://publicservice.vermont.gov/renewable_energy)



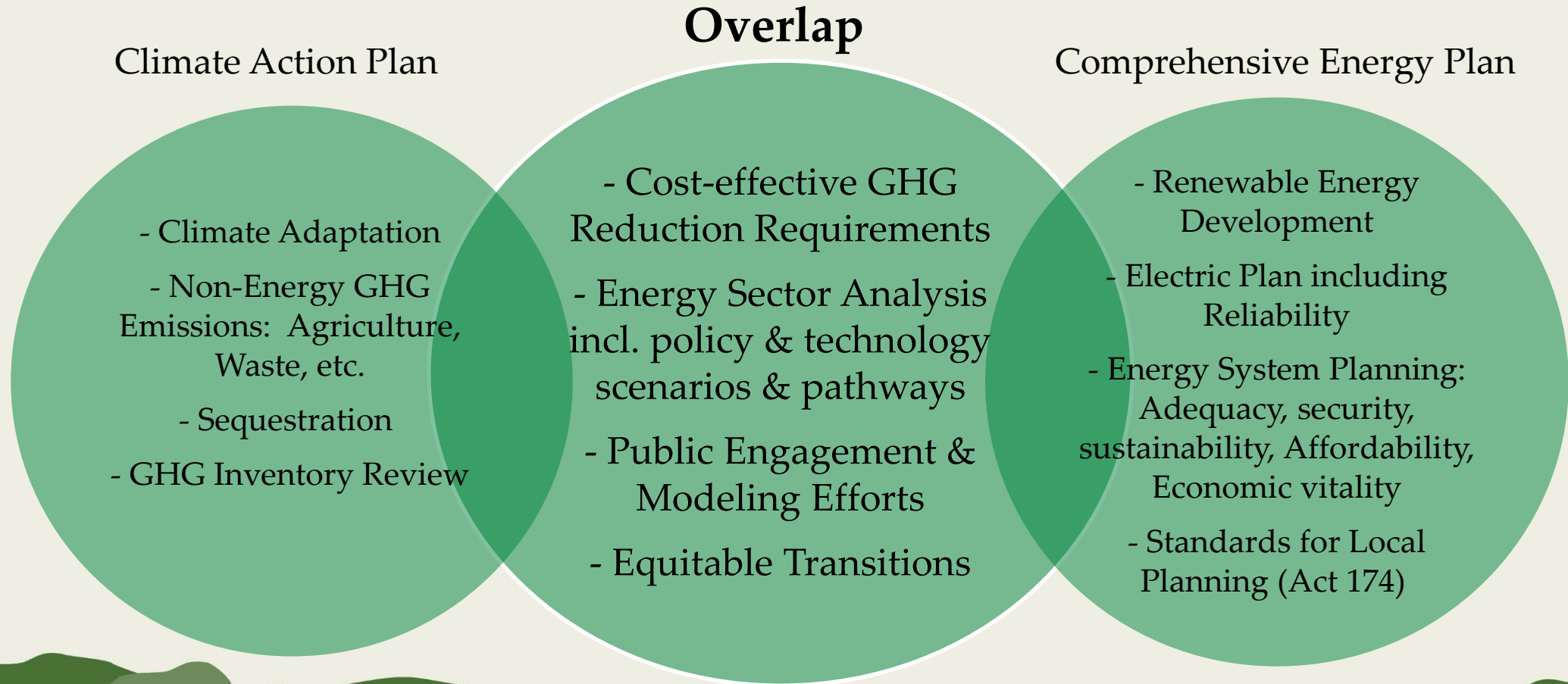
# Next Steps

- Responses will:
  - Be summarized and made publicly available for review
  - Inform the development of future opportunities to engage with this effort

