

The Political Economy of California and West Coast Action

Climate Change Politics in North America

Woodrow Wilson International Center for Scholars
Washington, DC
May 18-19, 2006

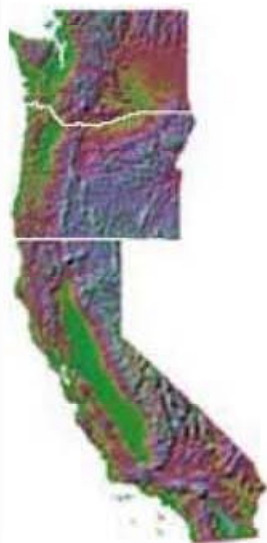
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Theme:

Confusion, conflicts and an upcoming big fight



West Coast Governors' Global Warming Initiative

Washington • Oregon • California



Gov. Arnold
Schwarzenegger
California



Gov. Ted
Kulongoski
Oregon



Gov. Christine
Gregoire
Washington

[California Home](#)

[Oregon Home](#)

[Washington Home](#)

[Climate Change
Home](#)

**West Coast
Governors'
Initiative**

[West Coast Home](#)

[Initiative Documents](#)

[News Releases](#)

[Search](#)

The Governors of Washington, Oregon, and California have approved a series of recommendations for action to combat global warming, and directed their staffs to continue working on state and regional goals and strategies to combat global warming over the coming year.

A staff report (download from documents section to the left) to the three governors stated:

"Global warming will have serious adverse consequences on the economy, health and environment of the West Coast states. These impacts will grow significantly in coming years if we do nothing to reduce greenhouse gas pollution. Fortunately, addressing global warming carries substantial economic benefits. The West Coast region is rich in renewable energy resources and advanced energy-efficient technologies. We can capitalize on these strengths and invest in the clean energy resources of our region."

The report is the most recent action taken as part of the West Coast Governors' Global Warming Initiative, launched by the Governors in September 2003. This effort is widely considered one of leading state initiatives on climate change in the United States. The Governors have committed to act individually and regionally to reduce greenhouse gas emissions below current levels through strategies that promote long-term economic growth, protect public health and the environment, consider social equity, and expand public awareness.



West Coast Governors' Global Warming Initiative Staff Recommendations to the Governors¹

November, 2004

1. Buy more efficient state vehicles
2. Electrify ports and truckstops
3. Promote renewable energy
4. Adopt energy efficiency standards for consumer products not regulated by the federal government
5. Incorporate "aggressive" energy efficiency measures into state building codes
6. Hold a West Coast Governor's conference

West Coast Governor's "Next Steps"

- Consider adopting comprehensive state and regional goals
- Adopt common standards to reduce vehicle GHG emissions
- Evaluate a regional market-based carbon allowance program
- Expand markets for efficiency, renewable energy, and alternative fuels.

Climate Action in Washington State

- Legislature voted to adopt California vehicle GHG standards (2005)

Climate Action in Oregon

- House Bill 3283 (1997)
 - New power plants in Oregon must offset their emissions
 - 17% below best gas-fired baseload plant in the U.S.
 - 1.6 million tons (to 2006)
 - \$4 million (to date)
 - Projects include:
 - Energy efficiency (paper manufacturing, building efficiency in Portland)
 - Renewable energy (wind power financing)
 - Sequestration (Descutes riparian reforestation, Ecuadorian rainforest restoration)
 - Materials (“Cool concrete”)
 - Transportation (Traffic signal optimization, truck stop electrification)
 - Cogeneration (Lumber mill)
- *Oregon Strategy for GHG Reductions* (2004)
- Legislature voted to adopt California vehicle GHG standards (2005)



THE CLIMATE TRUST

Your path to a stable climate

Oregon Strategy for Greenhouse Gas Reductions

Governor's Advisory Group On Global Warming



State of Oregon, December 2004

Goals

1. 2010 – Arrest growth of GHGs
2. 2020 – 10% below 1990
3. 2050 – “climate stabilization” limits of at least 75% below 1990

Strategies

1. Invest in efficiency in energy, land use, and materials
2. Replace GHG energy resources
3. Increase biological sequestration
4. Promote education and R&D

Actions

1. Achieve goals (various)
2. Increase renewable electricity
3. Interim task force: design and implementation of load-based GHG allowance standard
4. Interim task force: propose GHG emission standards for vehicles
... (and other actions)

Climate Action in California

- Climate Policy
- Energy Policy
- Governor
- Legislature



<http://photos.gov.ca.gov/environment/>



Governor Arnold Schwarzenegger
OFFICE OF THE GOVERNOR OF THE STATE OF CALIFORNIA



COMMITTED TO THE ENVIRONMENT:
Reducing Greenhouse Gas Emissions



PROTECTING THE ENVIRONMENT

Bold Leadership on the Environment



GOVERNOR TAKES ACTION AGAINST HIGH GAS PRICES

On April 25, 2006, Governor Schwarzenegger outlined two responses by his Administration to the skyrocketing gas prices facing consumers and businesses.

