



## STATE OF THE STATE 2007

### LOW CARBON FUEL STANDARD

*Governor Schwarzenegger again asserts California's leadership in clean energy and environmental policy by establishing a Low Carbon Fuel Standard (LCFS) by Executive Order. This first-of-its kind standard will reduce our overwhelming reliance on fossil fuels and support AB 32 emissions targets.*

Governor Schwarzenegger's Executive Order establishes a groundbreaking LCFS for transportation fuels sold in California. By 2020 the standard will reduce the carbon intensity of California's passenger vehicle fuels by at least 10 percent.

Transportation accounts for the vast majority of California's annual greenhouse gas (GHG) emissions—a full 40 percent—and we rely on petroleum-based fuels for an overwhelming 96 percent of our transportation needs. This petroleum dependency contributes to climate change and leaves workers, businesses and consumers vulnerable to price shocks from an unstable global energy market. As one of the world's largest energy consumers and the national leader in energy efficiency, alternative fuels and reducing greenhouse gases, California's LCFS is an innovative action that will diversify our fuel supplies and establish a vibrant market for cleaner-burning fuels.

**The Governor creates the world's first global warming standard for transportation fuels.** The LCFS requires fuel providers to ensure that the mix of fuel they sell into the California market meets, on average, a declining standard for GHG emissions measured in CO<sub>2</sub>-equivalent gram per unit of fuel energy sold. By 2020, the LCFS will produce a 10 percent reduction in the carbon content of all passenger vehicle fuels sold in California. This is expected to replace 20 percent of our on-road gasoline consumption with lower-carbon fuels, more than triple the size of the state's renewable fuels market, and place more than 7 million alternative fuel or hybrid vehicles on California's roads (20 times more than on our roads today).

**The market reduces emissions at the lowest cost and most consumer friendly way.** Like AB 32, the LCFS will use market-based mechanisms that allow providers to choose how they reduce emissions while responding to consumer demand. For example, providers may purchase and blend more low-carbon ethanol into gasoline products, purchase credits from electric utilities supplying low-carbon electrons to electric passenger vehicles, diversify into low-carbon hydrogen as a product and more, including new strategies yet to be developed.

**Reducing greenhouse gas emissions drives research, innovation and jobs.** The University of California estimates that the Governor's GHG emissions goals can increase Gross State Product by about \$60 billion and create over 20,000 new jobs. As a result of AB 32 and other initiatives—including the Million Solar Roofs and Hydrogen Highway projects, the Bioenergy Action Plan and the Strategic Innovation and Research Initiative—California drives clean technology research, investment and development nationally. California leads the nation in clean tech investment, attracting \$484 million in venture capital to California in 2005 alone—40 percent to startups in energy generation and efficiency sectors. The Clean Fuels Initiative further expands the state's clean tech market by creating more sustainable demand for cleaner fuels.

**The Governor's Executive Order directs collaboration and action now.** The Secretary of the California Environmental Protection Agency will work directly with the California Energy Commission (CEC), the state Air Resources Board (ARB), the University of California and others to develop the pace at which the 2020 target will be achieved. This analysis will become part of the State Implementation Plan for alternative fuels as required by AB 1007 (Pavley 2005). The ARB will then begin a regulatory process to put this standard in to effect.

#### **On the Record**

***BP Focused on Well-to-Wheel Reductions:*** "The [European] Commission expects that the fuel companies will achieve most of the required reduction in CO<sub>2</sub> emissions by introducing fuels with a greater proportion of biofuels and better performing biofuels. "It appears interesting if it would help to incentivise fuels with a greater carbon efficiency from source to wheel." Howard Chase, Director of European Government Affairs for BP, "Commission targets oil companies emissions," *European Voice*, December 2006.

**PG&E President: Industry Must Act.** "...limits on greenhouse gas emissions appear to us to be both important and inevitable in the near future. Rather than waiting, we have already taken actions, like understanding and certifying our greenhouse gas emissions with the California Climate Action Registry. But, equally important, we are looking at new avenues this challenge may open for PG&E to create value for customers and shareholders using our expertise and innovation in areas like energy efficiency." Peter A. Darbee, Chairman of the Board, CEO and President of Pacific Gas and Electric, Letter from the Chairman, PG&E Corporate Website, Taken December 29, 2006.

