

# Vermont 2022 Draft Comprehensive Energy Plan

**TJ Poor**

**Senate Natural Resources & Energy**

**Jan 6, 2022**

# Energy Plan Rooted in 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**

# Energy Plan & Climate Plan

## Overlap

### Climate Action Plan

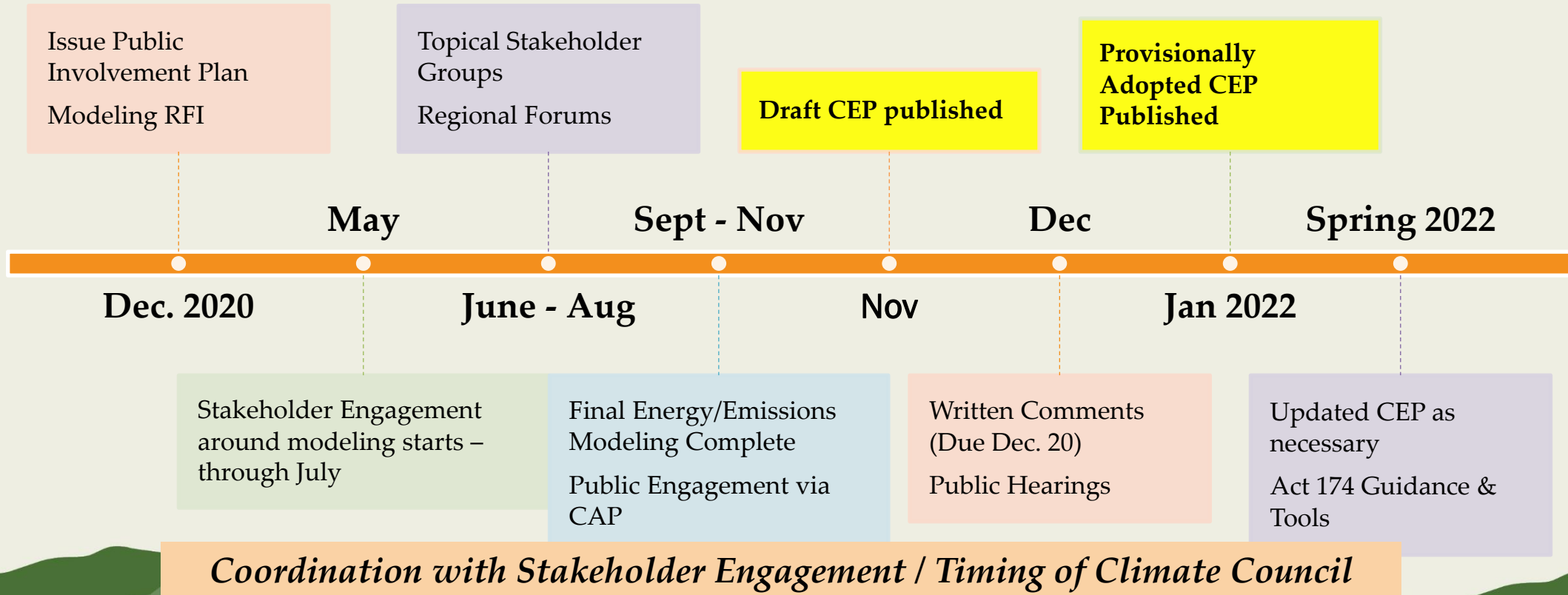
- Climate Adaptation
- Non-Energy GHG Emissions: Agriculture, Waste, etc.
- Sequestration
- GHG Inventory Review

- Cost-effective GHG Reduction Requirements
- Energy Sector Analysis incl. policy & technology scenarios & pathways
- Public Engagement & Modeling Efforts
- Equitable Transitions

