SENATE COMMITTEE ON ENVIRONMENTAL QUALITY Senator Wieckowski, Chair 2015 - 2016 Regular

Bill No:	SB 350		
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Urgency:	No	Fiscal:	Yes
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SUBJECT: Clean Energy and Pollution Reduction Act of 2015

ANALYSIS:

Existing law:

- 1. Provides the California Air Resources Board (ARB) with primary responsibility for control of mobile source air pollution, including adoption of rules for reducing vehicle emissions and the specification of vehicular fuel composition. (Health and Safety Code §39000 et seq. and §39500 et seq.)
- 2. Provides that it is the policy of the state to establish a state transportation energy policy that results in the least environmental and economic cost to the state, and that in pursuing that strategy, it is the policy of the state to exploit all practicable and cost-effective conservation and improvements in the efficiency of energy use and distribution and to achieve energy security, diversity of supply sources, and competitiveness of transportation energy markets based on the least environmental and economic cost. (Public Resources Code §25000.5)
- 3. Directs ARB to implement motor vehicle emission standards, in-use performance standards, and motor vehicle fuel specifications for the control of air contaminants and sources of air pollution that ARB finds to be necessary, cost effective, and technologically feasible, unless preempted by federal law. (HSC §43013 et seq.)
- 4. Under the California Global Warming Solutions Act of 2006, requires ARB to determine the 1990 statewide greenhouse gas (GHG) emissions level and approve a statewide GHG emissions limit that is equivalent to that level, to be achieved by 2020, and to adopt GHG emissions reductions measures by regulation. ARB is authorized to include the use of market-based mechanisms to comply with these regulations. (HSC §38500 et seq.)
- 5. Requires the California Energy Resources Conservation and Development Commission (CEC) to develop and implement a comprehensive program to

achieve greater energy savings in the state's existing residential and nonresidential building stock, and requires CEC to periodically update the criteria and adopt any revision necessary to refine program requirement after receiving public input. (PRC §25943)

6. Under the Renewable Portfolio Standard (RPS) requires investor-owned utilities (IOUs), publicly owned utilities (POUs) and certain other retail sellers of electricity to achieve 33% of their energy sales from an eligible renewable electrical generation facility by December 31, 2020, and establishes portfolio requirements and a timeline for procurement quantities of three product categories. (Public Utilities Code §399.11 et seq.)

This bill:

- 1. Directs the ARB to adopt and implement motor vehicle emissions standards, in-use performance standards, and motor vehicle fuel specifications in furtherance of achieving a 50% reduction in petroleum use in motor vehicles by January 1, 2030.
- 2. Provides that in pursuing the least environmental and economic cost strategy, it is the policy of the state to exploit all practicable and cost-effective conservation and improvements in the efficiency of energy use and distribution and to achieve energy security, diversity of supply sources, and competitiveness of transportation energy markets based on the least environmental and economic cost and in furtherance of reducing petroleum use in the transportation sector by 50% by January 1, 2013.
- 3. Directs CEC, by January 1, 2017, and at least once every three years thereafter, to adopt an update to its comprehensive program for achieving greater energy savings in the state's existing residential and nonresidential building stock in order to achieve a doubling of the energy efficiency of existing buildings by January 1, 2030.
- 4. Directs PUC and CEC to implement the RPS to obtain the target of generating 50% of total retail electricity sales from renewable energy resources by December 31, 2030, and makes other changes regarding RPS requirements and enforcement.

Background

1. Climate Change.

The fifth assessment report from the Intergovernmental Panel on Climate Change notes that atmospheric concentrations of global warming pollutants have risen to levels unseen in the past 800,000 years. Carbon dioxide concentrations have increased by 40% since pre-industrial times. There is broad scientific consensus that these global greenhouse gases (GHGs) emission increases are leading to higher air and water temperatures as well as rising sea levels, with serious consequences for California.

2050 GHG goal. In 2005, Governor Schwarzenegger issued Executive Order S-3-05 and called for GHG emissions reductions to 1990 levels by 2020 and 80% below 1990 levels by 2050. According to the 2008 Scoping Plan, the 2020 goal was designed to be an aggressive but attainable near-term target, and the 2050 goal represented broad scientific consensus of emissions reduction levels necessary for climate stabilization.

ARB reports that studies show that a 45-55% petroleum reduction in 2030 sets California on a path to meet the 2050 GHG goals.

2. Pollution from Petroleum.

In addition to contributing to climate change, petroleum use in the state is a major source of toxic and criteria air pollutants. ARB reports that in California the production, refining, and use of petroleum accounts for 80% of smog-forming pollution and over 95% of diesel particulate matter.

