SENATE COMMITTEE ON ENERGY, UTILITIES AND COMMUNICATIONS
Senator Benjamin Allen, Chair
2025 - 2026 Regular

Bill No:	SB 1282	**Hearing Date:**	4/21/2026
Author:	Becker		
Version:	4/6/2026 Amended		
Urgency:	No	**Fiscal:**	Yes
Consultant:	Sarah Smith		

SUBJECT: Transportation electrification: grid-integrated vehicle technologies: standards

DIGEST: This bill requires the California Energy Commission (CEC) to complete an assessment by December 31, 2028, on electricity supply, reliability, and cost issues associated with meeting California's renewable portfolio standard (RPS) and zero-carbon procurement goals and potential for grid-integrated vehicle charging to address those supply, reliability, and cost concerns. This bill also requires the CEC to adopt standards by December 31, 2029, to require vehicles to include certain grid-integration technology to meet electrical grid energy supply, reliability, and affordability goals.

ANALYSIS:

Existing law:

1) Defines electric vehicle (EV) grid integration as any method of altering the time, charging level, or location at which grid-connected EVs charge or discharge, in a manner that optimizes plug-in EV interaction with the electrical grid and provides benefits to ratepayers by doing any of the following:

   a) Increasing electrical grid asset utilization.
   b) Avoiding otherwise necessary distribution infrastructure upgrades.
   c) Integrating renewable energy resources.
   d) Reducing the cost of electricity supply.
   e) Offering specified electric reliability services. (Public Utilities Code §740.16)

2) Requires the California Public Utilities Commission (CPUC) to establish by December 31, 2020, strategies and metrics to maximize the use of vehicle grid integration (VGI) by January 1, 2030. Existing law specifies certain requirements for the strategies, including, but not limited to requiring ratepayer-

funded EV integration activities to be in the best interests of ratepayers. (Public Utilities Code §740.16)

3) Requires electrical corporations to quantify how ratepayer-funded vehicle electrification investments support VGI strategies. Existing law also requires local electric publicly owned utilities (POUs) to consider EV-grid integration strategies in their integrated resource plans (IRPs) and requires community choice aggregators (CCAs) to report specified information to the CPUC regarding EV-grid integration activities. (Public Utilities Code §740.16)

4) Establishes the RPS program, which requires all retail electricity sellers to procure a minimum quantity of electricity products from eligible renewable energy resources to achieve specified targets. Existing law establishes a goal for retail sellers to procure 60% of their electricity supply from eligible renewable resources by 2030. (Public Utilities Code §399.11)

5) Establishes a state policy that eligible renewable energy resources and zero-carbon resources shall comprise 100% of all retail sales of electricity to California end-use customers by December 31, 2045. (Public Utilities Code §454.53)

6) Requires the CEC to conduct a statewide assessment every two years of EV charging infrastructure needed to support the levels of EV adoption required for the state to meet its goals of putting at least five million zero-emission vehicles (ZEVs) on California roads by 2030, and of reducing emissions of greenhouse gases (GHG) to 40% below 1990 levels by 2030. (Public Resources Code §25229)

7) Establishes various definitions regarding bidirectional EV charging, including the following definitions:

   a) "Beneficial bidirectional-capable use case" means the use of bidirectional-capable battery EVs and bidirectional EV service equipment in a manner that results in electrical reliability and resiliency benefits and cost savings to the battery EV operator and is compatible with battery EV operator needs.
   b) "Bidirectional-capable vehicle" means a battery EV capable of both charging and discharging electricity.
   c) "Bidirectional charging" means a charging capability that enables a battery EV to be charged by either the electrical grid or an onsite clean energy resource, and to discharge stored energy capacity through EV service equipment to either serve load or export it to the electrical grid. (Health and Safety Code §44269)

8) Authorizes the California Air Resources Board (CARB) to update definitions in law for battery EVs and bidirectional-capable vehicles. Existing law allows the CEC to update definitions in existing law regarding beneficial bidirectional-capable use case, bidirectional charging, bidirectional EV service equipment, and EV service equipment. (Health and Safety Code §44269.1)

9) Authorizes the CEC to require any weight class of battery EVs to be bidirectional-capable if it determines there is a sufficiently compelling beneficial bidirectional-capable use case to the battery electric vehicle operator and electrical grid. (Health and Safety Code §44269.2)

This bill:

1) Defines "grid benefits" as the ability of a vehicle to support the reliability, resiliency, or cost-effectiveness of the electrical grid through grid-integrated vehicle technology, including, but not limited to, the supply of electricity to the electrical grid, avoided investments in electrical grid infrastructure, demand management, or other contributions to resource adequacy or ancillary services.

