

WESTERN STATES PETROLEUM ASSOCIATION

Greenhouse Gas Strategies in a Changing Climate



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President
November 16, 2011



California climate change strategies

- Cap-and-Trade
- Low Carbon Fuel Standard (LCFS)
- SB 375 Regional Targets
- AB 32 Fee Regulation
- Clean Car Standard
- Mandatory Commercial Recycling
- Renewable Electricity Standard
- Reporting, Inventory, & Verification
- Public Health Workgroup
- Greenhouse Gas Protocols
- Energy Efficiency Assessments

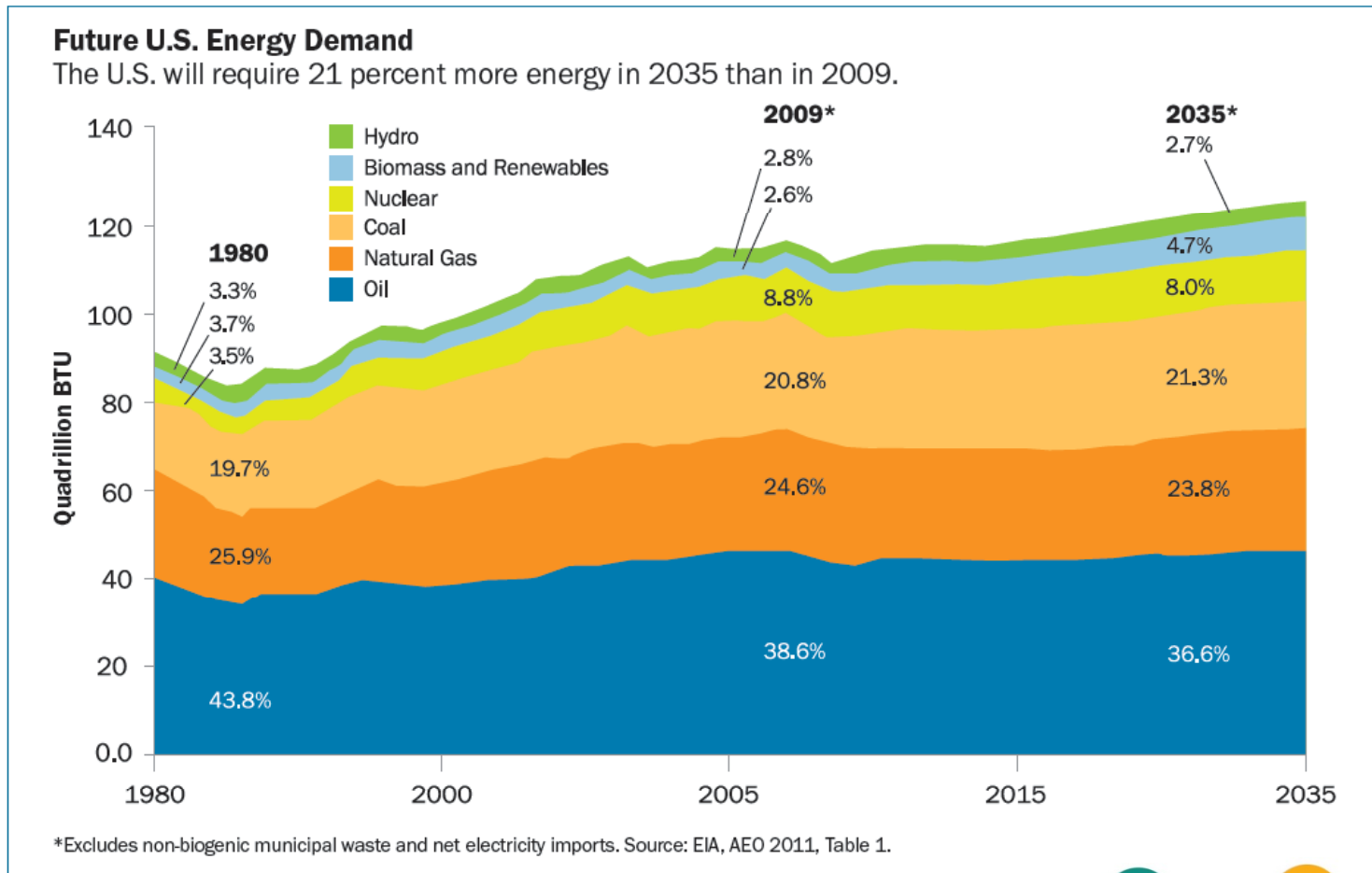


California's climate change goals

- Reduce GHG emissions from the transportation sector in California by about 16 million metric tons in 2020
- Reduce California's dependence on petroleum
- Create a lasting market for clean transportation technology
- Stimulate the production and use of alternative, low-carbon fuels in California



