Date of Hearing: March 28, 2022

ASSEMBLY COMMITTEE ON TRANSPORTATION
Laura Friedman, Chair
AB 2562 (Bennett) – As Amended March 21, 2022

SUBJECT: Clean Transportation Program: hydrogen-fueling stations

SUMMARY: Requires the California Energy Resources Conservation and Development Commission (CEC) to provide preference to certain hydrogen-fueling station projects. Specifically, **this bill**:

1) Requires CEC to provide preference to hydrogen-fueling stations that meet any of the following criteria:

    a. The project is located at a port and is publicly accessible.

    b. The project is co-located at a fueling station serving medium- and heavy-duty trucks.

    c. The project is located along a federally designated Trade Corridor of National and Regional Significance, on the state's portion of the National Highway Freight Network, as identified in the California Freight Mobility Plan, or along a corridor that has a high volume of freight movement, as determined by the California Transportation Commission (CTC).

EXISTING LAW:

1) Creates the Clean Transportation Program (CTP), administered by CEC, to provide competitive grants, loans, or other funding to various entities to develop and deploy technologies that transform California's fuel and vehicle types to help attain the state's climate change policies.

2) Requires CARB to aggregate and make available the number of hydrogen-fueled vehicles that motor vehicle manufacturers project to be sold or leased over the next three years and the total number of hydrogen-fueled vehicles registered with the Department of Motor Vehicles.

3) Requires CARB to evaluate the need for additional publicly available hydrogen-fueling stations for the next three years in terms of quantity of fuel needed for the actual and projected number of hydrogen-fueled vehicles, geographic areas where fuel will be needed, and station coverage.

4) Requires CEC to allocate $20 million annually, not to exceed 20% of the money appropriated by the Legislature from the Alternative and Renewable Fuel and Vehicle Technology Fund, to fund hydrogen-fueling stations until there are at least 100 publicly available hydrogen-fueling stations in operation in California. This section is repealed January 1, 2024.

FISCAL EFFECT: Unknown

COMMENTS:

Since 2006, California has set several goals to reduce greenhouse gas (GHG) emissions, address climate change, and improve the public health of its residents. These goals require incremental progress that will ultimately lead to large emission reductions, including:

- Reducing GHG emissions to 40% below 1990 levels by 2030 (SB 32 (Pavley), Chapter 488, Statutes of 2016)
- Reducing short-lived climate pollutant emissions, such as methane, to 40 to 50% below 2013 levels by 2030 (SB 1383 (Lara), Chapter 395, Statutes of 2016)
- Achieving a carbon-neutral economy by 2045 (Executive Order (EO) B-55-18)
- Setting specific goals to boost the supply of zero-emission vehicles (ZEVs) as well as charging and fueling stations, including:
    - By 2025
        - 1.5 million ZEVs on the road (EO B-16-12)
        - Installing 200 hydrogen-fueling stations and 250,000 battery-electric vehicle chargers, including 10,000 direct-current fast chargers, by 2025 (B-48-18)
    - By 2030
        - 5 million ZEVs on the road. (EO B-48-18)
        - 8 million ZEVs on the road. (California Air Resources Board (CARB) estimate to meet EO N-79-20)
    - By 2035
        - Transitioning 100% of new sales of passenger vehicles and trucks to ZEVs (EO N-79-20)
        - Transitioning 100 percent of drayage trucks to zero emission (EO N-79-20)
        - Transitioning 100% of operating off-road vehicles and equipment to zero emission everywhere feasible (EO N-79-20)
    - By 2045
        - Transitioning 100% of operating medium- and heavy-duty trucks and buses to zero emission everywhere feasible (EO N-79-20)

CTP is the main program funding ZEV infrastructure. The need for a greater amount of ZEV infrastructure is growing rapidly as the number of ZEVs in the state increase. In 2021, the state reached of a total of one million light-duty ZEVs sold in California. ZEV infrastructure is necessary to address range needs and to encourage the purchase of ZEVs. However, because ZEV charging and fueling stations are not profitable at this time, the state is investing in the deployment of this infrastructure.

Historically, the CTP received $100 million annually from various fees. Due to recent surpluses, the Legislature has appropriated additional General Fund money to ZEV infrastructure. Last year's 2021-22 Budget approved $500 million for the CTP to fund charging and hydrogen refueling infrastructure for zero-emission light-duty vehicles and medium- and heavy-duty vehicles. This year's 2022-23 Proposed Governor's Budget includes $390 million General Fund to deploy infrastructure to support 1,000 drayage trucks and 1,600 transit buses, and $500 million General Fund for ZEV infrastructure across a range of vehicle classes.