2) Defines "grid-integrated charging technology" as vehicle charging technology that manages the time, charging level, or location at which an electrical grid-connected EV charges from, or discharges to, the electrical grid, including, but not limited to, bidirectional charging.

3) Defines "grid-integrated vehicle technology" as a vehicle propulsion or fixed supplemental power technology for onboard electrical systems that uses electricity from onboard energy storage fueled directly by an external electrical source, including, but not limited to, battery electric, plug-in hybrid, and battery auxiliary power unit vehicle technologies.

4) Expands the CEC's authority to require vehicles to include bidirectional charging capabilities by expanding the types of vehicles for which the CEC can set these standards to include vehicles that are not battery electric. This bill also enables the CEC to adopt bidirectional standards in circumstances where the CEC determines that the standards would provide benefits to grid operators even if the bidirectionality does not provide benefits or savings to drivers.

5) Requires the CEC to publish an assessment by December 31, 2028, that addresses the following:

a) Electrical grid supply, reliability and cost implications associated with the state's clean energy goals.
b) The potential for grid-integrated vehicle technology and grid-integrated charging technology to provide benefits to the grid and address supply, reliability, and cost issues associated with the state's clean energy goals. This bill requires the CEC to address the role that these vehicle technologies can play in providing benefits in a cost-effective manner when compared to other energy storage technologies.
c) Target levels of grid-integrated vehicle technology and charging use needed to address electricity supply, reliability, and cost implications of clean energy procurement goals. This bill requires this analysis to consider specified factors when identifying targets including, but not limited to battery sizes, battery and grid capacities, EV charging dynamics, and regulatory changes and infrastructure investments needed to address electricity supply, reliability, and cost issues stemming from clean energy procurement goals.

6) Requires the CEC to adopt and implement standards by December 31, 2029, to require any weight class of on-road vehicles sold in the state to incorporate grid-integrated vehicle technology and grid-integrated charging technology to meet electrical grid energy supply, reliability, and affordability goals associated with the state's clean energy procurement goals.

7) Specifies that vehicle requirements established by the CEC pursuant to this bill may not apply earlier than January 1, 2030. However, the CEC must design these requirements to achieve the target goals by December 31, 2045.

8) Specifies that the requirements shall apply to vehicle manufacturers based on the total battery and charging capacity provided by vehicles to ensure electricity reliability and affordability.

9) Requires the CEC to consider a variety of factors when adopting vehicle requirements and prohibits the CEC from limiting the sale of any specific type of vehicle or features of a vehicle, including the types of propulsion technology used by a vehicle.

10) Specifies issues that the CEC must address in their vehicle requirements, including the types of energy storage on non-battery EVs that could be used to provide grid benefits, mechanism to ensure compliance with stated grid benefits of vehicle batteries, alternative compliance mechanisms, and levels of zero-carbon electricity needed to serve grid-integrated vehicles.

11) Authorizes the CEC to adopt any requirements necessary or appropriate to implement this bill.

12) Authorizes the CEC to refrain from adopting standards for a weight class if the CEC determines that sufficient battery capacity for grid benefits has been achieved for that weight class.

13) Specifies that the CEC vehicle standards shall not supersede any other minimum requirements for on-road vehicles adopted by the CEC or any other state agency.

Background

California is in the process of litigating to protect CARB's ability to set EV requirements. In September 2020, Governor Newsom issued Executive Order N-79-20, which established a goal that 100% of in-state sales of new passenger cars and trucks will be zero-emission by 2035. This executive order also established a goal that 100% of medium- and heavy-duty vehicles in the state will be zero-emission by 2045. In response to this Executive Order, CARB has adopted regulations aimed at phasing out the sale of petroleum-fueled vehicles. In 2025, CARB obtained a waiver from federal preemption to enact these regulations for most light-duty vehicles. In February 2026, the Trump Administration rescinded the federal Environmental Protection Agency (EPA) endangerment findings, eliminating the legal basis for federal vehicle GHG standards. California has filed suit with 25 states to require the EPA to restore the endangerment findings. While the termination of the endangerment findings may put the status of California's waiver under federal rules in doubt, the Trump Administration's abandonment of federal-level regulations on tailpipe emissions may also open the door for states to adopt their own regulations. The extent of state regulatory authority will depend on the outcome of the ongoing litigation. To the extent that this bill would enable the CEC to adopt requirements for manufacturers to deploy EVs in a manner that conflicts with CARB's requirements for EVs sold in California, this bill may create uncertainty for which standards are expected of manufacturers.

