

Date of Hearing: April 22, 2019

ASSEMBLY COMMITTEE ON TRANSPORTATION

Jim Frazier, Chair

AB 1418 (Chiu) – As Amended March 28, 2019

SUBJECT: Transportation electrification: electric school buses

SUMMARY Requires the California Public Utilities Commission (CPUC), in certain circumstances, to direct IOUs to file additional applications for the transformation of school buses to zero-emission options; requires publicly-owned utilities (POUs) to report specified information to the California Energy Commission (CEC) regarding the electrification of zero-emission school buses; and requires CEC to develop a clearinghouse of information and resources available for the deployment of zero-emission school buses. Specifically, **this bill**:

- 1) Requires CPUC, when approving IOUs applications for widespread transportation electrification, to also assess if the applications provide sufficient resources to achieve a 100% shift to zero-emission school buses in that IOU's service territory.
- 2) Requires CPUC, if it determines that more needs to be done to support the advancement to 100 % zero-emission school buses, to direct IOUs to file additional applications to provide sufficient electrical charging infrastructure for the total transformation of school buses away from diesel, gasoline, propane, and natural gas combustion to zero-emission options.
- 3) Requires CPUC to determine whether IOUs should pursue school buses as an electrical grid resource to aid in addressing peak demand, including providing an incentive structure to ease burdens, if any exist, to schools shifting to zero-emission school buses.
- 4) Requires CPUC, to the extent it finds electric school buses are a viable resource for electrical grid stability and reliability or emergency response and resiliency services, to direct IOUs to submit applications for projects that will aid in achieving the conversion of the state's school buses to zero emission that can provide these grid services.
- 5) Requires each POU, by March 15, 2020, and biennially, to report to the CEC both of the following:
 - a) The POU's investment in charging infrastructure to achieve a conversion to zero-emission school buses in its service territory; and
 - b) The use by the POU of electric school buses as grid stability and reliability resources or for emergency response and resiliency services.
- 6) Requires CEC to develop a clearinghouse of information and resources regarding manufacturers and pricing of zero-emission school buses, and regarding incentive programs for zero-emission school buses and fueling infrastructure.

EXISTING LAW:

- 1) Defines, with some exceptions, a school bus as a motor vehicle designed, used, or maintained for the transportation of any school pupil at or below the 12th grade level to or from a public or private school or to or from public or private school activities.

- 2) 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.
- 3) Requires ARB to adopt and 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, which ARB has found to be necessary, cost effective, and technologically feasible, to carry out specified purposes.
- 4) Requires CPUC to direct IOUs to file applications for programs and investments supporting widespread transportation electrification to meet California's climate goals and achieve the goals set by the Charge Ahead California Initiative. The CPUC must approve or modify and approve utility investments that meet specified criteria, including the following requirements: the investments are consistent with requirements in existing law, do not unfairly compete with nonutility enterprises, include performance accountability measures, and are in the interests of ratepayers.
- 5) Requires each POU with an annual electrical demand exceeding 700 gigawatt hours to adopt an integrated resource plan that addresses procurement for a number of resources, including transportation electrification.
- 6) Requires CEC to administer the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP) to fund projects that develop and deploy innovative technologies that transform California's fuel and vehicle types to help attain the state's climate goals.
- 7) Requires CEC to adopt an integrated energy policy report (IEPR) every two years. The IEPR must contain an overview of major energy trends and issues facing the state, including, but not limited to, supply, demand, pricing, reliability, efficiency, and impacts on public health and safety, the economy, resources, and the environment.

FISCAL EFFECT: Unknown.

COMMENTS: Numerous studies have shown that inhaling diesel exhaust (i.e. diesel particulate matter (PM)) can cause respiratory diseases and worsen existing conditions like asthma. The negative effects are especially pronounced in children. Diesel exhaust is internationally recognized as a cancer-causing agent and classified as a likely carcinogen by the U.S. Environmental Protection Agency. This is particularly concerning because most school buses in the state run on diesel and other fossil fuels, putting children at a health risk.