### 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)

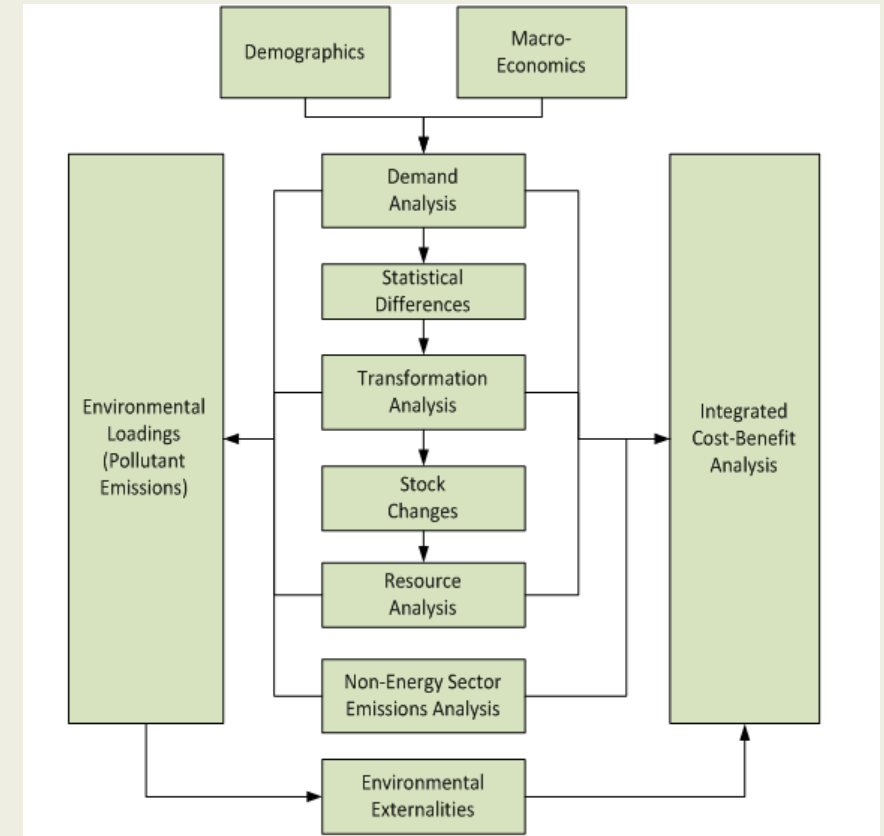
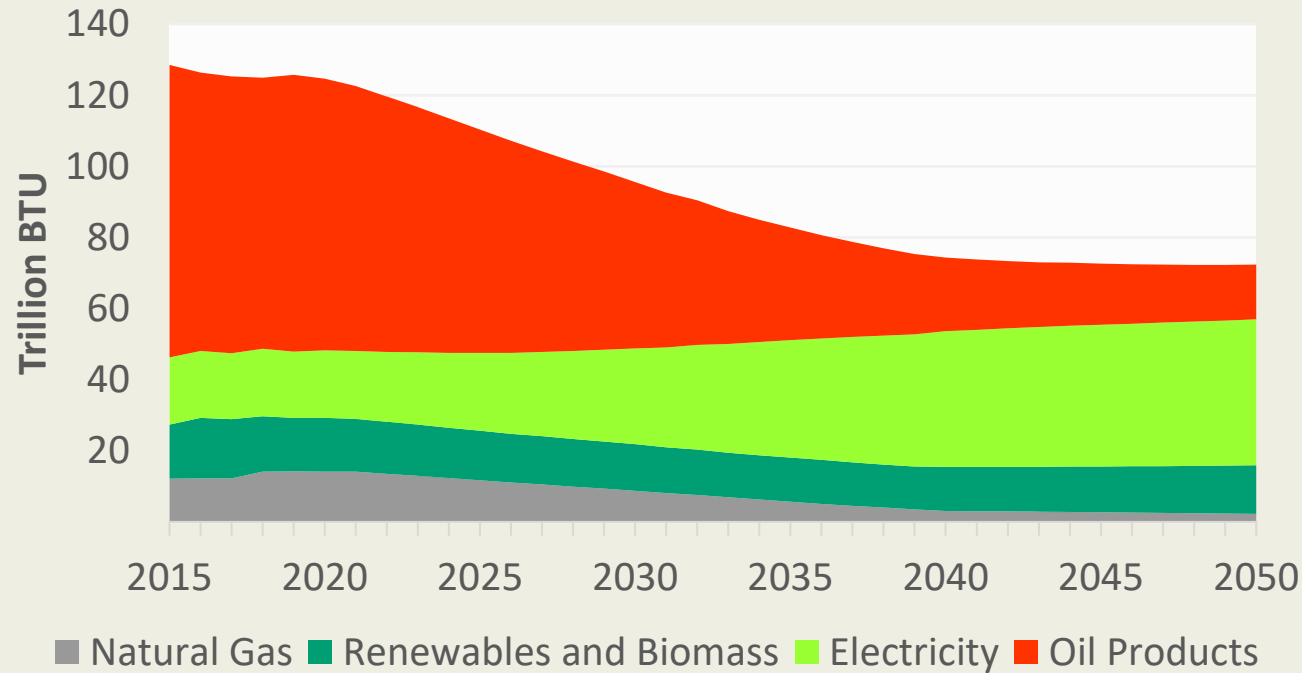
# 2022 CEP Engagement Timeline



