



California ISO

Transmission Planning at the CAISO

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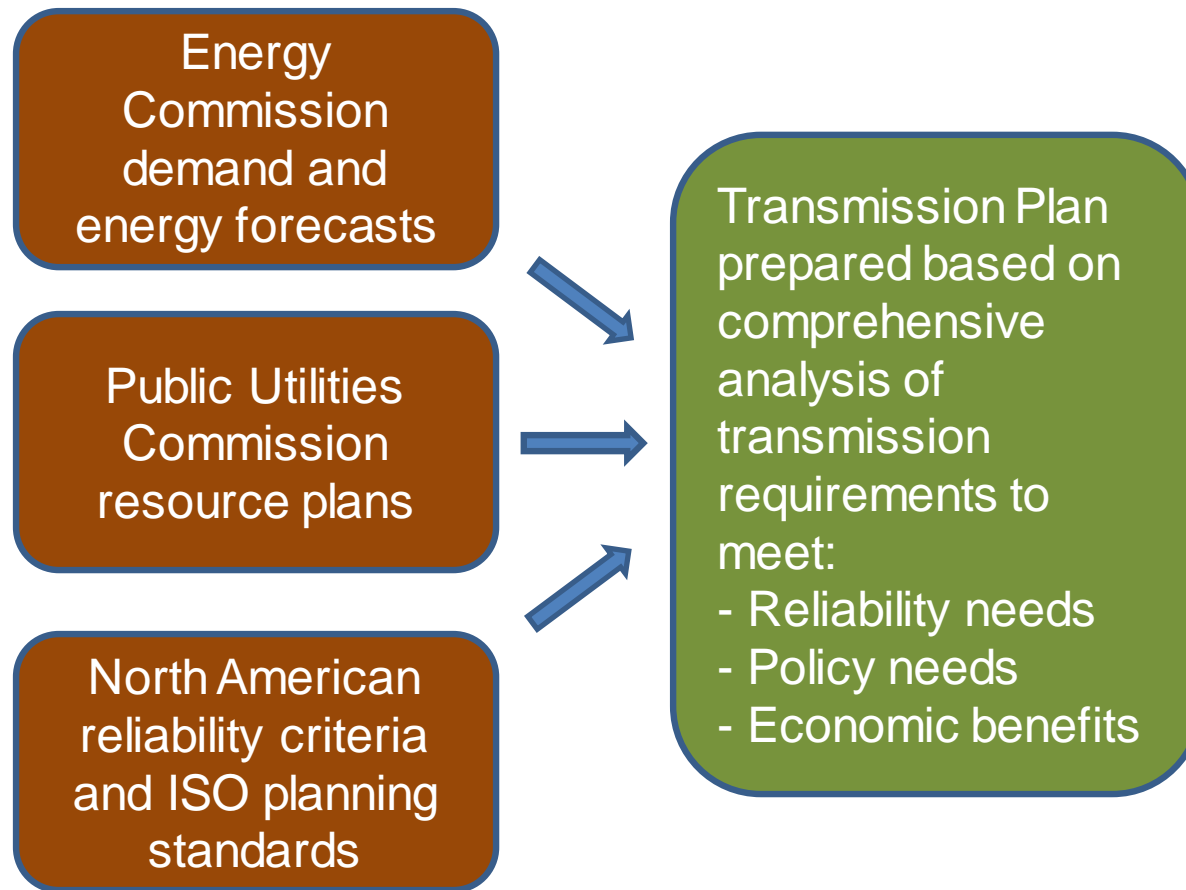
Senior Vice President and Chief Operating Officer

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AU&E Hearing, May 18, 2022

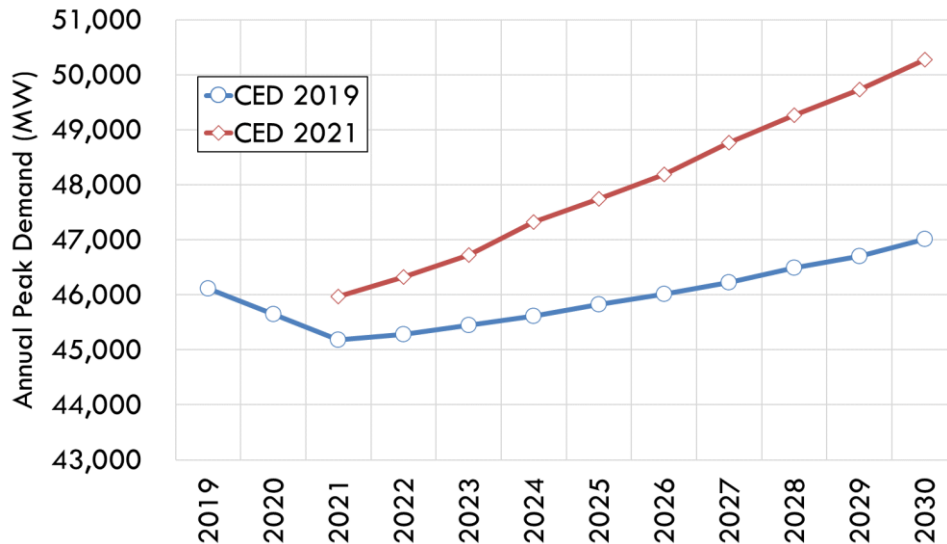
The ISO assesses transmission needs annually with intensive coordination with California state agencies:



Interrelated Processes Drive Infrastructure Planning:

