



# **Committee Draft 2009 Integrated Energy Policy Report**

**Integrated Energy Policy Report Committee Hearing**

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# Agenda

- Opening Remarks
- Overview of Committee Draft 2009 IEPR
- Public Comments



# Background

- **Public Resources Code Section 25301(a):** “At least every two years, the commission shall conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices. The commission shall use these assessments and forecasts to develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the state's economy, and protect public health and safety.”



# Process

- Scoping workshops April 28 and June 3, 2008
- Scoping Order issued January 2009
- 35 public workshops on scoping order topics
- Staff reports, workshop presentations, and transcripts available at:  
[www.energy.ca.gov/2009\\_energypolicy](http://www.energy.ca.gov/2009_energypolicy)



# IEPR Policy Focus

- Minimizing environmental impacts of energy production and use
- Reliable energy supplies
- Energy security
- Resource diversity
- Support the economy



# Electricity Sector

- Reduce GHG emissions from generation
- Phase out once-through cooling
- Address lack of available emissions credits in South Coast Air Basin
- Retire or repower aging power plants
- Minimize environmental impacts of renewable generation and transmission



# Electricity Demand Forecast

- Electricity demand down due to recession
- Overall consumption projected to grow 1.1 percent per year from 2010-2018
- Peak demand grows 1.2 percent per year 2010-2018
- Optimistic versus pessimistic economic scenarios result in only small forecasted changes in overall and peak demand



# Electricity Supply

- 30 proposed projects (13,000 MW) in CEC queue
- 6 projects (2,000 MW) under construction
- 13 projects (6,511 MW) approved but on hold



# Energy Efficiency

- Top priority in loading order
- Essential strategy for achieving GHG emission reductions
- Goal of achieving 100 percent cost-effective energy efficiency



# Energy Efficiency Strategies

- Zero net energy homes and buildings
- Increasingly stringent building and appliance standards
- Increased efficiency in existing buildings



# EE Recommendations

- Establish statewide task force to address:
  - Definition of zero net energy
  - How to measure progress
  - Optimal level of efficiency before installing on-site renewables
  - Lessons learned from national programs
  - Role of land use planning, reach standards, green building codes
- Expand building standards to address building-scale renewables



# EE Recommendations

- Expand building standards to include process loads, laboratories, refrigeration systems, and other common high energy-using commercial building types
- Expand appliance standards to include consumer electronics, general lighting, irrigation controls, refrigeration systems



# EE Recommendations

- Require energy efficiency retrofits at point of sale or point of remodel



# Demand Response Recommendations

- All utilities should install meters capable of recording hourly consumption, and should publish their time-varying electric rates
- CEC should continue efforts to adopt a statewide load management standard requiring all utilities to adopt some form of dynamic pricing for customers with advanced meters



# Renewable Energy

- Challenges include:
  - Uncertainty about meeting RPS goals
  - Integration of intermittent renewables
  - Barriers to development of bioenergy resources
  - Environmental impacts of large solar plants
  - Lack of financial certainty for project developers



# Renewables Portfolio Standard

- Statewide renewables currently at 10.6%
- Will not meet 2010 goal of 20%
- Achieving 33% will be a challenge
- Recommendation: CPUC should impose penalties on IOUs for non-compliance with RPS targets



# Renewable Integration

- May affect system reliability and cost
- Complicated by other state policies to increase efficiency, expand combined heat and power, phase out once-through cooling



# Integration Recommendations

- Conduct further analyses to identify solutions to integrating energy efficiency, smart grid, and renewables
- Support detailed analysis by California ISO to identify specific system requirements like local ramp rates, inertia, and other transmission-related ancillary services
- Continue research on appropriate specifications of energy storage systems



# Bioenergy Goals

- Executive Order S-06-06 required 20% of RPS met with bioenergy
- Barriers include high cost of emission controls and difficulty obtaining air permits for new facilities, expiration of incentive programs for existing facilities



