



# EPRI's 21st Energy and Climate Research Seminar

## **Policy and Market Trends for Energy Storage and Renewables**

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# Disclaimer

- Any views expressed in this presentation are my own, and do not necessarily represent the views of the Federal Energy Regulatory Commission or the United States Government.





# Policy & Market Trends for Energy Storage & Renewables

- Recent Commission actions
  - Storage final rule
  - Interconnection final rule
  - Price formation





# Storage Final Rule, Order No. 841

- Requires that RTOs/ISOs establish a participation model consisting of market rules that ensure:
  - Electric storage resources are eligible to provide all capacity, energy, and ancillary services they are technically capable of providing.
  - RTO/ISO tariffs account for physical and operational characteristics of electric storage resources.
  - Electric storage resources are able to be dispatched and set the wholesale market clearing price as both a wholesale seller and wholesale buyer.
  - RTO/ISO tariffs establish a minimum size requirement for electric storage resources not to exceed 100 kW.
- Also requires that the sale of energy from the organized wholesale electric markets to an electric storage resource that the resource then resells back to those markets be at the wholesale LMP.





# Interconnection Final Rule, Order No. 845

- Order No. 845, April 2018
- Reforms generator interconnection procedures & agreements for generators larger than 20 MW:
  - Improve certainty for interconnection customers
  - Promote informed interconnection decisions
  - Enhance the interconnection process.
- Addresses systemic inefficiencies, including those caused or exacerbated by changing market forces and by the emergence of new technologies.





# Order No. 845 Reforms

- Improve Certainty for Interconnection Customers
  - Provide potential cost and time efficiencies to interconnection customers.
- Reforms:
  1. Option to Build
  2. Dispute Resolution





# Order No. 845 Reforms (cont.)

- Promote More Informed Interconnection
  - Improve interconnection customers' ability to assess potential generation projects, and
  - Mitigate factors that lead to submission of interconnection requests for generation projects that have little chance of reaching commercial operation.
- Reforms:
  1. Identification of Contingent Facilities
  2. Transparency of Models and Assumptions
  3. Revised Definition of Generating Facility
  4. Interconnection Study Reporting





# Order No. 845 Reforms (cont.)

- Enhance Interconnection Processes
  - Bring new generation online faster
  - Mitigate the construction of unnecessary upgrades
- Reforms:
  1. Requesting Interconnection Service Below Generating Facility Capacity
  2. Provisional Interconnection Service
  3. Utilization of Surplus Interconnection Service
  4. Material Modification and Incorporation of Advanced Technologies





# Price Formation

- **Five-Minute Settlement & Shortage Pricing Rule**
  - June 2016, Order No. 825
- **Offer Cap Rule**
  - November 2016, Order No. 831
- **Transparency**
  - Transparency Rule April 2018, Order No. 844
- **Pricing for Fast-Start Resources**
  - Federal Power Act Section 206 proceedings in 3 RTOs initiated December 2017





# Thank You

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