Diesel exhaust is a complex mixture of thousands of gases and fine particles (commonly known as soot) that contains more than 40 toxic air contaminants. These include many known or suspected cancer-causing substances, such as benzene, arsenic and formaldehyde. It also contains other harmful pollutants, including nitrogen oxides (a component of smog).

Diesel engines are a major source of fine-particle pollution (also called particulate matter or PM). The elderly and people with emphysema, asthma, and chronic heart and lung disease are especially sensitive to PM. Numerous studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks and premature deaths among those suffering from respiratory problems. Because children's lungs and respiratory systems are still developing, they are also more susceptible than healthy adults to fine particles. Exposure to PM is associated with increased frequency of childhood illnesses and can also reduce lung function in children.

Diesel exhaust and many individual substances contained in it have the potential to contribute to mutations in cells that can lead to cancer. In fact, long-term exposure to diesel exhaust particles poses the highest cancer risk of any toxic air contaminant evaluated by the Office of Environmental Health Hazard Assessment (OEHHA).

Smog is formed from the reaction of oxides of nitrogen with volatile organic compounds to produce ground-level ozone, or tropospheric ozone. Ozone has a number of negative health effects including irritated respiratory system, reduced lung function, aggravated asthma and inflammation and damage of the lining of the lung. Active children are the group at highest risk from ozone exposure.

Under the federal Clean Air Act, the US Environmental Protection Agency (US EPA) established National Ambient Air Quality Standards (NAAQS) that apply for outdoor air throughout the country. These federal standards exist for several air pollutants due to their negative impact on public health above specified concentrations, including ozone, particulate matter, oxides of nitrogen, and oxides of sulfur, carbon monoxide, and lead. Nonattainment areas are regions that do not meet the national primary or secondary ambient air quality standard for one of those pollutants. There are several nonattainment designations ranging from concentrations slightly above the standard, termed marginal nonattainment, to extreme nonattainment, where pollution levels far exceed the national standard.

On November 25, 2014, the US EPA proposed to strengthen the current 2008 NAAQS for ground-level ozone, based on extensive scientific evidence about ozone's effects on public health and welfare. US EPA's proposal finds that the current level of the standard, 75 parts per billion, is not adequate to protect public health.

The San Joaquin and South Coast air basins are both in extreme nonattainment for the 2008 NAAQS for ozone. States with nonattainment areas would have until 2020 to late 2037 to meet the proposed health standard, with attainment dates varying based on the ozone level in the area.

According to ARB, in order for the state to meet federal air quality standards, petroleum use must be cut by 50% over the next 15 years.

3. Reducing Petroleum and Diversifying Fuel.

As the evidence for man-made climate change has mounted over the last few decades, the state has implemented a broad climate portfolio to mitigate global warming impacts by pursuing policies that reduce GHGs. Because the transportation sector is responsible for 38% of the state's total GHG emissions, much of that portfolio targets GHG emissions from that sector. These policies include a range of regulatory and incentive programs including reducing GHG emissions through low-carbon fuels, increased fuel efficiency, near-zero and zero-emission vehicles, transit options, and sustainable, transit-oriented communities. Additionally, since the transportation sector contributes 80% of smog-forming gases each year, these policies also have significant cobenefits regarding improved public health outcomes and serve to help the state meet federal and state air quality standards.

A.AB 32: The California Global Warming Solutions Act of 2006.

In 2006, the Global Warming Solutions Act of 2006 (AB 32, Núñez and Pavley, Chapter 488, Statutes of 2006) established a statewide GHG emissions goal equivalent to the 1990 level of GHG emissions, to be achieved by 2020.

AB 32 Scoping Plan: Major Transportation Measures.

- (1) Low Carbon Fuel Standard (LCFS). The LCFS requires fuel suppliers in the state to meet certain average annual carbon limitations. The program ultimately requires a 10% reduction in the carbon intensity of a particular fuel by 2020. The carbon intensity measures the net carbon emissions of the entire life-cycle of the fuel, including carbon emitted during production, refining, and transportation, and conversion of the fuel to useable energy. Fuel suppliers can meet the standard by reducing the carbon intensity of their fuels, or by purchasing credits from other suppliers of other fuels that have carbon intensities below state requirements.
- (2) Advanced Clean Cars. The Advanced Clean Cars program includes three regulatory mechanisms, including the Low Emission Vehicle regulations. These regulations include new GHG emission standards for cars and light trucks to reduce GHG emissions by 34% from the 2016 standard during the 2017-25 model years, as well as regulations to reduce smog-forming emissions from vehicles. The Advanced Clean Cars program also includes the Zero Emission Vehicle (ZEV)

regulation, which requires that by 2025 about 15% of new car sales will be ZEVs.