# 2022 CEP Modeling



### Central Scenario Final Energy Demand by Fuel



*Also Serves as Basis for Climate Action Plan Modeling*

# CEP Structure

Theme:  
Equity

RECOMMENDATIONS: E.g., Explore opportunities for collaboration with insurance industry stakeholders

Theme: Grid Optimization

STRATEGIES: For Example, Weatherization at Scale

PATHWAYS: For example, Reduce Energy Use in Buildings

PRINCIPLES: Affordability, Cost-effectiveness, Reliability, Security, Equity, Transparency (Based on §202a & Administration Priorities)

# CEP Theme: Equitable Transitions

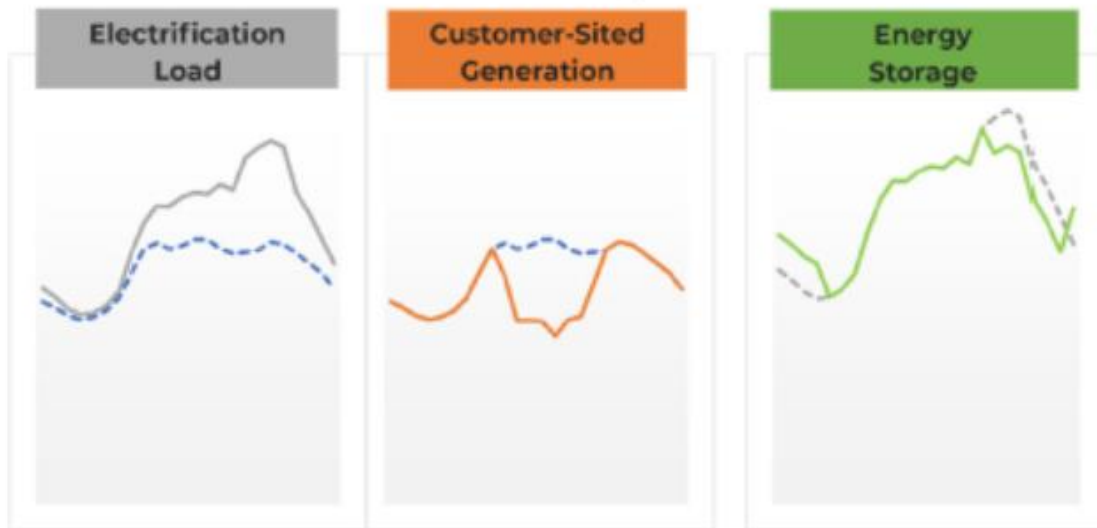
*“Every one of us benefits when we make society fairer and more just”*

