



California Energy Commission

# Draft 2015 Integrated Energy Policy Report

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# Background

- The Energy Commission prepares an IEPR every two years, an update in intervening years. The Energy Commission:
  - Adopted Order Instituting Information Proceeding for *2014 IEPR Update* and *2015 IEPR* in January 2014
  - Issued *2015 IEPR Scoping Order* on Feb. 27, 2014
  - Held 26 workshops on *Scoping Order* topics
- Draft report, workshop presentations, and transcripts available at: [http://www.energy.ca.gov/2015\\_energypolicy/](http://www.energy.ca.gov/2015_energypolicy/)



# Governor Brown's Goals

- Executive Order B-30-15: Reduce greenhouse gas emissions 40% below 1990 levels by 2030
  - Double the efficiency savings achieved at existing buildings and make heating fuels cleaner
  - Increase from 33% to 50% renewable electricity
  - Reduce today's petroleum use in cars and trucks by up to 50%
- The Clean Energy and Pollution Reduction Act of 2015 (Senate Bill 350, DeLeón, 2015)



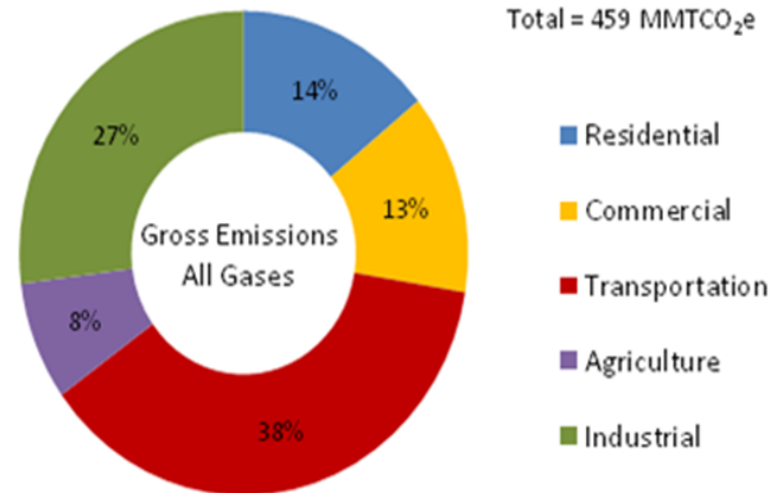
# Topics in *2015 IEPR*

- Energy efficiency
- Decarbonizing electricity, planning transmission
- Decarbonizing transportation
- Electricity, natural gas, and transportation forecasts
- California's drought
- Updates on nuclear energy, electricity reliability in Southern California, and oil-by-rail
- Climate change research



# Statewide Greenhouse Gas Emissions

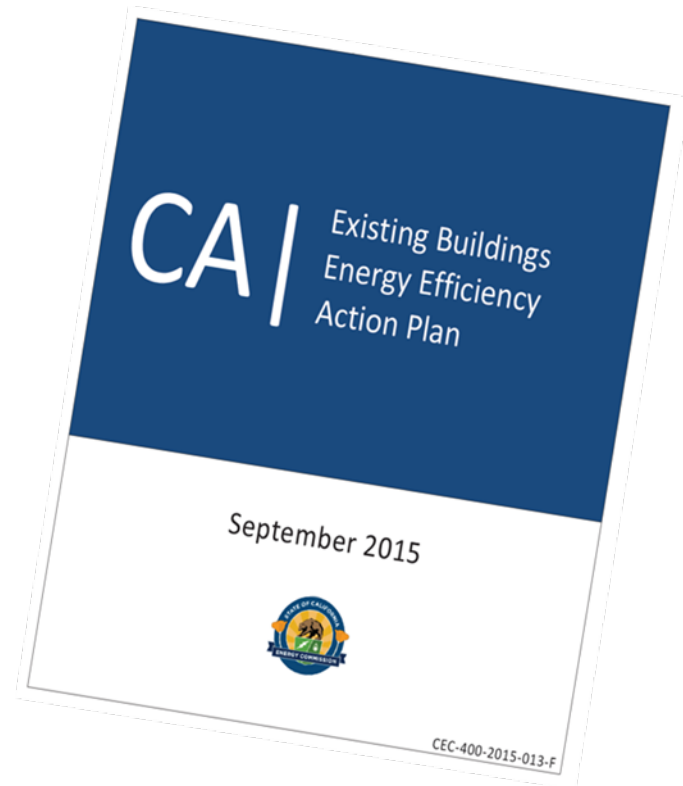
- Focus on Energy Efficiency
- Residential and commercial sectors account for:
  - 27% of GHG emissions
  - 70% of electricity use
  - 55% of natural gas use





