

Water and Energy Systems in California

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Water



Source: CartoonStock.com

Droughts and Floods

- Too much or too little... rarely Goldilocks



Lake Oroville (2014)



Sacramento Weir and Yolo Bypass



Rio Hondo Spreading Grounds

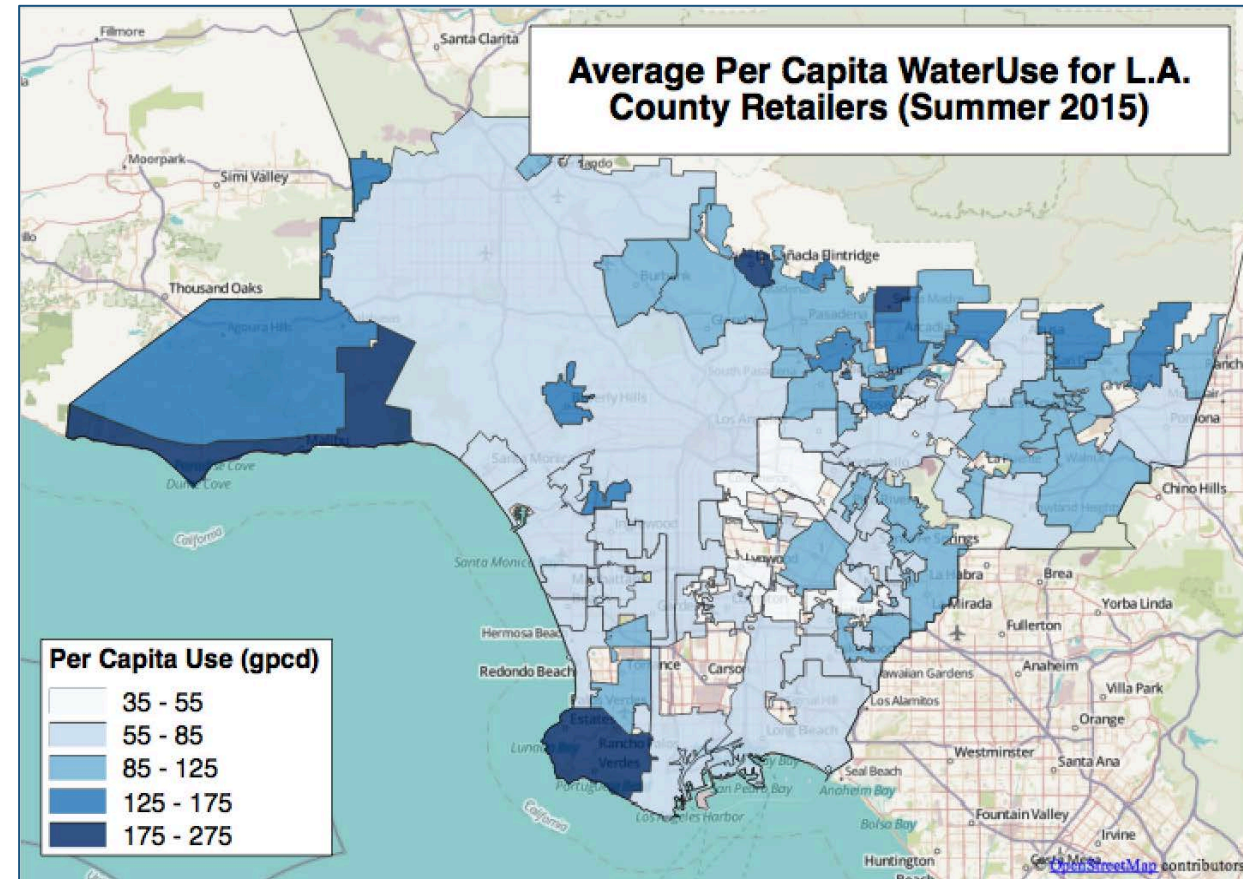
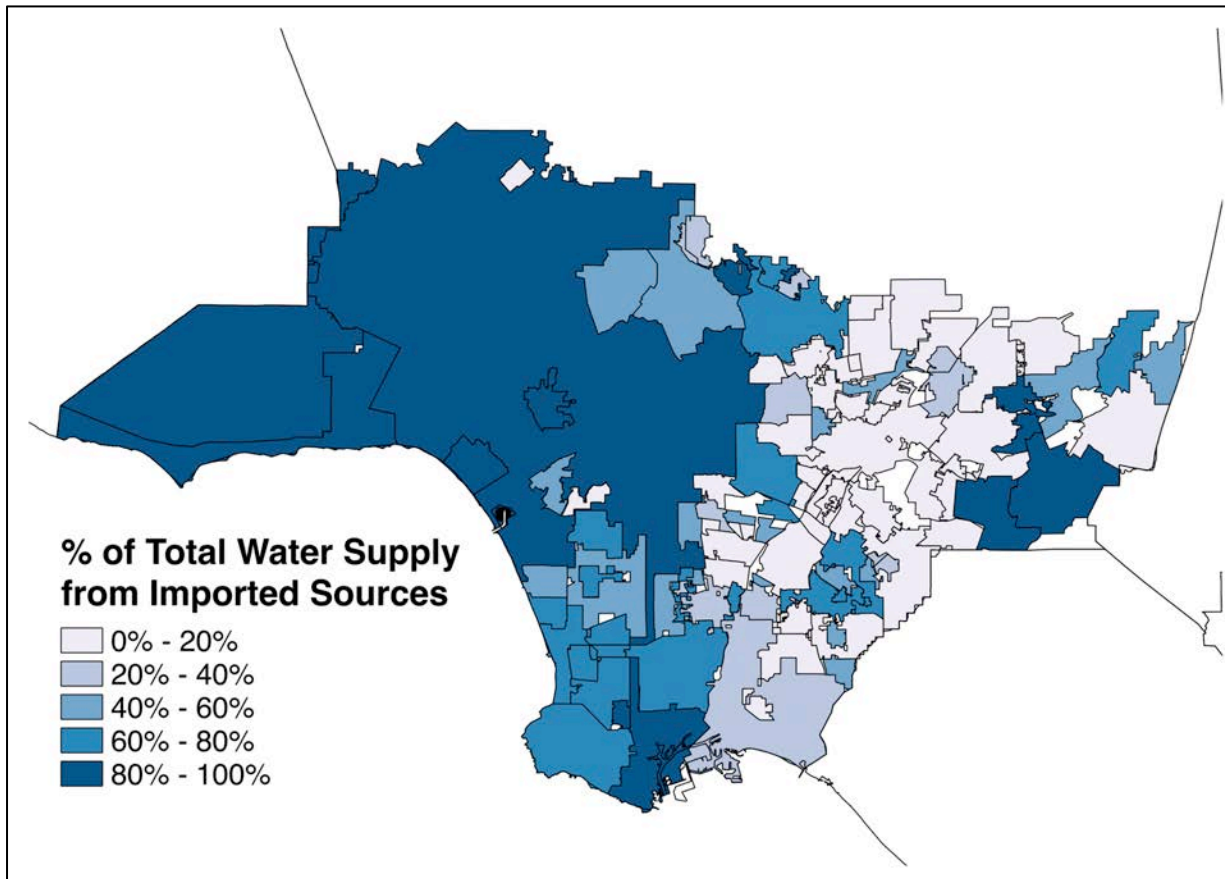
Engineered Water Systems of California

