

Resource Adequacy, Rolling Blackouts and Wildfires

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Opening Remarks

Content

- 38 days of
- Wildfires



House Keeping

- Charlie's instructions
- Audience participation
- Q & A at the end – Slido – ESIG8

The Panel, Plan & You

Phil Pettingill, ISO Director, Regional Integration, CAISO



Ben Jones, Supply Adequacy Stream Lead, Australian Energy Market Operator (AEMO)



Audience Participation



David Bones, Executive Manager Risk, Assurance and Regulation, GHD Advisory



Erik Ela, Senior Technical Leader, EPRI



Arne Olson, Senior Partner, E3



How we got to where we are and where are we

IEEE TRANSACTIONS ON POWER SYSTEMS, VOL. 26, NO. 2, MAY 2011

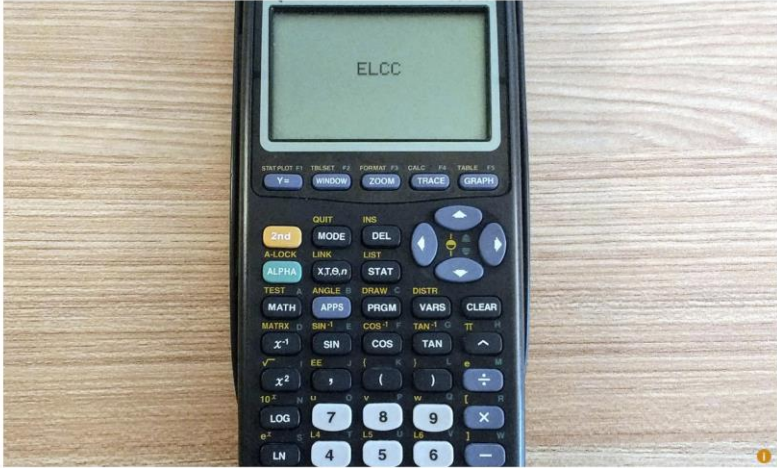
Capacity Value of Wind Power

Task Force on the Capacity Value of Wind Power, IEEE Power and Energy Society



Science for a healthy planet and safer world

[BLOG] UNION OF CONCERNED SCIENTISTS



ELCC Explained: the Critical Renewable Energy Concept You've Never Heard Of

MARK SPECHT, ENERGY ANALYST | OCTOBER 12, 2020, 5:25 PM EDT

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MARK SPECHT is an energy analyst for the Climate & Energy program at the Union of Concerned Scientists.

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TOPICS 1

Challenges of the Quantitative Assessment of Gas-Electric Interactions

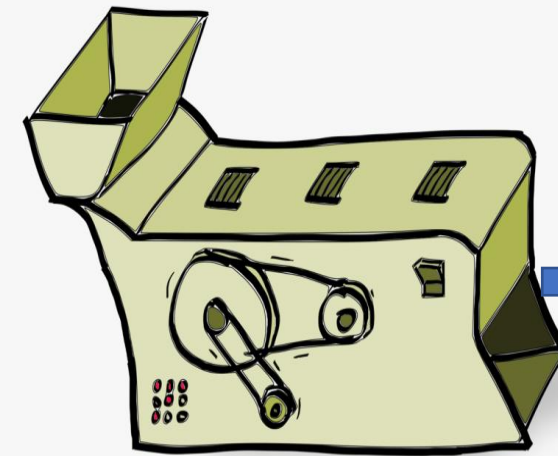
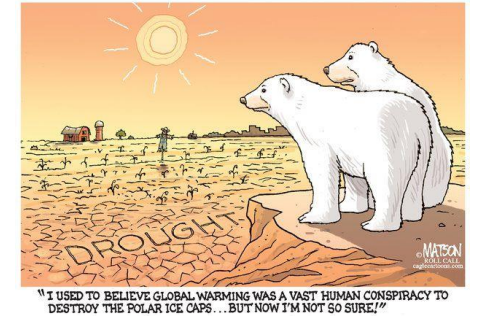
- Operational models of natural gas pipelines
- Resource adequacy electric models that capture transmission details
- Gas-electric coordination models
- Incorporating weather into analysis
- Data availability challenges

**Gas and Electric Coordination and
Co-Optimization**
Aleksandr Rudkevich

**ESIG 2021 Spring Technical Workshop
Session 11
Co-optimization Techniques and Results
April 6, 2021**

There is a lot more going on and it is all happening together

- Wind and solar PV – increasing penetrations
 - lack of data and operational experience
 - it is about net load not peak load
- Storage and demand side
 - how they are operated impacts on resource adequacy
- Flexible demand is changing the meaning about ability to meet the demand
- Electrification of heat and transport
 - increases the dimension of the problem space
- The underlying statistics are all changing – metrics may not capture
 - is there a metric for resilience ?
- All models are approximations – as things change need to revisit from time to time (**daily !**) to make sure the approximation is still good
- And what about the Politicians & Climate Change



Resource
Adequacy

Two important initiatives



<http://globalpst.org>

Inaugural Research Agenda

Redefining Resource Adequacy for Modern Power Systems

an ESIG System Planning Working Group 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.

RESEARCH QUESTIONS

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?

adopted from Global Power System Transformation Consortium Research Agenda & Action Plan

PROJECT TEAM

Core Project Team: Derek Stenclik (Telos Energy), Aaron Bloom (NextEra), Wesley Cole (NREL), Gord Stephen (University of Washington), Armando Figueroa Acevedo (B&V), Aidan Tuohy (EPRI)

Target ISO Participation: AEMO, CAISO, ERCOT, MISO, NYISO, and others

Working Group Affiliates: Michael Milligan, Rob Gramlich (Grid Strategies), Chris Dent (University of Edinburgh), Nick Schlag (E3)

PROJECT TIMELINE & DELIVERABLES



FIND OUT MORE

ESIG Blog: [Five Principles of Resource Adequacy for Modern Power Systems](#)

ESIG Webinar: [Redefining Resource Adequacy for Modern Power Systems](#)

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