

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

State of Reliability in North America

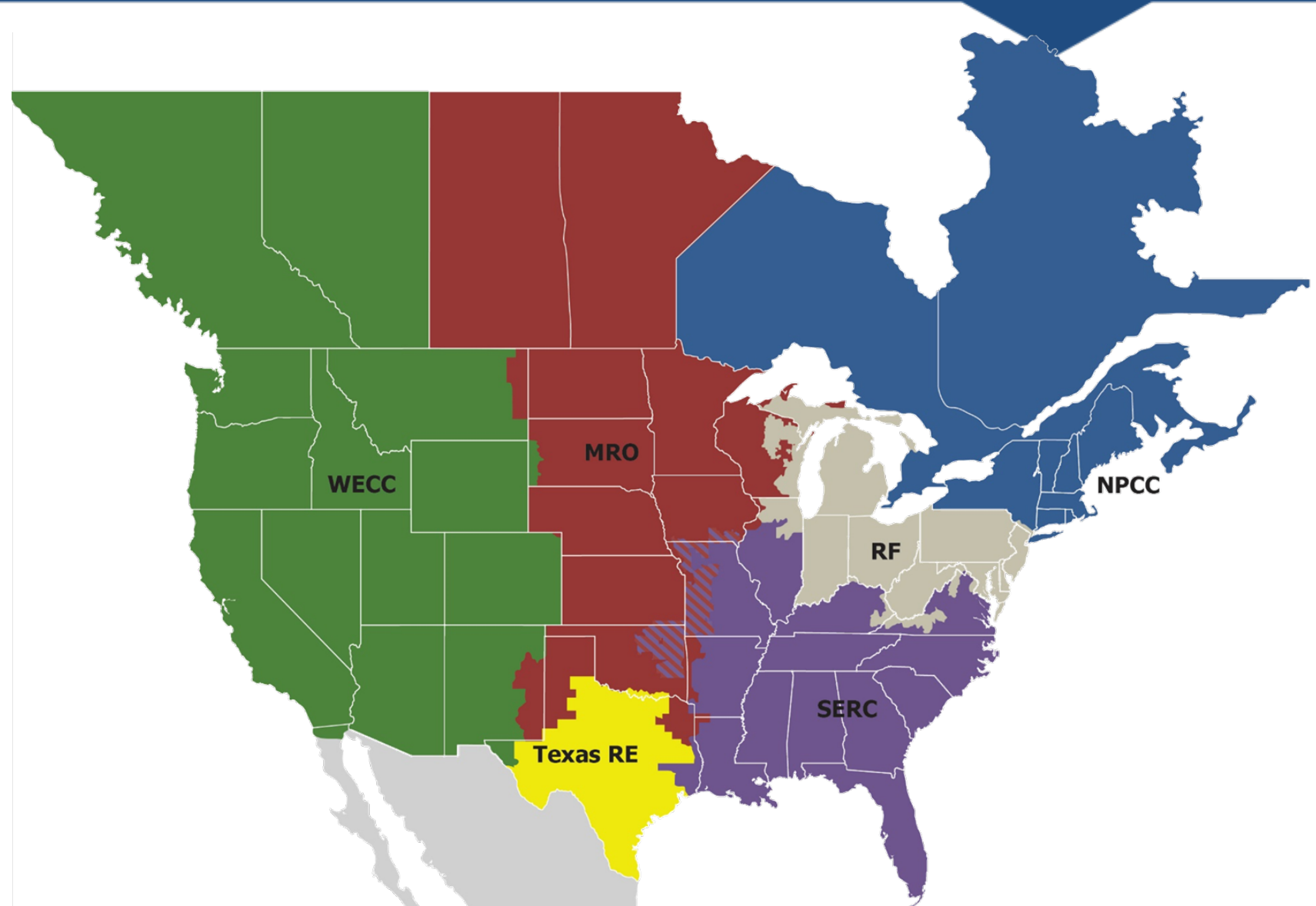
Industrial Energy Consumers of America (IECA) Meeting
Camilo Serna, Senior Vice President, Strategy and External Engagement
October 22, 2024

RELIABILITY | RESILIENCE | SECURITY



NERC's Mission

Assure the effective and efficient reduction of risks to the reliability and security of the grid



- Propose, monitor compliance with, and enforce **mandatory reliability standards** for the North American BPS, subject to regulatory oversight and approvals of FERC in the U.S. and applicable authorities in Canada
- Conduct **near-term and long-term assessments** of the reliability and future adequacy of the North American bulk power system (BPS)
- **Certify Bulk Power System operators** as having and maintaining the necessary knowledge and skills
- Maintain **situational awareness** of events and conditions that may threaten reliability
- Operate the **Electricity Information Sharing and Analysis Center (E-ISAC)**, a security communications channel, providing threat awareness and analysis, mitigation strategies, and coordinates incident management

