

**SB-1505 Fuel: hydrogen alternative fuel.** (2005-2006)

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**Senate Bill No. 1505**

CHAPTER 877

An act to add Sections 43868 and 43869 to the Health and Safety Code, relating to fuel.

[Approved by Governor September 30, 2006. Filed with Secretary of State September 30, 2006.]

LEGISLATIVE COUNSEL'S DIGEST

SB 1505, Lowenthal. Fuel: hydrogen alternative fuel.

Existing law imposes various limitations on emissions of air contaminants for the control of air pollution from vehicular and nonvehicular sources. Existing law generally designates the State Air Resources Board as the state agency with the primary responsibility for the control of vehicular air pollution. Under existing law, the state board, in conjunction with other state agencies, is required to develop and adopt a state plan to increase the use of alternative fuels, as defined. Existing law also requires retail sellers, as defined, to procure a specified percentage of electricity generated by eligible renewable energy resources, as defined, called a renewables portfolio standard.

This bill would declare the Legislature's intent that, when the California Hydrogen Highway Blueprint Plan is implemented, it be done in a clean and environmentally responsible and advantageous manner. The bill would require the state board to adopt regulations that will ensure that state funding for the production and use of hydrogen fuel, as described in the California Hydrogen Highway Blueprint Plan, contributes to the reduction of greenhouse gas, criteria air pollutant, and toxic air contaminant emissions, and would require these regulations to meet minimum requirements, as specified.

The bill would also require the state board to adopt regulations that are to apply in any year immediately following a 12-month period in which the mass of hydrogen fuel dispensed in California for transportation purposes exceeds 3,500 metric tons, to ensure that the production and direct use of hydrogen fuels for motor vehicles in the state, including, but not limited to, any hydrogen highway network that is developed pursuant to the California Hydrogen Highway Blueprint Plan, contributes to a reduced dependence on petroleum, as well as reductions in greenhouse gas emissions, criteria air pollutant emissions, and toxic air contaminant emissions, and would require these regulations to meet minimum requirements, as specified. The bill would authorize the state board to increase the 3,500-metric-ton threshold, as specified. The bill would require the California Environmental Protection Agency's Environmental Justice Advisory Committee to meet to discuss the production and distribution of hydrogen fuel in the state, as specified. The bill would require the agency secretary, in consultation with the state board, to recommend to the Legislature and the Governor, on or before January 1, 2010, incentives that could be offered to businesses within the hydrogen fuel industry and consumers to spur the development of clean sources of hydrogen fuel.

The bill would require these regulations to require providers of hydrogen fuel for transportation in the state to report to the state board the annual mass of hydrogen fuel dispensed and the method by which the dispensed

hydrogen was produced and delivered, as specified.

Vote: majority Appropriation: no Fiscal Committee: yes Local Program: no

THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

SECTION 1. The Legislature finds and declares all of the following:

(a) A network of hydrogen production and distribution facilities for fueling vehicles is developing in California. It is the state's goal to promote this development of hydrogen infrastructure, in part, through demonstration projects.

(b) The California Environmental Protection Agency has produced the California Hydrogen Highway Blueprint Plan as part of the state's efforts to diversify its sources of transportation fuels available to California motorists by expanding the network of hydrogen fueling stations and availability of hydrogen-powered vehicles in the state.

(c) The California Hydrogen Highway Blueprint Plan establishes initial goals for the greenhouse gas emissions and renewable energy content of hydrogen produced for use in the hydrogen highway network.

(d) The production of hydrogen fuels for use in vehicles, when made from renewable sources of energy, emits virtually zero net greenhouse gases into the atmosphere.

(e) The use of hydrogen fuel in motor vehicles can reduce or, when used in a fuel cell vehicle, virtually eliminate tailpipe emissions of criteria pollutants.

(f) Hydrogen fueling stations can reduce onsite evaporative emissions when compared with today's gasoline fueling stations.

(g) The widespread use of hydrogen fuels in transportation can reduce California's dependence on petroleum-based fuels, and help enhance our nation's energy security.

(h) Moving toward a hydrogen-based economy with an emphasis on hydrogen fuel production from clean, renewable sources could create thousands of new clean manufacturing and technology jobs for California residents.

(i) Natural gas, while still an emitter of heat-trapping greenhouse gases, is cleaner than other fossil fuels, and therefore is an important part of a transitional strategy to a clean hydrogen fuel economy.

(j) A hydrogen highway network in the state should produce hydrogen fuel from clean, renewable sources and reduce greenhouse gases and other pollutants compared to petroleum-based fuels.

(k) Hydrogen fuel and fuel cell vehicles are a central part of achieving the state's Zero Emission Vehicle Program.

(l) According to the California Hydrogen Highway Blueprint Plan, the absence of specific goals for reducing emissions and using renewable resources to produce hydrogen fuel might actually increase greenhouse gas and particulate matter emissions relative to petroleum fueled vehicles.

