US EPA ARCHIVE DOCUMENT

California Energy Programs
and the electric system

EPA State Climate and Energy Technical Forum

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Agenda

- Decoupling
- California's electricity resources "Loading Order"
- Energy Efficiency Programs
- Demand Response
- Distributed Generation
- Renewable Electricity Standard

Decoupling

- Since 1982 (with hiatus in late ‘90s) California has “decoupled” electricity market regulation
- PUC-regulated, investor-owned-utilities receive a return on their investment that is independent of sales
  - Utilities track difference between actual and forecasted base rate revenues
    - Overcollections refunded to ratepayers
    - Undercollections recovered from ratepayer
- “Decoupling-plus” - utilities earn a return on efficiency investments and greater return on greater performance

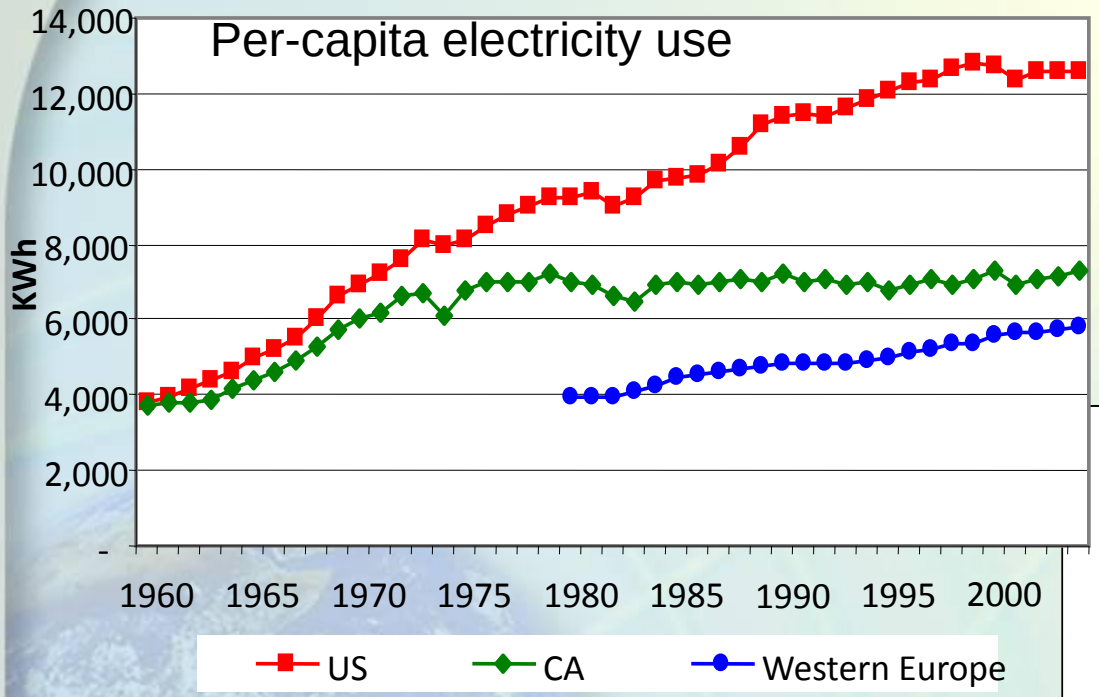
CA Loading Order

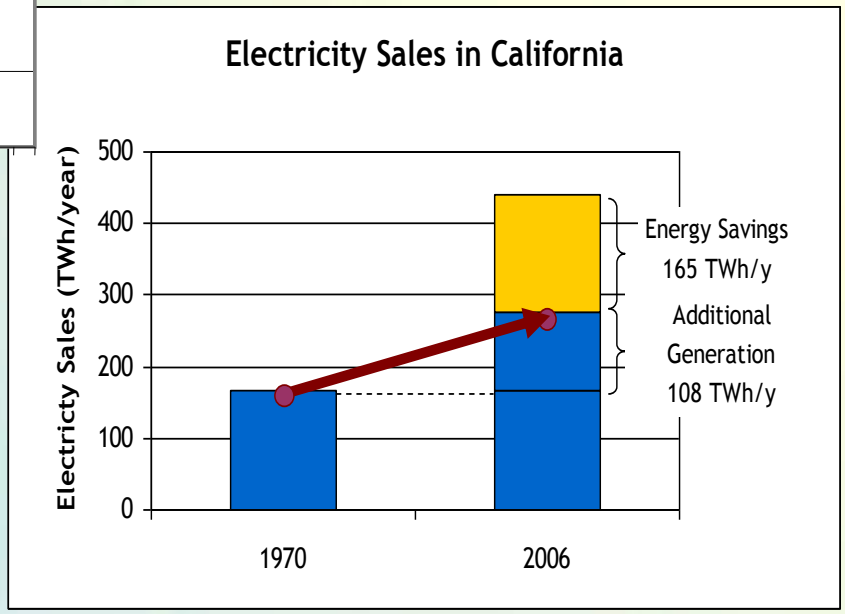
Since 2003, PUC-regulated utilities must procure resources to serve demand according to this order:

- Energy Efficiency & Conservation
- Demand Response
- Renewable Resources & Distributed Generation
- Clean Conventional Generation