Bill expands the CEC's authority to set standards on cars sold in California for certain grid benefits. While the authority to regulate the requirements for vehicles to meet emissions standards generally rests with CARB, this bill would expand the CEC's authority to set requirements for cars to be equipped to provide grid benefits. Specifically, this bill requires the CEC to set target for manufacturers to provide a certain amount of battery capacity by vehicle weight class that could serve as a grid resource. This bill specifies that this resource is intended to address potential issues with electricity supply, reliability, and affordability stemming from

the state's clean energy procurement goals. It is not clear that the state's RPS and zero-carbon procurement goals are the primary drivers of electricity supply, reliability, or affordability. Transmission constraints, federal policy changes, wildfires, and global commodity markets have all played significant roles in driving electricity rates higher.

EV charging may become a significant driver of new peak load. Recent energy demand forecasts demonstrate that data centers and vehicle electrification could be the largest drivers of peak energy consumption. The CEC's energy demand forecast covering 2025 through 2045 indicates that vehicle electrification will be the largest driver of peak electricity demand in the state by 2045. While data centers are expected to increase peak electricity demand by 4.7 gigawatts (GW) by 2045, EVs may contribute approximately 8.2 GW to peak demand. To the extent that VGI technologies and strategies can limit the impact of this new load, these technologies and strategies may limit the need for utility procurements to serve higher peak demand levels. This bill could enable the CEC to set requirements for vehicles to include technologies, like communication protocols that help car batteries modulate charging based on grid conditions.

If you build it, will they come? This bill requires the CEC to set standards for vehicles to include grid-integrated technology to facilitate charging behavior that can benefit the grid. Under this bill, the CEC must set these standards on vehicle manufacturers in a manner that requires the manufacturers to provide a certain amount of battery capacity from the collective amount of cars that manufacturer has on the road in California. However, CEC's standards for vehicles under this bill may not address drivers' needs for vehicles to remain fully charged, the absence of sufficient charging options for renters and residents in multifamily buildings, and the extent to which rate design accurately sends price signals for grid needs. Additionally, this bill does not address the challenges consumers face in paying higher up-front costs for EVs. For aggregated car battery storage to provide grid benefits in a fashion that would provide reliable energy resources, greater EV penetration would be needed, and EV ownership would need to be more geographically diverse. While EV adoption has increased, EV ownership remains concentrated in specific parts of the state. It is not clear that storage in these locations would provide widespread grid benefits.

Scope of this bill may extend beyond resources to ensure that EV charging responds to grid signals. This bill modifies existing law pertaining to the CEC's authority to require vehicles to be capable of bidirectional charging in a manner that would enable the CEC to set bidirectional charging requirements for vehicles that are not battery electric. Several provisions of this bill appear to imply that the CEC may set standards regarding EV's capacity to supply the grid with electricity.

However, it is not clear that EVs can safely or reliably serve as a generation resource for front-of-the meter needs. Additionally, it is unclear if distribution systems are adequately equipped to handle any potential feedback on electrical lines that may occur if the electrical systems are not in place.

Need for Amendments. As currently written, this bill implies that the CEC may set standards for cars to require vehicle batteries to serve as generation systems. However, it is unclear whether distribution systems are accurately prepared for this type of distributed generation. Additionally, this bill makes modifications to existing law regarding the CEC's duties on bidirectional charging that may make the scope of CEC's authority on bidirectional standards unclear. This bill requires the CEC to adopt standards that address a variety of issues; however, this bill also authorizes the CEC to adopt any requirements the CEC deems necessary to implement this bill. This bill requires the CEC to set standards for vehicles based on weight class; however, within weight classes, certain types of vehicles, including utility bucket trucks, emergency vehicles, and other highly customized vehicles, may not be able to transition to certain types of grid-integrated technologies. *For these reasons, the author and sponsor may wish to amend this bill to do the following:*

- *Delete Section 3 of this bill.*
- *Clarify that the CEC shall provide manufacturers with a flexible option to comply with vehicle-grid integration requirements, regardless of the types of fuels or charging systems employed by vehicles.*
- *Remove references implying that the CEC's ability to set standards extends to requiring vehicles to provide generation assets.*
- *Clarify the scope of the CEC's authority under the bill by deleting the authorization for the CEC to adopt any requirement it deems necessary to implement the bill.*
- *Exempt emergency vehicles and utility vehicles from the bill's standards requirements and require the CEC to include a mechanism for a manufacturer to obtain a waiver from the VGI requirements in the event that a manufacturer cannot reasonably include VGI technology in a specific type of vehicle.*

Prior/Related Legislation

SB 59 (Skinner, Chapter 756, Statutes of 2024) allowed the CEC to require any class of battery EV to be capable of bidirectional charging. The bill established various definitions regarding bidirectional charging and authorized CARB and CEC to modify those definitions as needed.