- Demand and Energy forecasting - CEC
 - A single set of forecasts is used in planning processes
 - The CEC also forecasts rooftop solar and energy efficiency gains
 - Pace of growth is accelerating
- Generation Resource Planning and Authorizations - CPUC
 - The ISO also conducts independent analysis of the resource plans to assess if target reliability measures will be achieved
 - Plans have only recently ramped up to meet growing needs
 - Actual construction is lagging current needs and development risks are growing
- Transmission Planning & Generation Interconnection - ISO
 - Using the inputs from the CEC and CPUC
 - Recently inundated with excessive levels of competition
 - Project execution timelines a growing concern

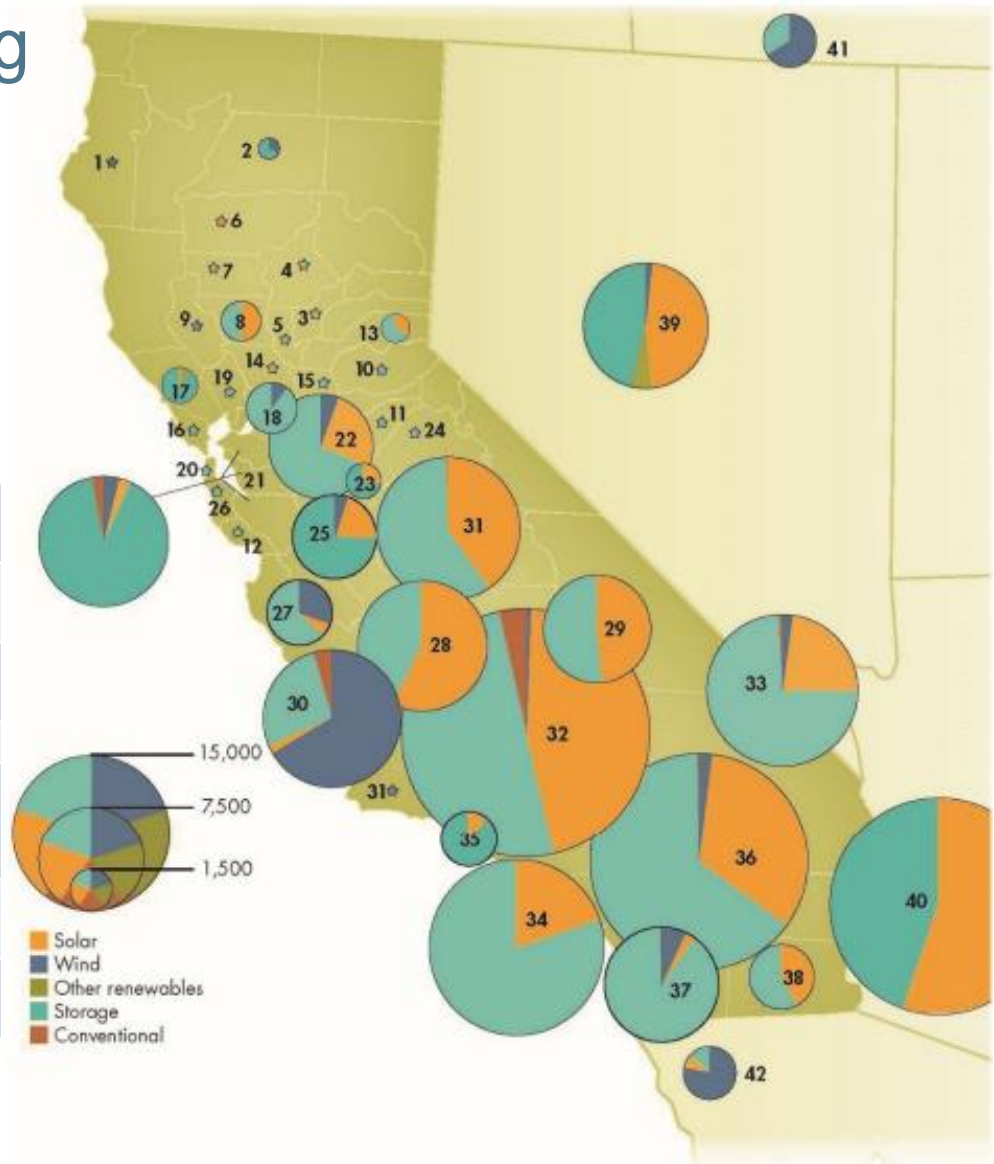
Pace of Development Escalating Quickly: Driving Need for Additional Transmission



- The Energy Commission's most recent forecasts are showing significant increases in load growth over previous forecasts
- The CPUC's 10-year resource plans ramping up:
 - 1000 MW/year in last year's plans
 - 2700 MW/year in this year's plan
 - 4100 MW/year in next year's plan

The ISO's Interconnection Queue reflects accelerating procurement activity and very active – and perhaps overheated – competition

Current Queue	
97,643 MW	Renewables
147,812 MW	Storage
April 2021 Application window (cluster 14) - 366 projects	
53,339 MW	Renewables
100,677 MW	Storage



The ISO's transmission planning effort is being transitioned to an accelerated pace and more is needed

- Annual Transmission Plan
 - 10 year plan that initiates project development
 - Reliability, policy and economic driven projects
 - Facing a rapid escalation in resource requirements
 - \$2.9 billion approved by ISO Board of Governors this year
- 20-year Outlook
 - Long term view of transmission needed to reliably meet state clean energy goals



Opportunities for improving the speed and effectiveness of resource and transmission development:

- Permitting timelines and regulatory processes continue to create unnecessary delays in transmission
 - Example: Determination of need studies for transmission upgrades are subjected to multiple reviews adding years to schedules
- Power Purchase Agreements reaching out beyond 2025 need to be awarded as soon as possible to focus efforts and staff resources on the successful projects
- Industry-wide levels of engineering and construction staff are a concern – now and over the next decade – and would benefit from broader coordination of development and training
- The ISO is also reviewing and enhancing our own generation interconnection and transmission planning processes

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