*Xusana Davis, Vermont’s Executive Director of Racial Equity, in her 2021 Report to the Legislature.*

# CEP Theme: Grid Evolution



## Load Shapes

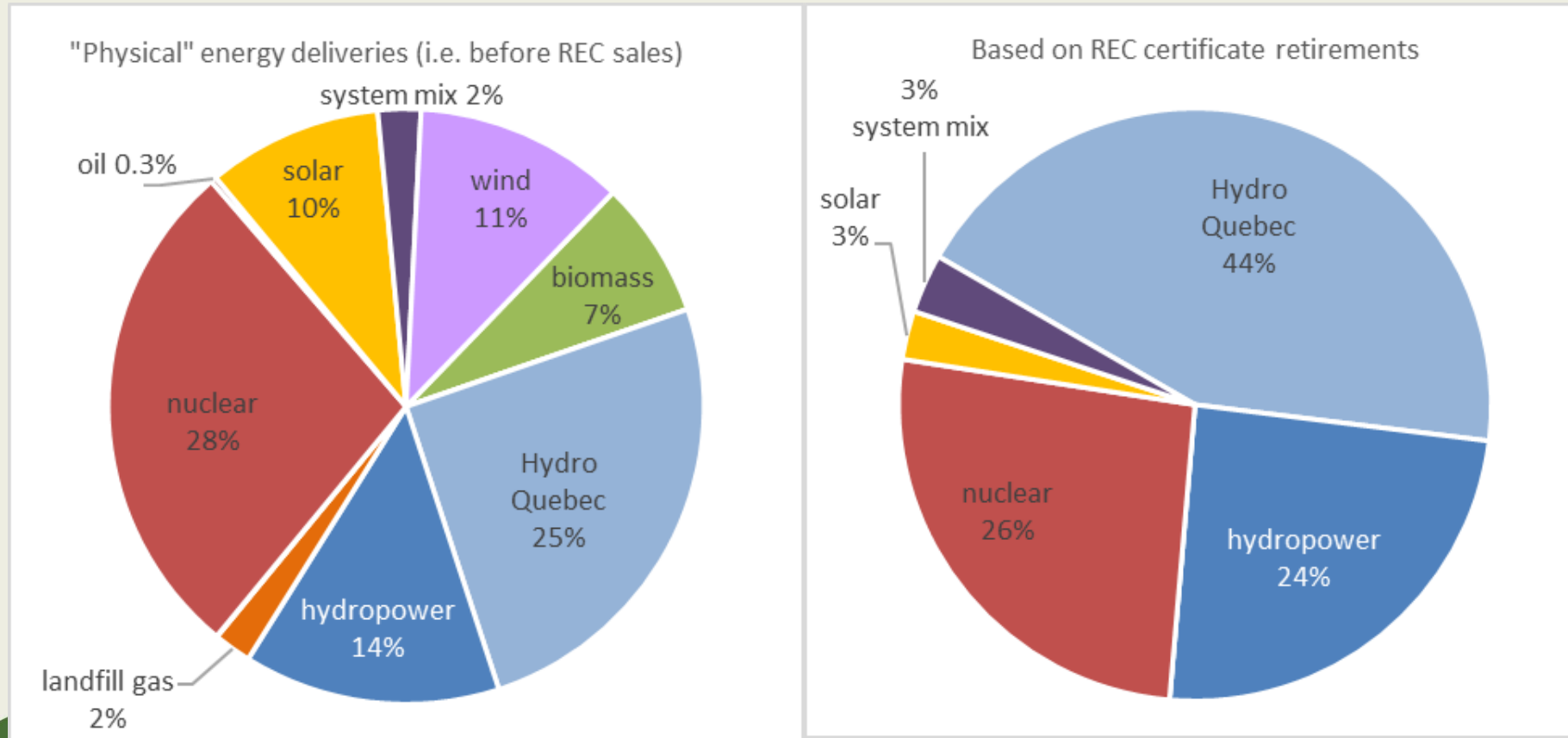


## *CEP Vision for Optimized Grid:*

- A secure and affordable grid that can efficiently integrate, use, and optimize high penetrations of distributed energy resources to enhance resilience and reduce greenhouse gas emissions.



