

# CalDesal 2018

Jamie Ormond

Energy Division

California Public Utilities Commission

# Energy Resource Loading Order

## Cal Pub. Util. Code Sec. 454.5(b)(9)(c)

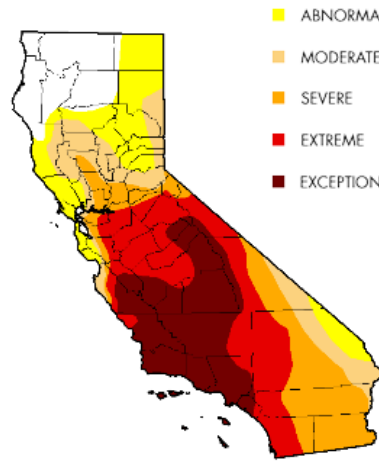
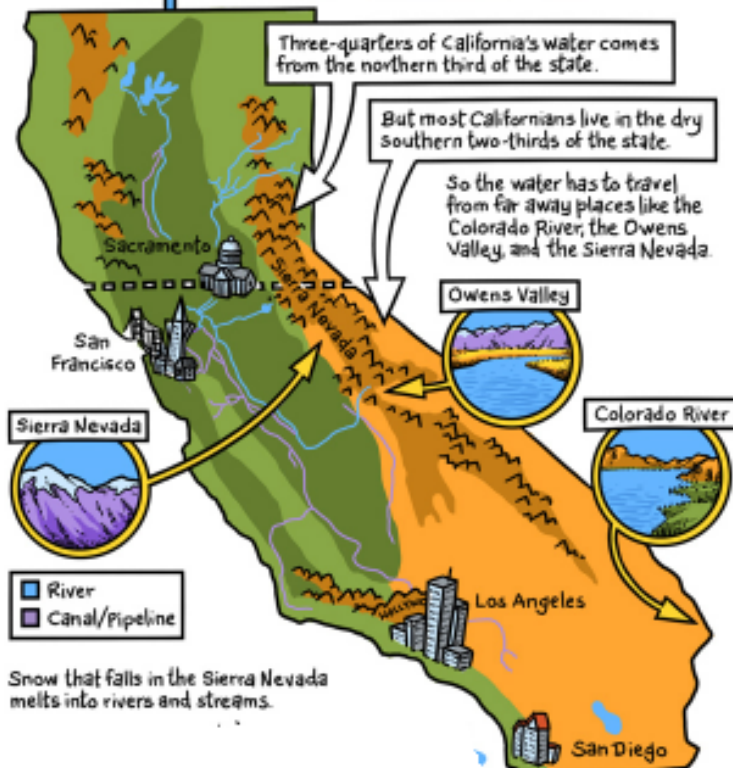
- ▶ When - 2003 Energy Action Plan, CEC 2003 Integrated Energy Policy Report
- ▶ Energy
  - ▶ Energy efficiency is the first-priority resource for utility procurement because it is believed to be the lowest-cost, environmentally preferred resource.
  - ▶ When new generation is deemed necessary, agencies should seek to meet needs “first by renewable energy resources and distributed generation” and only afterwards “by additional clean, fossil fuel, central-station generation.”
  - ▶ Impact: What’s the Clean Power Plan?

# Observations - “the desal two-step”

- ▶ Australia
- ▶ Santa Barbara
- ▶ Israel
- ▶ Here in Monterey

# The marginal source of water

- ▶ = The next most cost effective way to develop a source of water
  - ▶ Recycled Water
- ▶ Energy input as a component
- ▶ Water loading order?