# *Existing Buildings Energy Efficiency Action Plan*

- Government leadership
  - Improve public buildings
  - Benchmarking and disclosure
  - Facilitate application of codes
- Building energy use data
- High quality upgrades
- Financing





# Other Energy Efficiency Strategies

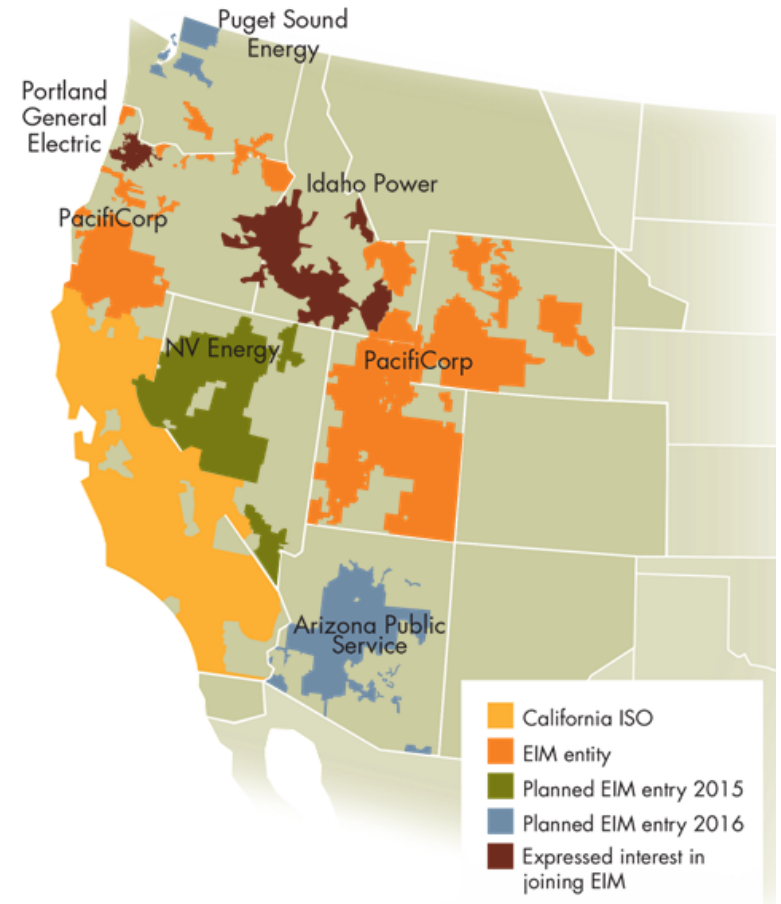
- Utility programs
- Proposition 39
- Zero-net energy homes





# Decarbonizing Electricity

- Challenge to integrate 50% renewables
- Portfolio of demand- and supply-side solutions
- Energy Imbalance Market and regional grid are key







# Transmission Planning

Lessons from:

- Renewable Energy Transmission Initiative (RETI)
- Desert Renewable Energy Conservation Plan
- Local planning efforts
- Scientific studies

Informs RETI 2.0, landscape-scale, regional planning



# Preliminary Electricity Forecast

- 10-year forecast includes:
  - Energy efficiency
  - Climate change
  - Self generation, mainly PV
  - Electric vehicles
- Final forecast will include additional achievable energy efficiency, IOU and POU



# Natural Gas

## Natural Gas Outlook

- Prices, production, and demand

## AB 1257 Report

- Pipeline infrastructure, storage, and reliability
- Electric generation
- Combined heat and power
- Transportation
- End-use efficiency applications
- Natural gas and zero-net-energy (ZNE) buildings
- Other low emission resources and biogas
- GHG emissions





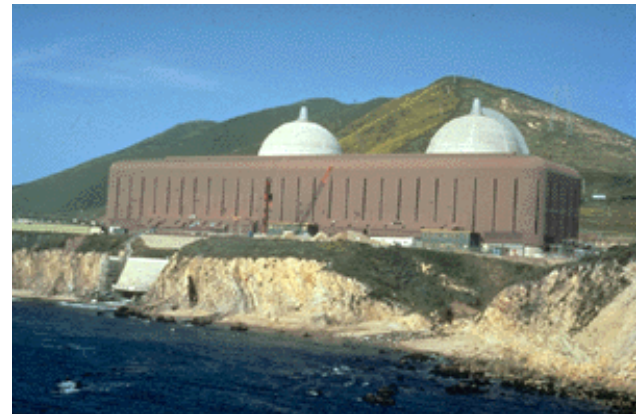
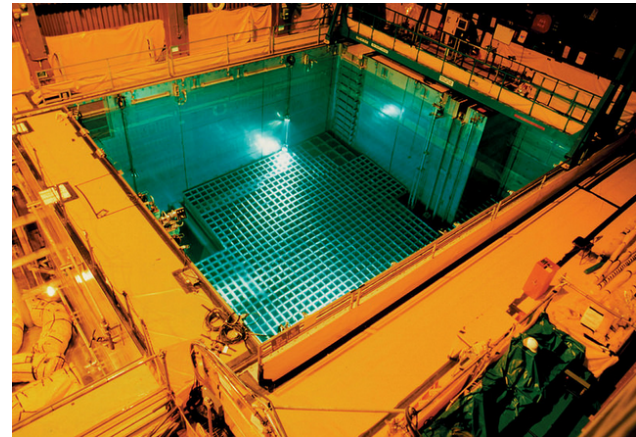
# Transportation