(m) Hydrogen produced from natural gas or from clean electricity and used in hydrogen or hydrogen blend vehicles will reduce the consumption of fossil fuels compared to gasoline vehicles.

SEC. 2. Section 43868 is added to the Health and Safety Code, to read:

43868. (a) It is the intent of the Legislature that, when the California Hydrogen Highway Blueprint Plan is implemented, it be done in a clean and environmentally responsible and advantageous manner.

(b) It is further the intent of the Legislature that the state board work with other relevant state agencies on the production of hydrogen, with an emphasis on hydrogen produced from renewable resources, as part of a strategy to reduce the state's dependence on petroleum, achieve the state's greenhouse gas emission reduction targets, and improve air quality for the state's residents.

(c) It is further the intent of the Legislature that the California Environmental Protection Agency and the state board, as part of the implementation of the California Hydrogen Highway Blueprint Plan, include in their priorities the deployment of hydrogen or clean hydrogen blend fueled transit buses.

(d) It is further the intent of the Legislature that the state board consider including in a future revision of the California Hydrogen Highway Blueprint Plan a study to determine the necessary steps to maximize the production of hydrogen fuel made from eligible renewable resources.

SEC. 3. Section 43869 is added to the Health and Safety Code, to read:

43869. The state board shall, no later than July 1, 2008, develop and, after at least two public workshops, adopt hydrogen fuel regulations to ensure the following:

(a) That state funding for the production and use of hydrogen fuel, as described in the California Hydrogen Highway Blueprint Plan, contributes to the reduction of greenhouse gas emissions, criteria air pollutant emissions, and toxic air contaminant emissions. The regulations shall, at a minimum, do all of the following:

(1) Require that, on a statewide basis, well-to-wheel emissions of greenhouse gases for the average hydrogen powered vehicle fueled by hydrogen from fueling stations that receive state funds are at least 30 percent lower than emissions for the average new gasoline vehicle in California when measured on a per-mile basis.

(2) (A) Require that, on a statewide basis, no less than 33.3 percent of the hydrogen produced for, or dispensed by, fueling stations that receive state funds be made from eligible renewable energy resources as defined in subdivision (a) of Section 399.12 of the Public Utilities Code.

(B) If the state board determines that there is insufficient availability of hydrogen fuel from eligible renewable resources to meet the 33.3 percent requirement of this paragraph, the state board may, after at least one public workshop and on a one-time basis, reduce the requirement by an amount, not to exceed 10 percentage points, that the state board determines is necessary to result in a renewable percentage requirement for hydrogen fuel that is achievable.

(C) If the executive officer of the state board determines that it is not feasible for a public transit operator to use hydrogen fuel made from eligible renewable resources, the executive officer may exempt the operator from the requirements of this paragraph for a period of not more than five years and may extend the exemption for up to five additional years.

(3) Prohibit hydrogen fuel producers from counting as a renewable energy resource, pursuant to paragraph (2), any electricity produced from sources previously procured by a retail seller and verifiably counted by the retail seller towards meeting the renewables portfolio standard obligation, as required by Article 16 (commencing with Section 399.11) of Chapter 2.3 of Part 1 of Division 1 of the Public Utilities Code.

(4) Require that all hydrogen fuel dispensed from fueling stations that receive state funds be generated in a manner so that local well-to-tank emissions of nitrogen oxides plus reactive organic gases are at least 50 percent lower than well-to-tank emissions of the average motor gasoline sold in California when measured on an energy equivalent basis.

(5) Require that well-to-tank emissions of relevant toxic air contaminants for hydrogen fuel dispensed from fueling stations that receive state funds be reduced to the maximum extent feasible at each site when compared to well-to-tank emissions of toxic air contaminants of the average motor gasoline fuel on an energy-equivalent basis. In no case shall the toxic emissions be greater than the emissions from gasoline on an energy equivalent basis.

(6) Require that providers of hydrogen fuel for transportation in the state report to the state board the annual mass of hydrogen fuel dispensed and the method by which the dispensed hydrogen was produced and delivered.

(7) Authorize the state board, after at least one public workshop, to grant authority to the executive officer of the state board to exempt from this subdivision, for a period of no more than five years, hydrogen dispensing facilities constructed for small demonstration or temporary purposes. The exemption may be extended on a case-by-case basis upon a finding that the extension will not harm public health. The executive officer may limit the total number of exemptions by geographic region, including by air district, but the average annual mass of hydrogen dispensed from exempted facilities shall not exceed 10 percent of the total mass of hydrogen fuel dispensed for transportation purposes in the state.

(b) That, in any year immediately following a 12-month period in which the mass of hydrogen fuel dispensed for transportation purposes in California exceeds 3,500 metric tons, the production and direct use of hydrogen fuels for motor vehicles in the state, including, but not limited to, any hydrogen highway network that is developed pursuant to the California Hydrogen Highway Blueprint Plan, contributes to a reduced dependence on petroleum,

as well as reductions in greenhouse gas emissions, criteria air pollutant emissions, and toxic air contaminant emissions. For the purpose of this subdivision, the regulations, at a minimum, shall do all of the following:

(1) Require that, on a statewide basis, well-to-wheel emissions of greenhouse gases for the average hydrogen powered vehicle in California are at least 30 percent lower than emissions for the average new gasoline vehicle in California when measured on a per-mile basis.