Executive Order to expand biofuel alternatives

The Governor signed an [Executive Order](#) outlining his bioenergy goals for California in the areas of transportation and energy production. Critical steps

[SIGN UP FOR OUR VODCASTS & PODCASTS](#)

THE BLOGINATOR

Terry Tamminen
Special Assistant to the Governor
on the Environment

4/25/06 - Got Green Oil?
Not all of our transportation fuel needs to be drilled from petroleum deposits deep in the earth. California is leading the way in the production and use of biofuels, thanks to a visionary program launched by Governor Arnold

Climate policy institutions in California



California Public Utilities Commission



Business, Transportation
and Housing Agency

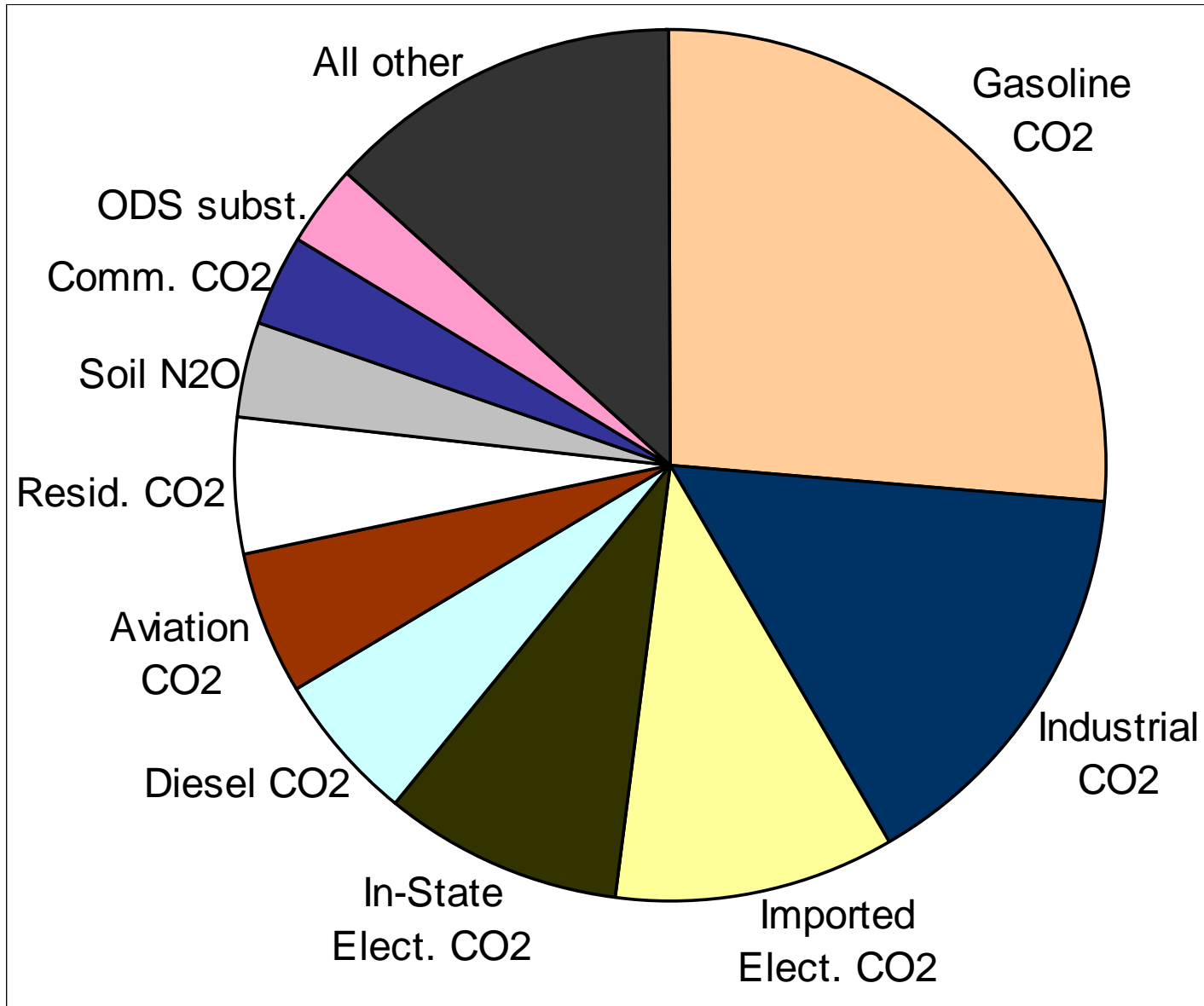


California Climate Policy

