



July 17, 2026

California Air Resources Board
1001 I Street
Sacramento, California 95814

Submitted via: https://ww2.arb.ca.gov/public-comments/comment-log-drive-forward-light-duty-vehicle-program-june-2026-workshop

Re: CalETC and CALSTART's Comments on CARB's Workshop on the Proposed Drive Forward Light-Duty Regulation

Dear CARB Staff:

The California Electric Transportation Coalition (CalETC) and CALSTART appreciate the opportunity to provide our comments on the Drive Forward Light-Duty Vehicle Program Workshop held on June 22, 2026. We greatly appreciate CARB staff's work on this critical light-duty (LD) vehicle program and your willingness to take feedback from stakeholders on these important issues.

CalETC supports and advocates for the transition to a zero-emission transportation future to spur economic growth, fuel diversity and energy independence, contribute to clean air, and combat climate change. CalETC is a non-profit association committed to the successful introduction and large-scale deployment of all forms of electric transportation. Our Board of Directors includes representatives from: Los Angeles Department of Water and Power, Pacific Gas and Electric, Sacramento Municipal Utility District, San Diego Gas and Electric, Southern California Edison, Southern California Public Power Authority, and the Northern California Power Agency. In addition to electric utilities, our membership includes major automakers, manufacturers of zero-emission trucks and buses, electric vehicle charging providers, and other industry leaders supporting transportation electrification.

CALSTART, headquartered in California, is a nonprofit organization dedicated to the advancement of zero emission vehicle (ZEV) and infrastructure technology. Programs we administer for CARB and the California Energy Commission have delivered more than $1 billion in clean vehicle

incentive and infrastructure projects, including through the Clean Truck and Bus Voucher Incentive Project (HVIP), Clean Mobility Options (CMO), and the EnergIIZE Commercial Vehicles Project. CALSTART works with more than 200 member companies across the clean transportation sector to advance zero-emission transportation technologies across California and the nation.

Complementary policies and programs are essential to the success of California's transition to electrification of the transportation sector. The proposed Drive Forward regulation is an essential element of California's and other states' transition to a zero-emission vehicle future. California's unprecedented market success is a result of its past zero-emission vehicle (ZEV) regulations in combination with other policies and programs, most notably the substantial investments California has made in advancing ZEV technologies with robust vehicle and infrastructure incentives, and regulations that drive private investment, like the Low Carbon Fuel Standard. As the state moves to strengthen the ZEV program with Drive Forward, it will be important to also fortify the other complementary policies that have helped make California a leader in electric vehicle adoption.

CalETC and CALSTART have long supported CARB's ZEV regulations. For Drive Forward, we recommend the regulation create one ZEV standard that builds in flexibility for original equipment manufacturers (OEMs) to meet achievable targets. For example, including ZEVs in the fleet average calculation gives OEMs flexibility by allowing them to meet the average by delivering a range of vehicles with different emissions standards. However, it should be recognized that to meet the decreasing NMOG plus NOx fleet average standard, OEMs will need to deliver ZEVs to the California market. Therefore, we recommend providing additional flexibility by allowing plug-in hybrid electric vehicles (PHEVs) and extended range electric vehicles (EREVs) that meet a certain all electric range to qualify for the new ZEV0 bin or accommodate a contribution factor from PHEVs and EREVs to the fleet average. Similarly, the GHG fleet average standards cannot be met through internal combustion vehicle efficiency improvements alone; as the GHG standard tightens, ZEV deliveries become an increasingly necessary component of OEM compliance strategies, just as they are for the criteria pollutant fleet average. We support building in further flexibility by allowing banking, trading, and pooling of credits, including pooling with Section 177 states. It is imperative that the Drive Forward regulation creates OEM buy-in by setting achievable targets for ZEVs in the California market and incentives for OEMs to overachieve. ZEVs are a better alternative to gas vehicles in many market segments and Drive Forward can complement this market advantage and increase consumer choice. We look forward to continuing to work with CARB in developing the new Drive Forward regulation.