# Bioenergy Recommendations

- Update Bioenergy Action Plan to identify and address barriers
- Expand plan to identify issues and solutions for biogas injection
- Explore options to ensure continued operation of existing facilities, including continuation of public goods charge, subsidizing biomass feedstocks, or developing feed-in tariff for existing biomass facilities



# Environmental Issues

- Renewable development in California desert and associated transmission lines
- Recommendation: CEC should continue to support Renewable Energy Action Team mission to conserve endangered species and natural communities at ecosystem scale when streamlining and expediting permitting of renewable energy projects



# Expanding Feed-in Tariffs

- Provide financial certainty and can facilitate lower cost development of renewable resources
- Recommendation: CPUC should continue efforts to implement feed-in tariffs for small projects (20 MW or less) and Legislature should consider changes in law to require technology-specific tariffs for larger projects



# Distributed Generation/CHP

- ARB goal of 4,000 MW of new combined heat and power facilities for GHG emission reductions
- Need to upgrade distribution system to better integrate distributed generation technologies



# DG/CHP Recommendations

- Joint CEC/CPUC proceeding addressing importance of distribution system upgrades to integrate DG and CHP
- CHP programs should ensure development of both small and large systems that meet specific standards
- CHP should be eligible for SGIP incentives based on efficiency and GHG reductions rather than technology/fuel type



# DG/CHP Recommendations

- CEC and CPUC should focus efforts toward increasing market penetration of technologies related to co-digestion of biodegradable waste streams



# Nuclear Plants

- AB 1632 Report/2008 IEPR Update recommended additional studies by PG&E and SCE
- Unclear if utilities on track to complete studies in time for license renewal feasibility studies at CPUC



# Nuclear Recommendations

- PG&E and SCE should complete and report in a timely manner on studies recommended in AB 1632 Report which CPUC identified for completion as part of license renewal review
- CPUC should assess the need to establish SONGS Independent Safety Committee
- CEC/CPUC/California ISO should assess reliability impacts from implementing OTC policy and regulations for nuclear plants



# Transmission

- Strategic Transmission Investment Plan developed as part of biennial IEPR
- Makes recommendations to ensure that needed projects are planned for, have corridors set aside as needed, and are permitted in a timely and effective way



# Transmission Recommendations

- CEC staff should work with CTPG and California ISO to establish 10-year transmission planning process
- CEC staff should work with California ISO, CPUC and POUs on need assessment process
- CEC should continue to support RETI activities



# Electricity System Planning

- Energy Commission analyses should focus on developing short term (2013-2020) and long-term (2020-2050) “blueprints” for generating resources
- CEC/CPUC/California ISO should implement joint energy agency proposal on OTC
- CEC should conduct analysis on air credits needed in South Coast



# Electricity System Planning

- CEC should undertake “need conformance” for power plants it licenses
- CEC should focus forecasting, planning, IEPR, and STIP processes on statewide integrated planning
- CEC should seek legislative authority for explicit need conformance process



# Natural Gas Sector

- Forecasted decrease in natural gas demand in short term, with increased rate of consumption as economy recovers
- LNG no longer high priority supply source due to advanced in shale gas extraction



# Natural Gas Recommendations

- California should continue to work with western states to ensure development of sufficient natural gas infrastructure to ensure reliable supplies
- CEC should continue to monitor environmental impacts of shale gas extraction



# Transportation and Fuel Sector

- Transportation responsible for 40 percent of statewide GHG emissions
- Continuing goal to reduce petroleum dependence
- Gasoline and diesel fuel demand expected to decrease in short term but return to historical growth patterns; mix of fuel types will change



# Transportation Policies

- Regulatory tools and market mechanisms in place to create sustainable fuel system
  - Low Carbon Fuel Standard
  - Pavley regulations
  - Federal fuel economy standards
  - Alternative and Renewable Fuel and Technology Program



# Transportation Recommendations

- Modernize existing alternative and renewable fuel infrastructure
- Support development of alternative and renewable fuels
- Maximize use of California's waste stream



# Land Use Recommendations

- Provide data and tools to local land use planners
- Establish funding mechanism to support local and regional government implementation of land use policies



# Public Comment