- Highly-engineered statewide system
 - Surface water supply
 - Groundwater
 - Flood control
 - Urban stormwater
 - Wastewater treatment



Source: sites.uci.edu

Water Supply Systems in Los Angeles



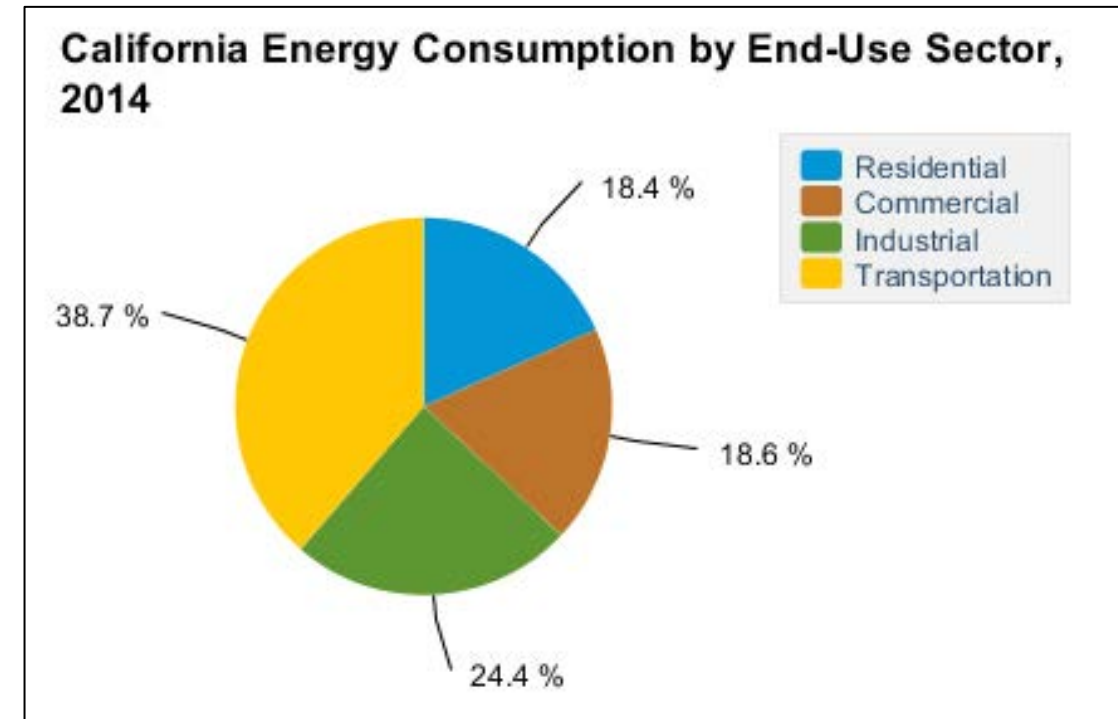
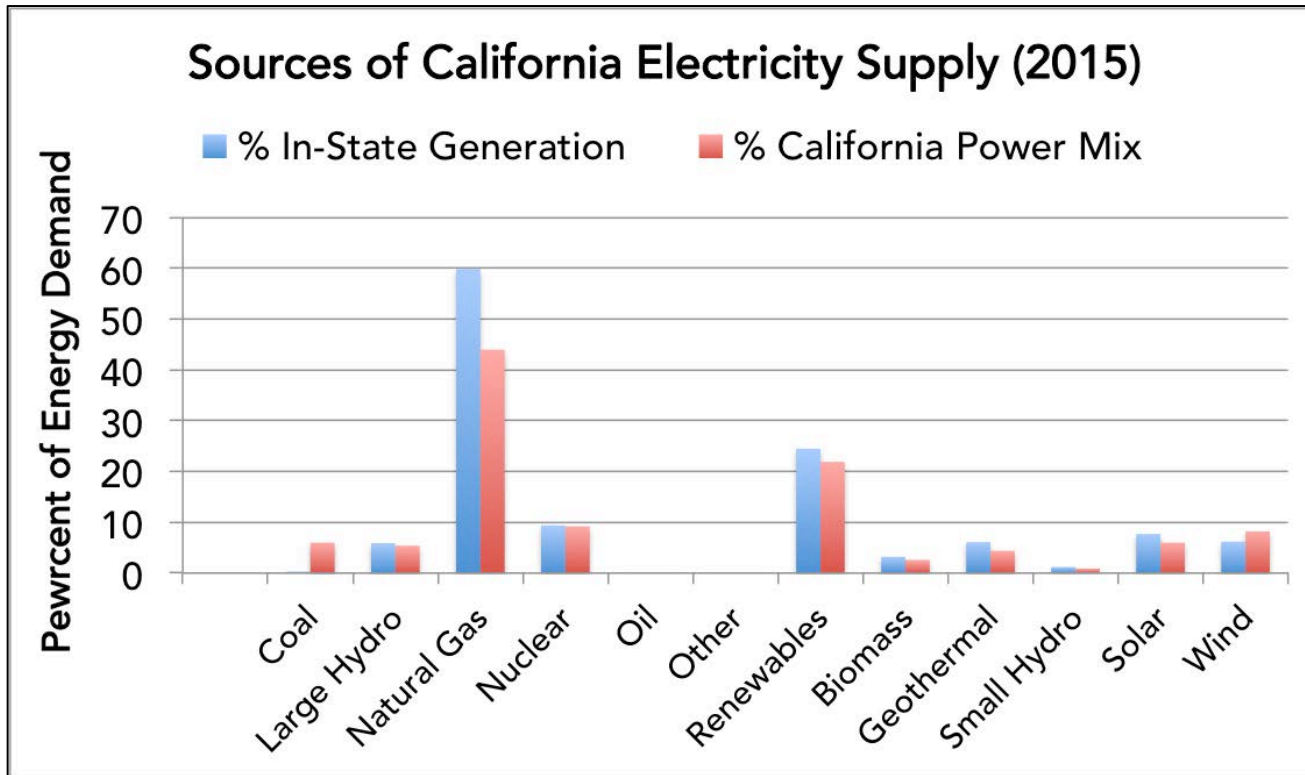
Energy



