

Western States Petroleum Association

Adequate, Reliable, Affordable Energy in a Low-Carbon World

Desk and Derrick Club of Long Beach



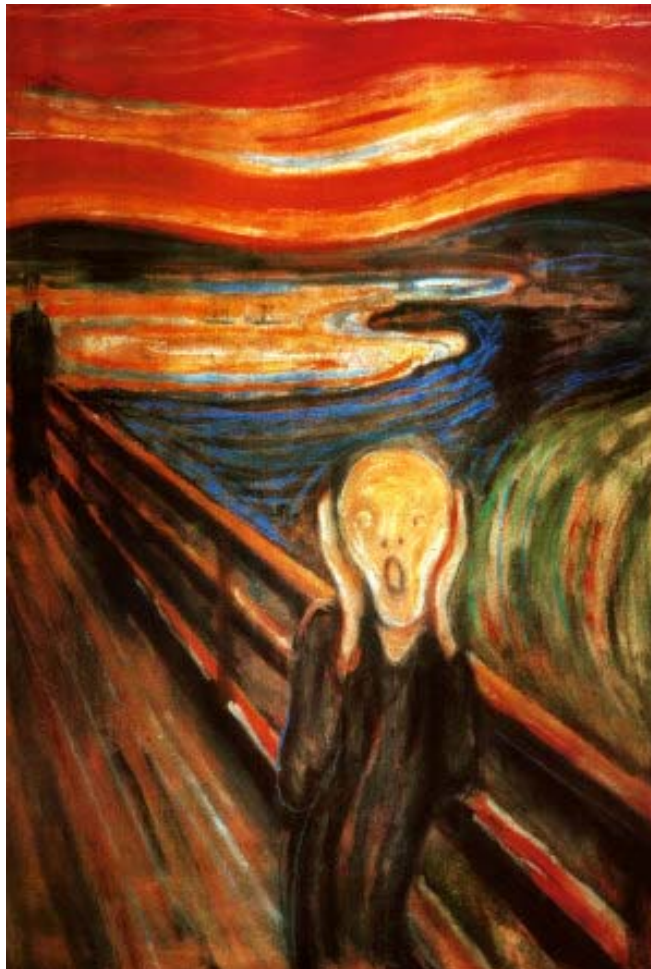
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Western States Petroleum Association

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West Coast energy issues and challenges



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AB 32 Global Warming Solutions Act – 2006

- 1990 levels by 2020 – a 30% reduction
- 80% below 1990 levels by 2050 (Executive Order)
- Statute adopted 2006
- Scoping Plan approved December 2008
- Compliance starts 2012
- Works in progress – cap-and-trade, complementary measures, etc.



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Low Carbon Fuel Standard (LCFS) – 2007



- Adopted April 2009
- Reduce “carbon intensity” of transportation fuels at least 10% by 2020; additional reductions post-2020
- Assigns carbon intensity values to crude oil based on origins
- Provides 10% of total GHG reductions to meet AB 32
- Designed to drive market toward new, non-fossil low carbon fuels, vehicles
- No compliance pathway identified

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Estimated costs/benefits of AB 32 & LCFS

<p style="text-align: center;">CARB¹</p> <ul style="list-style-type: none"> ▪ \$24.9 billion in direct costs ▪ \$40.4 billion in savings 	<p style="text-align: center;">AB 32</p>	<p style="text-align: center;">CA State University Sacramento²</p> <ul style="list-style-type: none"> ▪ \$63.9 billion direct costs on small businesses ▪ \$52 billion on consumers ▪ \$49,691 annual cost per small business ▪ \$3,857 annual cost per household
<p style="text-align: center;">CARB³</p> <ul style="list-style-type: none"> ▪ \$3.4 billion in annual cost savings by 2020 ▪ Net reduction in criteria pollutants ▪ Significant reduction in greenhouse gas (GHG) emissions 	<p style="text-align: center;">LCFS</p>	<p style="text-align: center;">Sierra Research⁴</p> <ul style="list-style-type: none"> ▪ Fuel costs increase by \$3.7 billion per year in 2020 ▪ NOx emissions increase by more than 5 tons per day ▪ No detectable change in climate

Source: ¹ California Air Resources Board, Climate Change Scoping Plan Appendices, Volume II, December 2008 page G-I-8

² Sanjay B Varshney, Dean, College of Business Administration, CSU Sacramento and Dennis H. Tootelian, Professor of Marketing & Director for Small Business, CSU Sacramento, June 2009

³ California Air Resources Board, Staff Report: Initial Statement Of Reasons, Proposed Regulation To Implement The Low Carbon Fuel Standard March 5, 2009

⁴ Preliminary Review of the CARB Staff Analysis of the Proposed Low Carbon Fuel Standard (LCFS) Sierra Research, Inc. April 8, 2009



There are big challenges ahead

Government policies call for:

