



# Valuing Resilience: A State Regulatory Perspective

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# About NARUC



- Founded in 1889, the National Association of Regulatory Utility Commissioners (NARUC) is a non-profit organization dedicated to representing the state public service commissions (PSCs) who regulate the utilities that provide essential services such as energy, telecommunications, power, water, and transportation.
- NARUC's members include all 50 states, the District of Columbia, Puerto Rico, and the Virgin Islands. Most state commissioners are appointed to their positions by their governor or legislature, while commissioners in about one-third of states are elected.
- Our mission is to serve in the public interest by improving the quality and effectiveness of public utility regulation.
- NARUC's Center for Partnerships and Innovation (CPI) is NARUC's grant-funded technical assistance office for state PSCs.

# NARUC's Work on Resilience



2018 – 2019: NARUC, Converge Strategies, and PJM Interconnection participated in Round 1 of the Solar Energy Innovation Network

Fall 2019: NARUC and NASEO formed a joint Microgrids State Working Group

Summer 2020: NARUC created a Presidential Task Force on Emergency Preparedness, Recovery, and Resiliency



# Agenda

1. Reliability vs. resilience
2. Resilience investments
3. Valuing resilience
4. Role of regulators





## Reliability

- Routine, common disruptions
- Brief duration (minutes/hours)
- Localized impact

## vs. Resilience

- Low-frequency, uncommon events
- Longer duration (days/weeks)
- Broader area impacted





## Reliability Metrics

- Exclude major events
- Focused on frequency and duration
- Assume constant value of lost load
- Short-term
- Universally applied
- Look at electricity only
- Focus on disruption prevention

## vs. Resilience Metrics

- Incorporate major events
- Anticipate, absorb, adapt, and recover from disruptions
- Differentiate VoLL between customer classes
- Long-term
- Can differ by region
- May look at other sectors
- Focus on response to disruption





## Making Resilience Investments

- Multiple sources of uncertainty and complexity in resilience metrics
- Utilities and regulators understand costs, but not benefits of reducing the impacts of disruptions





## Valuing Resilience

Valuation method for regulators needs to:

- Reflect long-duration outages
- Scale from individual building to city, state, region, nation
- Be easy to use
- Produce outputs regulators can use







## Role of Regulators

- Drawing lessons from the performance of existing resilience projects and metrics research
- Developing microgrid services tariffs and other rates reflective of resilience benefits
- Mapping and prioritizing critical infrastructure and identifying opportunities for ratepayer and community benefits, in consultation with state energy offices, infrastructure banks, and other stakeholders