Petroleum *is* a fuel of the future



AB 32, Cap and Trade

The New York Times

California Adopts Limits on Greenhouse Gases

Los Angeles Times

California becomes first state to adopt cap-and-trade program

**The
Economist**

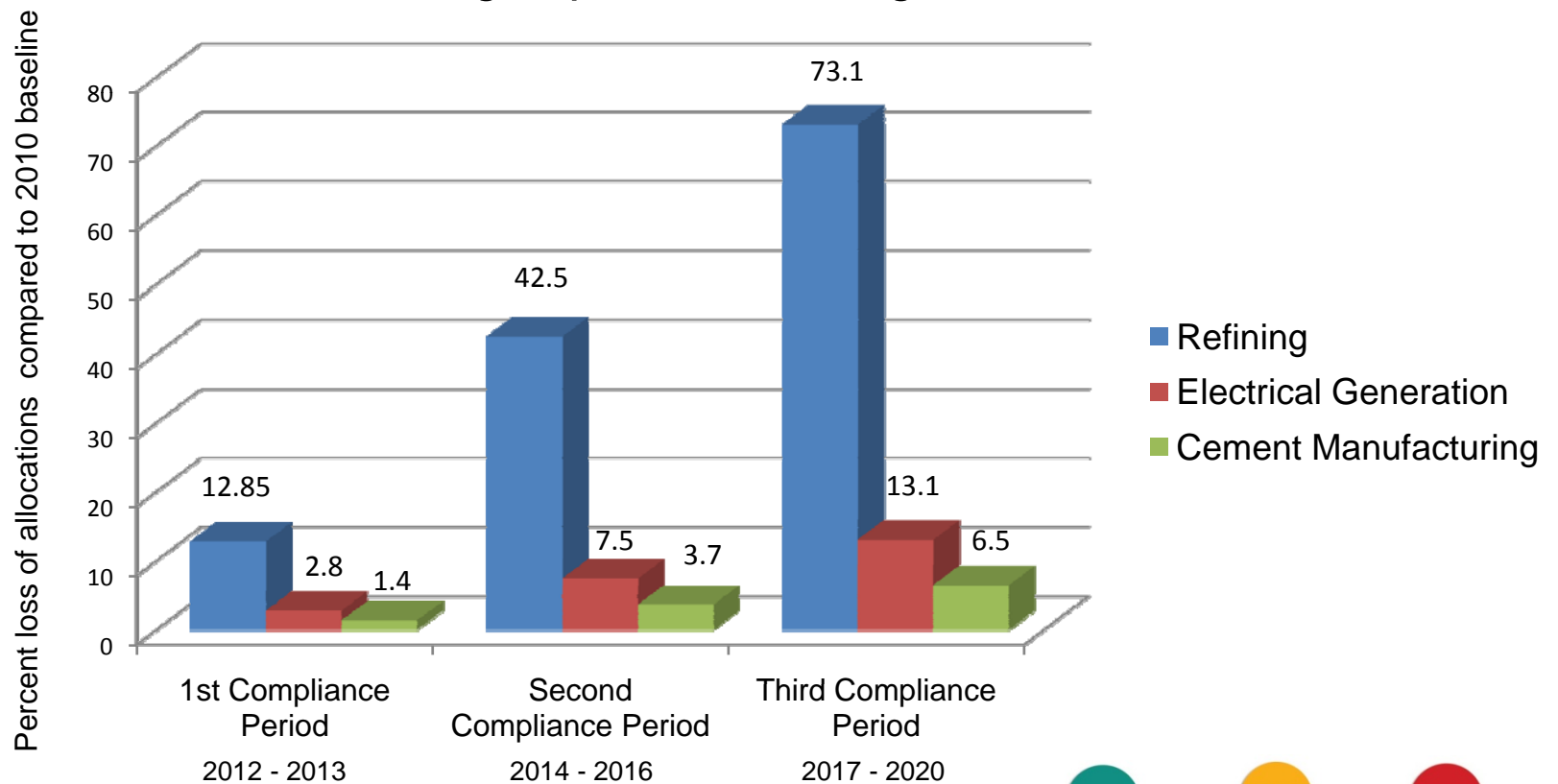
On its own sunny path:
As in so much else, the
Golden State's energy
plans look distinctly un-
American