# Vermont 2020 Electric Energy Supply



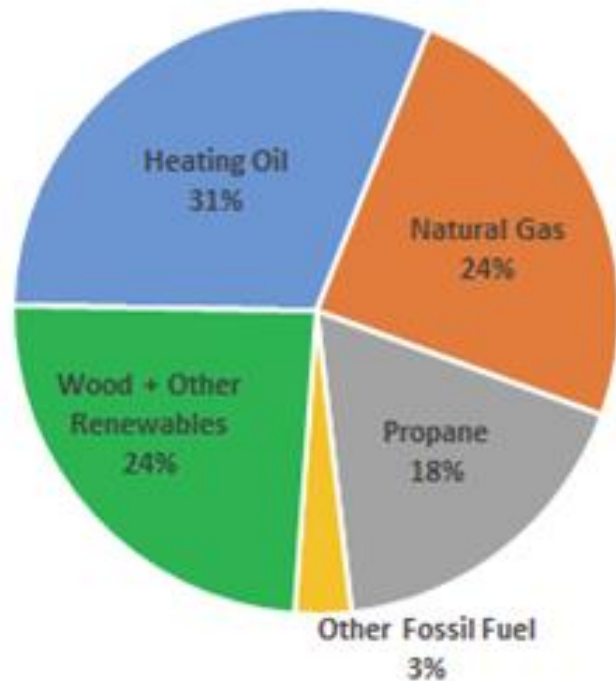
# CEP Electricity: 100% carbon-free by 2032

Pathway: Comprehensive Review of RES and Complimentary Programs via PUC Proceeding

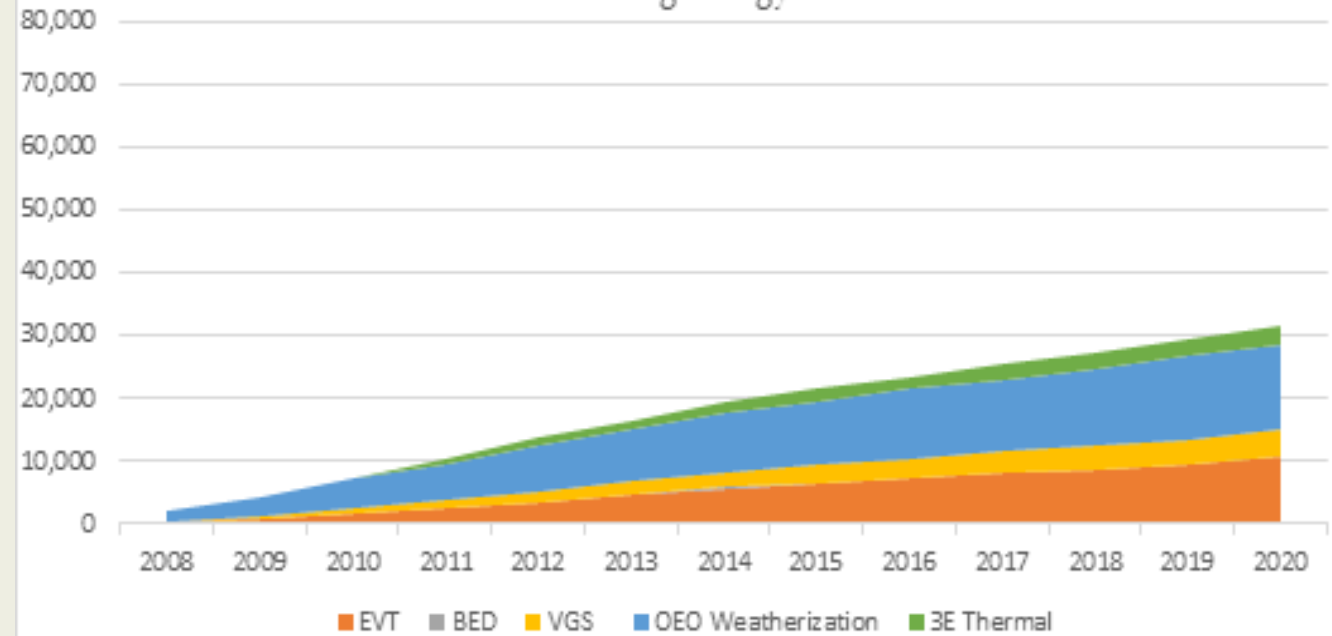
- Net Metering
- “Community Solar”
- Standard Offer Program
- Time & Locational Values
- New versus existing generation