- (3) SB 375 and Sustainable Communities Strategies. Under the Sustainable Communities and Climate Protection Act of 2008 (SB 375, Steinberg, Chapter 728, Statutes of 2008), ARB sets regional targets for GHG emissions reductions from passenger vehicle use. The Act requires each of California's metropolitan planning organizations to prepare a sustainable communities strategy as an integral part of its regional transportation plan, which contains land use, housing, and transportation strategies that, if implemented, would allow the region to meet its GHG emission reduction targets.
- (4) Cap-and-Trade Program. Pursuant to AB 32, ARB adopted a capand-trade program that places a "cap" on aggregate GHG emissions from large GHG emitters (such as large industrial facilities, electricity suppliers, and transportation fuel suppliers), which are responsible for approximately 85% of the state's GHG emissions. The cap declines over time, eventually reaching the target emission level in 2020.

Beginning January 1, 2015, the cap-and-trade regulation requires transportation fuel and natural gas suppliers to obtain allowances for the GHG emissions associated with the combustion of the fuels they provide. As fuels represent such a large source of greenhouse gases, the inclusion of transportation fuels approximately doubles the cap and size of the program.

B. Cap-and-Trade Auction Revenue Allocations.

The Legislature has also allocated cap-and-trade funds to several programs to reduce GHG emissions from the transportation sector.

- High-Speed Rail Project. The Legislature has allocated several hundred million dollars of cap-and-trade funds to construction of the state's High-Speed Rail Project. The 2014-15 budget provides for a continuous appropriation of 25% of cap-and-trade funds to highspeed rail beginning in 2015-16.
- (2) *Low Carbon Transit Operations Program*. The Legislature has also allocated cap-and-trade funds to the newly created Low Carbon Transit Operations Program. This program provides operating and capital assistance to transit agencies to reduce GHG emissions and

improve mobility, with a priority on serving disadvantaged communities. Eligible projects include expanded, new, or enhanced transit services; conversion or retrofit of transit vehicles and equipment to zero-emission; expanded intermodal transit facilities; and infrastructure to support zero-emission or plug-in hybrid vehicles. The 2014-15 Budget provides for a continuous appropriation of 5% of cap-and-trade funds for this program beginning in 2015-16. The state Department of Transportation and ARB are currently reviewing applications.

- (3) Transit and Intercity Rail Capital Program. In addition, the Legislature has allocated cap-and-trade funds to the newly created Transit and Intercity Rail Capital Program. This program funds capital improvements that integrate state and local rail and other transit systems, including projects located in disadvantaged communities and projects that provide connectivity to the high-speed rail system. The 2014-15 Budget provided for a continuous appropriation of 10% of cap-and-trade funds to this program beginning in 2015-16.
- (4) Clean Vehicle Rebate Program (CVRP). CVRP, provides rebates of up to \$2,500 for the purchase or lease of a new zero emission vehicle (ZEV) or plug-in hybrid electric vehicle. CVRP is administered by ARB and its contractor, the California Center for Sustainable Energy.
- (5) Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP). HVIP is administered by ARB and its contractor, CALSTART. HVIP provides vouchers to California fleet owners to help purchase hybrid and zero-emission trucks and buses.
- (6) Zero-Emission Truck and Bus Pilot Projects. SB 1204 (Lara), Chapter 524, Statutes of 2014, requires ARB to develop a new program, the California Clean Truck, Bus, and Off-Road Vehicle and Equipment Technology Program. This program, known as Zero-Emission Truck and Bus Pilot Projects, will fund development, demonstration, pre-commercial pilot, and early commercial deployment of zero- and near-zero-emission truck, bus, and off-road vehicle technologies, with prioritization of projects located in disadvantaged communities. ARB is currently holding public workgroup meetings to solicit stakeholder input.

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(7) Advanced Technology Freight Demonstration Projects. The Legislature has also allocated cap-and-trade funds to Advanced Technology Freight Demonstration Projects. This program provides grants to local air districts and other public agencies to fund advanced technology vehicle, equipment, or emission-control projects that are not yet commercialized.

