

Date of Hearing: April 11, 2018

ASSEMBLY COMMITTEE ON COMMUNICATIONS AND CONVEYANCE

Miguel Santiago, Chair

AB 2127 (Ting) – As Introduced February 8, 2018

SUBJECT: electric vehicle infrastructure: assessment and roadmap

SUMMARY: Requires the California Energy Commission (CEC), working with the California Air Resources Board (CARB) and the California Public Utilities Commission (CPUC), to prepare a statewide assessment of electric vehicle (EV) charging infrastructure needs.

Specifically, **this bill:**

- 1) Requires the CEC, working with CARB and the CPUC, to prepare a statewide assessment of EV charging infrastructure needs to support the levels of EV adoption required for the state to reduce emissions of greenhouse gases (GHG) to 40 percent below 1990 levels by 2030.
- 2) Requires the specified assessment to consider all necessary charging infrastructure, including, but not limited to, the chargers, make-ready electrical equipment, and supporting hardware and software, all vehicle categories, road, highway, and offroad electrification, port and airport electrification, and other programs to accelerate the adoption of EVs.
- 3) Require the CEC to update the specified assessment at least once every five years.
- 4) Specifies that the Legislature finds and declares all of the following:
 - a) Advanced clean vehicles and fuels are needed to reduce petroleum use, to meet air quality standards, to improve public health, and to achieve GHG emissions reduction goals;
 - b) Widespread transportation electrification requires increased access to the use of electricity as a transportation fuel;
 - c) Deploying EVs, enabled by charging infrastructure with the ability to record consumption and connect by remote communication technology, could assist in grid management, integrate generation from eligible renewable energy resources, and reduce fuel costs for vehicle drivers who charge in a manner consistent with electrical grid conditions;
 - d) Deploying EV charging infrastructure will facilitate increased adoption of EVs. The charging infrastructure should be based on open communication and payment standards that allow customers to readily access electricity as a fuel;
 - e) The CEC should work with CARB and the CPUC to direct electrical corporations to agree on and implement standards for charging infrastructure to ensure grid integration and cost effective use of public funds; and,
 - f) It is the policy of the state and the intent of the Legislature to encourage transportation electrification as a means to achieve ambient air quality standards and the state's climate goals.

EXISTING LAW:

- 1) Establishes the CPUC with regulatory authority over public utilities, including every common carrier, toll bridge corporation, pipeline corporation, gas corporation, electrical corporation, telephone corporation, telegraph corporation, water corporation, sewer system corporation, and heat corporation, where the service is performed for, or the commodity is delivered to, the public or any portion thereof. (Public Utilities Code (PUC) Section 216)
- 2) Requires the CPUC, in consultation with the CARB and CEC, to direct electrical corporations to file applications for programs and investments to accelerate widespread transportation electrification to reduce dependence on petroleum, meet air quality standards, achieve the goals set forth in the Charge Ahead California Initiative, as specified, and reduce emissions of GHG to 40 percent below 1990 levels by 2030, and to 80 percent below 1990 levels by 2050. Programs proposed by electrical corporations shall seek to minimize overall costs and maximize overall benefits. Requires the CPUC to approve, or modify and approve, programs and investments in transportation electrification, including those that deploy charging infrastructure, via a reasonable cost recovery mechanism, as specified, do not unfairly compete with nonutility enterprises as specified, include performance accountability measures, and are in the interests of ratepayers, as specified. (PUC Section 740.8)
- 3) Requires each electrical corporation to propose a cost recovery plan to the CPUC for the recovery of the uneconomic costs of an electrical corporation's generation-related assets and obligations, as specified. (PUC Section 368)
- 4) Requires the CPUC to establish rates using cost allocation principles that fairly and reasonably assign to different customer classes the costs of providing service to those customer classes, consistent with the policies of affordability and conservation. (PUC Section 739.6)
- 5) Provides CARB 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 (HSC) Section 39000, et seq., and Section 39500, et seq.)
- 6) Requires CARB to adopt rules and regulations that would reduce the states GHG emission levels to 1990 levels by 2020. (HSC Section 38500 et seq.)
- 7) Requires CARB 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 CARB has found to be necessary, cost effective, and technologically feasible, to carry out specified purposes. (HSC Section 43013 et seq.)
- 8) Establishes the Air Quality Improvement Program that is administered by the CARB for the purposes of funding projects related to the reduction of criteria air pollutants and improvement of air quality and establishes the Clean Vehicle Rebate Project to promote the production and use of zero-emission vehicles (ZEVs) by providing rebates for the purchase of new ZEVs. (HSC Section 44274 et seq.)