WALL STREET JOURNAL

Editorial: California's New Green Tax

Unequal treatment

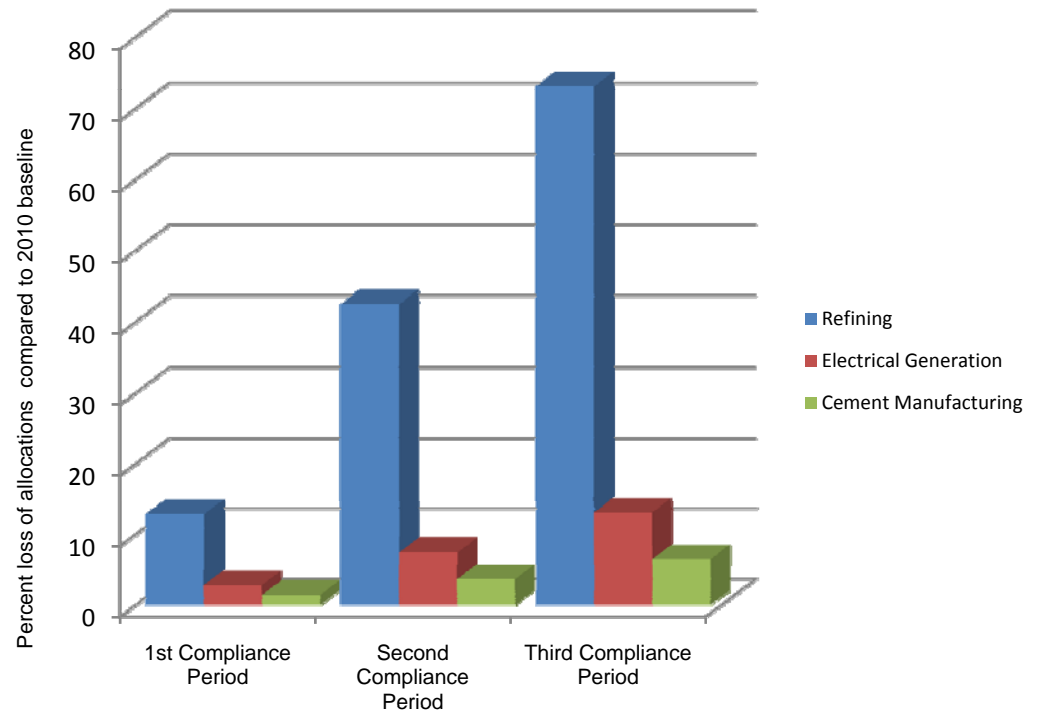
Sector compliance obligations as a percent of sector emissions under existing cap and trade regulation



Compliance = costs

Compliance options

- Purchase offsets
- Purchase allowances
- Reduce emissions



AB 32, Cap and Trade

Table 3
Impact of Allowance Benchmark Choice on GHG Allowance Expenditures During the First Compliance Period (2013-2014)
Industry-average Benchmark versus 90% Industry Benchmark
(\$ Million)

Sector	Allowance Price (\$ per MTCO ₂ e)			
	\$10	\$25	\$43	\$54
Crude Petroleum and Natural Gas Extraction				
Thermal EOR	16.0	39.9	68.3	85.4
Non-Thermal	15.2	37.9	64.9	81.1
Petroleum Refineries	69.6	174.0	297.9	372.3
Glass Container Manufacturing	0.7	1.8	3.2	4.0
Total	101.5	253.6	434.2	542.8