Recognizing the adverse impacts of these emissions, ARB has taken several actions to reduce children's exposure to vehicle-related pollutants during their commute by school bus. In terms of regulatory requirements, all school buses are required to have a PM exhaust filter or be designated as low-use, are restricted from idling; and are required to have routine smoke tests. School buses that weigh over 14,000 GVWR and transport pupils to and from school are under the school bus provisions of the Truck and Bus Rule. In addition to the requirements already stated, school districts with school buses under the Truck and Bus Rule must retire pre-1977 school buses and maintain specified records of the vehicle. Overall, the Truck and Bus rule requires old heavy-duty trucks and

buses to be retired in order to reduce diesel PM and other pollutants to meet the state's emission reduction goals and comply with the FCAA.

CEC, ARB, school and local air districts have invested funds to retrofit and replace school buses with cleaner and zero-emission school buses (i.e. electric or hydrogen fueled school buses with zero tailpipe emissions). Since 2001, ARB and local entities have spent over \$500 million to clean-up old school buses by retrofitting or replacing the oldest school buses in the state. Current and new funding for these efforts come from various programs, including but not limited to, the Hybrid Voucher Incentive Program (HVIP), Rural School Bus Pilot Project, Carl Moyer Program, AB 617 Community Air Protection funds, Prop 39 School Bus Replacement Program, and local air district funding from vehicle registration fees.

Although not exclusively a school bus incentive program, the HVIP allows school bus operators to use vouchers to offset the cost of purchasing cleaner buses. The HVIP provides a voucher of up to \$250,000 per zero-emission school bus. The Rural School Bus Pilot project, administered by North Coast Unified Air Quality Management District and funded with cap-and-trade funds, prioritizes funds to rural schools and the oldest buses with the most miles. Schools can get up to \$400,000 for zero-emission bus technologies, an additional \$5,000 for charging infrastructure and \$165,000 for a hybrid bus. The Carl Moyer Program, which is administered via collaborative effort between ARB and local air districts, is a competitive program open to vehicle owners that can prove that the incentive funds will be used to realize "cleaner" than required vehicle emission reductions. School bus operators can apply for funds to purchase zero-emission buses and the incentive will depend on numerous factors including the amount of pollution reduced.

One of the most recent and holistic electric school bus programs is the Prop 39 School Bus replacement program, which is administered by CEC. CEC will provide schools \$75 million for the replacement of old diesel school buses in disadvantaged and low-income communities throughout California. The \$75 million will be used exclusively for the purchase of battery-electric school buses and up to \$26 million in ARFVTP funds will be available to provide the necessary charging infrastructure to operate the buses. Workforce training and development funding through ARFVTP will also be provided to school districts that purchase an electric bus. CEC plans to work with local community colleges to develop curriculum that benefits school districts throughout the state. CEC will provide for up to 10 electric bus purchases and up to \$60,000 per school bus for electric charging infrastructure. This holistic program approach ensures that school districts receiving an electric school bus will have funding for the necessary electric infrastructure improvements. Additionally, because charging electric buses can have significant impacts on the grid, CEC has made it a requirement that all eligible buses be vehicle grid integration capable. As part of this program, CEC notes that it is also, "using our established relationships with IOUs and POU's such as Sacramento Municipal Utility District-(SMUD), we are coordinating program efforts to maximum electric infrastructure financial incentives for school districts receiving an electric school bus from CEC."

When equipped with vehicle-to-grid technology, electric buses can use their batteries for energy storage, providing a service to the grid by reserving and selling electricity back at times of high demand. In addition to traditional school funding and incentive monies to finance the purchase of an electric bus, school districts can collaborate with IOUs and use vehicle-to-grid technology to offset the costs of electric buses. Additionally, school bus operators can work with utilities to leverage beneficial rate programs or infrastructure investments. For example, Twin Rivers Unified School District secured a \$1 million investment in charging infrastructure from the local POU (SMUD).

Ideally, the cost savings associated with electric use can offset the cost of using an electric school bus.

In 2015, the Legislature passed SB 350 (de León), Chapter 547, Statutes of 2015, which set 2030 GHG reduction targets to be achieved through a variety of measures, including widespread transportation electrification. In 2015, CPUC directed California's IOUs to submit applications proposing projects aimed at achieving the transportation electrification goals in SB 350. CPUC has since proposed two decisions authorizing utility investments in transportation electrification. As part of these applications, two IOUs have included options for the electrification of school buses. In particular, SoCal Edison will offer rebates of up to 50% of the cost of charging stations for sites in disadvantaged communities and sites that support electric transit and school buses. Pacific Gas and Electric will invest \$2.2 million in electric school bus renewables integration projects.