Energy Efficiency

First resource in our energy mix

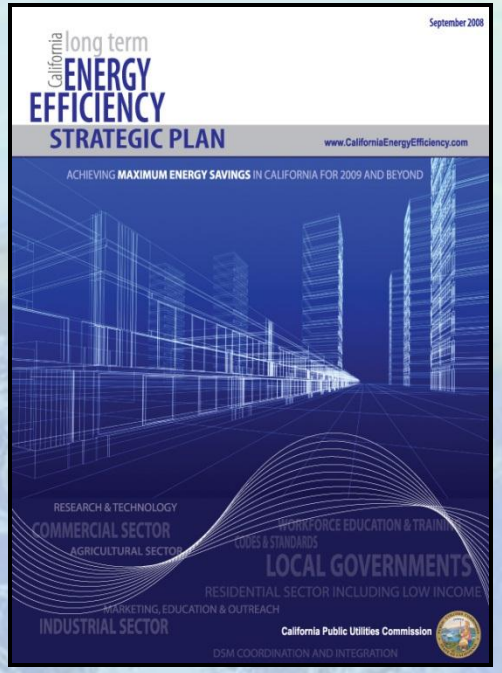




2010-2012 Utility Energy Efficiency Program

All Economic Sectors

Residential
Commercial
Industrial
Agricultural



Cross-Cutting Areas

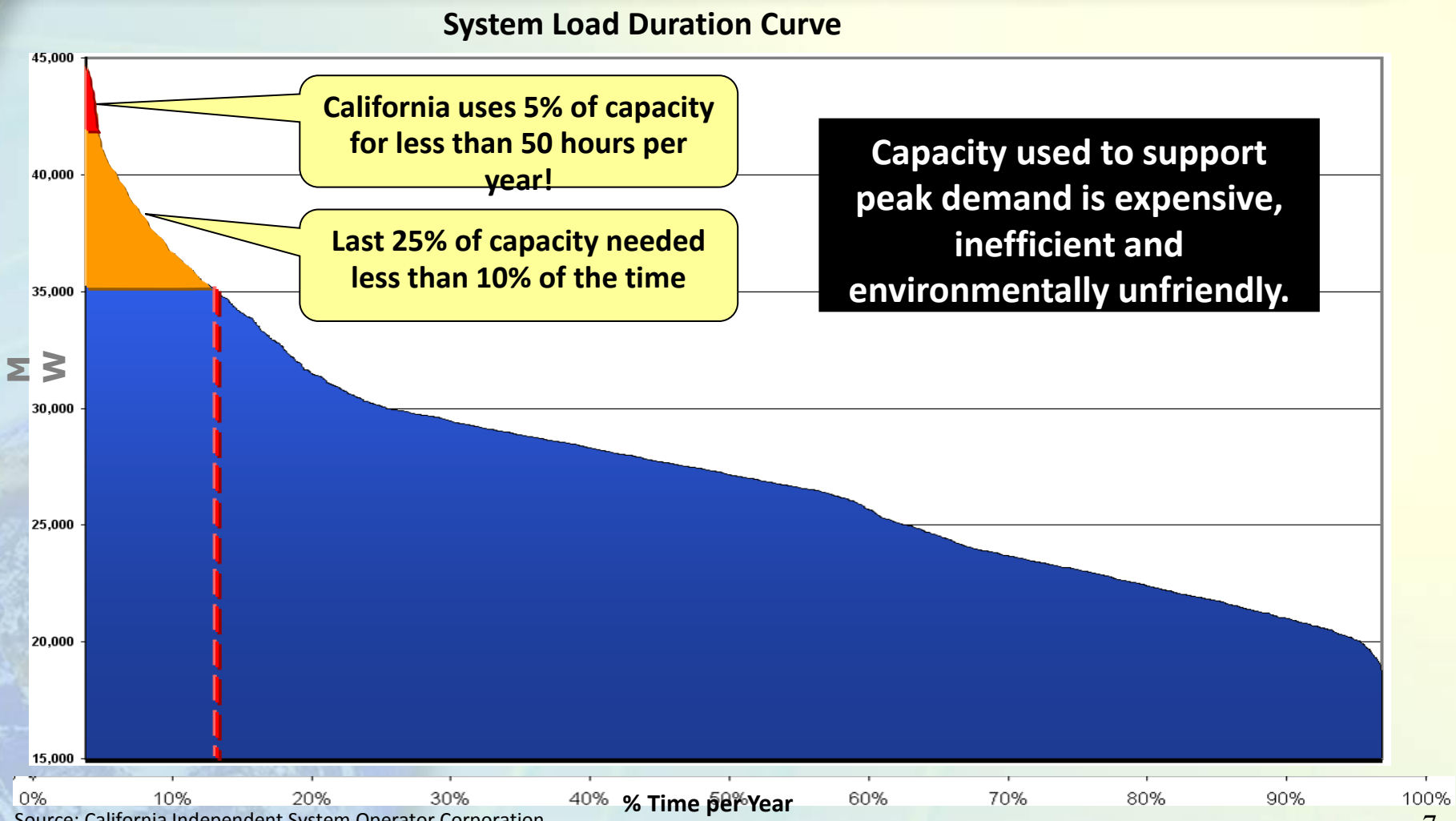
Heating, Ventilation, Air Conditioning
Codes & Standards
Demand Side Management Integration
Workforce Education & Training
Marketing, Education & Outreach
Research & Technology
Local Governments

Benefits

$3.13 billion for 3 years
15-18,000 new jobs
Three Year Savings Potential:
- **7,000 GWH**
- **1,500 MW**
- **150 MMTherms**

3 million tons of CO2e avoided
Equivalent to 3 large power plants

Why Demand Response



Source: California Independent System Operator Corporation

Integrated Demand-Side Resources

Automated management of energy use:

- Automated demand response
- Voluntary load control
- Dynamic pricing

On-site generation and storage

Smart charging for electric vehicles

Renewable Electricity Standard

- 20% RPS in place 2002
- 2011 signed 33% RES
  - 20% by 2013
  - 25% by 2016
  - 33% by 2020
- IOUs, POUs, ESCOs, etc
- By 2020, at least 75% in-state; no more than 10% RECs
- "This bill will bring many important benefits to California, including stimulating investment in green technologies in the state, creating tens of thousands of new jobs, improving air quality, promoting energy independence and reducing greenhouse gas emissions."

