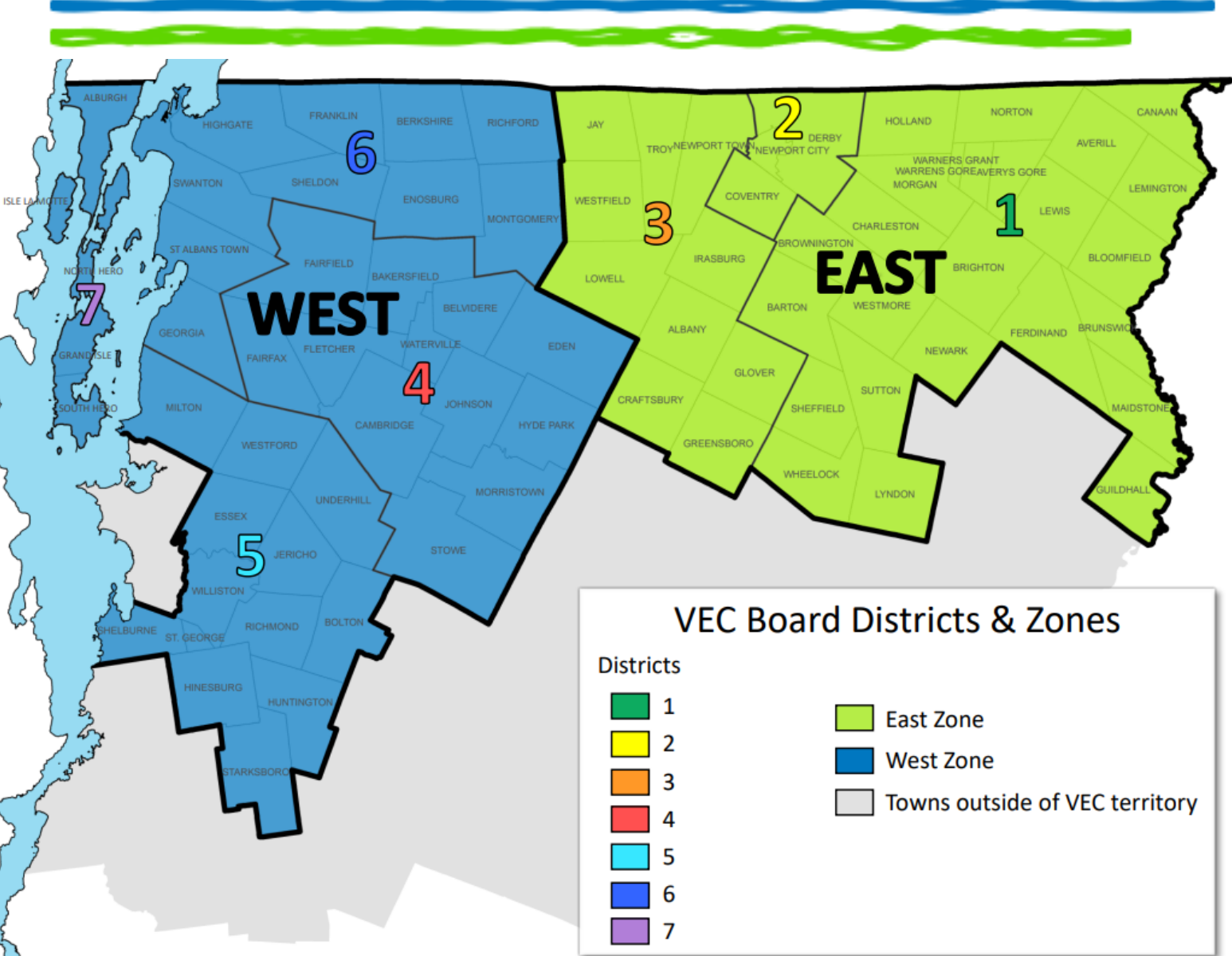




January 17, 2023

# House Environment and Energy



# About VEC Members



- 35,000 members
- 75 towns
- 14 meters/mile (average)
- 80 MWh peak

- 50% Residential / 50% non-residential (by load)
- Average Age 57.5
- 88% Homeowners
- 45% Retired