(2) Require that, on a statewide basis, no less than 33.3 percent of the hydrogen produced or dispensed in California for motor vehicles be made from eligible renewable energy resources as defined in subdivision (a) of Section 399.12 of the Public Utilities Code.

(3) Prohibit hydrogen fuel producers from counting as a renewable energy resource, for the purposes of paragraph (2), any electricity produced from sources previously procured by a retail seller and verifiably counted by the retail seller towards meeting the requirements established by the California Renewables Portfolio Standard Program, as set forth in Article 16 (commencing with Section 399.11) of Chapter 2.3 of Part 1 of Division 1 of the Public Utilities Code.

(4) Require that all hydrogen fuel dispensed in California for motor vehicles be generated in a manner so that local well-to-tank emissions of nitrogen oxides plus reactive organic gases are at least 50 percent lower than well-to-tank emissions of the average motor gasoline sold in California when measured on an energy equivalent basis.

(5) Require that well-to-tank emissions of relevant toxic air contaminants from hydrogen fuel produced or dispensed in California be reduced to the maximum extent feasible at each site when compared to well-to-tank emissions of toxic air contaminants of the average motor gasoline fuel on an energy-equivalent basis. In no case shall the toxic emissions from hydrogen fuel be greater than the toxic emissions from gasoline on an energy-equivalent basis.

(6) Authorize the state board, after at least one public workshop, to grant authority to the executive officer of the state board to exempt from this subdivision, for a period of no more than five years, hydrogen dispensing facilities that dispense an average of no more than 100 kilograms of hydrogen fuel per month. The exemption may be extended on a case-by-case basis by the executive officer upon a finding that the extension will not harm public health. The executive officer may limit the total number of exemptions by geographic region, including by air district, but the average annual mass of hydrogen dispensed statewide from exempted facilities shall not exceed 10 percent of the total mass of hydrogen fuel dispensed for transportation purposes in the state.

(7) Authorize the state board, if it determines that reporting is necessary to facilitate enforcement of the requirements of this subdivision, to require that providers of hydrogen fuel for transportation in the state report to the state board the annual mass of hydrogen fuel dispensed and the method by which the dispensed hydrogen was produced and delivered.

(c) Notwithstanding subdivision (b), the state board may increase the 3,500-metric-ton threshold in subdivision (b) by no more than 1,500 metric tons if at least one of the following requirements is met:

(1) The 3,500-metric-ton threshold is first met prior to January 1, 2011.

(2) The state board determines that the 3,500-metric-ton threshold has been met primarily due to hydrogen fuel consumed in heavy duty vehicles.

(3) The state board determines at a public hearing that increasing the threshold would accelerate the deployment of hydrogen fuel cell vehicles in the state.

(d) The state board, in consultation with other relevant agencies as appropriate, shall review the renewable resource requirements adopted pursuant to paragraphs (2) and (3) of subdivision (a) and paragraphs (2) and (3) of subdivision (b) every four years and shall increase the renewable resource percentage requirements if it determines that it is technologically feasible to do so and will not substantially hinder the development of hydrogen as a transportation fuel in a manner that is consistent with this section.

(e) The state board shall review the emission requirements adopted pursuant to paragraphs (1), (4), and (5) of subdivision (a) and paragraphs (1), (4), and (5) of subdivision (b) every four years and shall strengthen the requirements if it determines it is technologically feasible to do so and will not substantially hinder the development of hydrogen as a transportation fuel in a manner that is consistent with this section.

(f) The state board shall produce and periodically update a handbook to inform and educate motor vehicle manufacturers, hydrogen fuel producers, hydrogen service station operators, and other interested parties on how to comply with the requirements set forth in this section. This handbook shall be made available on the agency's Internet Web site on or before July 1, 2009.

(g) The Secretary for Environmental Protection shall convene the California Environmental Protection Agency's Environmental Justice Advisory Committee at least once annually to solicit the committee's comments on the production and distribution of hydrogen fuel in the state.

(h) The Secretary for Environmental Protection, in consultation with the state board, shall recommend to the Legislature and the Governor, on or before January 1, 2010, incentives that could be offered to businesses within the hydrogen fuel industry and consumers to spur the development of clean sources of hydrogen fuel.

(i) Unless the context requires otherwise, the definitions set forth in this subdivision govern the construction of this section:

(1) "Well-to-tank emissions" means emissions resulting from production of a fuel, including resource extraction, initial processing, transport, fuel production, distribution and marketing, and delivery into the fuel tank of a consumer vehicle.

(2) "Well-to-wheel emissions" means emissions resulting from production of a fuel, including resource extraction, initial processing, transport, fuel production, distribution and marketing, and delivery and use in a consumer vehicle.