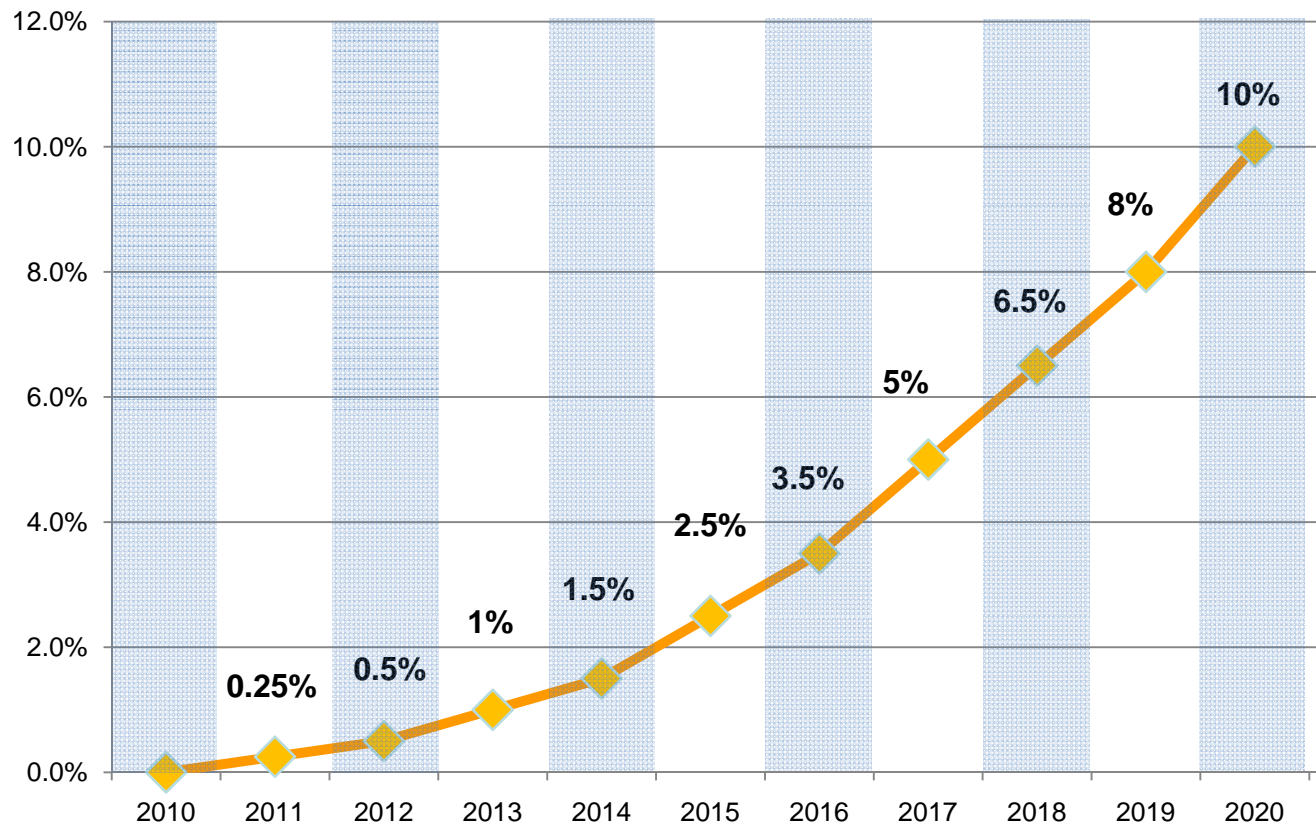
AB 32, Cap and Trade

Thomson Reuters forecasts carbon costs of \$36 per metric ton of CO2-equivalent gases

The screenshot shows a news article on the KQED Climate Watch website. The article is dated August 22, 2011, at 5:01 PM, and is written by Christopher Penalosa. The headline is "Analysts Cut Carbon Price Forecast for California". The article text states that Thomson Reuters has lowered its carbon price forecast from \$40 to \$36 per metric ton of CO2-equivalent gases. It mentions that this is due to a combination of milder temperatures, leading to less air conditioning demand, and a lull in manufacturing. The article also notes that the trading price assumes California goes it alone in cap and trade, although two Canadian provinces are expected to join the market eventually. The website header includes navigation links for "Government & Business", "Power", "The Science", "Water", and "Get Involved". There are also social media sharing options for comments, tweets, and shares. A sidebar on the right titled "About Climate Watch" and "Who we're watching" provides additional context and lists related tweets.