Additional electric charging stations are needed; funding needs for light-duty hydrogen stations have been met. Of the one million passenger/light-duty ZEVs sold in, 663,014 were battery electric and 11,956 were fuel cell electric. CARB's 2021 Annual Evaluation of Fuel Cell Electric Vehicle Deployment & Hydrogen Fuel Station Network Deployment estimates approximately 60,000 light-duty fuel cell electric vehicles on the road by 2027 based on automobile manufacturer surveys. Last year's budget provided sufficient funding to fund 200 hydrogen refueling stations, which could fuel up to 290,000 light-duty fuel cell electric vehicles—far exceeding CARB's estimate of fuel cell vehicles on the road by 2027. Therefore, hydrogen refueling infrastructure should not be a near-term barrier to light-duty fuel cell electric vehicle deployment. By comparison, CEC estimates to meet the 2025 goal of 250,000 public and shared chargers the state needs about 57,000 more than are currently planned, representing a 24% shortfall of Level 2 chargers and a 4% shortfall of direct current fast chargers.

As consumer acceptance and manufacturer production of light-duty ZEVs increases, attention has shifted to decreasing GHG emissions in the medium- and heavy-duty sectors. A March 2022 study from the National Renewable Energy Laboratory (NREL) states that with continued improvements in vehicle and fuel technologies (in line with U.S. Department of Energy targets and vetted with industry), ZEVs can reach total-cost-of-driving parity with conventional diesel vehicles by 2035 for all medium- and heavy-duty vehicle classes (without incentives). The study further states, assuming economics drive adoption, ZEV sales could reach 42% of all medium- and heavy-duty trucks by 2030, reflecting lower combined vehicle purchase and operating costs (using real-world payback periods).

Battery electric and fuel cell electric vehicles are viable options for medium and heavy duty vehicles. Two technological solutions—battery electric vehicles and fuel cell electric vehicles—are viable in multiple market segments for medium- and heavy-duty vehicles, offering alternative pathways for decarbonization. Based on the NREL study, battery electric vehicles tend to become cost-competitive for smaller truckers before 2030 and for short-haul (<500-mile) heavy trucks before 2035. Hydrogen fuel cell electric vehicles tend to become cost-competitive for long-haul (>500-mile) heavy trucks by 2035.

Goods movement to and from the state's ports rely on medium- and heavy-duty trucks. Currently, most of these vehicles have fossil fuel based engines that result in GHG and other emissions (i.e. nitrogen oxides and diesel particulate matter) that negatively impact air quality especially in some of the state's most disadvantaged communities. While it is unclear at this time if hydrogen powered fuel cell electric or battery electric vehicles will predominate in the medium- and heavy-duty sector, it seems that technology is rapidly developing to make both types of vehicles available.

Ports represent an ideal location for hydrogen-powered transport. A 2019 feasibility study by several U.S. Department of Energy Laboratories states that ports contain many uses of transport-related equipment in a localized/central space or cluster. On the port side there are cranes, container handlers, forklifts, yard tractors, drayage trucks and more. On the ship side, there are ocean going vessels, harbor craft, and ferries. Locating hydrogen refueling stations at the ports allows for exploring the potential for wide-scale hydrogen production and adoption in diverse industries, especially those that may prove hard to electrify even as technology advances, such as ocean going vessels.

Green Hydrogen. Fuel cell electric vehicles have the potential to help clean up some of the state's dirtiest trucks. However, the type of hydrogen used for fueling matters. Specifically, how hydrogen is produced and the source of the inputs for making the fuel determine how many and the types of emissions released. At this time, most of the hydrogen produced is not clean, and it is unclear how quickly technology will advance so that producing clean hydrogen is a viable option. Therefore the state should proceed with caution moving forward with using more hydrogen-fueled vehicles, as it will want to ensure that it funds infrastructure and vehicles that use the cleanest technology in order to help the state meet its climate goals.

Committee comments. This bill prioritizes funding hydrogen fueling infrastructure to support medium- and heavy-duty vehicle use at the ports, in areas co-located with existing medium- and heavy-duty fueling stations, and along freight corridors.

According to the author, "this bill is about using our limited amount of resources for hydrogen infrastructure in places where it will have the most amount of impact on our environment and carbon emission goals, the health of our communities, and our transition to clean energy.