# Thank You!

# Supplemental slides

# Energy Plan & Climate Plan

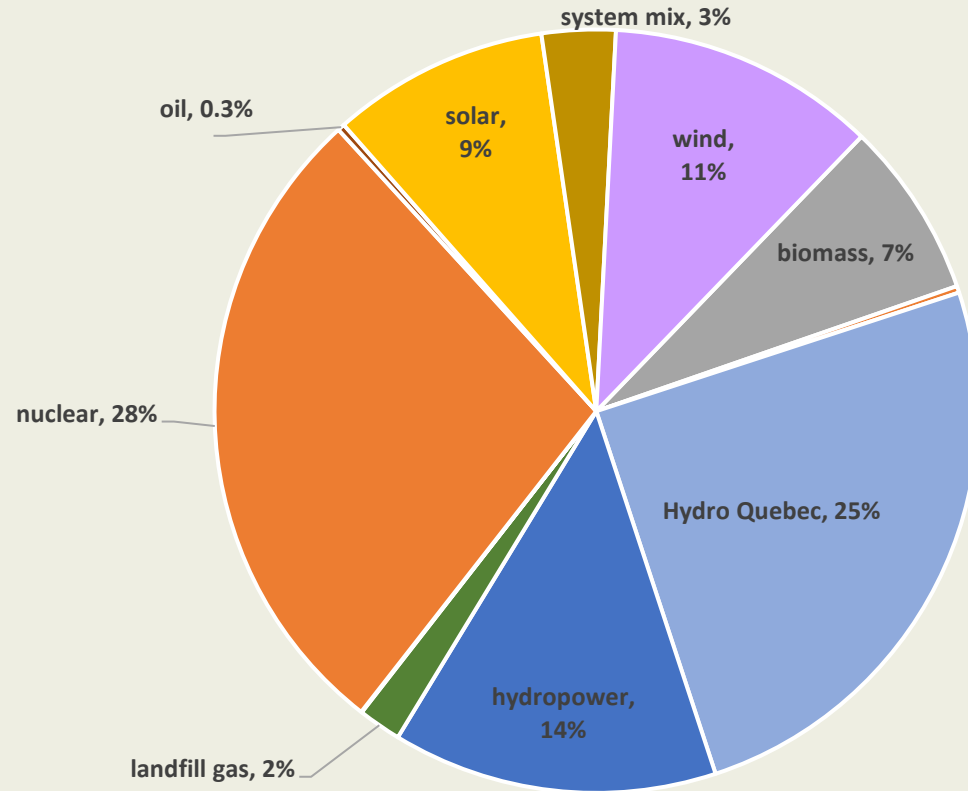


# CEP Contents

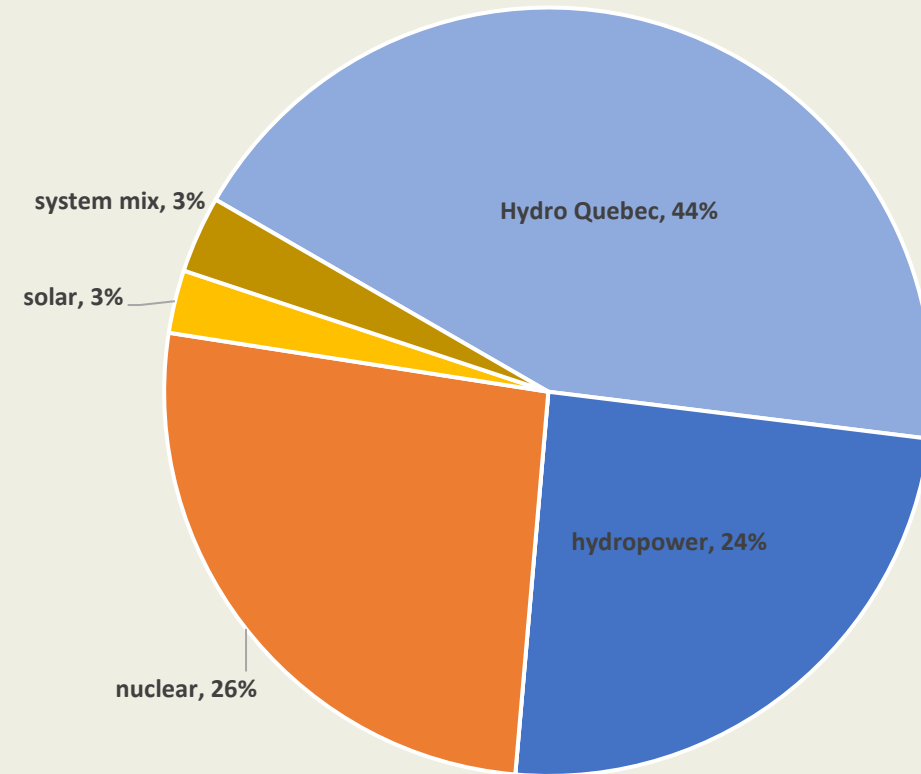
- **Achieving CEP Goals in a Just & Equitable Manner**
- **Grid Evolution**
- **Transportation & Land Use**
  - GHG Reductions Proportional to GWSA, 100% LD vehicle Sales ZEV by 2035
    - *Vehicle electrification*
    - *Cleaner fuels & vehicles*
    - *System efficiency via land use settlement patterns*
    - *Increasing transportation choices*
- **Thermal & Process Energy Use**
  - Goal Increase Renewable Supply to 30% by 2025, 45% by 2032, and 70% by 2042
    - *Reduce energy demand*
    - *Low-carbon technology & fuel choices*
- **Electric Resources**
  - Further decarbonization of the electric sector
    - *100% carbon-free or 100% renewable energy standard*
- **Clean Energy & Climate Finance**
- **State Agency Energy Plan**
- **Appendices**
  - Modeling
  - RES Report
  - Updated Act 174 Enhanced Energy Planning Standards