And you reckon it's cheaper to
leave it running all the time?

Energy Use and Production

- Supply (generation) & Demand (consumption)

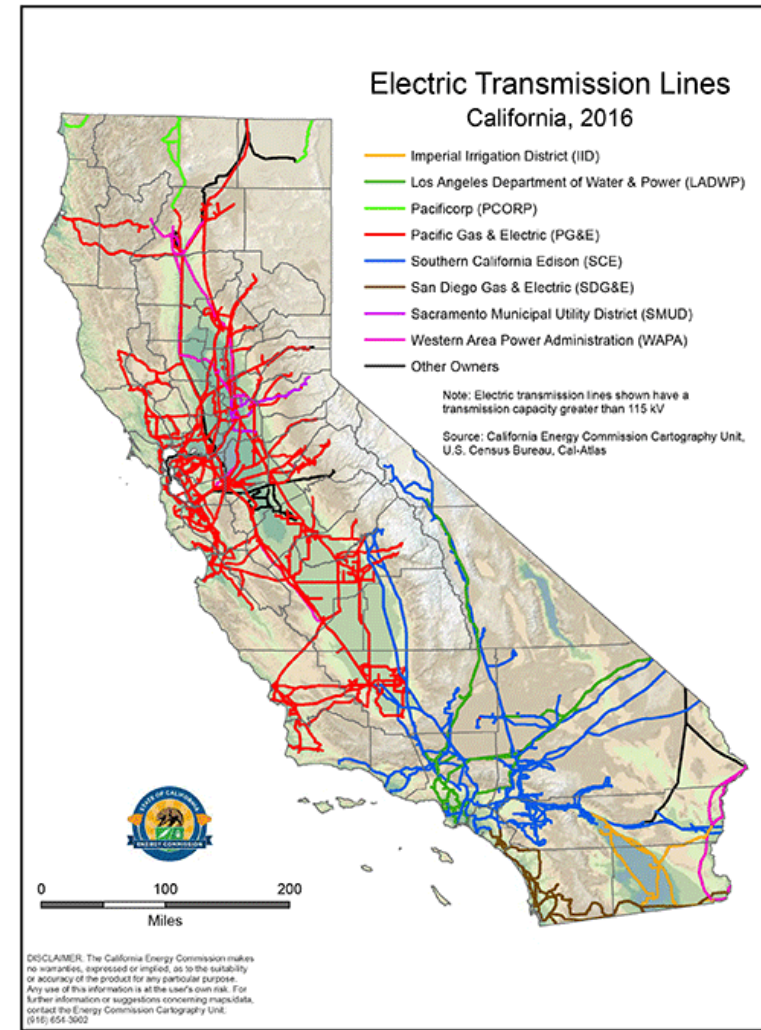
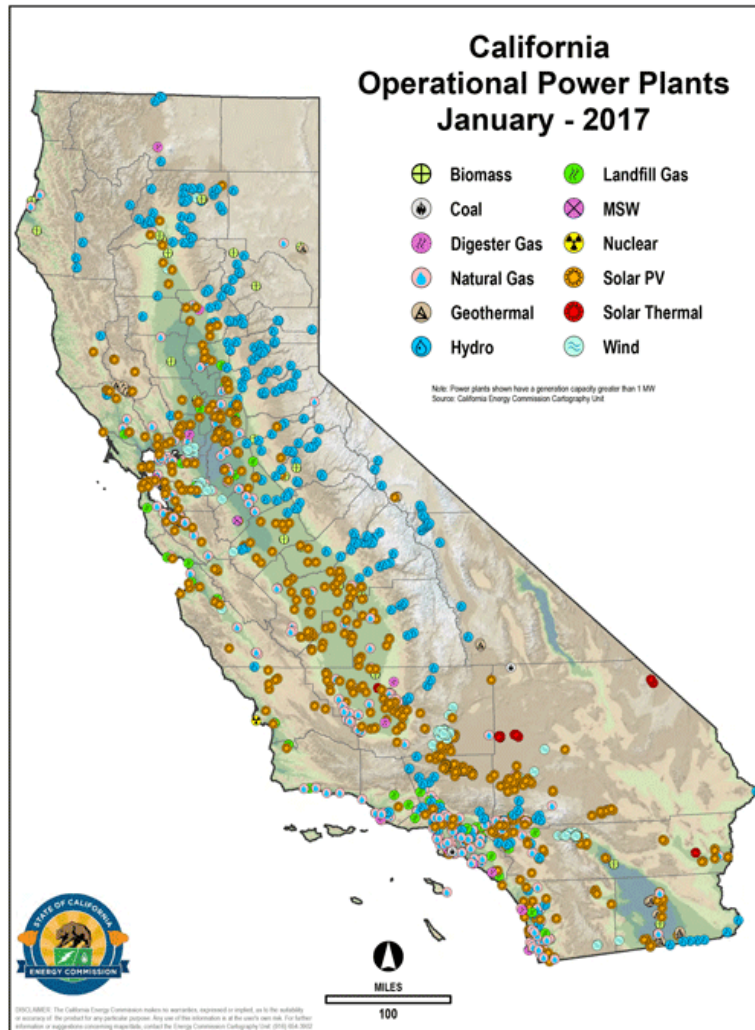