- Transportation is 38% of state GHG emissions
- Suite of policies and programs support the Governor's goal of 50% petroleum reduction by 2030
- Preliminary forecast includes:
  - Fuel Prices
  - Vehicle Population
  - Fuel Economy
  - Miles Traveled
  - Fuel Demand



# Nuclear Energy

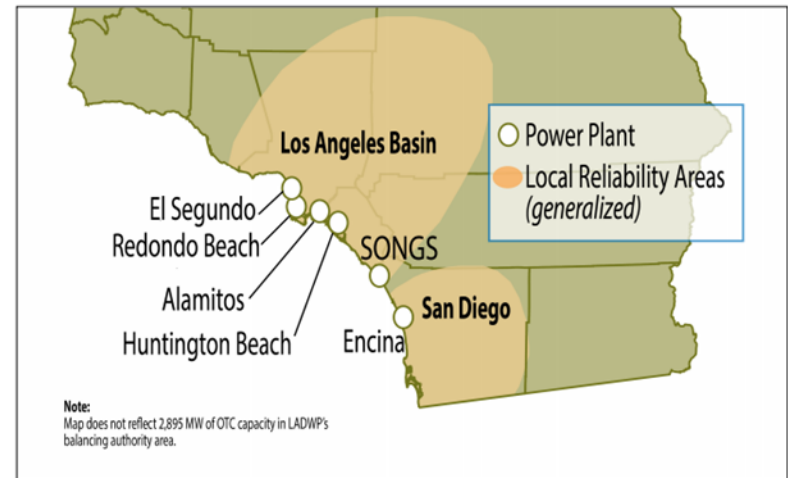
- Decommissioning San Onofre Nuclear Generating Station
- Diablo Canyon status
- Nuclear waste storage





# Electricity Reliability in Southern California

- Interagency collaboration
- Transmission upgrades
- Local capacity needs
- Contingency planning