- \$20M low-income members transition home electric infrastructure
- Municipal Fuel Switching Grant
- \$8M for Smart Meters
- State EV and e-bike incentives
- Utility arrearage assistance
- EV charging station infrastructure
- Low-income Community Solar

# Past Support Thank you !



# Challenges & Opportunities



## Decarbonizing the energy ecosystem

- 100% Renewable by 2030
- Electrify Heating & Transportation

## Energy Equity & Just Transitions

- Keep Rates Low
- Reduce Energy Burden

## Reliable Grid

- Build Resiliency & Climate Hardening
- Invest in Infrastructure Excellence
- Prioritize Cybersecurity

## Rapidly Shifting Grid

- Cost-Effective Distributed Generation
- Technology Investments: Grid Orchestration

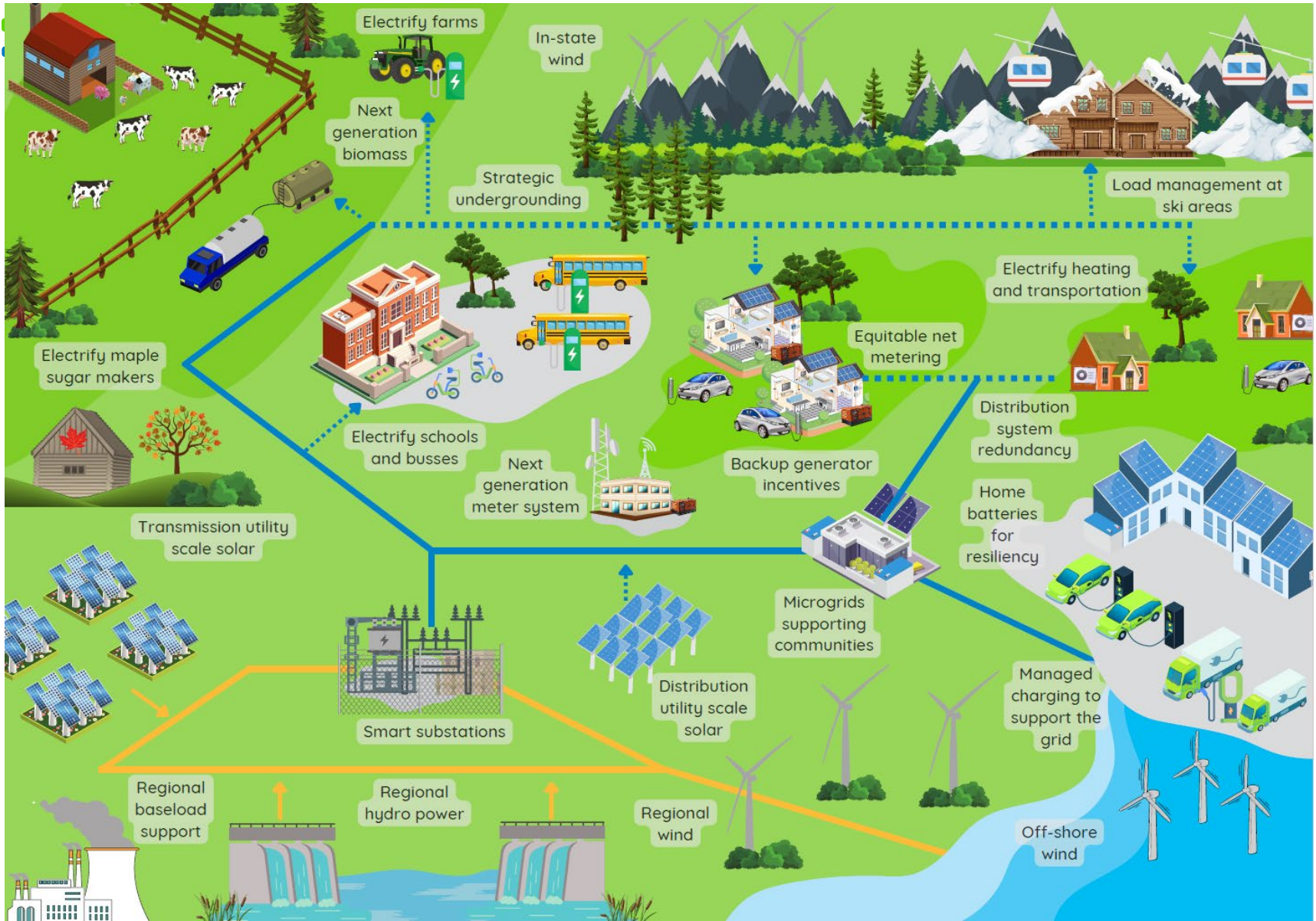
## Provide Members with Choice

- Partner on Energy Future
- Data for Decision-Making





# Where we are going



# 100% Committed

**100%**

**Carbon-Free by  
2023**

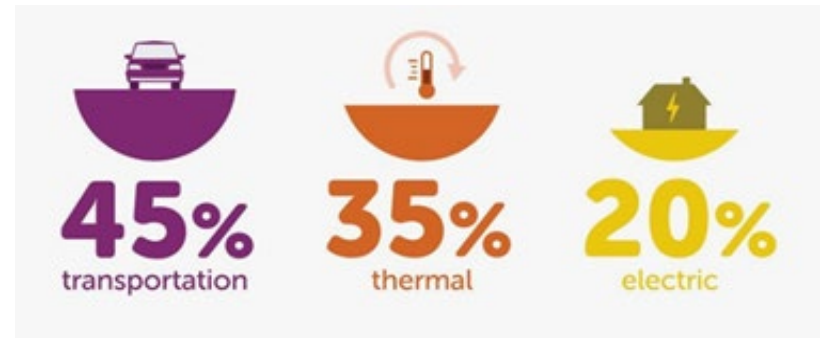
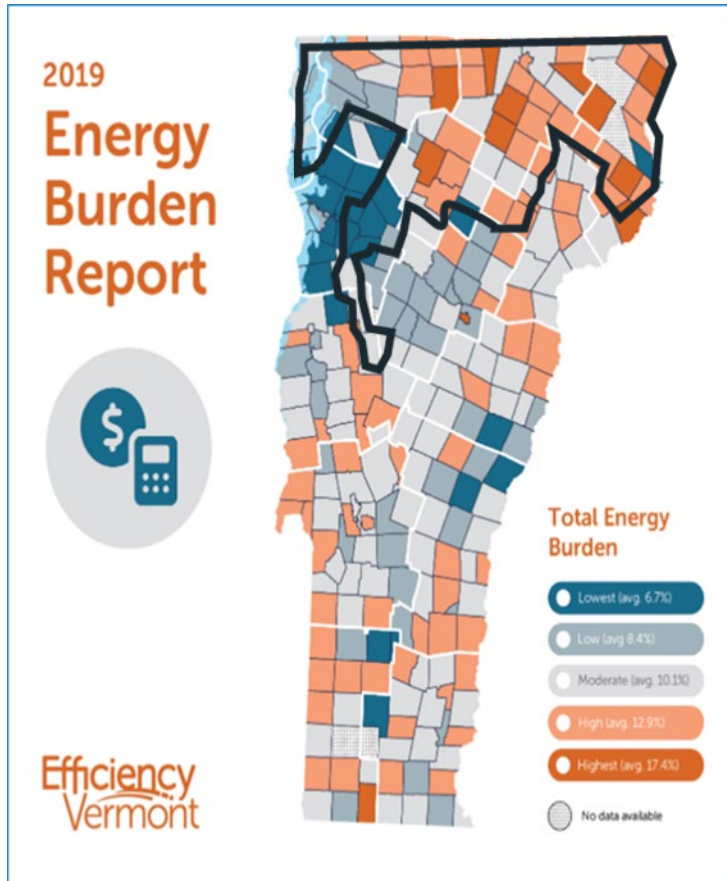