SB 233 (Skinner, Chapter 11, Statutes of 2024) contained provisions requiring all EVs and chargers sold in California after January 1, 2027, to be capable of bidirectional charging when heard by this committee. The bill was subsequently amended into a different subject.

SB 676 (Bradford, Chapter 484, Statutes of 2019) required the CPUC to establish EV-grid integration strategies for certain load-serving entities. The bill also required POUs to consider EV-grid integration strategies in their IRPs and required CCAs to report specified information to the CPUC regarding EV-grid integration activities.

AB 2127 (Ting, Chapter 365, Statutes of 2018) required the CEC to conduct a statewide assessment of vehicle charging infrastructure needed to support the state's ZEV deployment goals.

SB 1000 (Lara, Chapter 368, Statutes of 2018) required the CEC to evaluate the extent to which charging infrastructure is proportionately deployed and use funds to more proportionately deploy chargers as needed. The bill also required the CPUC to explore facilitating the development of technologies that promote grid integration and adopting a tariff for heavy-duty EVs that encourages charging during periods of excess grid capacity.

FISCAL EFFECT: Appropriation: No Fiscal Com.: Yes Local: No

SUPPORT:

The Climate Center (Co-Sponsor)
Union of Concerned Scientists (Co-Sponsor)
350 Bay Area
350 Humboldt
Acterra: Action for a Healthy Planet
Active San Gabriel Valley
Alliance of Nurses for Healthy Environment
American Lung Association
Ban SUP
California Alliance for Community Energy
California Efficiency + Demand Management
California Environmental Voters
California Interfaith Power & Light
California Nurses for Environmental Health & Justice
CALSTART

Carbon Free Palo Alto
Carbon Free Silicon Valley
Center for Biological Diversity
Center for Community Energy
Center for Environmental Health
Ceres
City of San Luis Obispo
CleanEarth4Kids.org
Climate Action California
Climate Action Campaign
Climate Reality Project - Silicon Valley Chapter
Coalition for Clean Air
Coltura
Democrats of Greater Irvine
Earthjustice
Friends Committee on Legislation of California
Unitarian Universalist Church of Palo Alto, Green Sanctuary Committee
GreenLatinos
Immaculate Heart Community Environmental Commission
Irvine Valley College Democrats
Marin Clean Energy
Plug in America
Resource Renewal Institute
San Francisco Bay Area Physicians for Social Responsibility
Secure the Future 2100
SLO Climate Coalition
Sunrise Movement Orange County
Sunrun
Vote Solar
Women for American Values and Ethics
ZeroW.org
Five Individuals

OPPOSITION:

Alliance for Automotive Innovation
California New Car Dealers Association
California Trucking Association
Daimler Truck North America,
International Motors
Powering America's Commercial Transportation
Volvo Group North America

ARGUMENTS IN SUPPORT: According to the author:

> Think about a shopping center parking lot during the holidays. We build a huge parking lot so there are enough spaces during the busiest days of the year, but most of the time, those parking spaces sit empty. That's essentially what's happening with our grid today. Right now, we build electricity infrastructure to handle the hottest days of the year when electricity demand is at its highest, but for the rest of the year, that capacity goes unused.
>
> Instead of always building more infrastructure, we need to use the resources we already have more efficiently. One option is sitting in driveways and garages across California: the batteries in our vehicles. With the right technology, they can charge when electricity demand is low and clean energy is abundant, and even send power back to homes or the grid when it's needed most.
>
> SB 1282 helps us plan for that future by directing the California Energy Commission to assess how grid-integrated vehicles can support reliability and reduce costs, and to establish standards that ensure this technology can be used effectively.

ARGUMENTS IN OPPOSITION: In opposition, the California Trucking Association (CTA) states:

> In 2024, the CTA worked with Sen. Nancy Skinner on SB 59 to ensure fleet operators transitioning to zero-emission vehicles (ZEVs) were not subject to increased costs from bidirectional vehicle mandates with little benefit due to the duty cycle of commercial ZEVs. SB 1282, likewise, raises significant concerns for the commercial trucking industry that must be addressed to ensure that policy goals do not inadvertently undermine fleet operations, goods movement efficiency, or economic viability.

-- END --