60% of CA remains in drought

<http://saveourwater.com/>

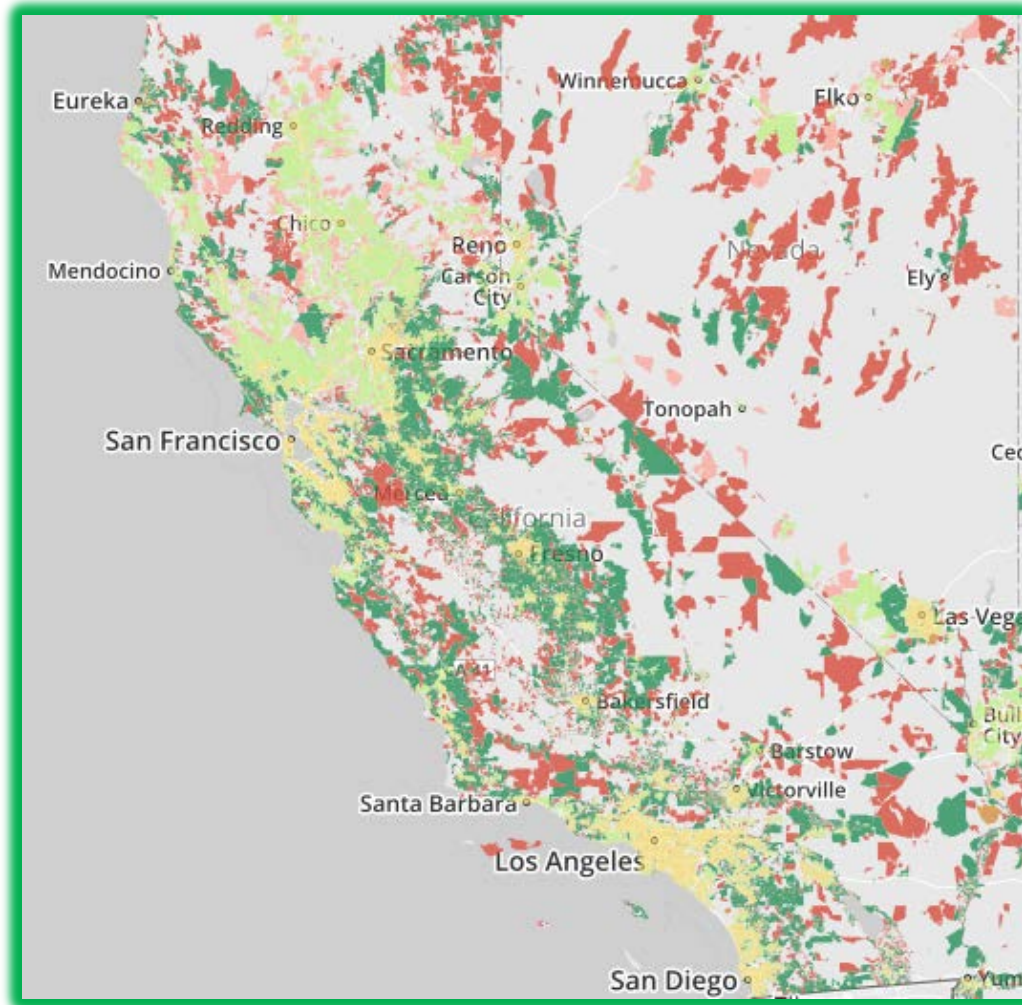








# Energy in Water

<http://www.kqed.org/news/science/climatewatch/waterandpower/waterneedspower.jsp> (2012)

# Telecommunications

## California High-Cost & Extremely High-Cost Areas for Telecom Service



Model Landscape		
Cost per location	Served <sup>1</sup>	Unserved <sup>1</sup>
<b>Above</b> Price cap: $\geq$ \$207.81		
<b>Between</b> Price cap: $>$ \$52.50 and $<$ \$207.81		
<b>Below</b> Price cap: $\leq$ \$52.50		

