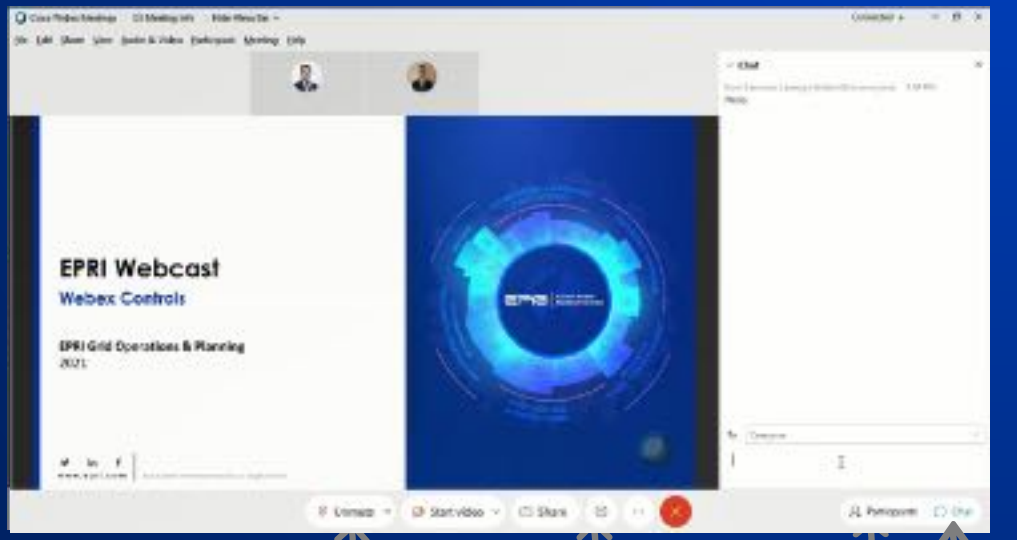
EPRI | ELECTRIC POWER RESEARCH INSTITUTE

Welcome

Resource Adequacy for a Decarbonized Future

External Stakeholder Group Kick-Off

August 27, 2021



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REC This webcast will be recorded

Agenda

- Overview and Background
- Introductions
- Stakeholder Group Role
- Expected deliverables and timing
- Breakout Sessions
- Wrap up and Next Steps

What is Resource Adequacy and Why Does It Matter?

Role: 2X Electricity Share of Final Energy

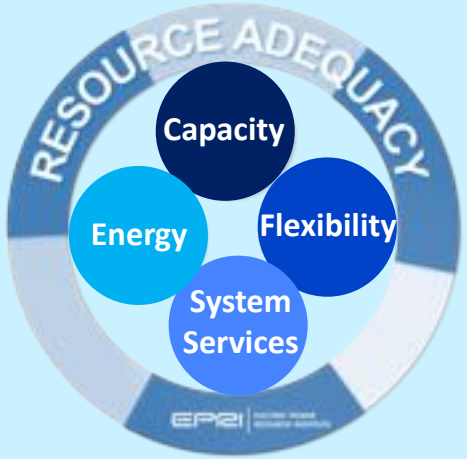
A greater portion of societal needs will be dependent on the reliable supply of electricity.

Challenge: Evolving Grid and Hazards

The resource mix will have significantly different performance characteristics and the grid must adapt.

Opportunity: Resilient Energy Supplier

Meeting customer expectations for reliable energy supply will build trust and create new opportunities.



Resource Adequacy is the ability to meet customer energy needs at a targeted risk level considering planned and unplanned outages.

Resource Adequacy processes and tools must evolve.

Resource Adequacy Initiative: Deliverables and Outcomes

RA Process

- Recommended Metrics and Criteria
- Future Scenario Database and Tool

Models and Data

- Emerging Resource & Demand Side Models
- Model Data Development Tools

Analysis Tools

- Existing RA Tool Capabilities
- New Algorithms and open-source code

Case Studies — Evaluation of existing and development of new capabilities based on 4-6 regional RA case studies covering differing RA issues and tools.

Tech Transfer — Reports and workshops to be conducted to disseminate results and to promote broad adoption in commercial tools.

ESIG Redefining Resource Adequacy Task Force

» **Project Objective:** Evaluate novel resource adequacy methods and metrics necessary for system planning and reliability with a changing energy mix, new technologies, and decarbonization goals

- What methods and metrics are required to identify long term scarcity of capability to maintain reliability?
- What additional probabilistic planning methods and tools are necessary for planning a power system with a high share of renewables, storage, and flexible load?
- **Members** include researchers and Global Power System Transformation Consortium (National Grid ESO, Energinet, EirGrid, ERCOT, CAISO, AEMO)

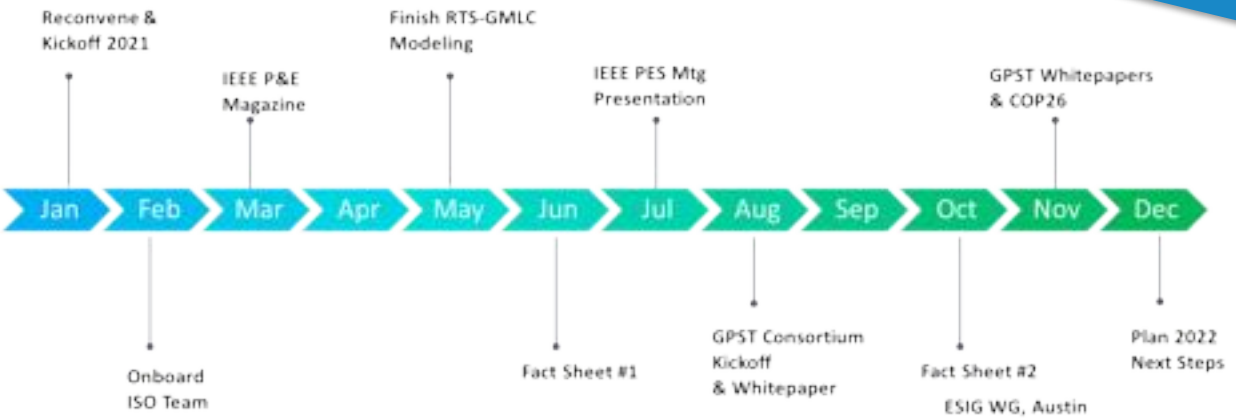
TELOS ENERGY

ESIG
ENERGY SYSTEMS INTEGRATION GROUP

ESIG Whitepaper: Redefining Resource Adequacy for Modern Power Systems

ESIG Blog: Five Principles of Resource Adequacy for Modern Power Systems

ESIG Webinar: Redefining Resource Adequacy for Modern Power Systems



» **Next Steps:**

- Whitepaper on Evolving Metrics
- Policy Brief for GPST & COP26

NERC 2021 ERO Reliability Risk Priorities