FISCAL EFFECT: Unknown. This bill has been keyed fiscal by the Legislative Counsel.

COMMENTS:

- 1) **Authors Statement:** According to the author, “California must drastically reduce air pollution and [GHG] emissions from the transportation sector, especially from vehicles traveling on highways and roads. [ZEVs], particularly battery [EVs], represent the potential for significant emissions reductions in the transportation sector, which generates nearly 40 percent of GHG emissions. Installation of [EV] charging infrastructure is critical to continue California’s national leadership in ZEV deployment. This bill will facilitate the build-out of charging infrastructure by identifying our existing infrastructure and our future needs in a coordinated manner.”
- 2) **Background:** The transportation sector represents 50 percent of the California’s GHG emissions and 80 percent of nitrogen oxides. Reducing carbon emissions from the transportation sector is a critical step needed in order to meet California’s climate goals and clean air standards. ZEVs run on electricity stored in batteries instead of fossil fuels, such as plug-in EVs, plug in hybrid EVs, and hydrogen fuel cell EVs. ZEVs are a vital component of the state’s effort to reach its GHG emission reduction goals. The availability of new vehicle models, improved battery technology resulting in greater driving range, increase availability of electric charging infrastructure, and federal and state incentives have all contributed to expanding the ZEV market. It is estimated that by the end of 2017, more than 360,000 EVs have been sold in California, with the number of EVs in the state increasing by approximately 34 percent. However, CARB estimates that by mid-century, 87 percent of cars on the road will need to be full ZEVs, in order for the state to meet its long-term climate goals.
- 3) **California’s ZEV Action Plan:** In 2012, Governor Brown signed Executive Order B-16-12 which directed the CPUC and other state agencies to help accelerate the market for ZEVs to support the adoption of 1.5 million ZEVs on California roads by 2025 and the integration of plug-in electric vehicle charging into the state’s electricity grid by 2020. In October 2016, the Governor’s Interagency Working Group on ZEVs released its 2016 ZEV Action Plan, which provides an updated roadmap towards reaching the states ZEV goals. The plan highlighted certain priorities for ZEV development and adoption including, raising consumer awareness and education about ZEVs; ensuring ZEVs are accessible to a broad range of Californians, making ZEV technologies commercially viable in targeted sectors, and aiding ZEV market growth beyond California.

In January 2018, Governor Brown issued a new executive order (B-48-18) directing all state entities to work with the private sector and all appropriate levels of government to put at least five million ZEVs on California roads by 2030. The executive order directed all state entities to spur the construction and installation of ZEV charging and fueling infrastructure, find ways to streamline ZEV infrastructure installation processes, and carry out additional programs and actions to reach the goal.

- 4) **Barriers to ZEV Adoption:** Achieving the states climate and ZEV goals requires multiple approaches toward transportation electrification. The average California drives less than 40 miles per day, well within the range of available ZEV models. But a lack of ZEV charging

infrastructure can potentially deter more drivers from switching to ZEVs. To meet the demands of increasing ZEVs on the road, the State faces the challenges of where these EVs will charge both in urban and rural areas. Cities will need to develop comprehensive plans to accommodate EVs and consider its impact on other sectors of the state. This includes addressing questions on how to install hundreds of thousands of public EV chargers, how to facilitate at-home charging, what impact will EVs have on our electric grid, and what type of technology and methods need to be established in order to create uniform standards and pricing.

According to the author, while planning is being done throughout multiple state agencies, in addition to private sector and local governments planning, there is no single roadmap or assessment for identifying and meeting the states EV charging infrastructure needs. This bill requires the CEC, working with the CARB and CPUC, to prepare a statewide assessment of EV charging infrastructure needs.