**100%**

**Renewable by  
2030**



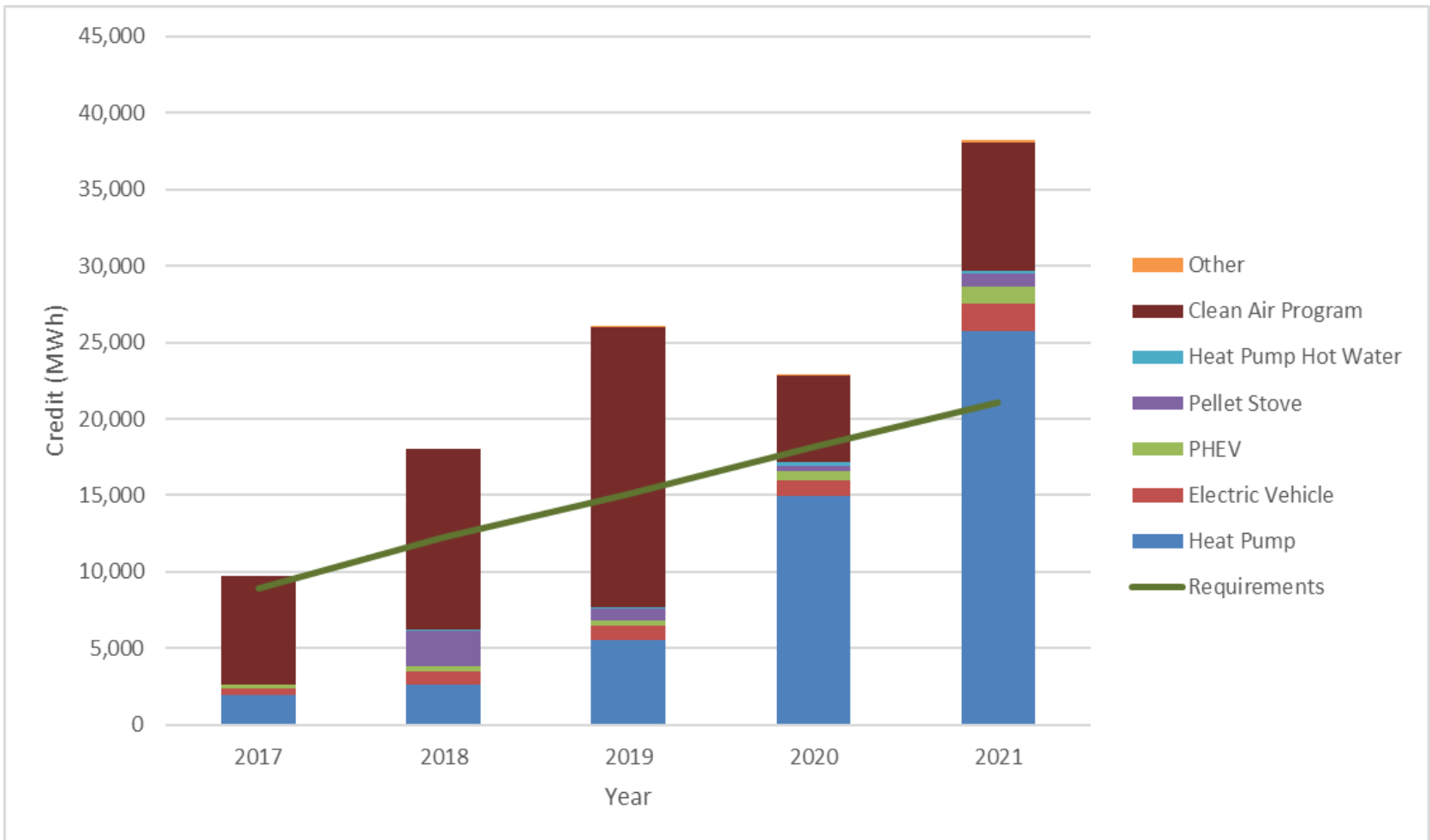
# Just Transitions and Energy Equity



Energy Equity *opportunity*  
as we transition heating  
and transportation to  
electric