# Vermont 2020 Electric Energy Supply

Physical energy deliveries (i.e. before REC sales)



Based on REC certificate retirements

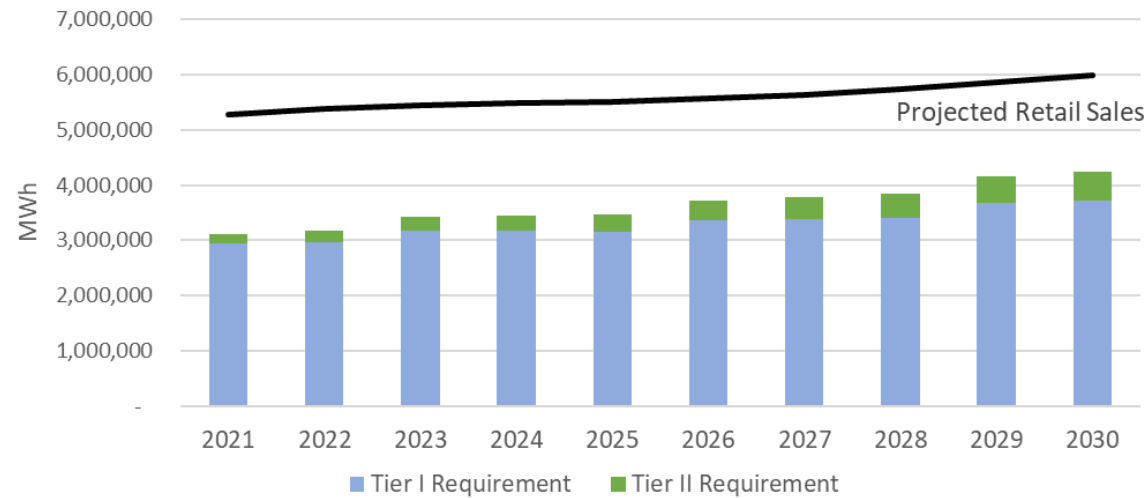


# Renewable Energy Standard

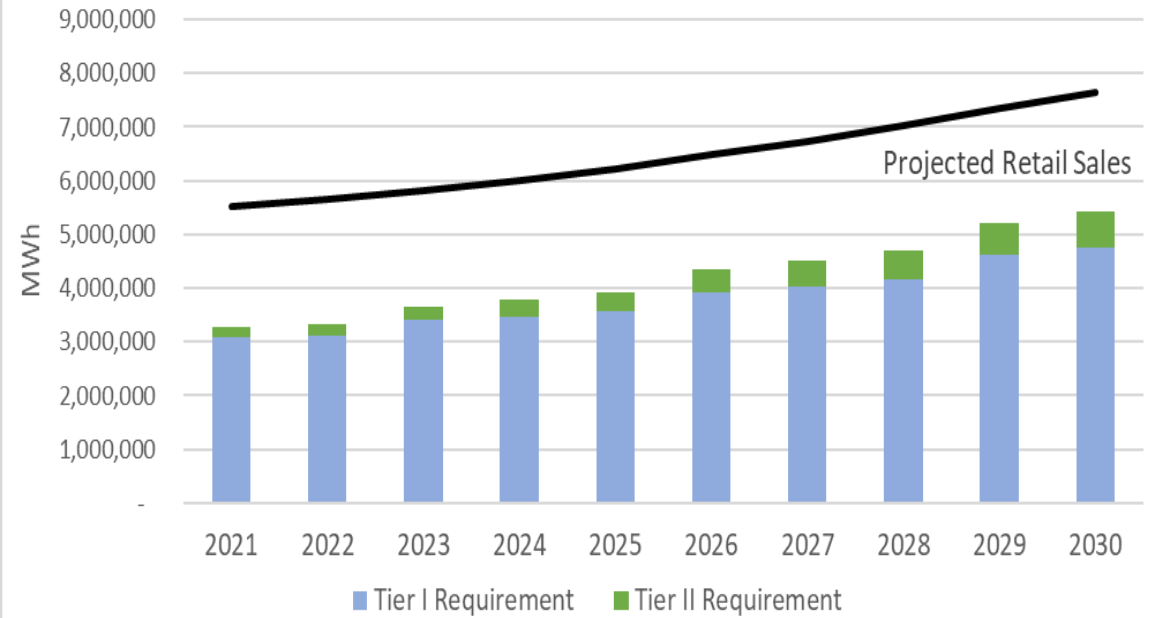
- Tier 1: Total Renewable Energy
  - No limitations on size, age, location
  - 55% of load in 2017 → 75% of load in 2032
- Tier 2: Distributed Renewable Energy
  - Must be located within VT, under 5 MW, commissioned after 6/30/15
  - 1% of load in 2017 → 10% of load in 2032
- Tier 3: Energy transformation
  - Reduction in customers' fossil fuel usage