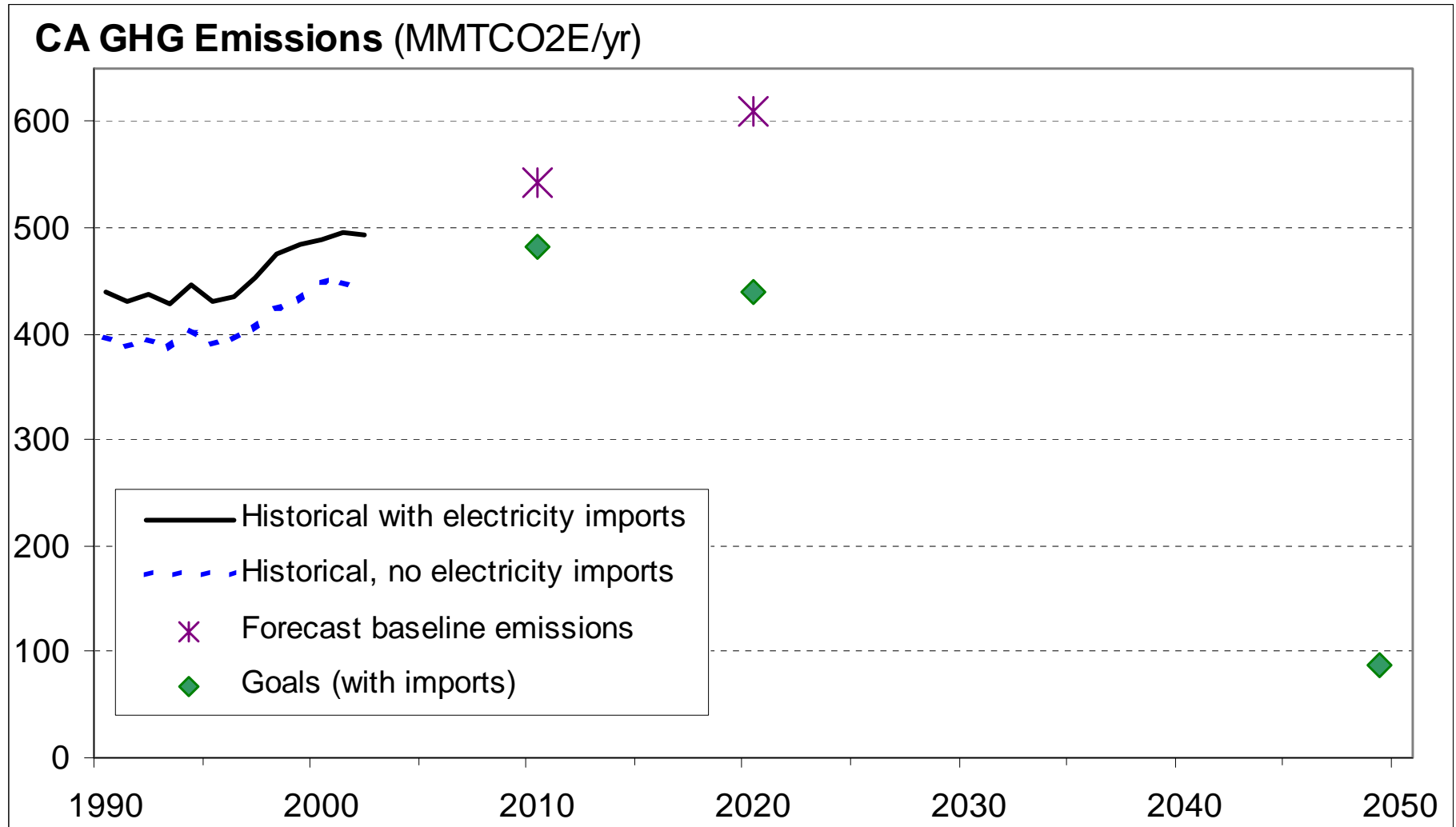
- AB 1493 (Pavley, 2002)
 - 30% reduction in automobile GHG emissions (MY2016)
- CPUC “Carbon Adder” (2004)
 - \$8/ton in 2005, 5% annual increase.
- CEC/CPUC GHG Performance Standard (2005):
 - No long-term commitments to baseload resource with lifecycle GHG emissions greater than a combined cycle natural gas plant
- Executive Order S-3-05 GHG emission reduction targets (2005)
- Climate Action Team recommendations (2006)
- CPUC emission cap (2006)
- SB 1368 proposes to codify GHG Performance Standard (2006)
- AB 32 proposes a stationary source cap and trade proposal (2006)
- AB 1007 (Pavley 2) proposes various programs (2006)
- ...and there are more, including Republican proposals

Note: Underlined
policies are enacted.