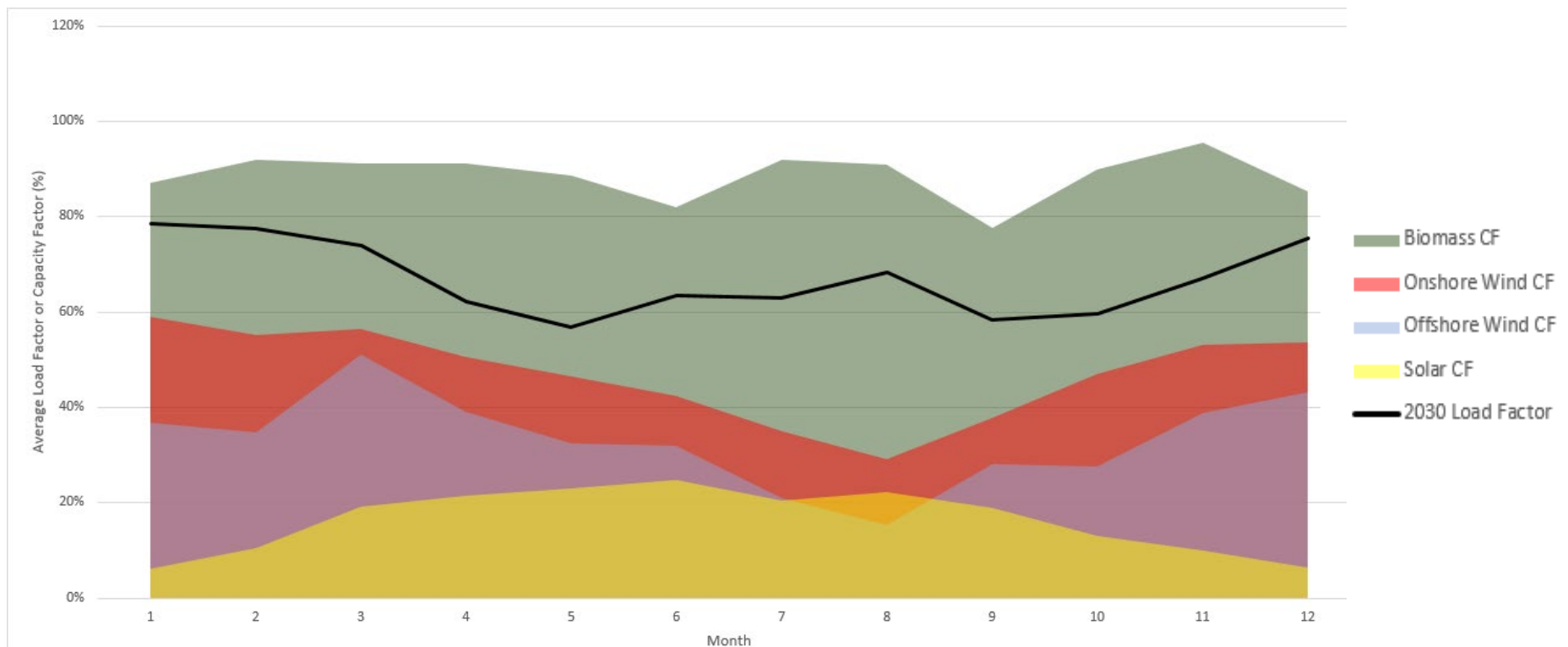
# Decarbonizing heating and transportation



# Resource diversity needed



Monthly capacity – average output profile – of renewable generation sources



- Well-balanced intermittent sources can be complementary
- Winter is most load growth, least solar