Visualizing Energy Infrastructure

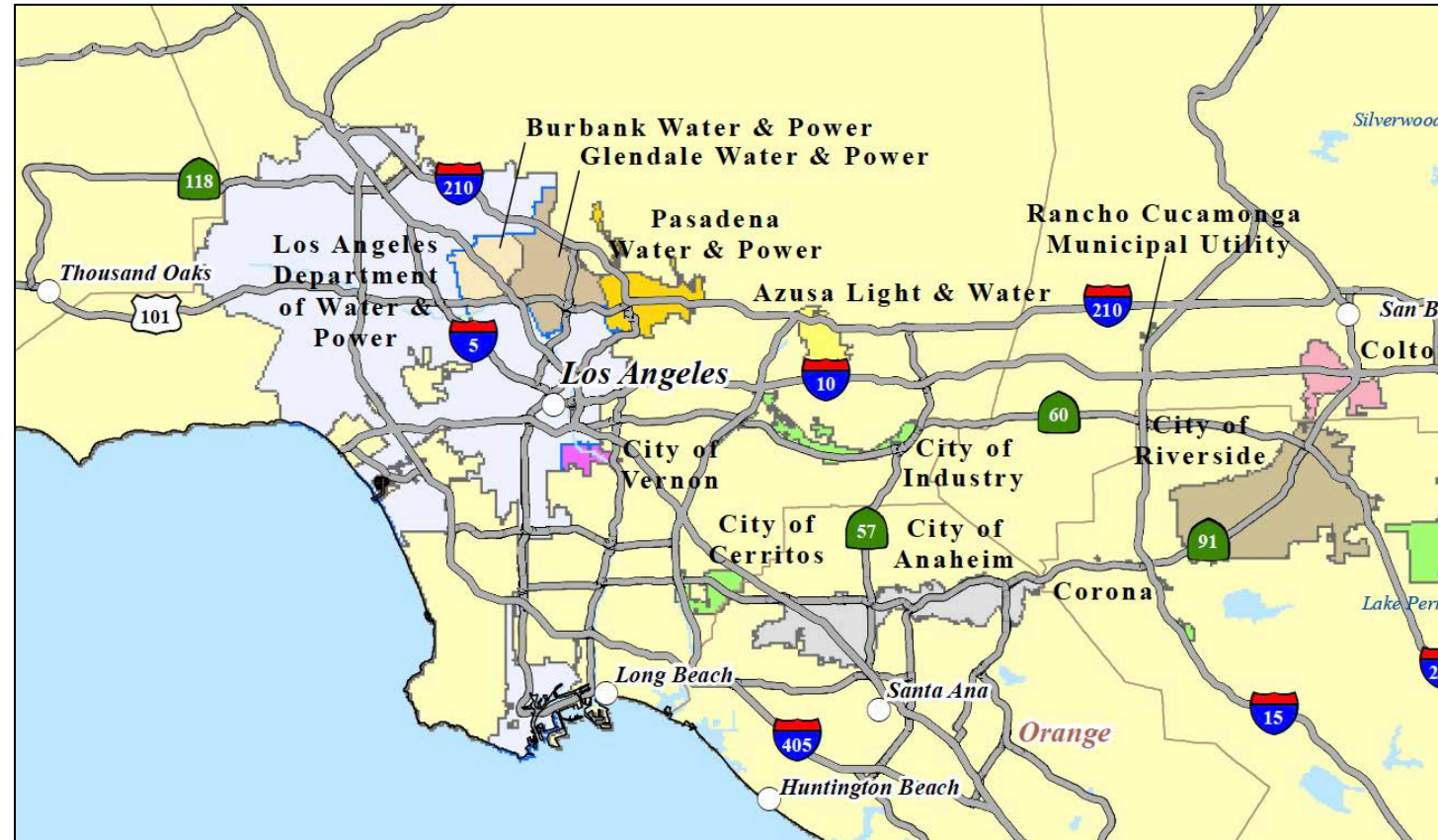
Generation



Transmission



Utilities

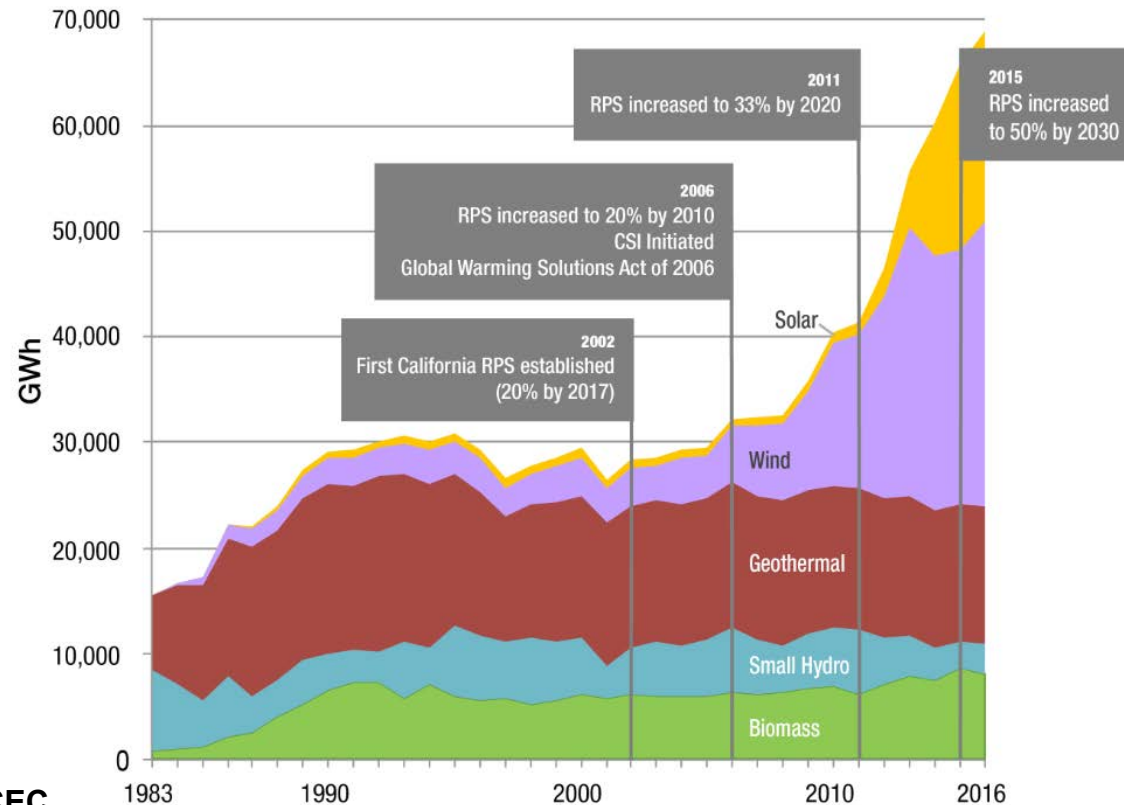


Source: California Energy Commission