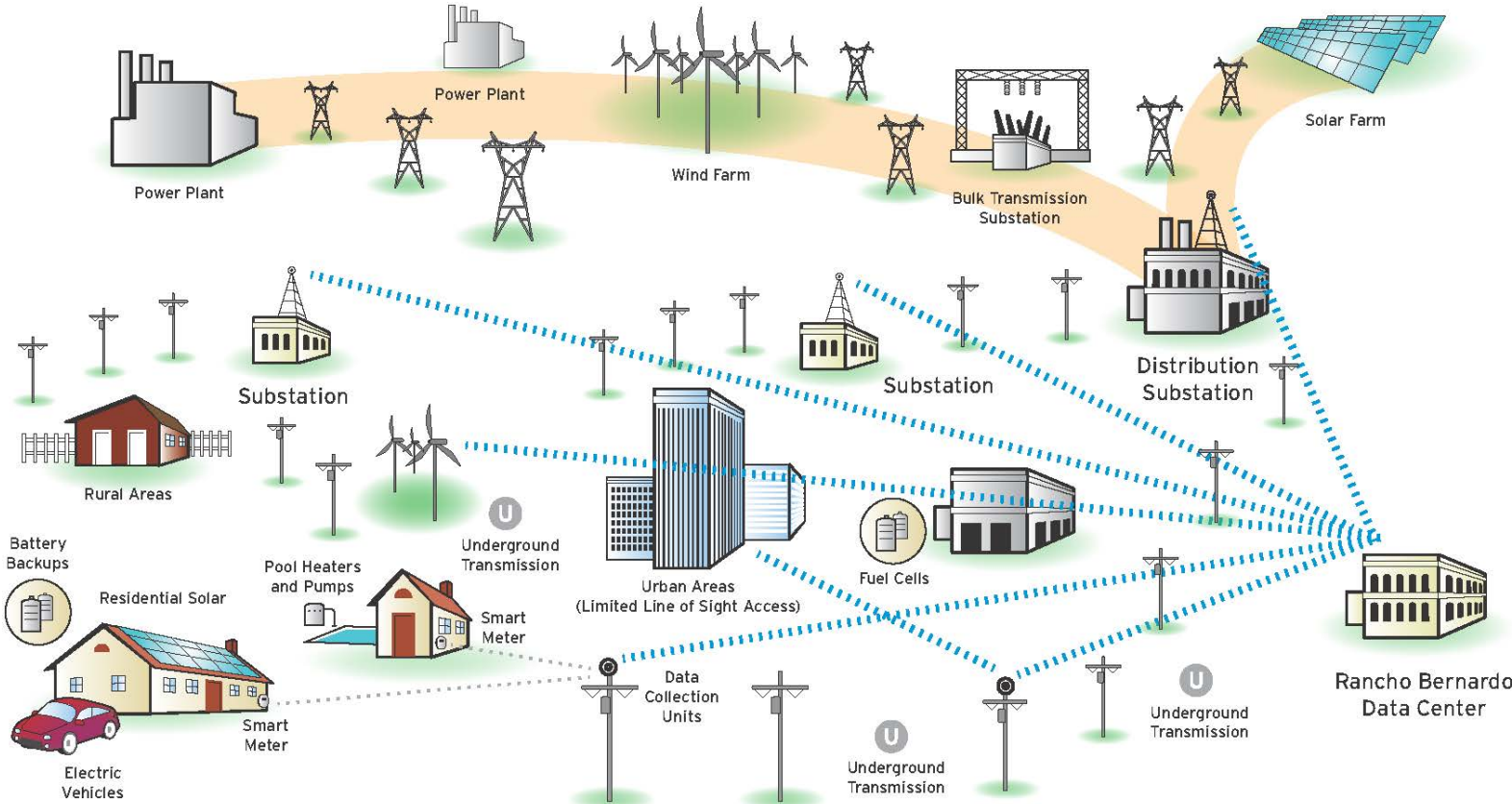
<sup>1</sup> This map only shows Price-Cap areas.

<https://www.fcc.gov/reports-research/maps/connect-america-phase-ii-initial-eligible-areas-map>

# Future Distributed Energy System & potential benefits

## SDG&E Grid Communication System

Smart Grid Challenges - Infrastructure



# Water Energy Nexus R. 13-12-011

- ▶ In response to the drought:
- ▶ Calculator tool
- ▶ AMI piggybacking
- ▶ Matinee Pricing pilot\*\*\*\*
- ▶ Further investigation about water-energy-telecommunications nexus for utility and society protection/benefit/resilience
  - ▶ energy as a component, manageable (dispatchable) renewable energy, respond to signals



# Progress?



Process!



# Questions?

► Jamie Ormond

California Public Utilities Commission

415 703 1193

[Jamie.Ormond@cpuc.ca.gov](mailto:Jamie.Ormond@cpuc.ca.gov)