California CO₂ sources



California CO₂ trends and goals



- Executive Order S-3-05 GHG emission reduction targets
 - 2010: maintain 2000 levels (~10% reduction from baseline)
 - 2020: return to 1990 levels (~25% reduction from baseline)

1. Introduction
2. Climate Change Overview
3. California Actions to Address Climate Change
4. Scenario Analysis
5. Recommendations for Emission Reduction Strategies
6. Market-Based Options for California
7. Implementation Options
8. Economic Assessment
9. Impacts on Low Income and Minority Communities
10. Summary

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

Climate Action Team Report to
Governor Schwarzenegger and the Legislature



March 2006

Table 3-1 Emission Reduction Strategies Underway in California

Agency Responsible	Climate Change Emission Reductions (Million Tons CO ₂ Equivalent)	
	2010	2020
Strategies		
Air Resources Board		
Vehicle Climate Change Standards	1	30
Diesel Anti-idling	1	1.2
Public Utilities Commission		
Accelerated Renewable Portfolio Std to 33% by 2020 (including load-serving entities [LSE])	5	11
California Solar Initiative	0.4	3
Investor Owned Utility Energy Efficiency Programs(including LSEs)	4	8.8
Integrated Waste Management Board		
Achieve 50% Statewide Recycling Goal	3	3
Energy Commission		
Building Energy Efficiency Standards	1	2
Appliance Energy Efficiency Standards	3	5
Fuel-efficient Replacement Tires & Inflation Programs	1.5	1.5
State and Consumer Services and Cal/EPA		
Green Buildings Initiative	0.5	1.8
Air Resources Board and Cal/EPA		
Hydrogen Highway	Included*	
Total Potential Emission Reductions	22	68

* The benefits of the Hydrogen Highway have been captured in other programs such as the motor vehicle regulations and green buildings initiative.

Outline of 2020 Strategies (MMTCO₂e)

• Air Resources Board	51
• Integrated Waste Management Board	9
• Forestry and Water	44
• Energy Commission	28+
• Business, Transportation and Housing	29
• Public Utility Commission	38

CAT Market-Based Options

- Sectoral
 - Electric Power
 - Generation (In-State)
 - Load-Serving Entities
 - Oil Refining
 - Oil and Gas Extraction
 - Landfills
 - Cement
 - Others
- Major stationary sources
- Fossil Fuel Carbon Cap

1. Summary
 2. Background
 3. Threshold Policy Issues
 4. Implementation Issues
 5. Other Issues
 6. Next Steps
 7. Comments on Draft
 8. Assignment
- Findings of Fact
- Conclusions of Law
- ORDER

COM/MP1/ALJ/MEG/hkr

Mailed 2/17/2006

Decision 06-02-032 February 16, 2006

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Promote Policy
and Program Coordination and Integration in
Electric Utility Resource Planning.

Rulemaking 04-04-003
(Filed April 1, 2004)

OPINION ON PROCUREMENT INCENTIVES FRAMEWORK

CPUC Conclusions (selected)

- Coordinate with CAT, CCAR and other regional, national, international efforts to reduce GHGs
- Establish a load-based cap on LSEs
- Not unconstitutional, “squarely within” procurement authority
- Implementation to be taken up later
- Evaluate proposals for shareholder financial incentives
- Carbon adder should be continued until cap is in place
- Administrative allocation based on historical emissions

AB 1368

- Prohibits a load-serving entity from entering into a long-term financial commitment unless any baseload generation ... complies with a greenhouse gas emissions performance standard to be established by the CEC.
- Applies to IOUs, municipals, and community choice aggregators.
- CEC is to consult with CARB to determine the GHG performance standard
 - Not higher than the average emission rate for existing combined-cycle natural gas baseload generation.
 - Net lifecycle emissions.
 - Consider system reliability.
 - Consider costs to the customer.
- NOT yet law – still in the Assembly

AB 32

- CalEPA (most likely through CARB) implement GHG cap
 - Electrical Power
 - Industrial
 - Commercial
 - Schedule of reductions
 - Enforcement mechanism
 - Mandatory tracking and reporting
-
- NOT yet law – still in the Assembly