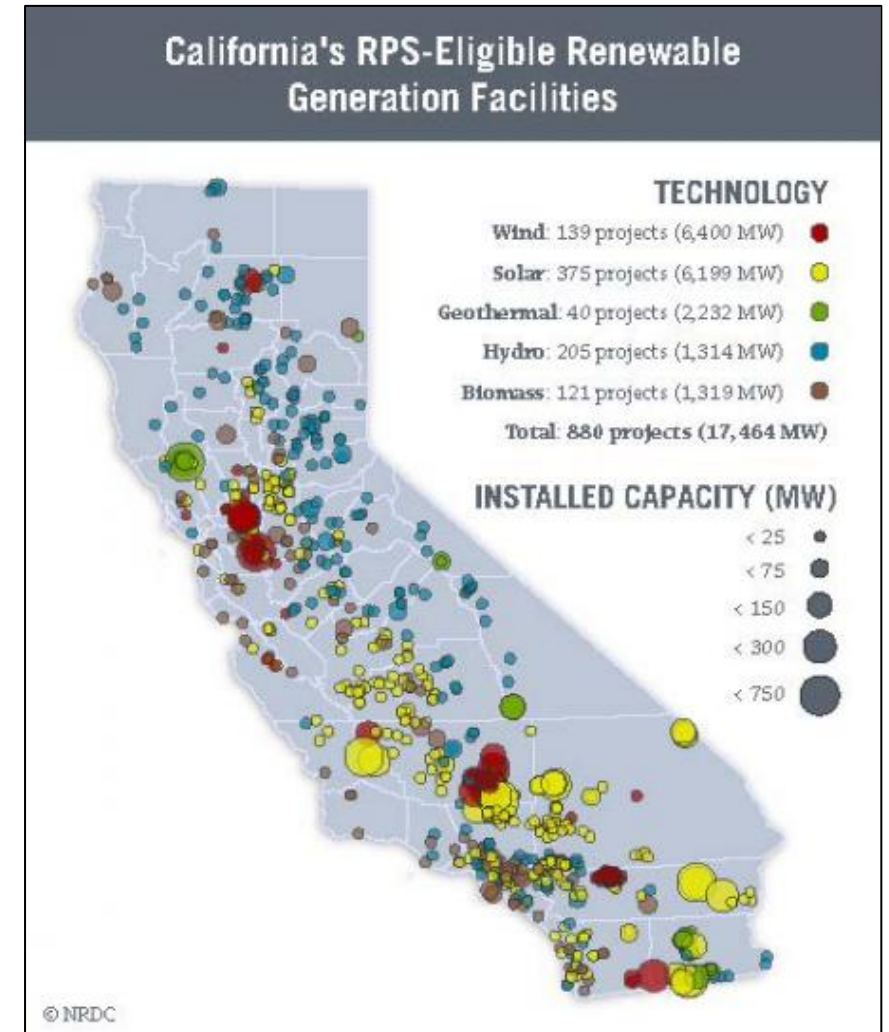
Renewable Energy

- Renewable Portfolio Standard
 - 33% renewables by 2020

Renewable Energy Generation by Resource Type (Source: CEC)