# Thermal & Process Currently

Renewable and Fossil Fuel Heating in 2019



Cumulative Building Energy Retrofits



# CEP Thermal & Process: Goal Increase Renewable Supply to 30% by 2025, 45% by 2032, and 70% by 2042

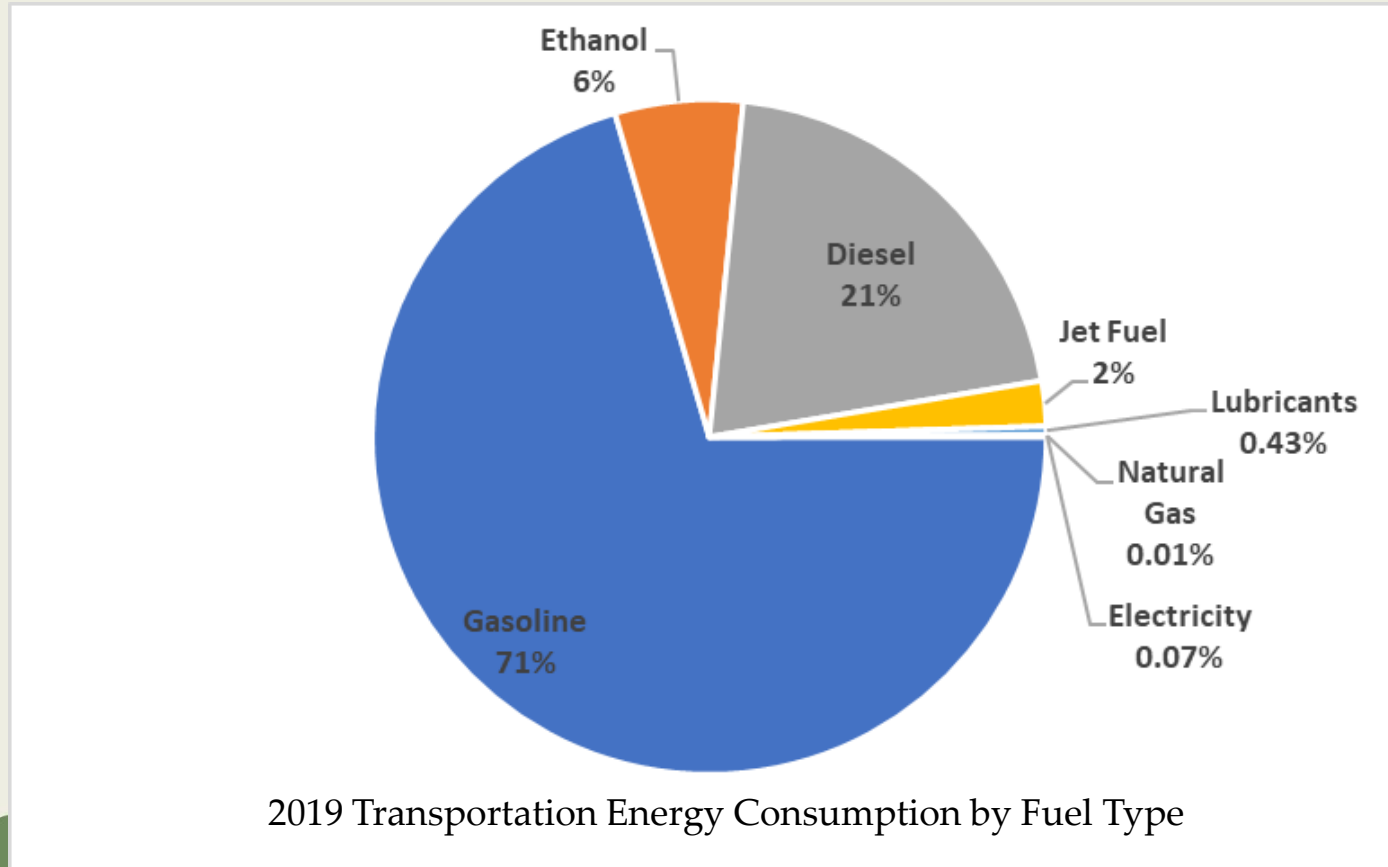
## Pathway: Reduce Energy Demand

- Weatherization at Scale
  - WAP, EEU's, Sustainable Funding, Counseling, Workforce
- Efficient Buildings
  - Building Energy Standards (Net Zero Ready by 2030)
- State Energy Management Program Enhancements

## Pathway: Low Carbon Tech & Fuel Choices

- Consider Clean Heat Standard
  - Study, if reasonable then authorization for PUC
- Clean Fuels & Tech
  - ccHP, GSHP
  - Advanced Wood Heat, District Heat
  - Biofuels
  - RNG

# Transportation Currently



# CEP Transportation & Land Use (1): GHG Reductions

## Proportional to GWSA, 100% LD vehicle Sales ZEV by 2035

### Pathway: Vehicle Electrification

- Vehicle Incentives (new & used)
  - Light Duty, Medium Duty, Heavy Duty
  - MileageSmart, Replace Your Ride, etc.
- Infrastructure & Policy
  - **Rate Design & Load Control**
  - EV charging price transparency (via AAMF)
  - Dealer Awareness
  - Zero Emission Vehicle MOU
  - Road user charge/T-fund impacts discussed but awaiting VTrans study result

### Pathway: Cleaner Vehicles & Fuels

- Participate in regional discussions on federal emissions and fuel economy standards
  - **CA Advanced Clean Cars II Regulations** (100% ZEV sales requirement by 2035)