Energy Policy Institutions in California



California Public Utilities Commission

California Energy Commission



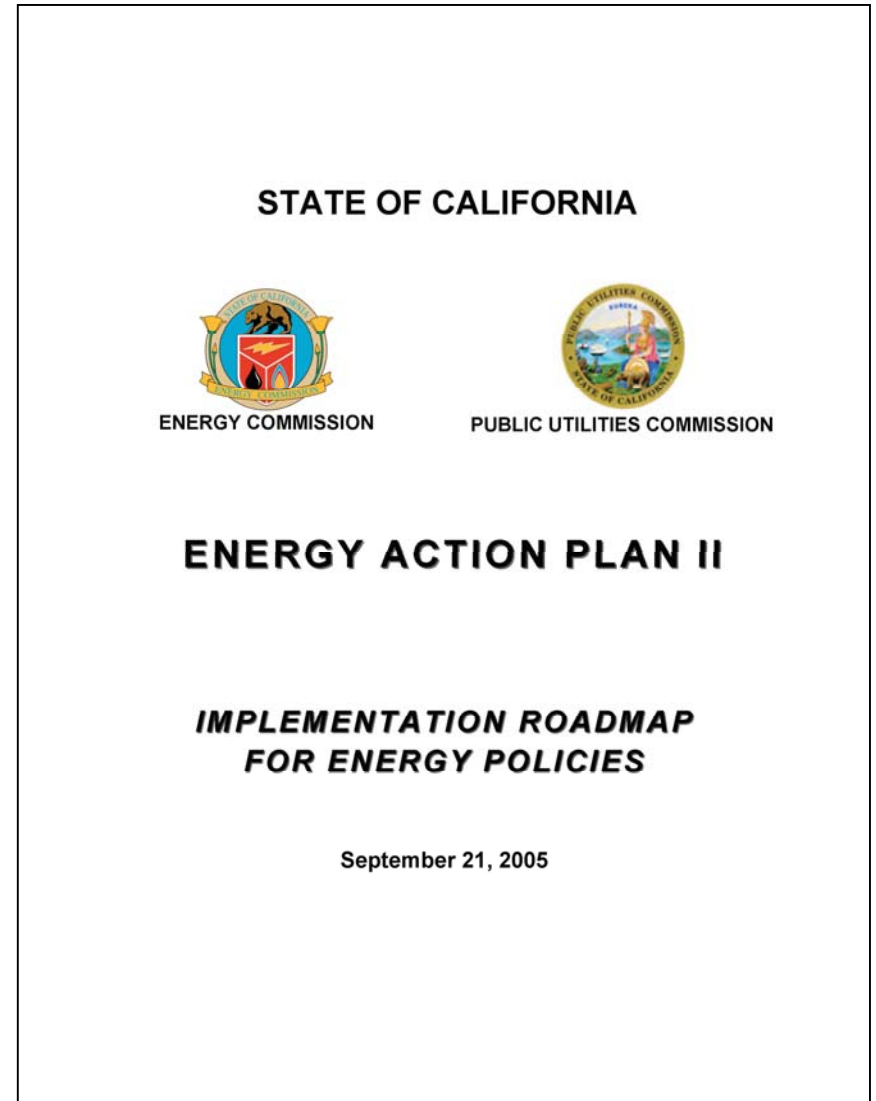
California ISO
Your Link to Power

California Energy Policy

- Energy Action Plan
- Renewable Portfolio Standard
- Energy Efficiency Programs
- Research
- New transmission lines

Energy Action Plan “Loading Order”

- Energy Action Plan (EAP I, 2003/EAP II, 2005) developed by
- Prescribes a “loading order” of cost-effective resources
 1. Customer Energy Efficiency
 2. Demand Response/Dynamic Pricing
 3. Renewable Energy
 4. Distributed Generation
 5. Clean gas-fired plants
- Transmission as needed for efficiency and to connect new plants



Loading order goals

- Energy Efficiency
 - \$2 Billion in the next few years
 - Nearly 5,000 MW statewide through 2013
- Demand Response
 - Target of 5% of load by 2007
- Renewables
 - State law requires addition of 1% renewables per year
 - 20% of total energy target by 2017, changing to 2010
 - Discussions about expanding goal to 33% by 2020
- Distributed Generation
 - Rebates on microturbines, fuel cells, etc.
 - Focus on photovoltaics through the “California Solar Initiative”
 - More than 9,800 solar systems connected to PG&E’s grid

RPS goals

- Eligible renewable resources:
 - Wind
 - Solar (concentrating thermal and photovoltaic)
 - Small hydro (less than 30 MW w/o new diversion)
 - Geothermal
 - Biomass, biogas (landfill gas, digester)
 - Fuel cell using renewable fuel
 - Municipal solid waste conversion using a non-combustion thermal process as defined by Senate Bill 1038;
 - Ocean wave, ocean thermal, tidal current
- Does not include fossil-fueled cogeneration, gasified coal, large hydro, biomass cofiring or municipal waste combustion
- In-state delivery requirement