Further, under existing law, POUs will have to prepare an integrated plan to address transportation electrification and CEC is required to adopt an IEPR every two years. The IEPR must contain an overview of major energy trends and issues facing the state, including, but not limited to, supply, demand, pricing, reliability, efficiency, and impacts on public health and safety, the economy, resources, and the environment. Considering the state shift to electrify the transportation sector, POUs and CEC will have to include how this shift will effect electricity needs in the state.

According to the author, "In California, there are nearly 25,000 school buses on our roads, most of which are older diesel-fueled models. Numerous studies have shown that inhaling diesel exhaust, a dangerous carcinogen, causes respiratory diseases and worsen existing health conditions like asthma. These negative effects especially impact children, whose lungs are still developing. In contrast, electric school buses not only provide children with a healthier commute, they also offer valuable savings to school districts through reduced fuel and maintenance costs. Lastly, electric buses can provide electric grid and financial benefits by discharging energy at critical moments during the day. This bill sets up the infrastructure for school districts and utility companies to build a zero-emission school bus fleet. In short, this bill safeguards the health of our schoolchildren, improves the air quality of our neighborhoods, and reduces our reliance on dirty transportation."

In support, Environment California notes, "Several programs currently exist to help schools adopt cleaner school bus technology, but navigating these programs can be time consuming, and insufficient funding exists to meet the enormous backlog of buses that are overdue for replacement. AB 1418 builds off California's long history of leading on zero-emissions transportation to move towards the development of a clean commute for our students providing for badly-needed coordination...to organize and share data, resources, best practices, and innovative funding models."

Committee Comments: Electrifying a heavy-duty vehicle will take large investments that are not only tied to vehicle acquisition but to the corresponding charging infrastructure, the electrical use and the needed connecting infrastructure, such as power lines and conduits. It is also a grid planning issue. School districts do not have a budget to replace a diesel bus with another diesel bus, let alone an electric school bus and necessary infrastructure. Without the funding for the infrastructure, the bus cannot be utilized effectively and efficiently to meet the school's needs. For these reasons, it seems prudent for state agencies to assess and gather information on the ability to transition to zero-emission school buses. However, it must be noted that IOUs may already invest and coordinate with schools through the existing SB 350 application process to advance these efforts.

Double Referral: This bill will be referred to the Utilities and Energy Committee should it pass out of this committee.

Previous legislation: AB 1082 (Burke), Chapter 637, Statutes of 2017 authorizes an electrical corporation to file with the CPUC, by July 30, 2018, a pilot program proposal for the installation of vehicle charging stations at school facilities and other educational institutions, giving priority to school facilities and other educational institutions located in disadvantaged communities.

SB 350 (de León), Chapter 547, Statutes of 2015, set GHG reduction targets to be achieved by 2030 through a variety of measures, including supporting electrification of the transportation system and established requirements of CPUC in adopting EV charging proposals from the IOUs.

SB 1275 (de León), Chapter 530, Statutes of 2014, established the Charge Ahead California Initiative, administered by ARB, in consultation with CEC, air pollution control and air quality management districts, and the public. Specifies that the goals of the initiative is to, among other things, place in service at least one million ZEVs by January 1, 2023, and to increase access for disadvantaged, low-income, and moderate-income communities and consumers.

SB 1204 (Lara), Chapter 524, Statutes of 2014, created the Clean Truck Program to fund development, demonstration, pre-commercial pilot, and early commercial deployment of zero- and near-zero-emission truck, bus, and off-road vehicle and equipment technologies. HVIP is part of the Clean Truck program.

AB 8 (Perea), Chapter 401, Statutes of 2013, extended until January 1, 2024, the fees that support the AFRVTP.

AB 118 (Núñez), Chapter 750, Statutes of 2007, created the ARFVTP to provide funding measures to specified entities to develop and deploy technologies and alternative and renewable fuels in the marketplace to help attain the state's climate change policies.

REGISTERED SUPPORT / OPPOSITION:

Support

Earthjustice
Environment California
NextGen California
Sierra Club California

Opposition

None on File

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