# RES Tiers 1&2 Requirements

Vermont RES Requirements - Baseline Forecast



Vermont RES Requirements - High Forecast

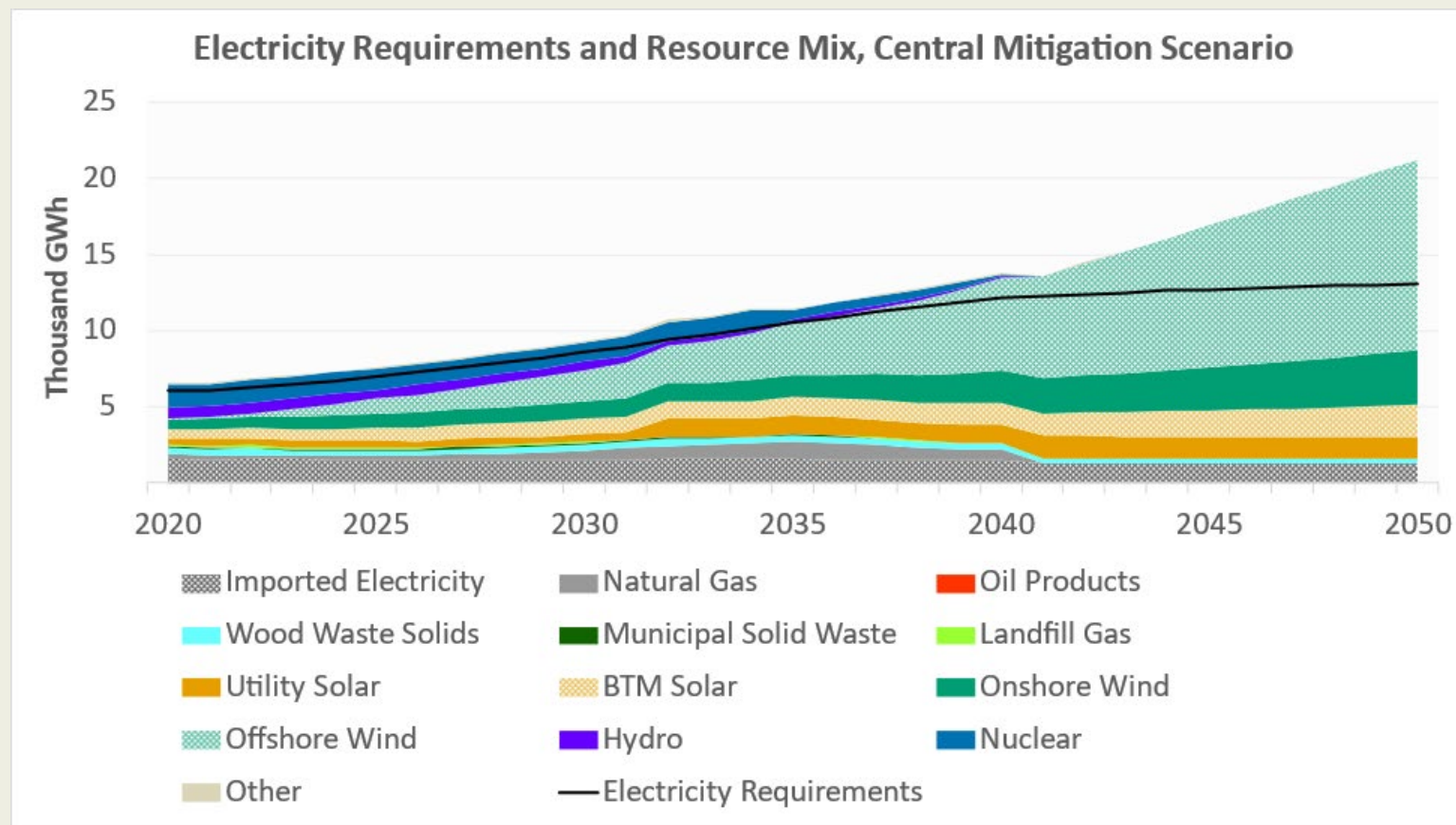


**Baseline retail sales** forecast considers a business-as-usual scenario, based on the VELCO Long-Range Transmission Plan with minor modifications

**High retail sales** forecast references the Central Mitigation Scenario modeled for the 2021 Climate Action Plan to meet greenhouse gas reduction requirements