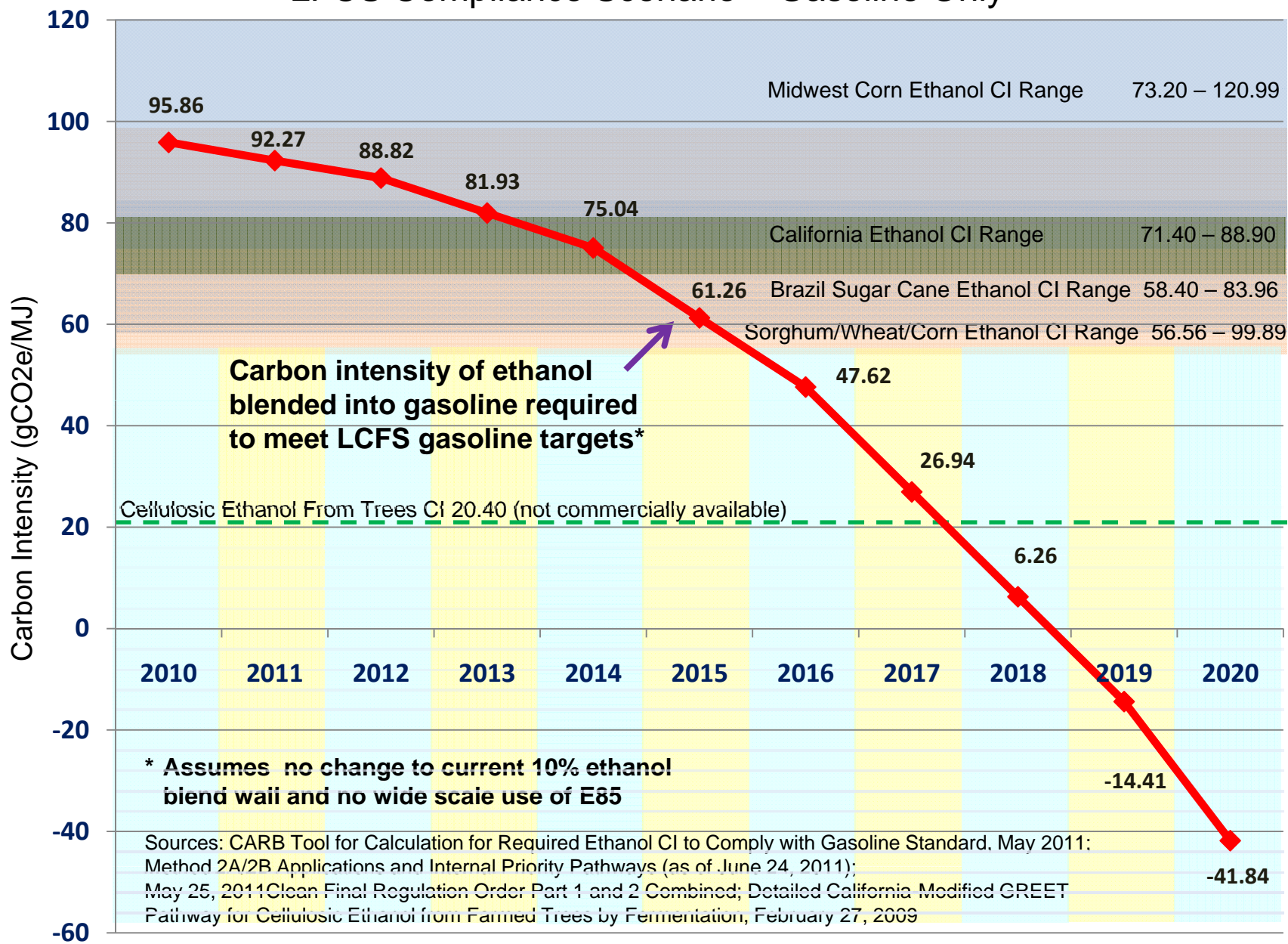
Low Carbon Fuel Standard compliance schedule



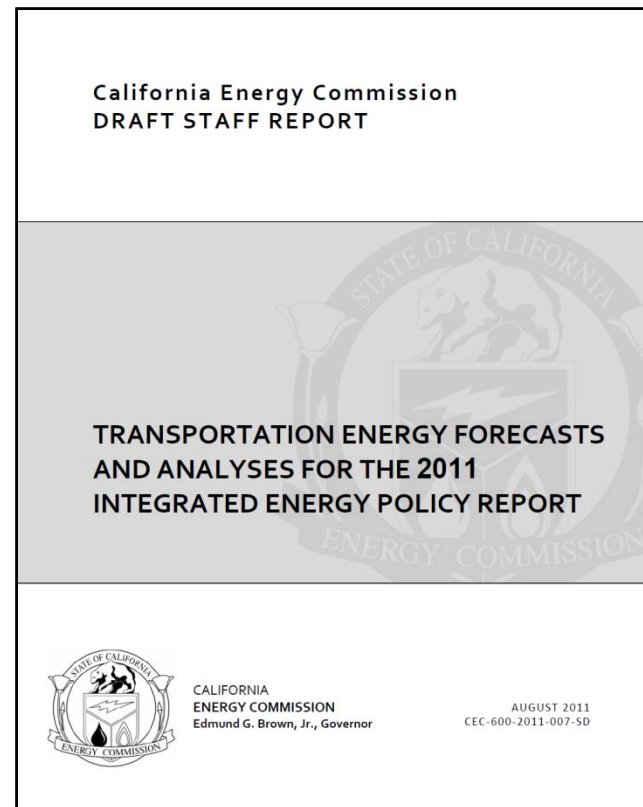
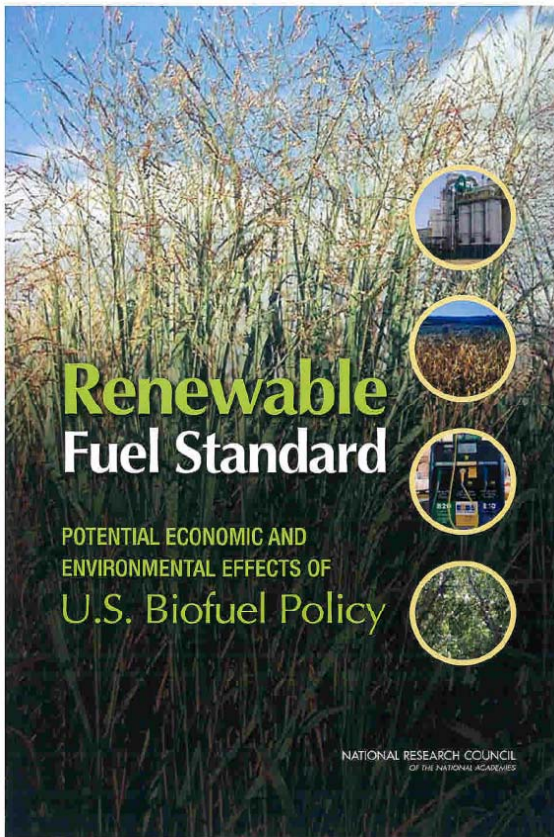
10 Source: Proposed Regulation to Implement the Low Carbon Fuel Standard Volume I, Staff Report: Initial Statement of Reasons, March 5, 2009