**Foreign Policy Expert - A Matter of Security.** "The U.S. can no longer afford to postpone urgent action to strengthen its energy security and it must begin a bold process toward reducing its demand for oil." Dr. Gal Luft, Executive Director, Institute for the Analysis of Global Security (IAGS), Co-Chair, Set America Free Coalition. Presented before Senate Foreign Relations Subcommittee on Near and South Asian Affairs. "America's oil dependence and its implications for U.S. Middle East policy." October 20, 2005.

**Experts Weigh In - California Will Shift Market.** "Not only will California continue to drive the nation in combating global warming, but California drivers will benefit from greater choices at the pump and reduced exposure to gasoline price shocks. Since California is the largest transportation fuels market in the country, investments are likely to shift immediately from more oil drilling to commercializing the clean fuels of the future." Source: Roland Hwang, vehicle policy director at the Natural Resources Defense Council in San Francisco, January 2007.

### **Just the Facts**

**California's alternative fuel vehicle landscape growing.** "California is already home to a growing number of alternative fuel vehicles through the joint efforts of the Energy Commission, California Air Resources Board, local air districts, federal government, transit agencies, utilities, and other public and private entities. More than 61,000 cars, transit buses, and trucks currently operate on natural gas and LPG, along with more than 10,000 electric vehicles. California also has hundreds of fueling stations dispensing a variety of non-petroleum fuels." Source: "2003 Integrated Energy Policy Report." California Energy Commission. December 2003.

**Clean energy market's acceptance growing.** "The growth of clean-energy markets reflects its growing acceptance. Global wind and solar markets reached \$11.8 billion and \$11.2 billion in 2005 -- up 47% and 55%, respectively, from a year earlier. The market for biofuels hit \$15.7 billion globally in 2005, up more than 15% from the previous year." Source: "Clean Energy Trends 2006." Clean- Edge 2006.

**Robust venture capital investment in clean energy technologies.** "U.S.-based venture capital investments in energy technologies increased from \$716 million in 2004 to \$917 million in 2005. As a percent of total VC investments, energy tech increased from 3.3 percent in 2004 to 4.2 percent in 2005. Over the last six years, venture investments have more than quadrupled as a percent of total VC investments, increasing from under 1 percent of total venture investments in 1999 to last year's 4.2 percent." Source: "Clean Energy Trends 2006." Clean- Edge 2006.

**Carbon-based gases are the single largest contributor to greenhouse gases.** "The transportation sector is the single largest category of California's GHG emissions, producing 41 percent of the state's total emissions in 2004. Most of California's emissions, 81 percent, are carbon dioxide produced from fossil fuel combustion." Source: California Energy Commission. Inventory of Greenhouse Gas Emissions and Sinks 1990-2004. October 2006.

**California is the nation's second largest producer of transportation-related carbon dioxide from fossil fuel combustion.** "In 2004 California produced 492 million metric tons of CO<sub>2</sub>-equivalent GHG emissions, including emissions associated with imported electricity... 81 percent were emissions of CO<sub>2</sub> from fossil fuel combustion, 2.8 percent were from other sources of CO<sub>2</sub>, 5.7 percent were from methane, and 6.8 percent were from nitrous oxide. The remaining source of GHG emissions was high GWP gases, 2.9 percent." Source: California Energy Commission. Inventory of Greenhouse Gas Emissions and Sinks 1990-2004. October 2006.

**State policy is helping California curb emissions.** "California's ability to slow the rate of growth of GHG emissions is largely due to the success of its energy efficiency and renewable energy programs and a commitment to clean air and clean energy. In fact, the state's programs and commitments lowered its GHG emissions rate of growth by more than half of what it would have been otherwise." Source: Natural Resources Defense Council comments to the California Energy Commission. April 5, 2005.