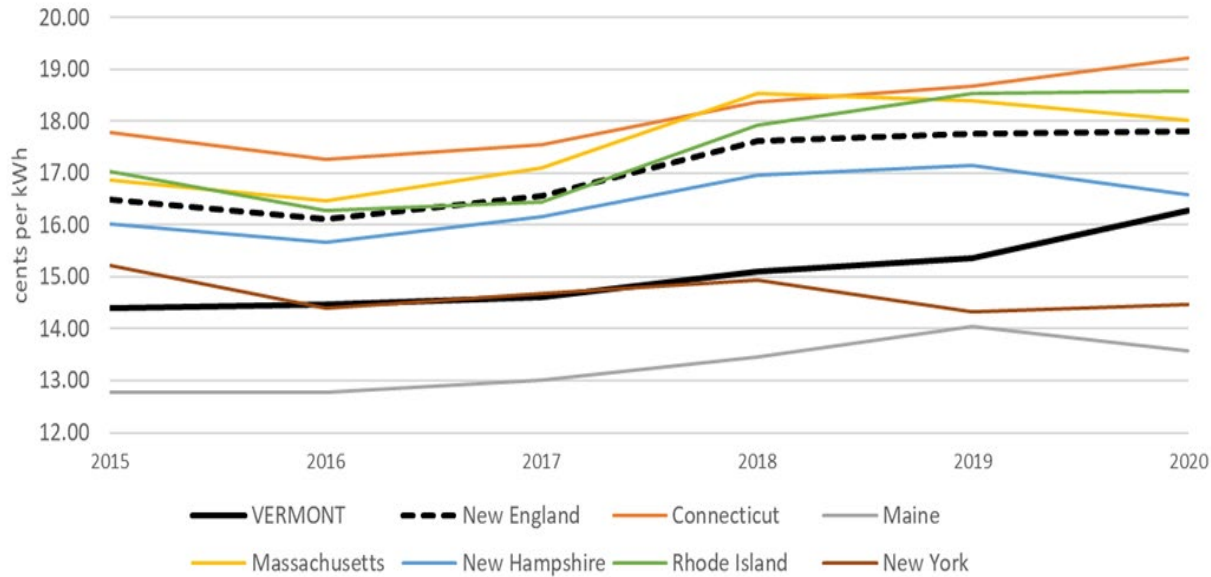
# CEP Electricity



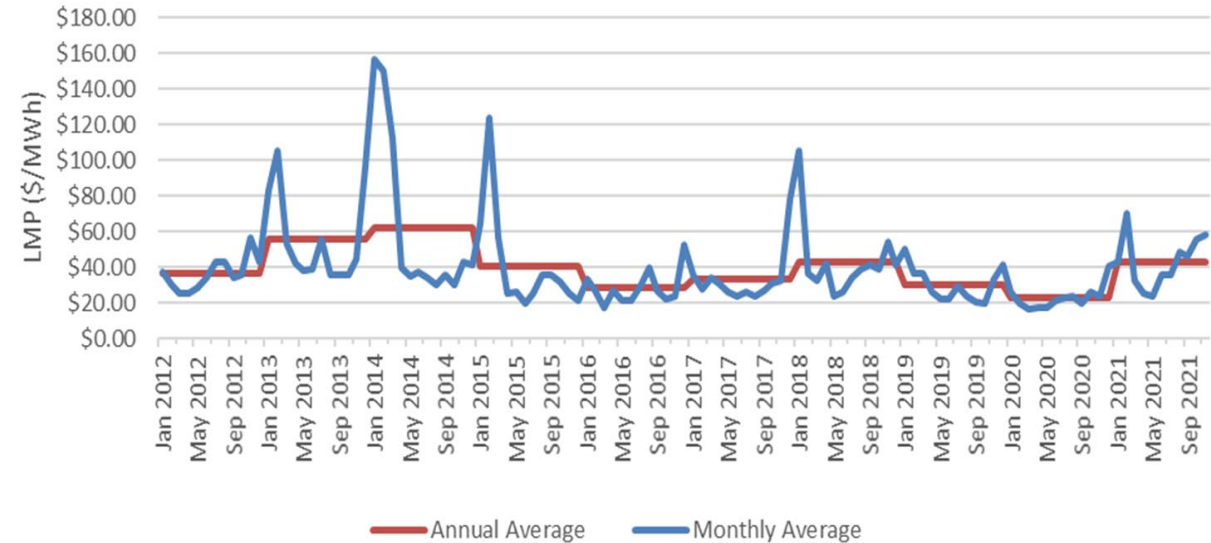
- Limited Load and Resource Management modeled = Opportunity

# Retail and Wholesale Elec. Costs

Average Retail Cost of Electricity  
(All Sectors)

