



Preparing for the Carbon Constrained World: Blueprint for a Sustainable Energy Policy

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World's Largest GHG Emitters

	2000 Emissions (Mt CO ₂)	Per Capita Emissions
1. USA.....	5,661.....	19
2. China.....	2,795.....	02
3. Russia.....	1,437.....	10
4. Japan.....	1,186.....	09
5. India.....	1,073.....	01
6. Germany.....	787.....	10
7. UK.....	569.....	09
8. Canada.....	437.....	13
9. California.....	430.....	12
10. Italy.....	429.....	07
11. South Korea.....	428.....	09
12. Mexico.....	425.....	04



The Broad Consensus on Climate Change

Governor Schwarzenegger –

“I say the debate is over. We know the science. We see the threat, and we know the time for action is now.”

- 9 in 10 Americans in the West support state or local government action on climate change in the absence of federal action*
- 87 percent of Americans believe that the federal government should take immediate action on climate change*

*Civil Society Institute Survey, February 2002, <http://resultsforamerica.org/calendar/files/R%20CSI%20Global%20Warming%20Leadership%20Survey%20final.pdf>

Governor's June 2005 Executive Order

- 2010: Emissions at 2000 levels -
- 2020: Emissions at 1990 levels –
 - Reduction of 174 MMT CO₂
- 2050: Emissions 80% below 1990 levels
 - *Kyoto goal for U.S. would be 7% below 1990 levels by 2012*
- Approximately 20% of GHG emissions in CA come from electricity usage (national average is approx. 35%).

See, <http://www.climatechange.ca.gov>

The Global Warming Solutions Act of 2006 (AB 32)

State-wide cap on greenhouse gas emissions at 1990 levels by 2020

- “Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California.” *New Health & Safety Code § 38501(a)*
- “National and international actions are necessary to fully address the issue of global warming. However, action taken by California . . . will have far-reaching effects by encourage other states, the federal government and other countries to act.” *New Health & Safety Code § 38501(c)*
- California Air Resources Board (CARB) to create, implement and enforce cap

Preparing for the Low Carbon Future



- **New technologies**
- **Education**
- **Rational mix of top down regulation and market mechanisms**
- **Outreach to China and India**

The Transition is Already Underway in the Electricity Sector

The California Energy Action Plan*

- Energy policy goals for California
 - Decrease per capita energy use and reduce toxic emissions and greenhouse gases through increased conservation, efficiency, and renewable resources. Balance cost impacts, resource diversity, and environmental responsibility.
- “Loading order” for energy procurement
 - Energy efficiency and demand response
 - Renewable generation
 - Cleanest available fossil resources
- Achieve the Governor’s CO₂ emission reduction goals
- Utility procurement plans must reflect the Loading Order

* <http://www.cpuc.ca.gov/PUBLISHED/REPORT/28715.htm>

Blueprint for a Sustainable Energy Future

- Aggressive Energy Efficiency goals (2004 - 2013)
 - 26,506 GWh/yr
 - 5,000 MW off peak
 - 444 MMth/yr
- Advanced Metering Initiatives
- Renewable Portfolio Standard:
 - 20% renewables by 2010
 - 33% goal by 2020
 - Significant transmission upgrades to access resource rich areas
- California Solar Initiative: 3000 MW by 2016
 - Incentives paid on actual output

Blueprint (cont.)

- CPUC Policy Statement on GHG Emissions Performance Standard (EPS) for Utility Procurement – October 2005
 - GHG emissions profile that is no greater than the emissions from a combined-cycle natural gas plant
- April 2006 Greenhouse Gas Rulemaking
 - Phase I – Implement EPS by year end
 - SB 1368 – Mandates EPS by February 1, 2007 and includes publicly-owned utilities
 - Phase II – Implement GHG cap for utilities

Electricity Sector Strategies Climate Action Team Report March 2006	GHG Savings (MMT CO₂)	
	2010	2020
Investor Owned Utility (IOU) Energy Efficiency Programs	4	15.1
IOU Renewable Portfolio Standard	5	11
California Solar Initiative	0.4	3
IOU Combined Heat and Power Program	1.1	4.4
IOU Emissions Performance Standard	1.6	2.7
State Appliance Energy Efficiency Standards	3	5
State Building Energy Efficiency Standards	1	2
Green Buildings Initiative	0.5	1.8
Publicly-Owned Utility (POU) Energy Efficiency Programs	1	5.9
POU Renewable Portfolio Standard	< 1	3.2
POU Combined Heat and Power Program	0	< 1
POU Emissions Performance Standard	3	9
Total Potential Emission Reductions	24.6	63.1

California's Commitment to Work with other Governments

- Working with Wyoming on an advanced coal demonstration project
- Working with Washington and Oregon PUCs on joint statement on climate change and workshops on advanced technologies for clean energy resources
- Working with USEPA on National Energy Efficiency Action Plan
- MOU on Energy Efficiency with Jiangsu Province in China