Rapidly Changing Resource Mix

- Retirements of traditional generation
- Natural gas interdependencies
- Inverter-Based Resource (IBR) integration
- DER performance and visibility

Extreme Weather Complexities

- Extreme not infrequent
- “Broader, Deeper, Longer”



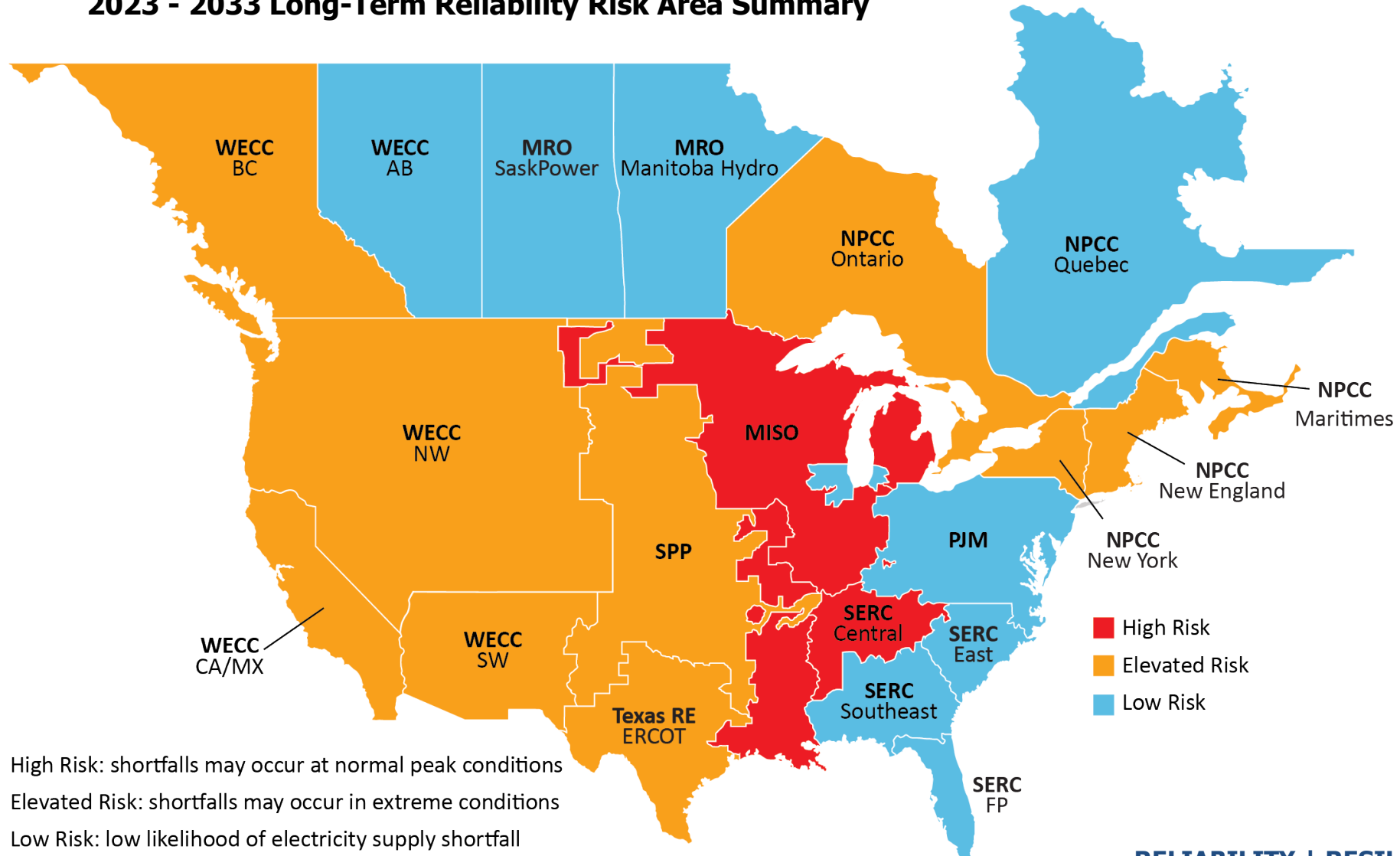
Growth

- Re-industrialization
- Technology/AI/Crypto-mining/Data Centers
- Electric Transportation
- Building Electrification