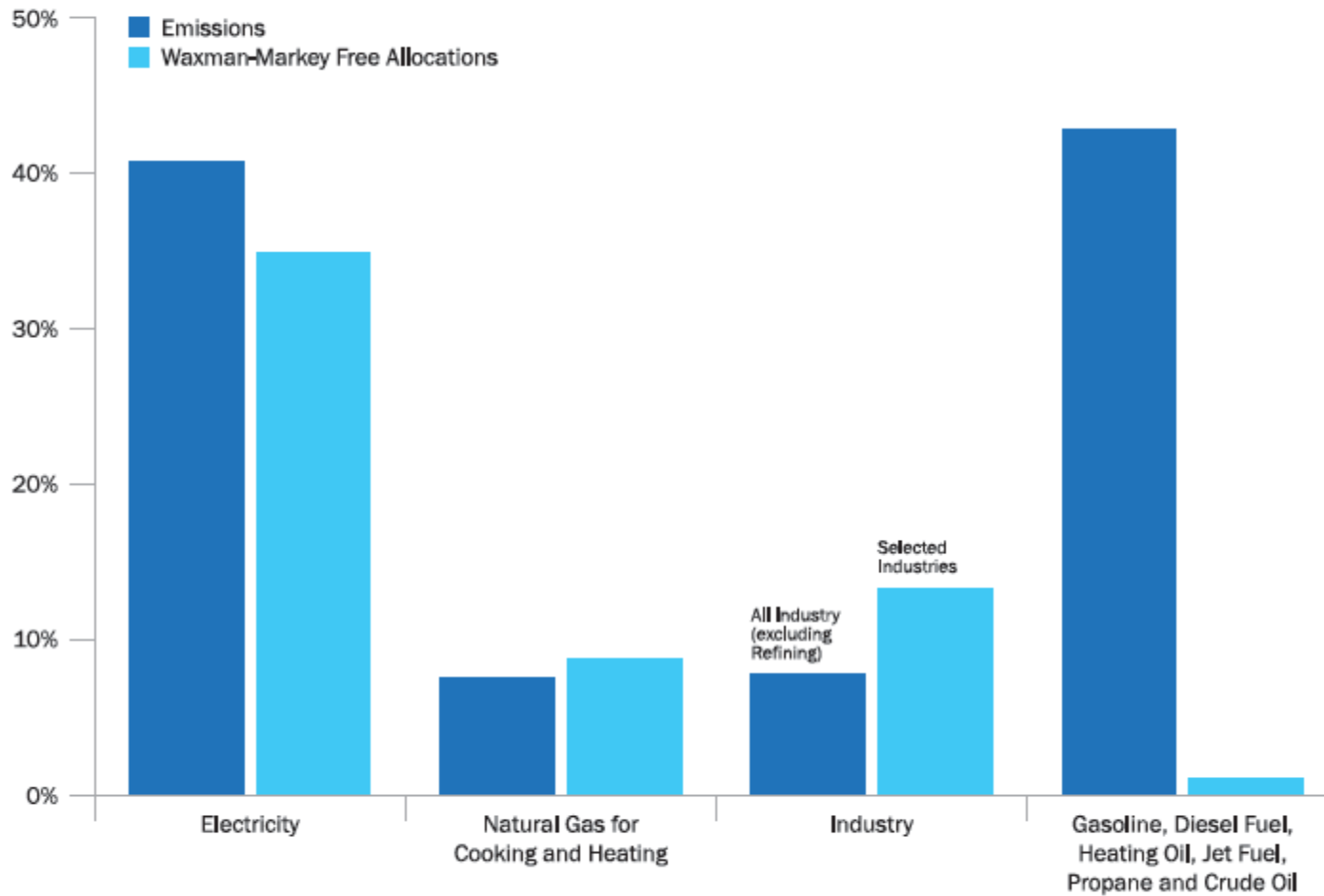
- Reduced petroleum dependence
- Energy independence
- Limiting access to resources
- Lowering GHG emissions

While:

- Overall energy demand increases
- Current technology inadequate for swiftly diversifying energy alternatives
- Consumers expect abundant, reliable and affordable fuels

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2016 CO₂ Emissions from Energy vs. Waxman-Markey Free Allowance Allocations
(as percent of EIA Reference Case CO₂ Emissions)



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Waxman-Markey: potential impacts on refining

- By 2030, U.S. refinery production could drop 25%
- U.S. refineries replaced by foreign imports of refined products
- Americans could end up relying on other countries for up to 19.4% of our refined fuel – nearly twice the amount we import today
- Imposing CO₂ costs on U.S. refineries moves emissions to other countries or regions



Critical issues for climate change programs

- Critical need for comprehensive energy policies
- Must be realistic about green energy costs and time it takes to develop technologies
- Economy requires readily available and affordable energy today, not just the promise of it 10-20 years from now
- Avoid inadvertently creating unattainable public expectations
- Consumers and the economy will suffer if the required reductions in carbon emissions result in increased volatility in energy prices
- There is zero likelihood of an energy transition occurring overnight, at little cost, and with no inconvenience

Regional Low Carbon Fuel Standards



Look before you leap!

- Oregon Environmental Quality Commission (EQC) to adopt LCFS by rule
- Washington Department of Ecology to recommend LCFS by July 2010
- Western Climate Initiative
- British Columbia, Manitoba, Ontario adopted or exploring LCFS

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