C. Other Transportation-Related Emission Reduction Programs.

- (1) Enhanced Fleet Modernization Program (EFMP). EFMP, administered by ARB and the Bureau of Automotive Repair (BAR), provides funds for the voluntary retirement of eligible passenger vehicles and light- and medium-duty trucks that are high polluters. The statewide component of this program, administered by ARB in consultation with BAR, offers a voucher to eligible vehicle owners to retire a high-polluting vehicle. The local component of the program, administered by ARB and authorized only in the San Joaquin Air Pollution Control District and the South Coast Air Quality Management District, offers an additional voucher to eligible owners to replace a high-polluting vehicle.
- (2) Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP). ARFVTP, administered by the California Energy Commission, provides funding for the development and deployment of alternative and renewable fuels and advanced transportation technologies to help attain AB 32 goals. Eligible projects include development, improvement, and production of alternative and renewable low-carbon fuels; improvement of light-, medium-, and heavy-duty vehicle technologies; and expansion of infrastructure connected with existing fleets, public transit, and transportation corridors.
- (3) Active Transportation Program (ATP). ATP was established by the 2013-14 Budget. This program, administered by the state Department of Transportation, aims to encourage increased use of active modes of transportation such as bicycling and walking. ATP consolidates various bicycle- and pedestrian-related programs into a single program to, among, other goals, advance the efforts of regional agencies to achieve their GHG reduction goals.

Comments

1. Purpose of Bill.

According to the author, "SB 350 implements new Golden State Standards "50-50-50" benchmarks by raising California's renewable portfolio standard from 33% to 50%, striving for a 50% reduction in petroleum use, and increasing energy efficiency in buildings by 50% by the year 2030. SB 350 makes these standards permanent, trackable, and enforceable by enacting them into law and building on the accountability mechanisms already in existence to ensure they are fully implemented. Each of these standards are added to existing clean air, clean energy, and climate related statutes that have been implemented for years.

"The 50% renewable energy standard will be implemented by the CA Public Utilities Commission for the private utilities and by the CA Energy Commission for municipal utilities, as per current law. Each utility submits a procurement plan showing it will purchase clean energy to displace other non-renewable resources. Each state agency then reviews the plan, ensures it complies with the law and approves the plan. California has more than doubled renewable capacity installed in the last four years (adding over 11,000 megawatts) and has more than 21,000 megawatts online, which includes 2,300 megawatts on 245,000 homes, businesses, and schools.

"The 50% reduction in petroleum use also will be implemented using existing laws and financial resources. Under current law, the state air board must reduce pollution in order to achieve state and federal ambient air standards. Current law (Health and Safety Code Section 42013) requires the board to adopt standards for vehicles and fuels to achieve clean air. This measure simply ensures those actions will achieve a 50% reduction in petroleum by 2030.

"Finally, the 50% increase in energy efficiency in buildings will be done through the use of existing energy efficiency retrofit funding and regulatory tools already available to state energy agencies under existing law. The addition made by this measure requires state energy agencies to plan for, and implement those programs in a manner that achieves the energy efficiency target."

2. New Goal, Same Tools.

To a large extent, the bill uses existing state programs to reach the petroleum reduction, energy efficiency, and renewable energy goals in the bill. The latter two aims of the bill concerning energy efficiency and RPS targets are the jurisdiction of the Senate Energy, Utilities and Communications Committee and were discussed in their hearing on April 7, 2015, as well as in the staff analysis for that committee.

Specifically for the petroleum goal, SB 350 builds off the ARB's current authority to adopt and implement motor vehicle emission standards, in-use performance standards, and fuel specifications for the control of air pollution in the state to reduce petroleum use by 50%. Additionally, SB 350 includes the 50% petroleum reduction goal into CEC's state transportation energy policy.

Presumably, however, the enabling provisions in SB 350 will not be acting in isolation to achieve the requisite petroleum reductions. ARB has broad authority under AB 32 to regulate transportation GHG emissions reductions, and currently does so with a variety of programs, including the cap-and-trade program and the LCFS. Additionally, SB 32 (Pavley), which is also being heard by this committee and is part of a package of climate-related legislation along with SB 350 and several other bills, would extend AB 32 and ARB's broad emissions reduction authority to achieve a GHG emission reduction goal of 80% below 1990 GHG emissions levels by 2050.

According to ARB, an approach to 50% petroleum reduction could include "reducing growth in vehicle-miles travelled to 4%; increasing on-road fuel efficiency of cars to 35 mpg and heavy-duty trucks to about 7 mpg; and at least doubling the use of alternative fuels like biofuels, electricity, hydrogen, and renewable natural gas."

3. 50% Reduction Compared to What?

The bill specifies a reduction in petroleum use of 50% by January 1, 2030. However, the bill does not specify a baseline level of petroleum use. *The author may wish to clarify this point as the bill moves forward*.