“Toxic Soup” Threat landscape

- Software vulnerabilities
- Supply chain threats
- Ransomware
- Physical attacks

2023 - 2033 Long-Term Reliability Risk Area Summary

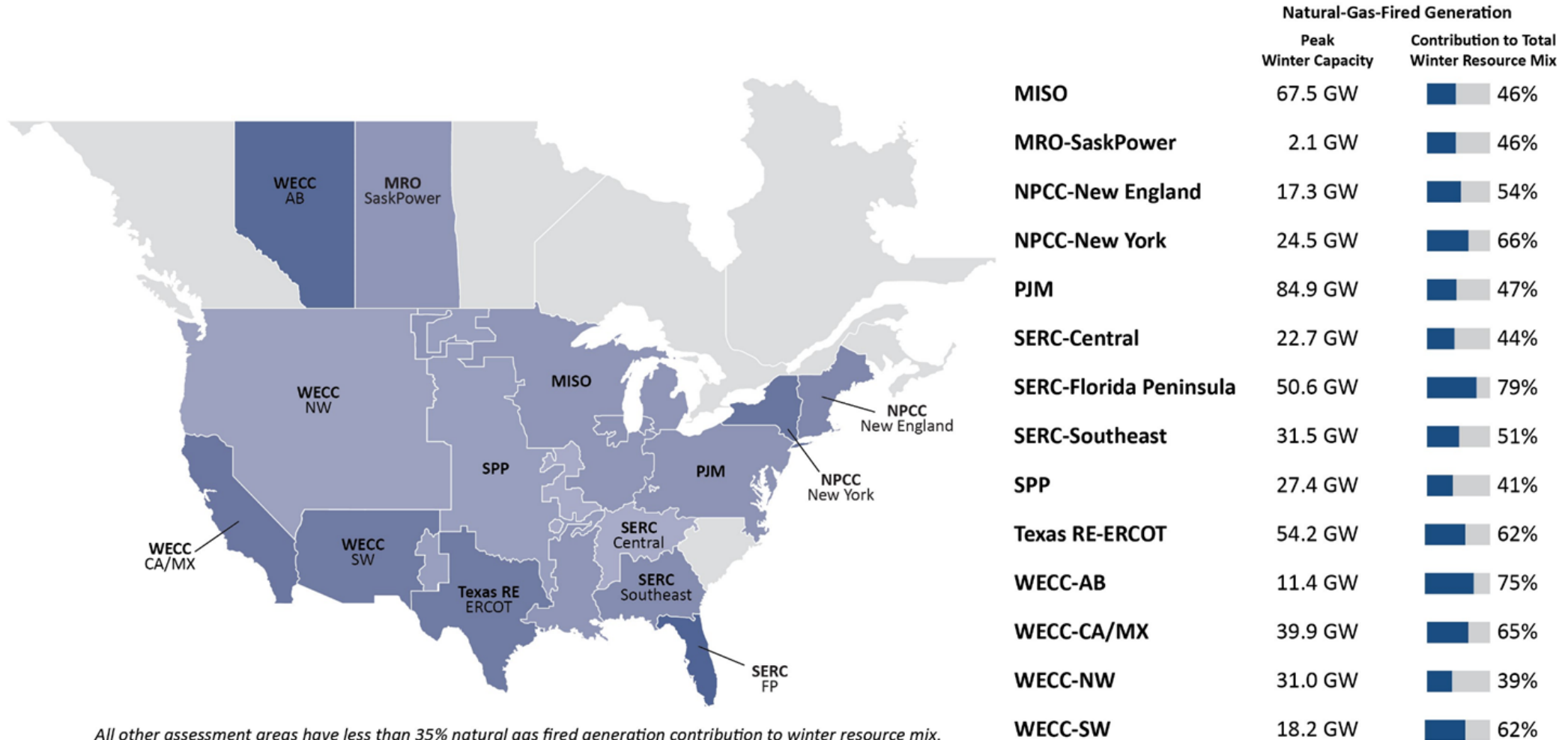


High Risk: shortfalls may occur at normal peak conditions

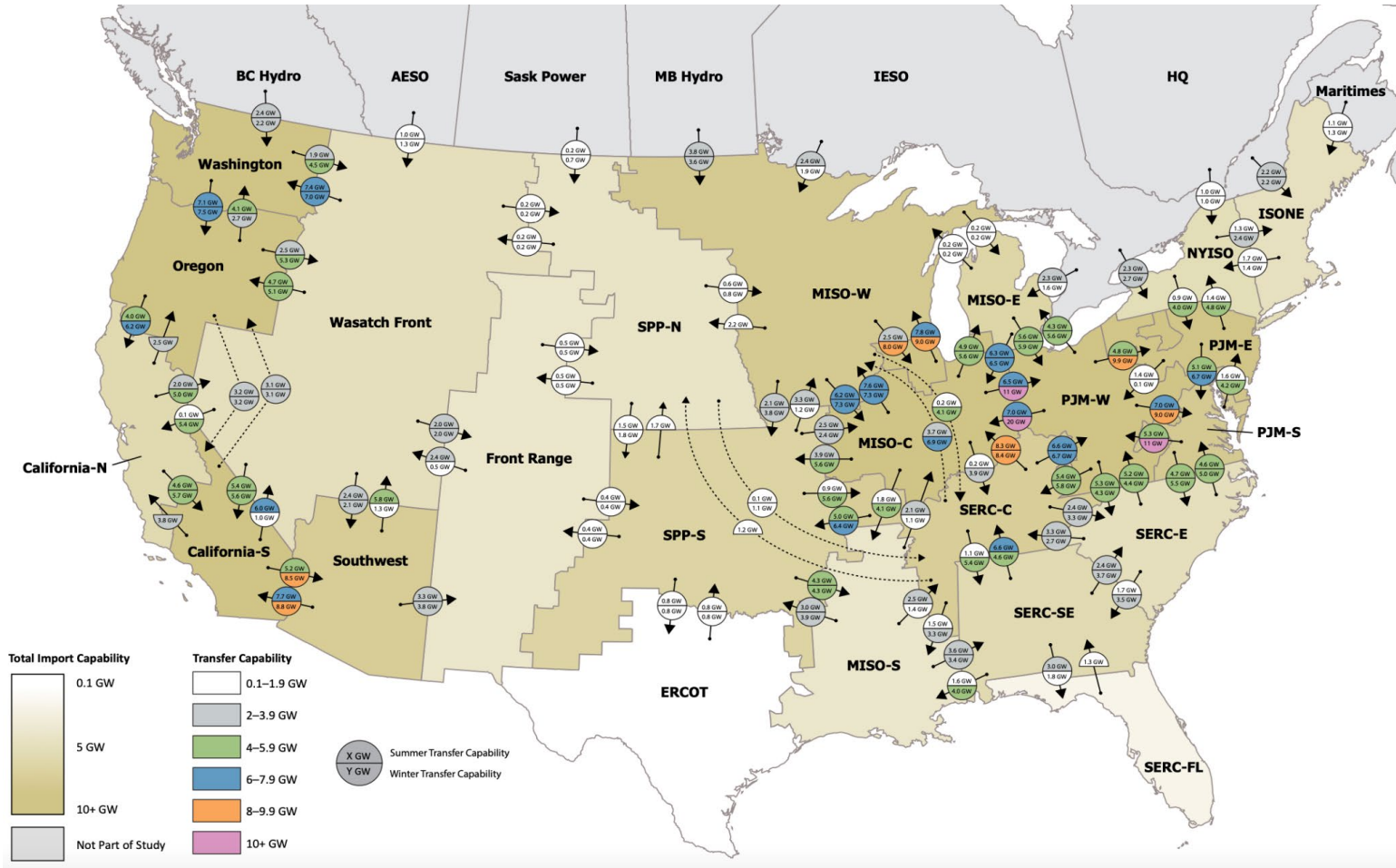
Elevated Risk: shortfalls may occur in extreme conditions

Low Risk: low likelihood of electricity supply shortfall

Natural-Gas-Fired Generation Capacity Contributions to 2023–2024 Winter Generation Mix



- **Manage the pace of the transformation in an orderly way**, which is currently not happening. Conventional generation is retiring at an unprecedented rate, a trend that is further accelerated by policy goals.
- **Identify and deploy new resources to replace retiring generation that provide both sufficient energy and essential reliability services** needed for stable grid operations (such as flexibility, voltage support, frequency response, and dispatchability).
- **Shift focus from planning for solely “capacity on peak” to “energy 24x7” due to the changing fuel mix.**
- **Ensure a robust energy supply chain for the balancing resources**, with sufficient access to fuel and stored energy to withstand long-duration, wide-spread extreme weather events.
- **Develop sufficient transmission**, to integrate renewables and distribute them, make the system more resilient.
- Given potential significant increased demand due to electrification and large load development, **planning for this growth must be calibrated with the reliability needs of the bulk power system (BPS).**



Varies widely

Is one option

Resource evaluation

Must be carefully added

Why should IECA members engage with NERC?

Reliability and security focus

System-wide perspective

Stakeholder engagement

Collaboration and coordination

Independent and objective





Questions and Answers