# Transmission Rate Design in California

## Presentation to the CPUC Rates Forum

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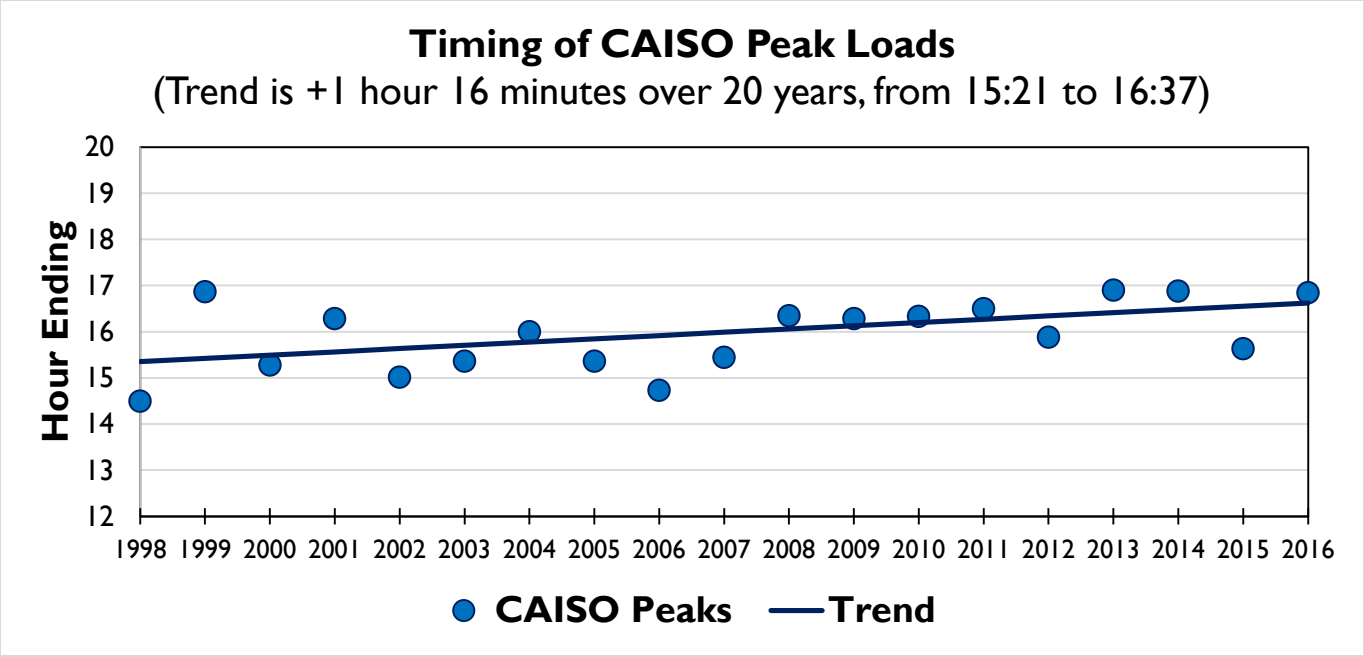
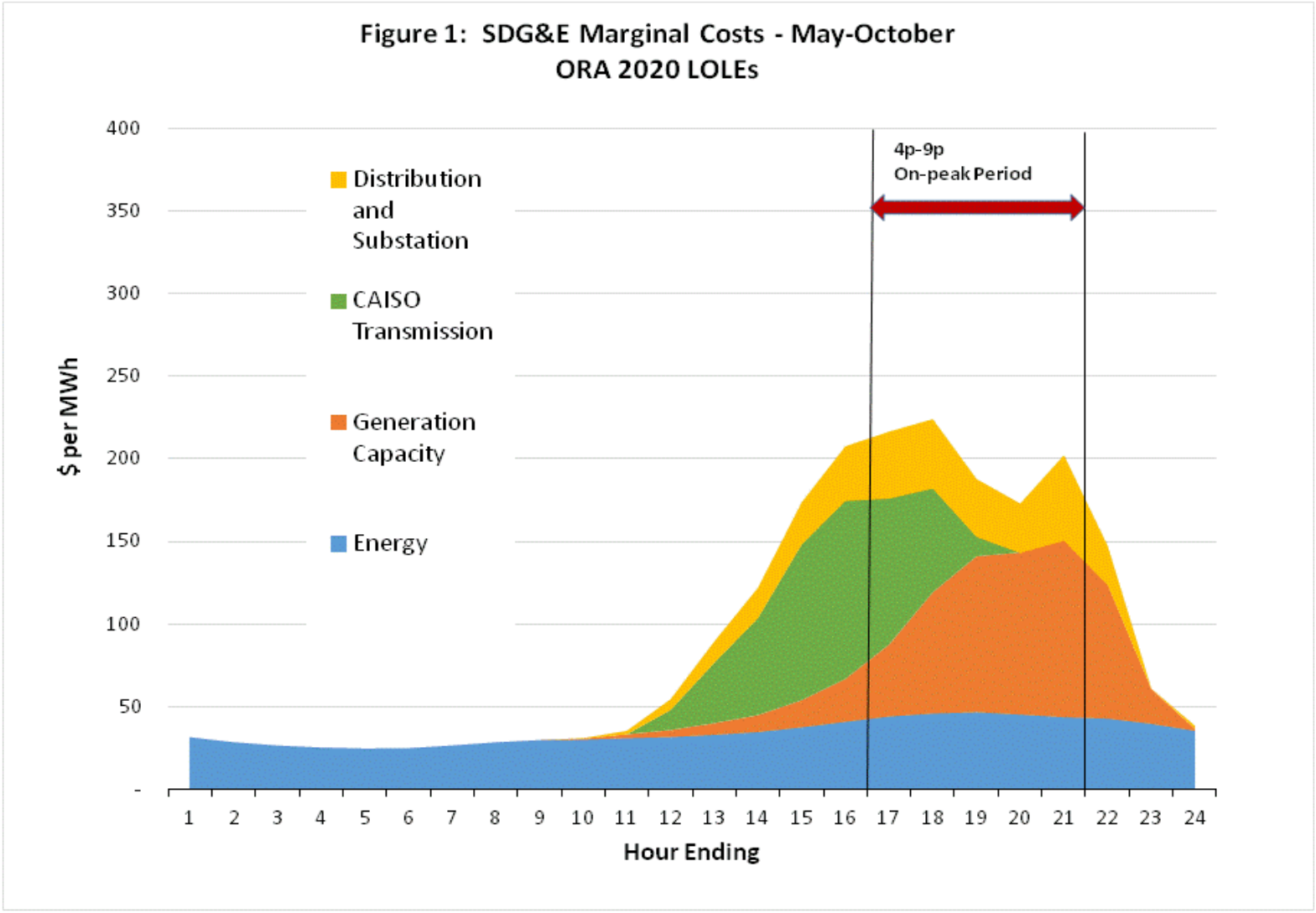
# Key Drivers of Transmission Investments