LFCS Compliance Scenario – Gasoline Only

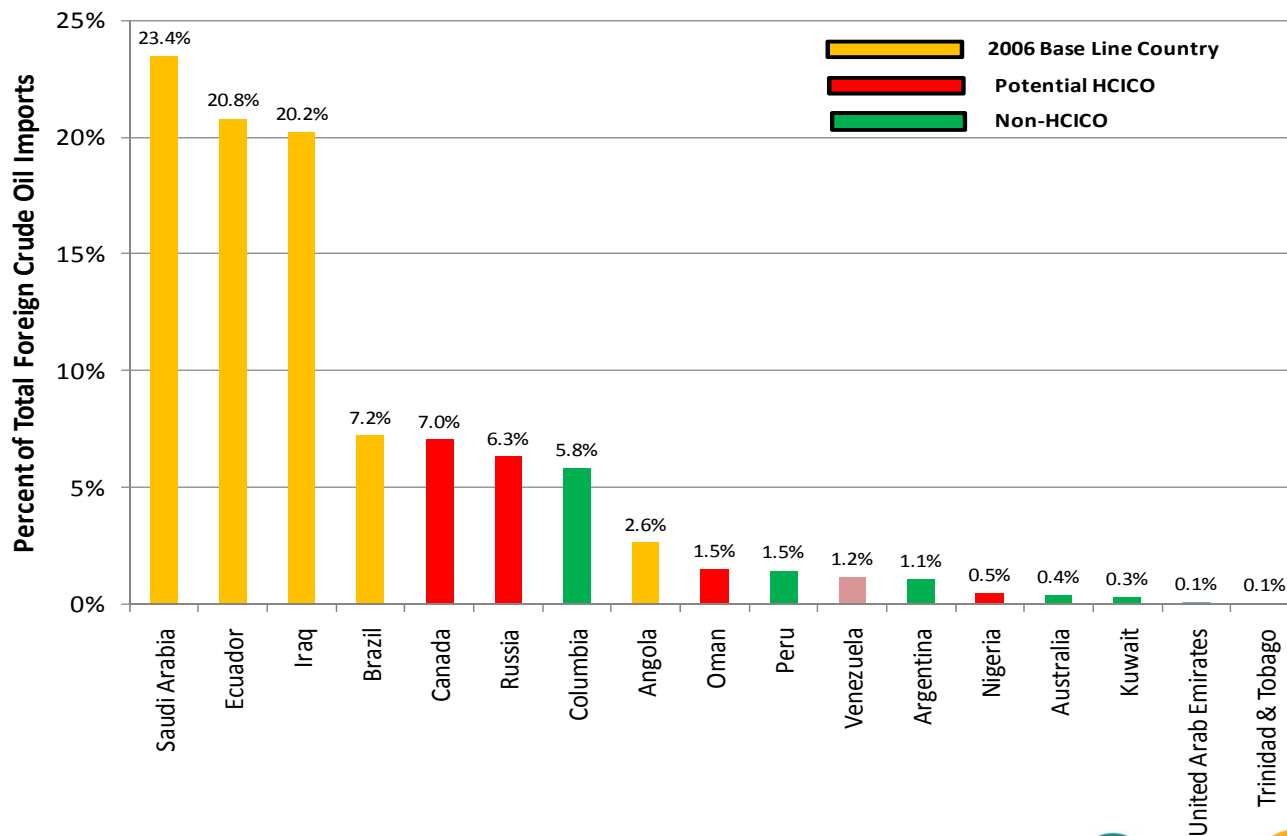


LCFS compliance challenges



High Carbon Intensity Crude Oil

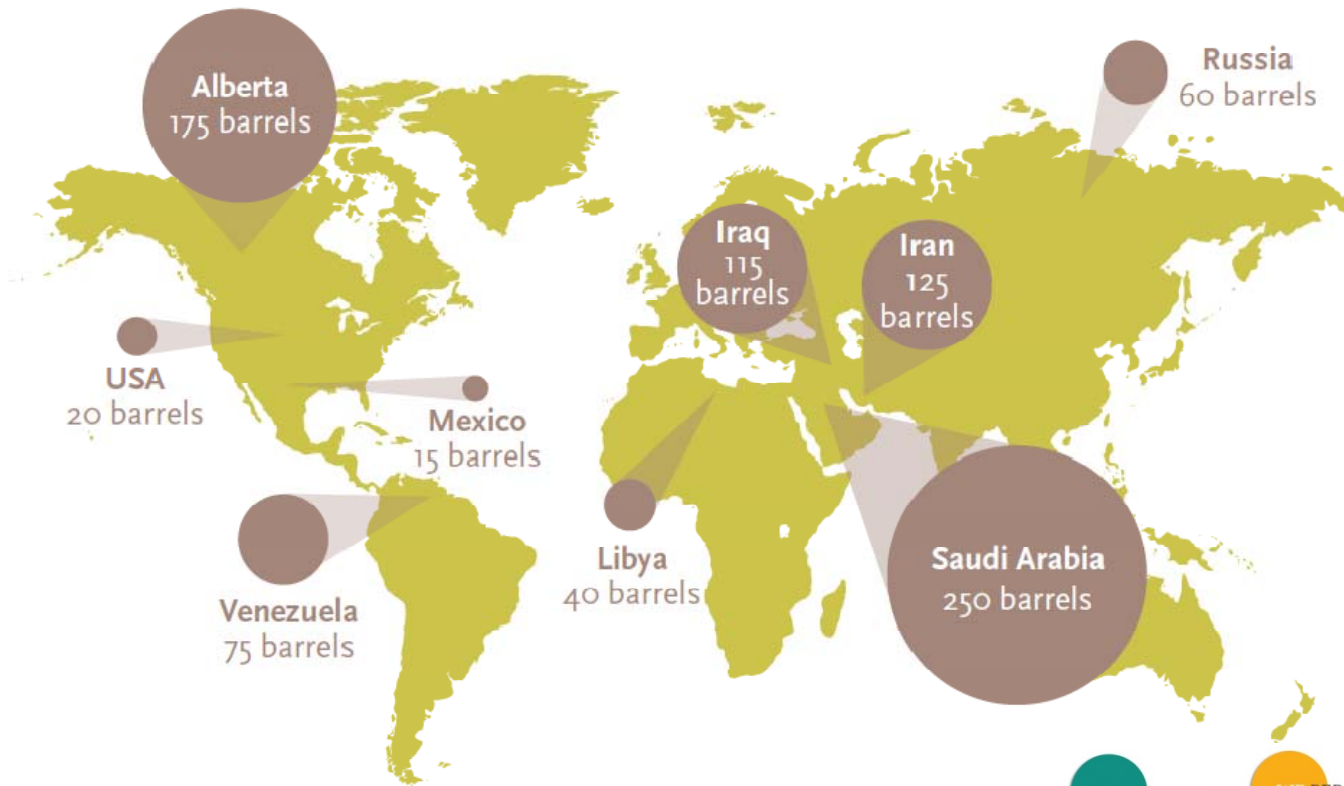
California foreign import sources (Jan-Nov) 2010