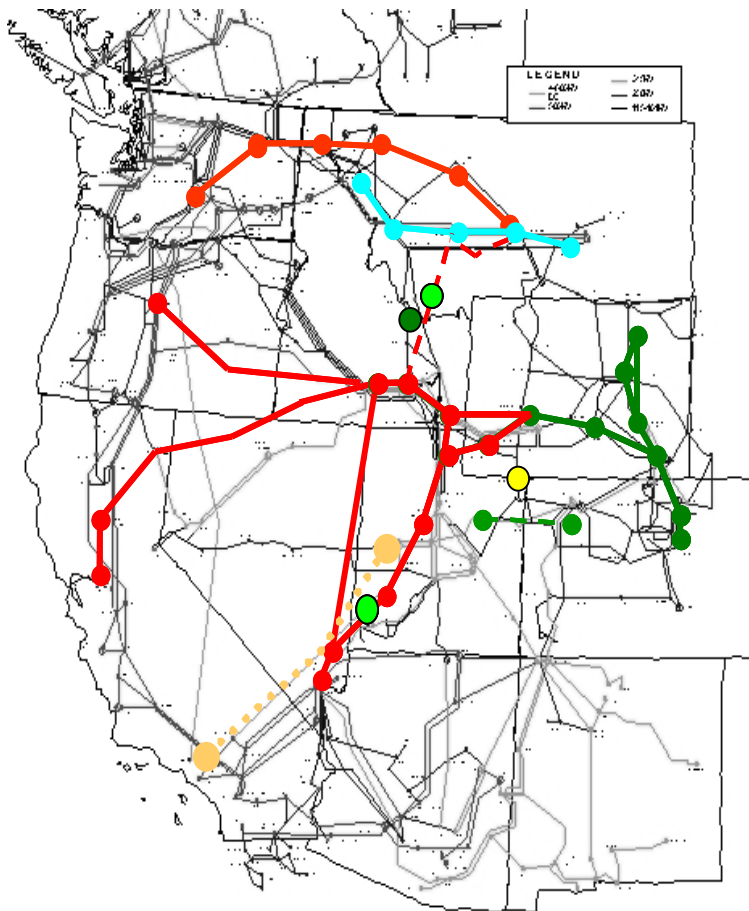
Research

- Public Interest Energy Research (PIER)
 - Created as part of restructuring law in 1996
 - \$62.5M per year dedicated utility cost

Transmission in California

- Imports ~25% of demand
- Transfer capacity ~20,000MW (2006)
 - ~3,000MW additional by 2010
- California Energy Commission
 - Systems Assessment and Facilities Siting Division
- California Public Utility Commission
 - Certificate of public convenience and necessity
- Western Electrical Coordinating Council
 - Reliability
 - Access

Proposed Transmission Lines



GAAS:114:05
FOR IMMEDIATE RELEASE
04/04/2005



Office of the Governor

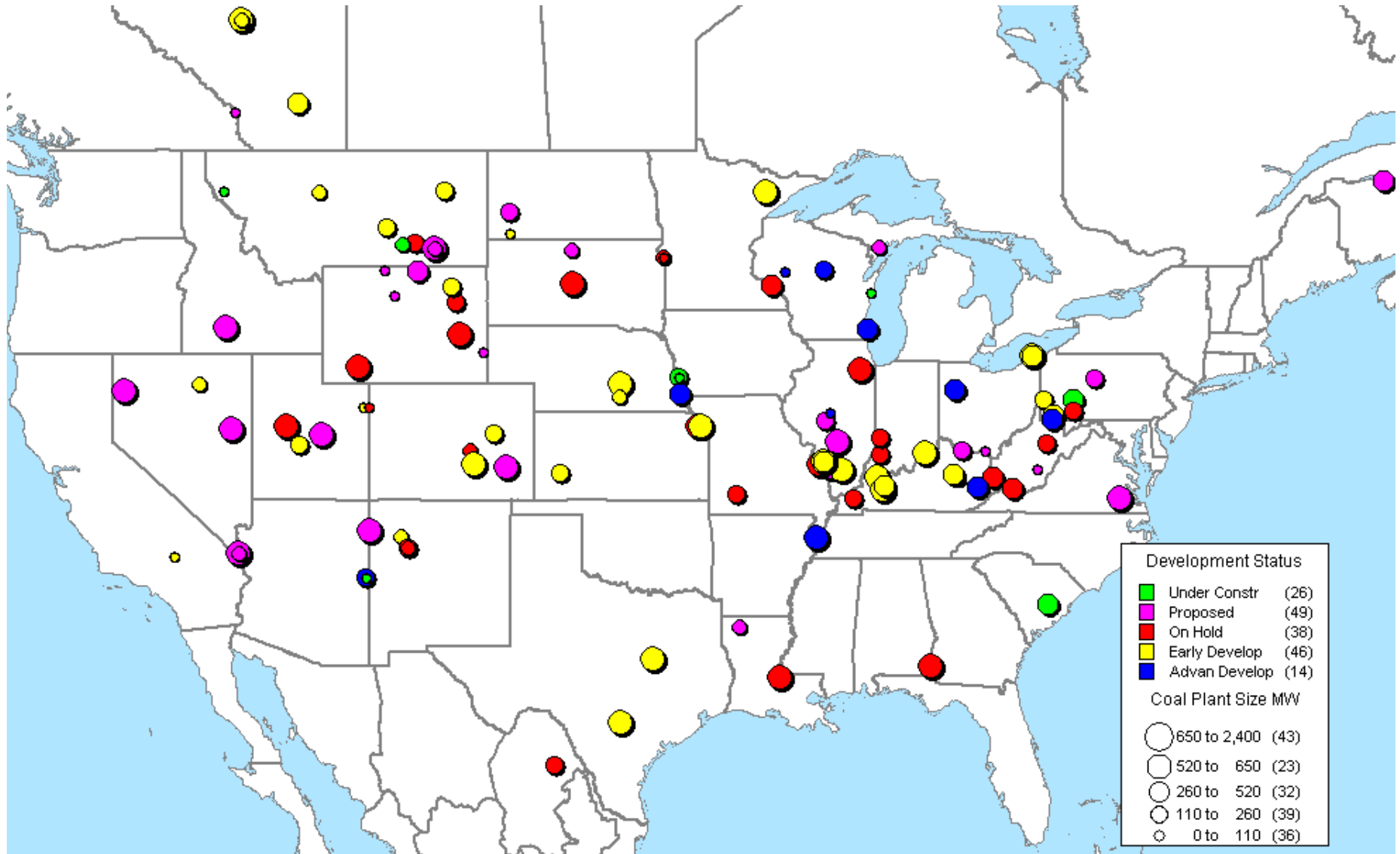
Gov. Schwarzenegger Joins Three Western States' Governors to Announce Electric Transmission Line Agreement