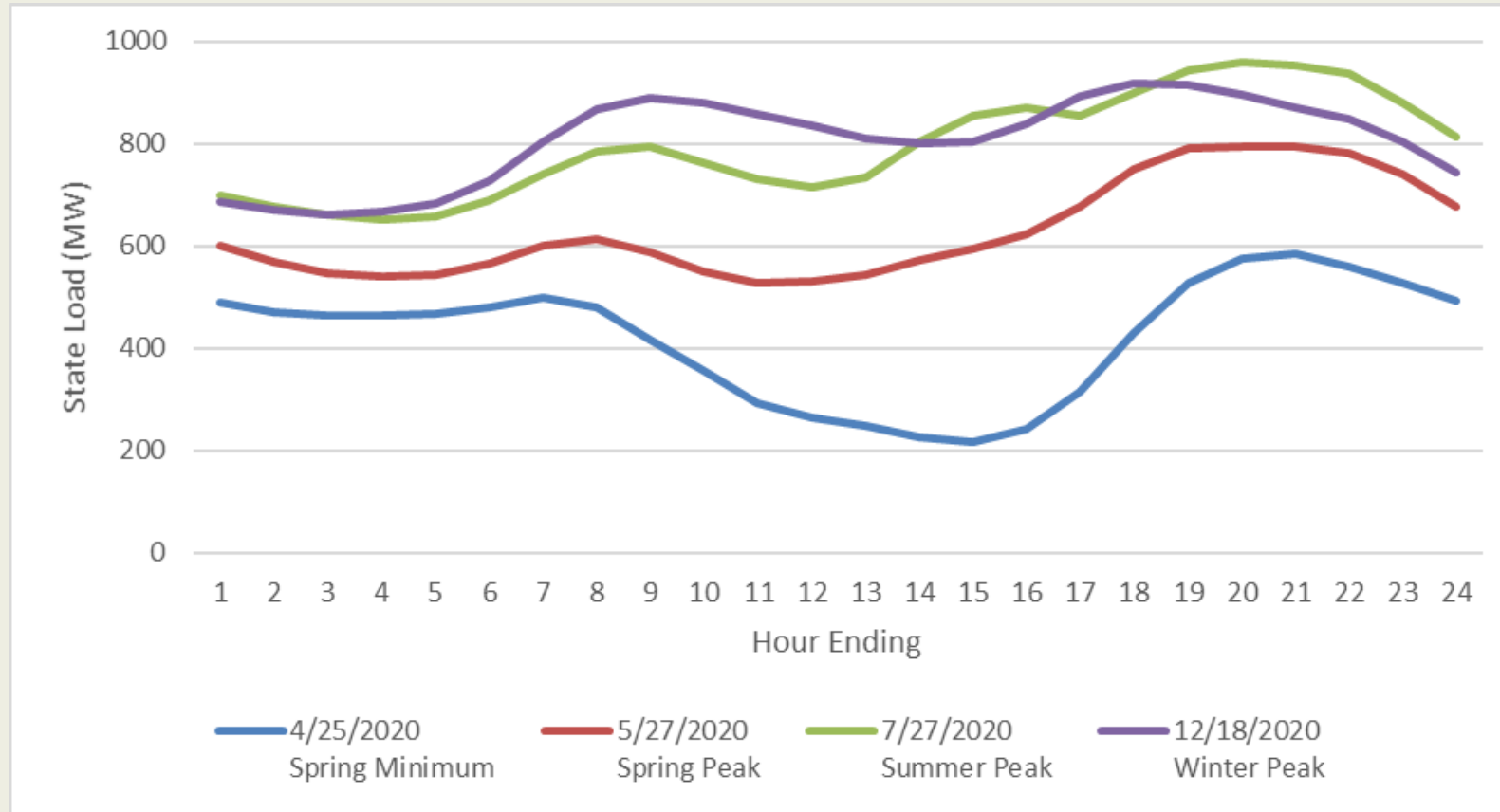


Historical Vermont LMPs

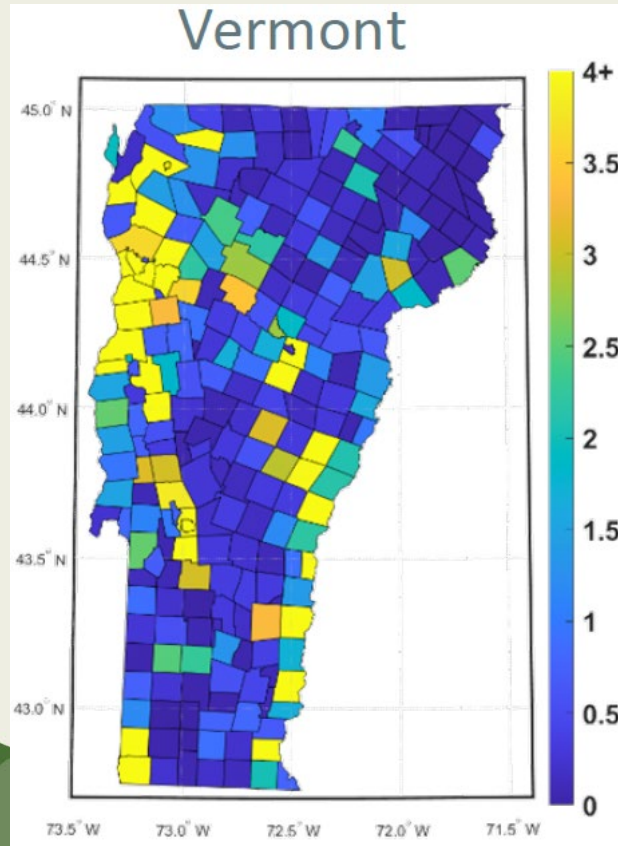


Note: Prices shown are real-time, Vermont zone averages

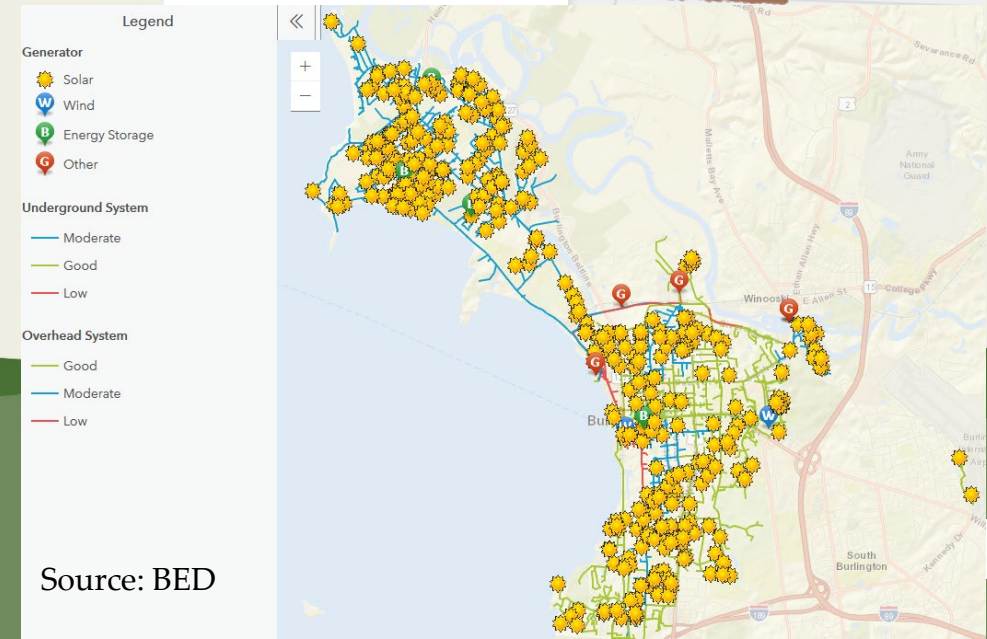