- 5) **California's ZEV Investments:** As technology continues to improve ZEVs will be able to travel farther, charge faster, and become more affordable. Since 2012, California's ZEV market has grown significantly through the expansion of federal and state incentives and programs. This includes support by the Legislature through the passage of a number of legislation. Amongst them includes SB 1275 (De Leon) Chapter 530, Statutes of 2014, which created the California Charge Ahead Initiative that sets a goal and policies to achieve the goal of one million ZEVs vehicles on the road by 2023; and AB 118 (Nunez) Chapter 750, Statutes of 2007, which established the Alternative and Renewable Fuels and Vehicle Technology program, the Enhanced Fleet Modernization Program, and the Air Quality Improvement Program to promote vehicle and fuel technology to reduce air pollution and GHG emissions.

In addition, to other EV market acceleration investment programs throughout California state agencies, in 2015 the Legislature passed SB 350 (De Leon) 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, the CPUC directed California's three investor owned utilities (IOUs) to submit applications proposing projects aimed at achieving the transportation electrification goals in SB 350. The CPUC has since proposed two decision authorizing utility investments in transportation electrification, including in November 2017, authorizing the three IOUS to spend up to \$42.8 million on 15 pilot projects aimed at accelerating EV adoption, improving air quality and reducing GHG emissions; and in March 2018 approving four IOU projects, totaling approximately \$589 million, aimed at installing EV charging infrastructure.

- 6) **Arguments in Support:** According to Advanced Energy Economy, the sponsor of the bill, "By developing of a comprehensive, statewide assessment, AB 2127 gives state policymakers and regulators the information they need for managing and directing the investment of public dollars into EV charging infrastructure. It will increase transparency and information on where infrastructure development is lagging and what gaps must be addressed in order to achieve the state's 2030 goals. This is a commonsense step that should be taken in order to maximize benefits to the public."

- 7) **Related Legislation:** AB 1184 (Ting) of 2017 requires the CARB to submit a report to the Legislature regarding the operation of the vehicle incentive programs. *Status: Pending on the Senate Floor.*
- 8) **Prior Legislation:** SB 350 (De Leon) 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 the CPUC in adopting EV charging proposals from the IOUs. *Status: Chaptered by the Secretary of State, Chapter 547, Statutes of 2015.*

SB 1275 (De Leon) of 2014 established the Charge Ahead California Initiative to be administered by the CARB, in consultation with the 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 to ZEVs. *Status: Chaptered by the Secretary of State, Chapter 530, Statutes of 2014.*

SB 1204 (Lara and Pavley) of 2014 created the California Clean, Truck, Bus, and Off-Road Vehicle and Equipment Technology Program, to be administered by the CARB and funded with cap and trade revenues to develop zero and near zero emission truck, bus, and off-road vehicle and equipment technologies and related projects. *Status: Chaptered by the Secretary of State, Chapter 524, Statutes of 2014.*

AB 8 (Perea) of 2013 extended until January 1, 2024, various temporary, vehicle-related, state and local fees and surcharges to fund vehicle-related air quality, GHG and related programs administered by the CEC, the CARB, local air districts and the Bureau of Automotive Repair. *Status: Chaptered by the Secretary of State, Chapter 401, Statutes of 2013.*

SB 359 (Corbett) of 2013 provided \$48 million in additional funding to the CARB to support the Clean Vehicle Rebate Project and the Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project. *Status: Chaptered by the Secretary of State, Chapter 415, Statutes of 2013.*

- 9) **Double-referral:** This bill is double referred, and if passed by this Committee, will be referred to the Assembly Committee on Transportation.

REGISTERED SUPPORT / OPPOSITION:

Support

Advanced Energy Economy (sponsor)
 California State Association of Electrical Workers
 California State Pipe Trades Council
 Environment California
 International Union of Elevator Contractors
 Office of Ratepayer Advocates - CPUC
 Western States Council of Sheet Metal Workers

Opposition

None on file.

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