"In 2013, California made clear, via AB 8 (Perea), that one of the priorities of the CTP would be to establish 100 hydrogen fueling stations. Governor Brown increased that goal to 200 hydrogen refueling stations by Executive Order in 2018.

"Thus far, the CEC has funded over 50 hydrogen refueling stations. Nearly all of these stations are located in the Los Angeles and Bay Area, and focused on light duty vehicle refueling. Few stations are located throughout the middle of our state, or along state highways and freight corridors, where we have many heavy and medium duty diesel vehicles transporting our goods. Diesel emissions produce PM 2.5, which has been linked to negative health impacts, including lung and heart disease.

"That is why this bill directs CEC to prioritize funding for stations that serve heavy and medium duty vehicles with an emphasis on the port areas and freight corridors where disadvantaged communities suffer disproportionate health impacts from diesel emissions. This bill envisions using the ports as anchors and the freight corridors as links between the ports and large warehouse/industry areas, both of which suffer from significant pollution impacts on disadvantaged communities. This in no way inhibits or infringes on light-duty hydrogen vehicles, but rather focuses on placing hydrogen in a position to be the most impactful.

"We cannot allow a lack of hydrogen fueling infrastructure to be an impediment to California's transition to clean energy. This bill ensures that the necessary infrastructure is available for hydrogen to be used in heavy-duty industries where it is most efficient, preventing future supply chain issues, shipping delays, and excuses for slow transitions to cleaner, low or zero emission shipping."

In support the California Teamsters write, "For California to meet our climate goals, we must strategically and thoughtfully to curb emissions. Increasing the number of hydrogen stations serving medium- and heavy-duty trucks will provide manufacturers and drivers the assurance that there will be fuel to power these vehicles. As that shift away from diesel occurs, we can increase the momentum and demand for hydrogen and make green electrolytic hydrogen a reality."

In opposition the California Hydrogen Council writes, "Prioritizing projects for the heavy duty sector in California is unnecessary and a misuse of funds. Of the $10 billion provided in the Governor's 2- year ZEV package in the state budget, an astounding 62% would go to heavy-duty vehicle programs. There is an overwhelming amount of state funding provided to support the heavy duty sector. Further, 95% of funding for the Clean Transportation Program is generated through fees on light duty vehicle users. Therefore, it is only appropriate and just that the funding generated for the program be put back into projects that support light duty vehicle drivers, rather than for business uses of heavy duty vehicles."

Related and previous legislation:

AB 1389 (Reyes) of 2021 would have revised and recasted the CTP, to expand the purpose of the program to help reduce criteria air pollutants and air toxics as well as GHG emissions, when developing and deploying innovative technologies that transform California's fuel and vehicle types. This bill would have required CEC to invest no less than 50%, over a three-year period, in programs and projects that directly benefit or serve residents of disadvantaged and low-income communities and low-income Californians. AB 1389 was held on the Senate floor.

SB 726 (Gonzalez) of 2021 would have revised the CTP to increase focus on clean air and equity investments. SB 726 was held on the Assembly floor.

AB 2772 (Reyes) of 2020 would have revised CTP to no longer require CEC to provide certain project preferences and to additionally require CEC to provide preference to a project that has the ability to support advanced vehicle infrastructure needed to meet specified climate goals. The bill would have revise the list of projects that the commission is required to make eligible for funding to include, among others, medium- and heavy-duty vehicle research, pilot, demonstration, and deployment projects that reduce emissions from fleets in the goods movement and public transit sectors. AB 2772 was held in this committee due to COVID-related bill limitations.

AB 8 (Perea), Chapter 401, Statutes of 2013 extends increased vehicle registration fees, vessel registration fees, service fees for ID plates, and smog abatement fees to be deposited in ARFVT Fund, AQIF, and EFM subaccount until 2024. Requires CEC to allocate $20 million annually from ARFTV fund to fund hydrogen fueling stations until there are at least 100 publicly available in the state.

AB 118 (Nuñez), Chapter 750, Statutes of 2007 creates CTP Program, AQIP, and EFMP. Creates ARFVT fund and allocates $10 million to the fund from Public Interest Research, Development, and Demo Fund. Imposes increases, until January 1, 2016, on vehicle registration fees, vessel registration fees, service fees for ID plates, and smog abatement fees to be distributed to ARFVT fund, AQIF, and EFM subaccount.

REGISTERED SUPPORT / OPPOSITION:

Support

California Teamsters Public Affairs Council
Oxnard Harbor District/port of Hueneme
Pacific Merchant Shipping Association

Utility Workers Union of America, Afl-cio

Opposition

California Hydrogen Coalition

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