



# WPTF Summer Roundtable

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# Gridwell Consulting

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- Gridwell Consulting is an energy consulting firm located in Sacramento, CA
  - All things CAISO – Resource Adequacy, Energy Market, Interconnection, Transmission, Storage
  - Market design for ISO/RTOs
  - Market analysis
  - Expert Witness and Testimony

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# Disclaimer

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- CAISO and CPUC rules and proposals change CONSTANTLY – this presentation is based on last available information and is probably already out of date

# California Resource Adequacy

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- Resource Adequacy is a monthly *planning* requirement on load-serving entities (LSEs) to ensure resource sufficiency
- Dual purposes:
  - Designed to ensure the Local Regulatory Authority (LRA) has sufficient capacity to meet demand
  - Designed to ensure the CAISO can meet daily peak load, local load, and net renewable ramping needs
- Lack of FERC oversight over entire RA program has led to increased complication and added transaction and regulatory risk costs to RA market

# California RA programs

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- RA programs are administered by CAISO and by Local Regulatory Authorities (LRAs)
  - Largest LRA is the California Public Utility Commission (CPUC) at ~92% of CAISO load
- Capacity of resource that qualifies for RA will not be considered “RA capacity” unless it is “shown” to the CAISO on a plan
- CPUC subpoenas CAISO data to ensure their jurisdictional LSEs are meeting CPUC requirements

# Dual RA programs

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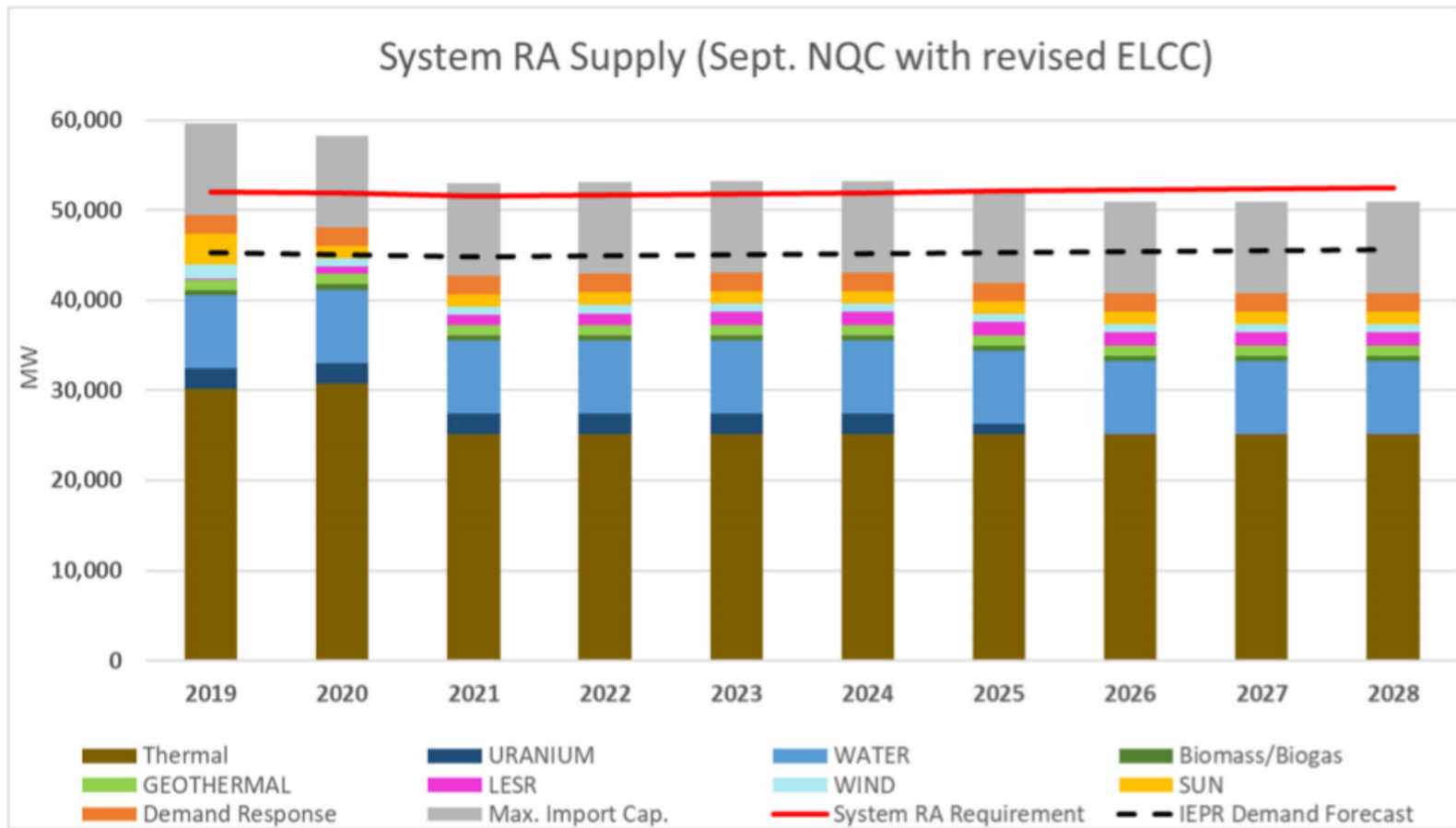
- Local Regulatory Authority determines:
  - System RA requirement
  - Resource counting rules for system and flexible RA
  - Penalty/process if LSE does not meet RA requirements
- CAISO through FERC authority determines:
  - Flexible and Local RA Requirements
  - Deliverable portion of resource capacity
  - Must-offer obligations
  - Outages
  - Backstop process if RA requirements not met

# Top issues with RA program

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1. Over-reliance on imports (market and RA) to meet basic system reliability
2. CPUC and CAISO rule differences
3. Integration of storage/hybrids
4. Inefficient use of RA fleet due to planned outage uncertainty

# Foreseeable RA System Shortage





# CAISO RA Enhancements Proposal

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1. System requirement (new authority)
  - a) Qualifying capacity, UCAP
2. Backstop methodology (new authority)
3. Local and flexible requirement changes
4. Import and storage RA participation changes
5. Forced outage rules and penalties
6. Planned outage rules

# Assessment of CAISO Proposal

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- ✓ Does not sufficiently address main issues with the RA program
- ✓ Lacks analytical support for majority of changes
- ✓ Overly focused on meeting operational requirements with perfect monthly RA showings rather than providing incentives for more reliable and flexible RA fleet
- ✓ Adds so much complication that transactional costs are likely to increase

# Key Resources

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- Summer Loads and Assessment [2019](#) & [2020](#)
- CAISO Tariff [Section 40](#)
- Reliability Requirements [BPM](#)
- Reliability Requirements [webpage](#)
- CPUC RA [Guide](#)
- CPUC Compliance [Materials](#)

# Key Acronyms

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- CCA – Community Choice Aggregator
- CPM – Capacity Procurement Mechanism
- EIM – Energy Imbalance Market
- IOU – Investor Owned Utility
- LSE – Load Serving Entity
- LRA – Local Regulatory Authority
- MIC – Maximum import Capacity
- NQC – Net Qualifying Capacity
- PRM – Planning Reserve Margin
- QC – Qualifying Capacity
- UCAP – Unforced Capacity