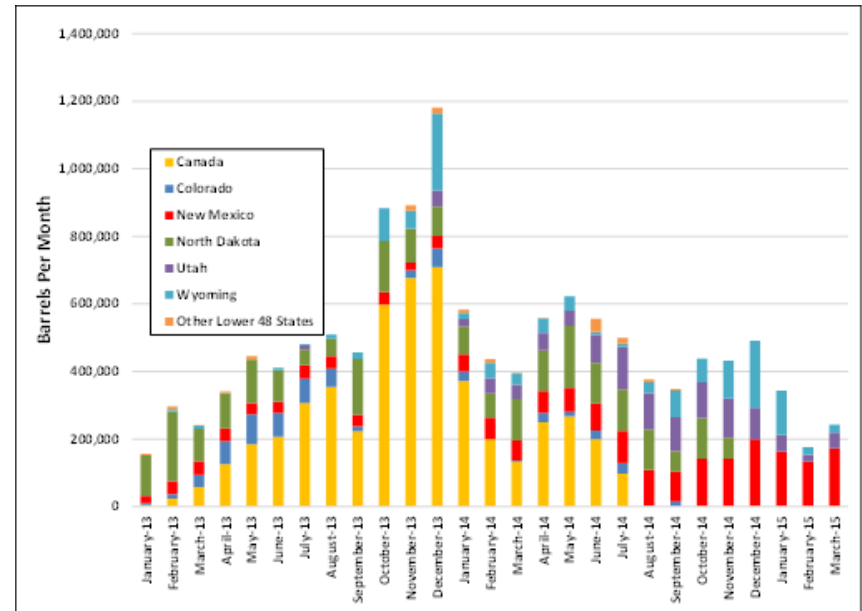




# Changing Trends in California's Crude Oil by Rail

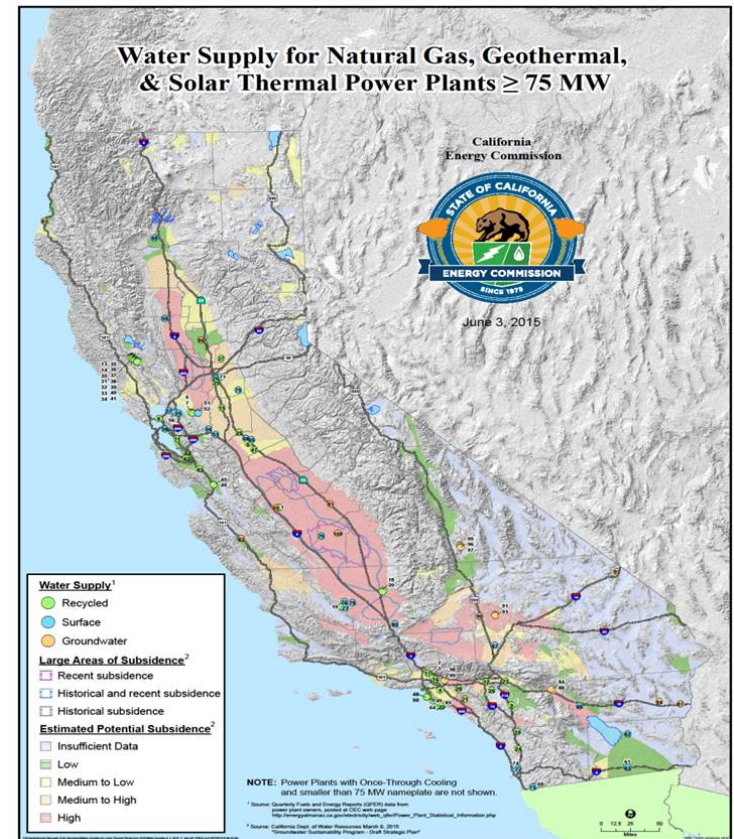
- Additional pipeline capacity came on-line last 18 months
- Decline in crude-by-rail
- New safety related regulations
- Additional data needed to track crude-by-rail

Crude oil imports via rail  
Jan. 2013-March 2015



## California Drought

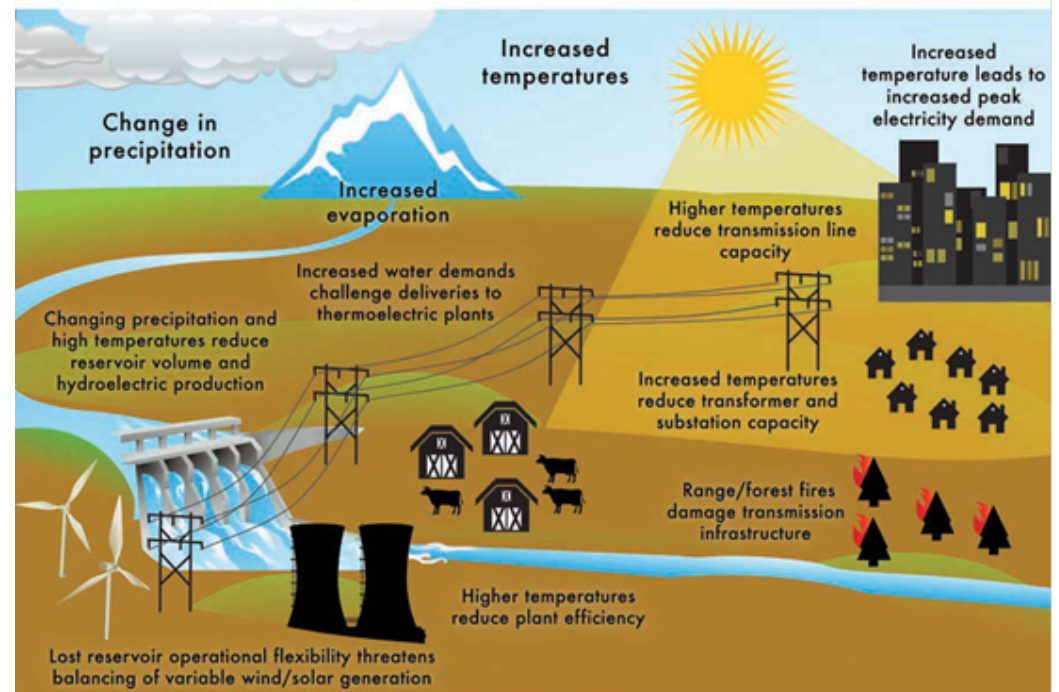
- Water and energy are inextricably linked
  - Thermal power plant cooling
  - Hydroelectric production
  - Energy requirements of water pumping and delivery
- Multiple programs are planned and underway to conserve both water and energy
  - See August 28, 2015 workshop





## Climate Change Research

- Climate research related to energy sector
- Vulnerability of energy systems
- Further research needed





# Next Steps

- Comments due **November 10**
- Instructions on submitting written comments are on the October 20 workshop notice available at: [http://www.energy.ca.gov/2015\\_energypolicy/](http://www.energy.ca.gov/2015_energypolicy/)
- Release of proposed final *2015 IEPR* anticipated late January 2016
- Proposed adoption February 2016