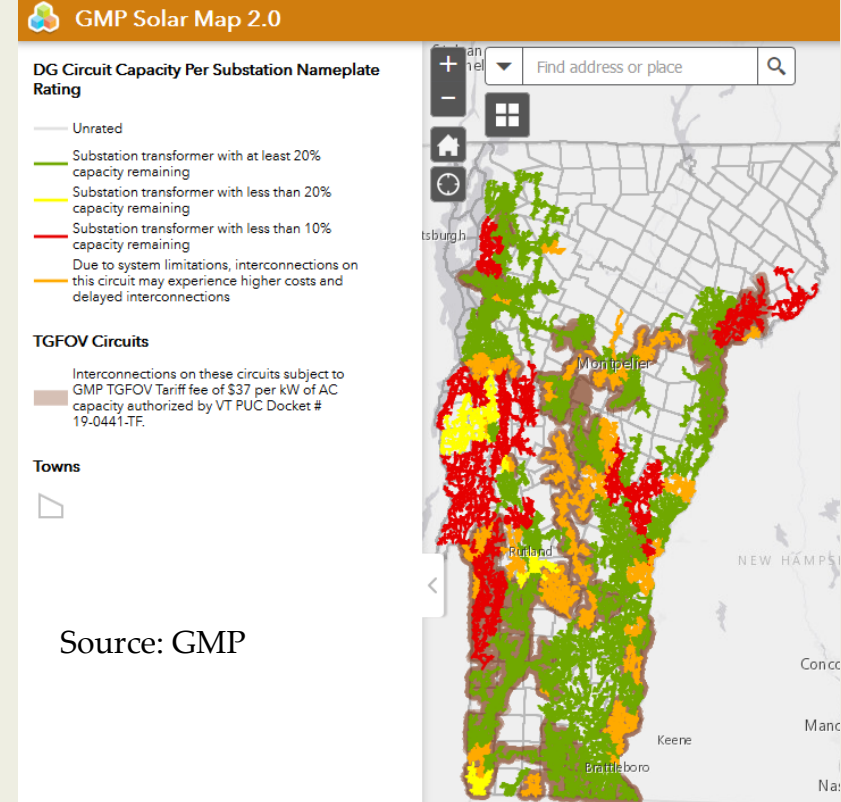
# Vermont Load Shapes



# Solar: hosting capacity & D-system constraints



Source: ISO-NE. Scale indicates MW/town as of August 2020



VERMONT



# Transmission Hosting Capacity

- Ensure reliability at all times
- Based on present day system
- Determined using:
  - Low load
  - High generation
  - High BTM generation

<https://www.velco.com/our-work/planning/long-range-plan>