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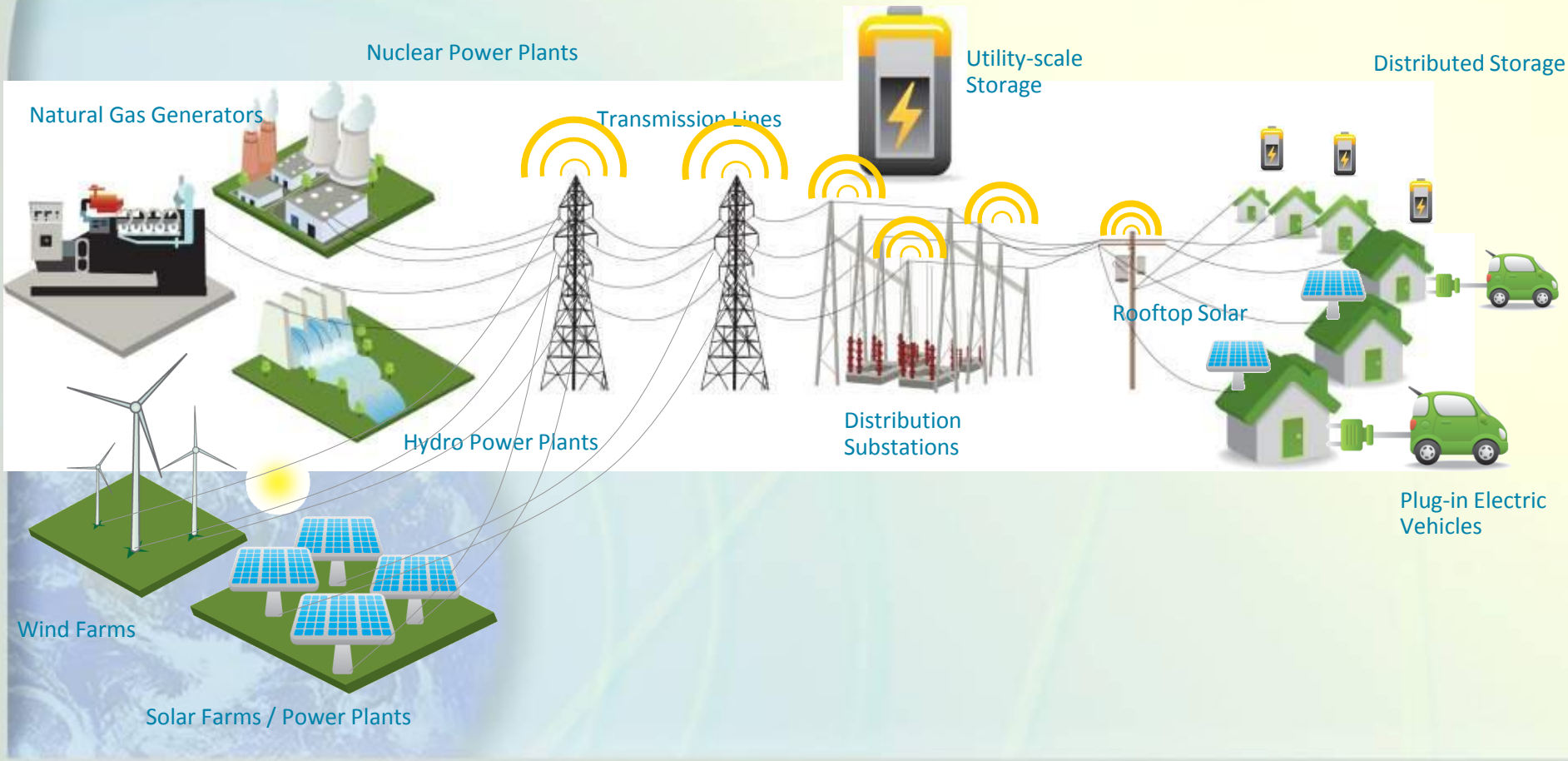
Building A Sustainable Electric System

Power Plants	Electric Grid	Customers



Discuss!

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