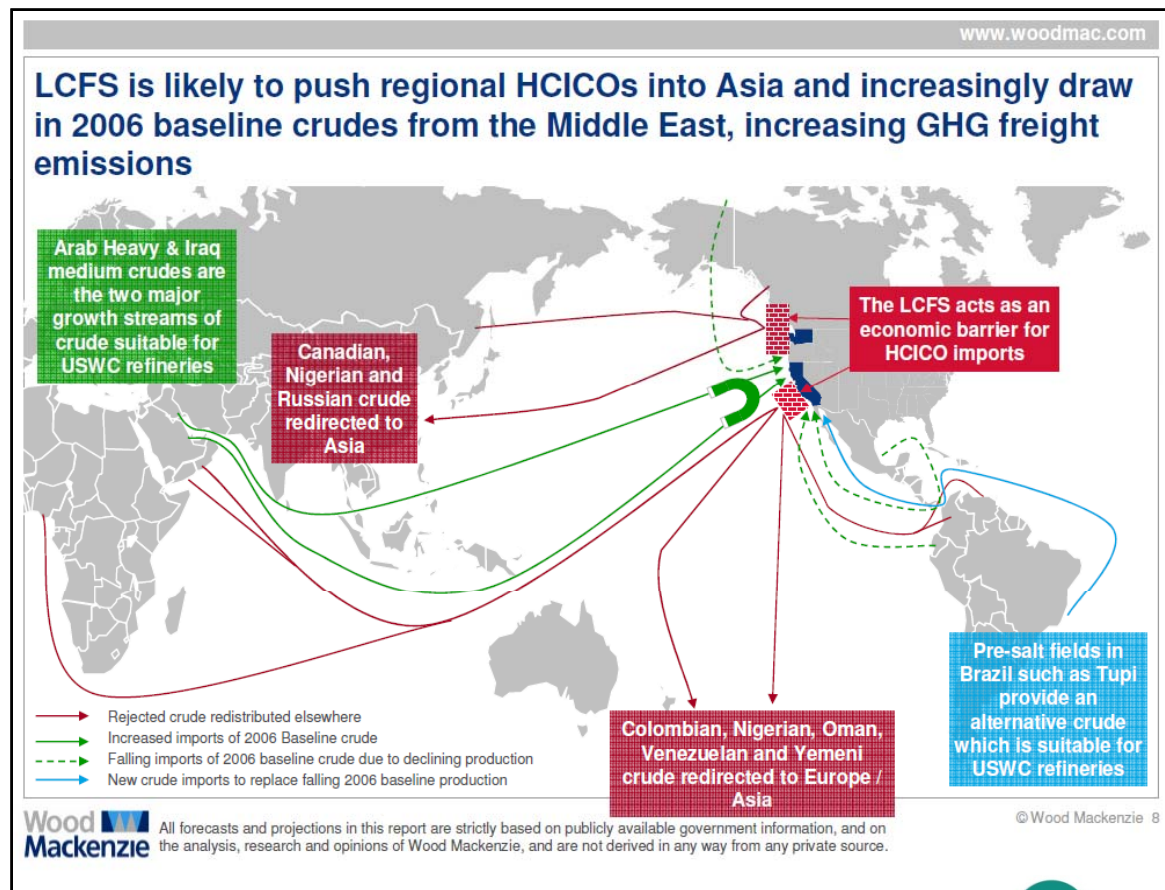
Global oil reserves

Comparative Oil Reserves (billions of barrels)

Source: *Oil & Gas Journal*, 2007

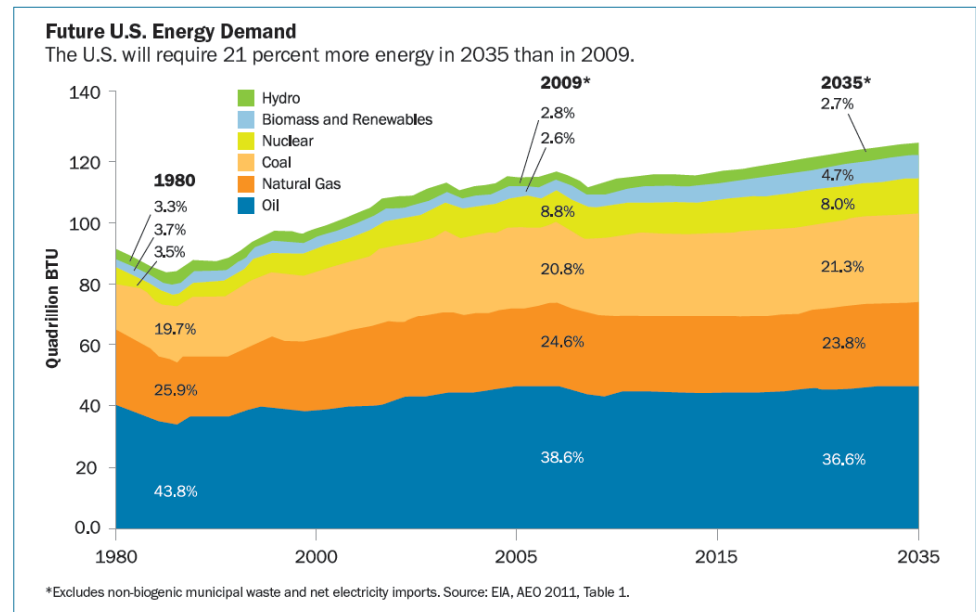


HCICO could result in crude shuffling, higher GHG emissions



Conclusion

- Petroleum will be an important and necessary source of energy for decades to come
- California's climate change policies depend heavily on a presumption petroleum will decline significantly as an energy source
- We can't ignore the facts if we are going realistically plan for the future



Conclusion

- Consumers will be the ultimate judges of the success of California's climate change strategies
- They expect energy to be abundant, reliable and affordable
- They expect it when they need it, 24 hours a day, seven days a week
- Failure to meet those expectations will jeopardize the state's climate change program