'Frontier Line' through Wyoming, Utah, Nevada and California Will Enhance Reliability of the Western Transmission Grid, and Provide Economic Benefits

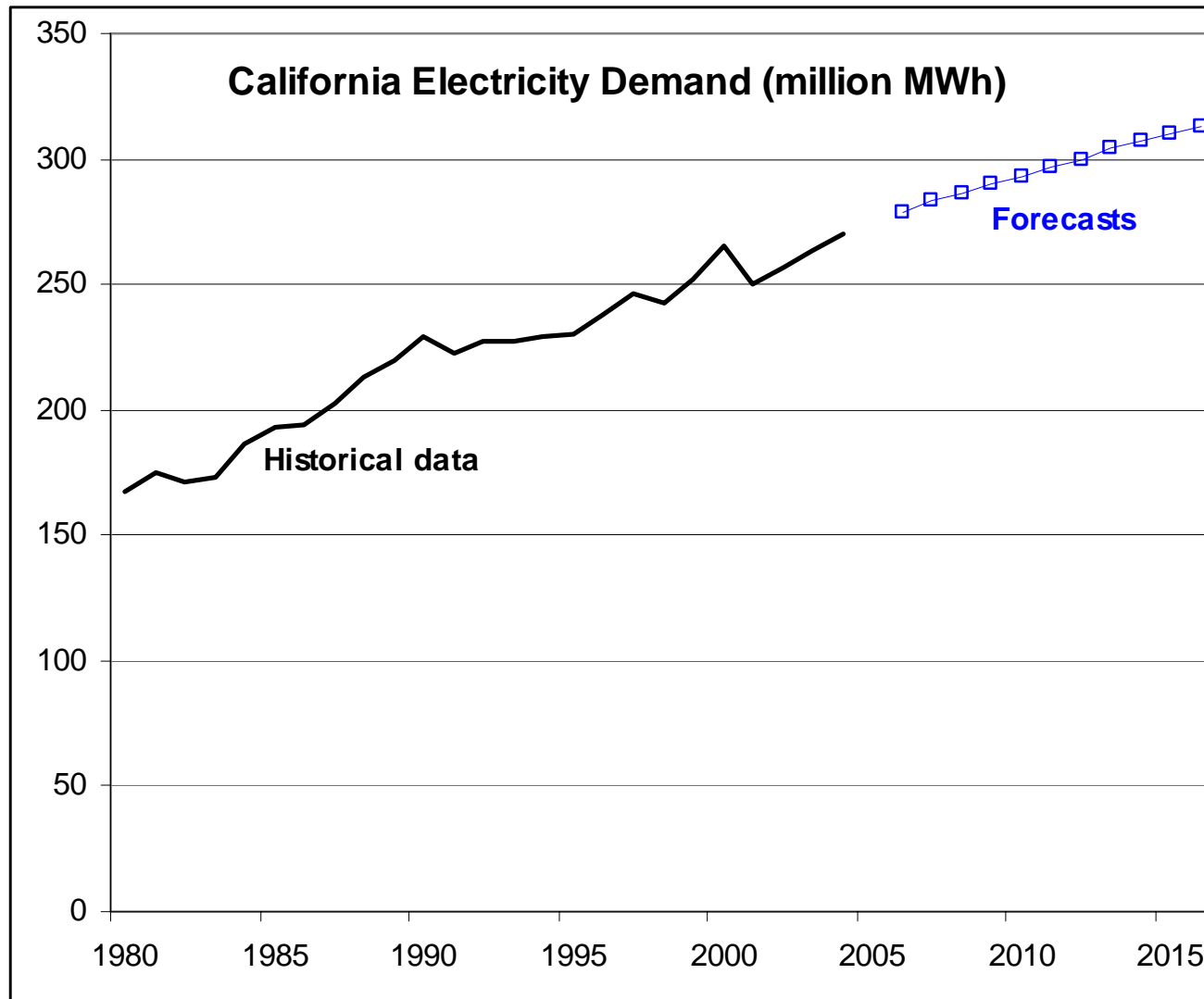
LEGEND

- Add 345kV
- Add 500kV
- Add Series Compensation
- ... IPP DC Upgrade
- Add Phase Shifter
- Add Transformer
- - - Depends on 500kV option chosen

Proposed Coal Power Plants (2004)



California's need for more electricity



Help Wanted

WWW.ENERGY.CA.GOV / COMMISSION / COMMISSIONERS

California Energy Commission Members

The governor appoints, with Senate confirmation, five commissioners to staggered five-year terms. The commissioners must come from and represent specific areas of expertise: law, environment, economics, science/engineering, and the public at large.

Chair

[Vacant](#)

Appointment Designation: Public Member



Vice Chair

[Jackalyne Pfannenstiel](#)

Appointment Designation: Environmentalist



Commissioner

[Arthur H. Rosenfeld](#), Ph.D.

Appointment Designation: Engineer/Scientist



Commissioner

[James D. Boyd](#)

Appointment Designation: Economist



Commissioner

[John L. Geesman](#), J.D.

Appointment Designation: Attorney

Qualifications:

Must be compatible with the Republican Governor and capable of being confirmed by the Democratic Senate



WESTERN GOVERNORS' ASSOCIATION

Serving the Governors of 18 States and 3 US-Flag Pacific Islands



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News

[CDEAC Meeting](#) – The CDEAC met in Denver in preparation of issuing their report to the Governors (3/7/06)

[WGA Advisory Committee to Consider Array of Options for Increasing Clean Energy, Efficiency in the West](#) (1/10/06)

[Speaking Engagements](#)

Guiding Documents

[WGA Resolution: Clean and Diversified Energy Initiative for the West](#)

[CDEAC Charter](#)