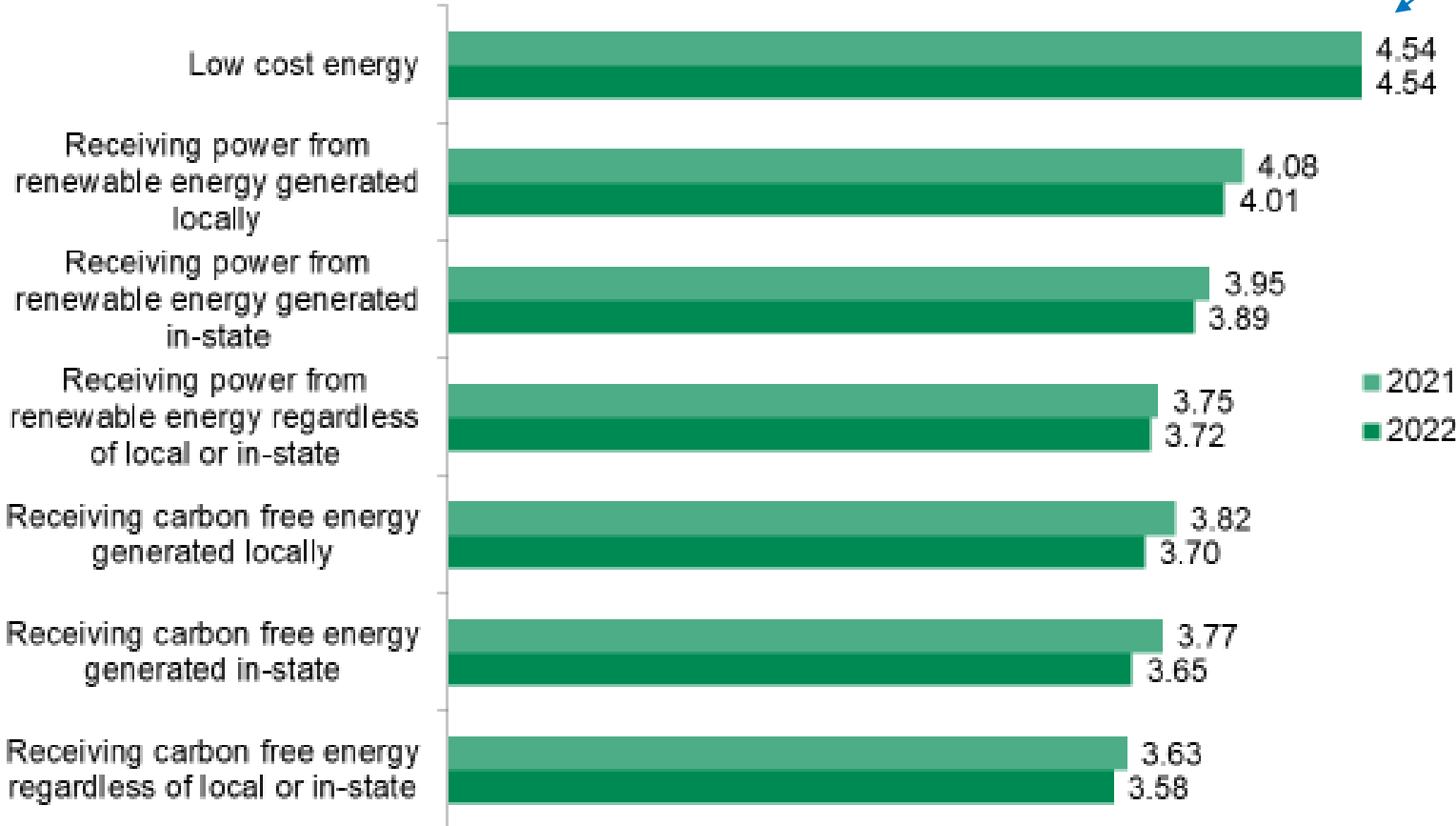
# Member Feedback on Power Supply



## Importance of Cost and Generation Location

1-5 Scale: 1 = Not At All Important; 5 = Extremely Important

cost matters most



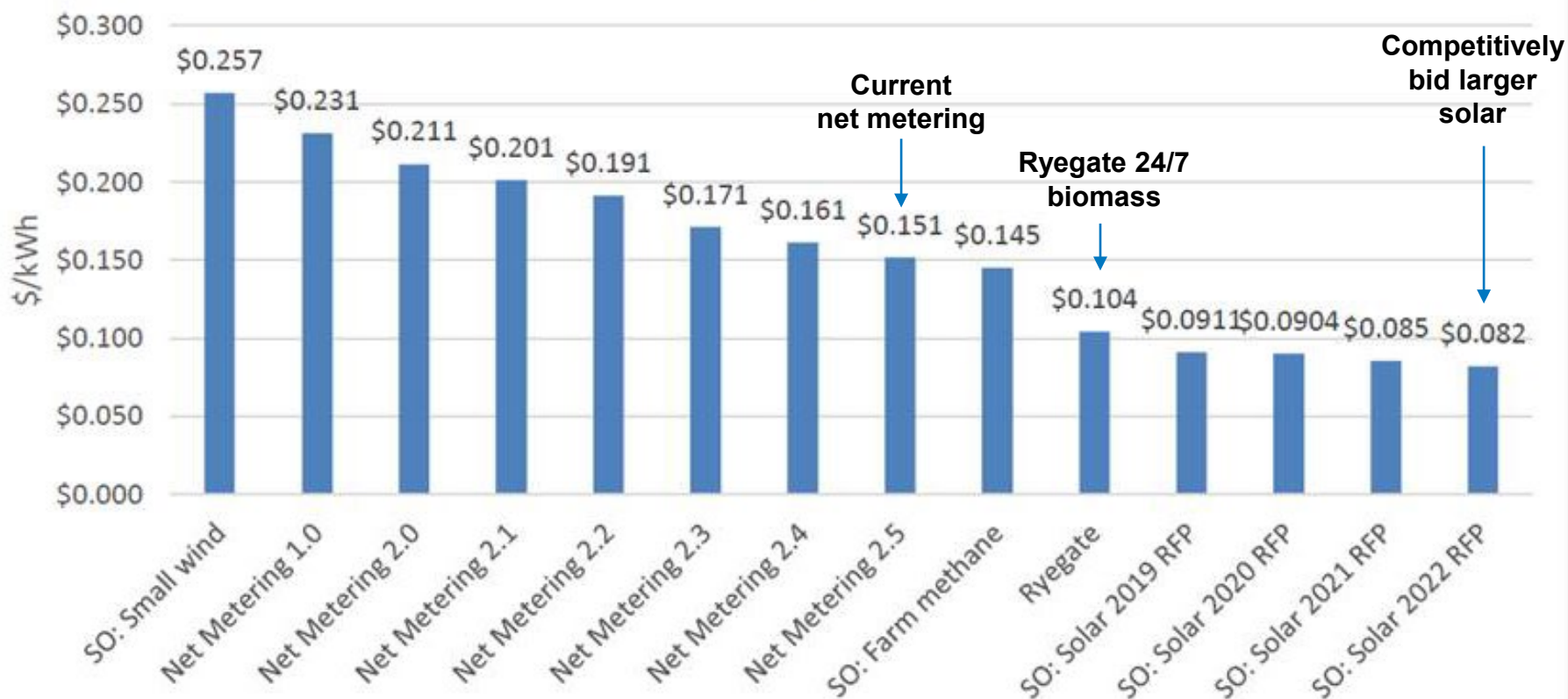
# Cost for new resources is critical



## Comparison of *In-State* renewable resource costs

Source: Department of Public Service

Illustrative Cost Comparison of Renewable Resources





## Regional Approach Addresses Key Challenges:

- Short term: ISO-NE reliance on natural gas
  - Long term: balance of intermittent renewable
- 
- ✓ Canada: abundant 24/7 renewable, emergency backup
  - ✓ New York & Maine: large onshore wind
  - ✓ Southern New England: offshore wind development

## Regional approach is critical



- Support **Infrastructure** needs, particularly tech solutions
- Boost grid energy **Storage**
- Accelerate **Renewable** production & development
- Transform growth in **home & business carbon reduction** through electrification
  - Electric Vehicle incentives
  - Home Electrification tax credits and rebates