Related/Prior Legislation

SB 32 (Pavley, 2014) establishes a GHG emissions reduction goal of 80% below 1990 GHG emission levels, to be achieved by 2050. SB 32 will be heard by the Senate Environmental Quality Committee on April 29, 2015.

SOURCE: Author

SUPPORT:

American Academy of Pediatrics, California American Cancer Society Cancer Action Network, California American Lung Association, California Asthma Coalition of Los Angeles County Audubon California Azul Baz Allergy, Asthma and Sinus Center Berkshire Hathaway Energy Blattner Energy Bonnie J. Adario Lung Cancer Foundation Breathe California BYD Motors, Inc. California Thoracic Society California Black Health Network California Conference of Directors of Environmental Health California Energy Efficiency Industry Council California Hydropower Reform Coalition California League of Conservation Voters California Pan Ethnic Health Network California Public Health Association, North Californians Against Waste CALSTART Center for Biological Diversity Center for Climate Change and Health, Public Health Institute Center for Sustainable Energy Central California Asthma Collaborative Circulate San Diego Clean Energy and Clean Energy Renewable Fuels Clean Power Campaign Cleantech San Diego Clean Water Action Cleveland National Forest Foundation Coalition for Clean Air Coastal Environmental Rights Foundation Dignity Health Doctors for Climate Health Endangered Habitats League Environment California Environmental Action Committee of West Marin Environmental Defense Fund **Environmental Entrepreneurs**

First Solar Friends Committee on Legislation of California Friends of the River Health Care Without Harm Large-Scale Solar Association League of Women Voters of California McCarthy Building Companies, Inc. Medical Advocates for Healthy Air Moms Clean Air Force National Parks Conservation Association Natural Resources Defense Council NextGen Climate NEXTracker, Inc. Office of Ratepayer Advocates Physicians for Social Responsibility, Los Angeles Physicians for Social Responsibility, San Francisco Bay Area Chapter Planning and Conservation League Public Health Department, County of Los Angeles Public Health Institute Regional Asthma Management and Prevention San Francisco Asthma Task Force Santa Clara County Medical Society Sequoia Riverlands Trust Sierra Business Council Sierra Club Signal Energy, LLC Sonoma County Asthma Coalition Southwest Wetlands Interpretive Association SunEdison SunPower Corporation The Utility Reform Network TransForm TreePeople Trust for Public Lands Union of Concerned Scientists Wireless Advanced Vehicle Electrification

OPPOSITION:

Associated General Contractors Building Owners and Managers Association California Association of Nurseries and Garden Centers California Chamber of Commerce California Cotton Ginners Association

California Cotton Growers Association California Dairies Inc. California Farm Bureau Federation California Fresh Fruit Association California Independent Oil Marketers Association California Independent Petroleum Association California Manufactures & Technology Association California Metals Coalition California Retailers Association CalTax Far West Equipment Dealers Association Harris Farms International Council of shopping Centers NAIOP-Commercial Real Estate Development Association National Federation of Independent Business National Tank Truck Carriers Simi Valley Chamber of Commerce Southwest California Legislative Council Torrance Chamber of Commerce United West Coast Lumber and Building Material Association Western Aerosol Information Bureau Western Agricultural Processors Association Western Agricultural Processors Association Western Growers Association Western Plant Health Association Western States Petroleum Association

ARGUMENTS IN SUPPORT:

Supporters note that climate change is increasingly impacting the state and it is prudent and timely to take the next steps to advance a clean energy economy and create jobs by increasing renewable energy, improving the energy efficiency of our buildings, and reducing petroleum use throughout the state. Supporters also note that SB 350, while setting California on a trajectory to meet the state's GHG goals, will also spur the types of innovations that will keep the state a leader in the global green economy. Supporters state that SB 350 fights against the state's addiction to oil, the major contributor to smog, carcinogenic diesel soot, and carbon pollution in California by cutting petroleum in half by 2030.

ARGUMENTS IN OPPOSITION:

Opponents notes that SB 350 is not clear whether ARB should adopt and implement policies that impact the demand for petroleum fuels or whether they should adopt and implement policies that affect the supply of transportation fuels, and as a result, the bill may reduce availability of critical transportation fuels for businesses and millions of Californians that depend on petroleum fuels for day-to-day needs. Opponents also note that SB 350 would result in a broad transfer of decision-making authority from the Legislature to nonelected regulators and that SB 350's RPS targets would threaten energy affordability and reliability.

DOUBLE REFERRAL:

This measure was heard in the Senate Energy, Utilities and Communications Committee on April 7, 2015, and passed out of committee with a vote of 8-3.

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