1. Coincident peak demand for delivered power
   - Not "net load" (load – wind – solar)
2. Policy goals for use of transmission network
   - RPS / GHG focus on clean energy (MWh)



# Hourly Profiles of Marginal Costs



# Types of Transmission Investments

1. Serving regional or system peak loads
   - Load growth
   - Replacements avoid loss of peak capacity.
2. Reliability
   - Issues are more likely in high-demand hours.
3. Economic
   - Congestion is energy-related; local RA needs are peak-driven.
4. Policy-driven
   - RPS / GHG focus on energy use (MWh).

The transmission system is a network, and projects can have multiple types of benefits.

# Transmission Cost Allocation / Rate Design Is a Mess.

- CAISO regional TAC charge
  - Allocated to utilities by end-use MWh
  - Discriminates against DG?
  - Most other RTOs use various CP measures.

- Transmission cost allocation at FERC
  - 12 CP to allocate costs to customer classes

- Transmission rate design
  - Mostly non-coincident demand charges for large C&I (SDG&E is 10% summer on-peak.)
  - Flat energy charge for small customers
  - No seasonal or TOU price signals

# Recommended Transmission Rate Design

Allocate transmission costs to a two-part rate:

1. Peak-related
   - TOU energy rate or time-dependent demand charge
   - Applicable TOU periods should include mid-afternoon hours, perhaps in a mid- or partial-peak period, as well as evening on-peak hours.
2. Network / policy-related
   - Flat energy rate

CPUC advocacy of reformed transmission rates before the FERC is welcome.