Draft 2015

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Presented by Heather Raitt
Assistant Executive Director for Policy Development
heather.raitt@energy.ca.gov / 916-654-4735
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/
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
California Energy Commission

**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 Energy Commission

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/

• Release of proposed final 2015 IEPR anticipated late January 2016

• Proposed adoption February 2016