# Infrastructure Act Inflation & Reduction Act



# Storm Elliott December 2022





# Storm Elliott December 2022



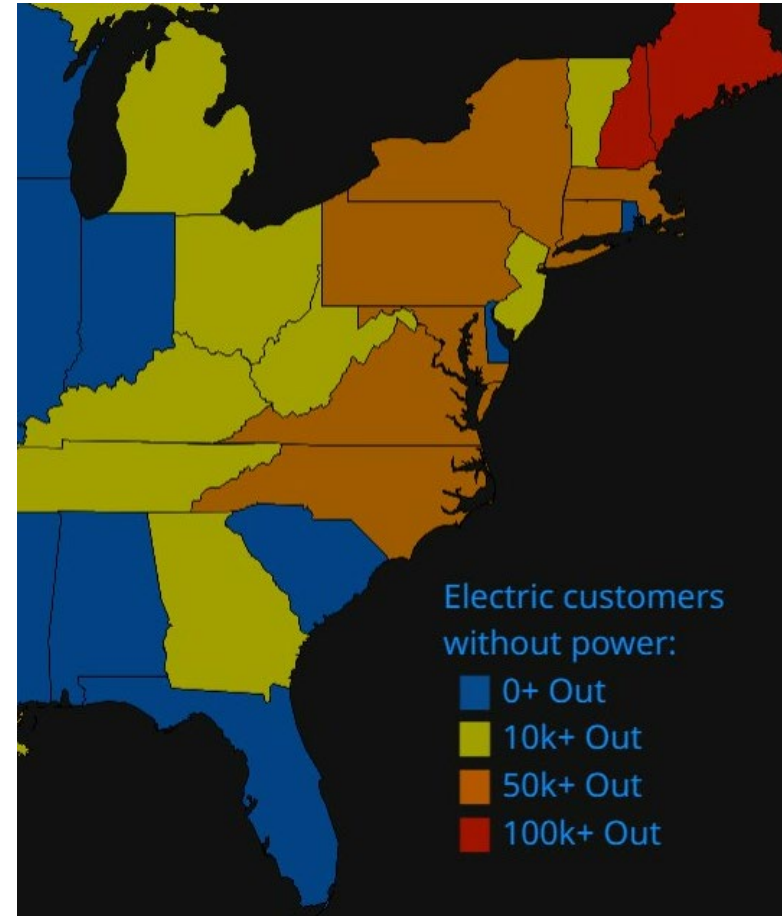


# Storm Elliott

## December 2022



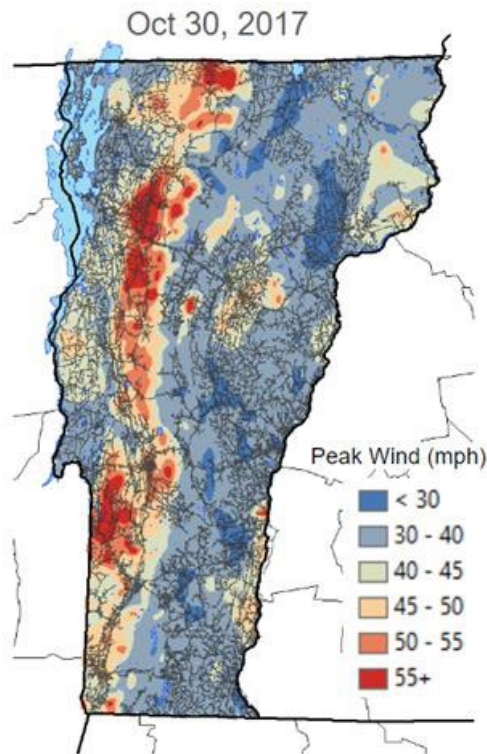
- Dec 23<sup>rd</sup> 2 am – Dec 28 5pm
- VEC max concurrent out = 13,790 (1/3<sup>rd</sup> of system)
- 293 separate outages
- 47 broken poles
- FEMA application
- 4x labor force using outside resources



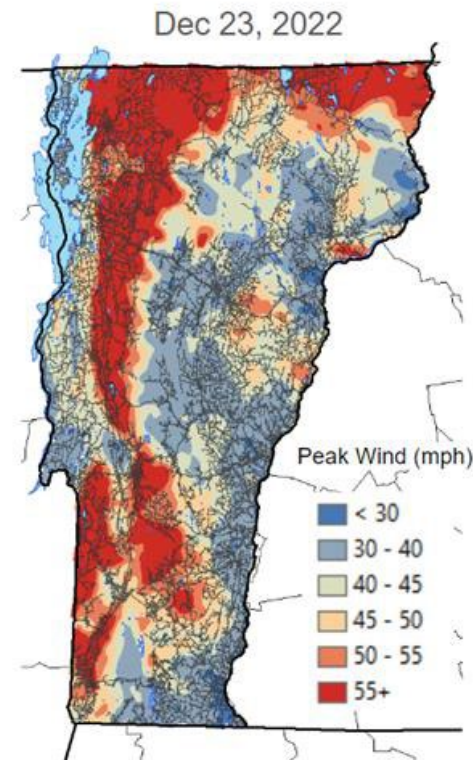
# Philippe 2017 v Elliott 2022



## Wind Snow Storm - Mapping Comparison



- 6.7 days restoration
- 17,115 concurrent out
- 70 broken poles



- 5.5 days restoration
- 13,790 concurrent out
- 47 broken poles

# Reliability Investments



## Since 2017:

- \$2.8 M infrastructure resiliency with FEMA hazard mitigation
- \$1M proactive system maintenance surveys
- 15% increase in vegetation management
- More underground & roadside to reduce vulnerability

## Going Forward:

- Storage investments –microgrids, residential
- Ongoing capital investments for growth & reliability
- Leverage IIJA, FEMA grants