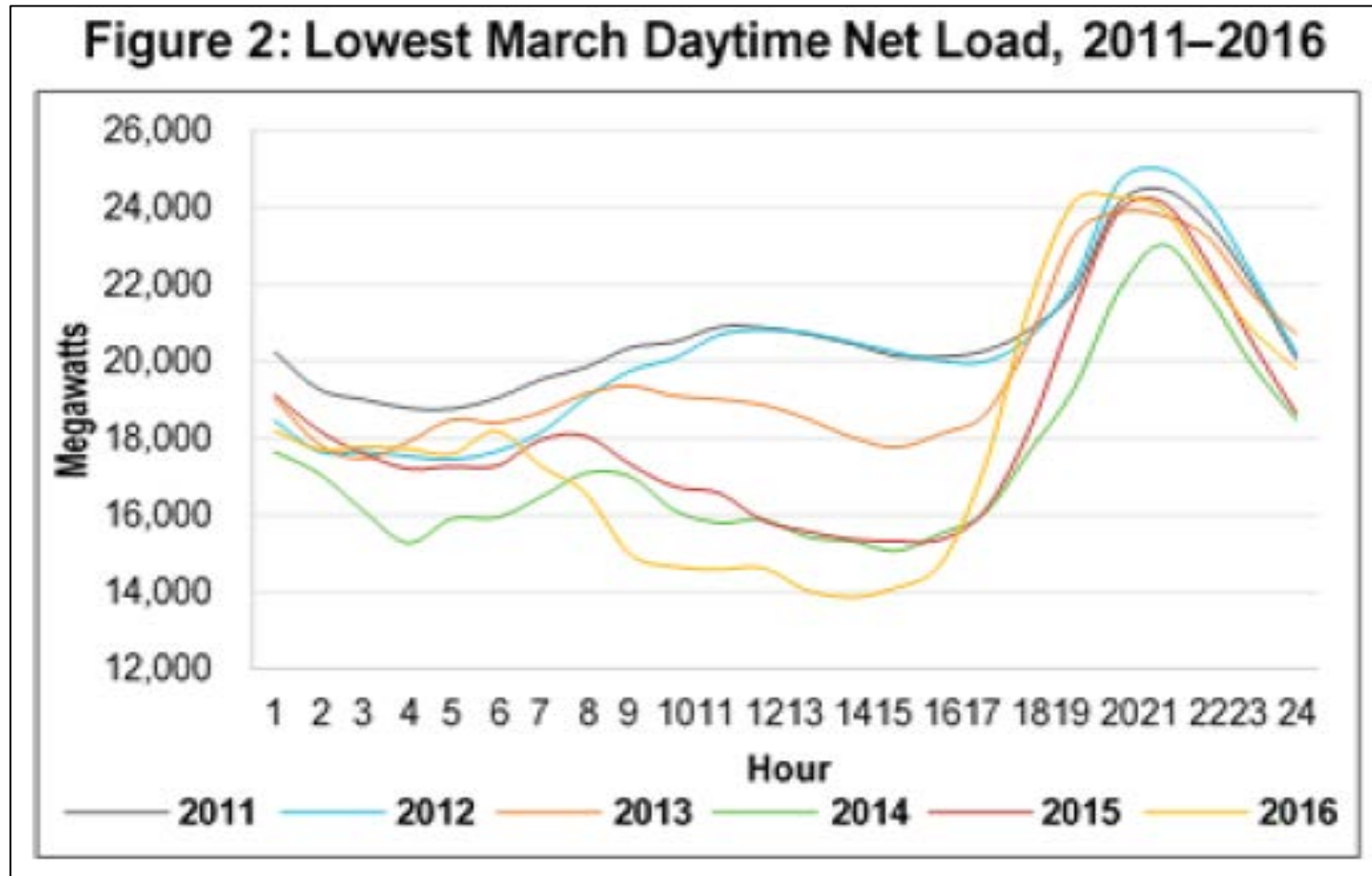


Source: NRDC



Duck Curve

- Electricity Demands vs. Renewable Supplies



Source: Greentech Media, ScottMadden Consultants

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