[CDEAC Members](#)

Clean and Diversified Energy Initiative

In June 2004, Western Governors adopted a [resolution](#) in which they agreed to examine the feasibility of:

- Developing 30,000 Megawatts of clean and diverse energy by 2015.
- Increasing energy efficiency 20 percent by 2020.
- Providing adequate transmission to meet the region's needs through 2030.

Leading the effort on behalf of their colleagues are Govs. Bill Richardson (N.M.), Arnold Schwarzenegger (Calif.), Dave Freudenthal (Wyo.) and John Hoeven (N.D.). Western Governors created the Clean and Diversified Energy Advisory Committee last year to oversee the work of several task forces, which examined the feasibility of reaching those goals. The CDEAC is co-chaired by William J. Keese, former Chairman of the California Energy Commission, and Bill Real, Senior Vice-President of Public Service Company of New Mexico. The final meeting of the CDEAC was

WGA would like to thank the William and Flora Hewlett Foundation, the U.S. Department of Energy, the Renewable Energy and Energy Efficiency Partnership (REEEP) and the U.S. Environmental Protection Agency for their support for the Governors' Clean and Diversified Energy Initiative

Comparison of policies

- Neither 20% nor 33% RPS meet Governor's 2020 GHG target.
- Climate policies induce *more* renewables than 33% RPS.
- Climate policies drive PC coal out of the generation mix
 - Carbon tax of \$30/ton CO₂ introduces IGCC+CCS
- Renewables have low generation costs at carbon policy goals
 - Procurement costs go up by <1%
 - Some costs are not accounted for
- Adder, cap, and emission performance standard are all similar
- Only one policy is needed
 - Improve flexibility
 - Lower transaction costs
 - Stimulate innovation

5. Climate policy

Thank you for your attention.