- Monitor biofuels and low-carbon fuel development

# CEP Transportation & Land Use (2): GHG Reductions

## Proportional to GWSA, 100% LD vehicle Sales ZEV by 2035

### Pathway: System Efficiency via Land Use Settlement Patterns

- Integration of Land Use Planning into Trans Decision Making Frameworks
  - Aligning planning across government agencies,
  - Compact Development support,
  - Smart Growth Designation programs

### Pathway: Increasing Transportation Choices

- Public & Active Transportation Options
  - Public Transit, Rail, Biking & Walking, etc.

# More CEP Components

- Energy Finance
- State Agency Energy Plan
- Act 174 Enhanced Energy Planning Standards
- Modeling Appendices



# Responding to Public Comments

- Most Comments in Electric Sector
  - Clarification of recommendations to comprehensively review RES to improve
  - Desire for Specific Resources
    - Energy Plan purposely not advocating for one resource over another – instead comprehensively review regulatory framework that will consider how to most cost-effectively meet demand
  - GHG Accounting
    - Energy Plan consistent with Climate Council recommendations
  - Siting
- Thermal
  - Supportive of Weatherization
  - Concern over potential design of Clean Heat Standard, especially re: Cost
- Transportation
  - Add Clean Trucks II
- Finance
  - Group of Financing Agencies already coordinating

# Thank You!