Support consumer choice with PHEV and EREVs that meet minimum requirements

One of the strengths of the transition to ZEVs is improving drivers' ability to choose a vehicle that best suits their needs, which includes plug-in hybrid electric vehicles PHEVs and EREVs along with ZEVs. Therefore, we recommend encouraging consumer choice by creating a regulation that incentivizes long-range PHEVs and EREVs. This could be accomplished by allowing PHEVs and EREVs that meet certain minimum requirements to generate ZEV credits and, as an incentive to make longer range vehicles, give OEMs early action credits or a higher utility factor (for GHG fleet

average calculations) for higher all electric range vehicles. PHEVs and EREVs are important bridge technologies that introduce ZEV technology to a wider audience while having a meaningful impact on emissions reductions.[1] Plug-in hybrid options may be the only viable and equitable electric solution for some single vehicle households, households with limited access to electricity fueling infrastructure, or drivers that use their vehicles for heavy work such as hauling or towing. Thus, we recommend Drive Forward encourage consumer choice by giving OEMs incentives to make longer electric range PHEVs and EREVs.

Conformance Testing and Communication Protocols

We have collaborated closely with OEMs to establish a set of recommendations regarding conformance testing and communication protocols. We support the long-term vision offered by ISO 15118-20 (-20), especially because it supports bidirectional charging and Plug & Charge. However, -20 is not ready for widespread adoption because conformance testing is still in development. Additionally, we support the J3400 charging inlet standardization as proposed in CARB's workshop presentation. We also strongly recommend that CARB and the CEC coordinate on a set of standards for EVs and chargers that does not create duplicative or unnecessary reporting for OEMs or charging manufacturers, and share data collected between the agencies. We are attaching CalETC's joint comments with the Alliance for Automotive Innovation that we submitted to the CEC regarding their Plug and Charge and Roaming Concepts Workshop on April 30, 2026 (see Appendix A). Here is a summary of those comments:

- We support requiring ISO 15118-2 hardware and software capability, which should only apply to new vehicles subject to the proposed regulation and infrastructure installed on and after January 1, 2024.
- We support requiring Extensible SECC Discovery Protocol functionality via ISO 15118-202 implementation with a 36-month compliance timeline.
- We support requiring J2953/3 conformance testing that has both EV and corresponding EVSE test cases.
- We support requiring OCPI 2.3 with a 36-month compliance timeline.
- We encourage CARB and the CEC to work with SAE on root certificate development.
- We support Charge Yard, alongside ACM, as a successor effort to ChargeX.
- We support exempting medium- and heavy-duty vehicles and charging infrastructure from any part of the regulation requiring communication protocols or conformance testing.

Convenience Cord Alternatives

We believe that requiring a dual amperage Level 1-Level 2 cord unnecessarily increases costs for new vehicles without commensurate benefit for many EV buyers. Therefore, we recommend allowing OEMs to alternatively choose to offer a voucher for a free convenience cord or prepaid public charging card. We believe that there are a significant number of EV buyers that already own a convenience cord or have a charger installed at their residence. We also recommend allowing

[1] *Advanced Plug-in Electric Vehicle Travel and Charging Behavior Final Report*, UC Davis Institute of Transportation Studies, April 10, 2020, available at https://ww2.arb.ca.gov/sites/default/files/2020-06/12-319.pdf.

consumers to "opt out" of a convenience cord to reduce the purchase price of their vehicle as an alternative to bundling a cord with the vehicle or a voucher system. Automakers and dealers are motivated to meet their customers' needs and educate them on available charging equipment options so that they are happy with their new EV. Therefore, we recommend CARB support dealer and consumer education regarding available charging equipment options. Providing a set of alternatives will help drive costs down, decrease waste, and increase consumer choice.

Battery Labeling Based on Design

We recommend CARB adopt battery labeling requirements that allow OEMs to label the battery modules only when they are designed to be separated from the battery pack for service or repair. Typically, OEMs design battery modules as integrated components of the battery pack that cannot be separated or replaced during routine maintenance or repair. Requiring labeling of the battery pack and the modules only when they are designed to be separated will avoid unnecessary labeling requirements, administrative burden, and reduce vehicle costs, while maintaining important labeling information on the necessary battery components.

Durability and Warranty Requirements for Virtual Miles

Finally, CalETC joined in a comment letter with the Alliance for Automotive Innovation, Vehicle Grid Integration Council and Plug in America recommending that a virtual miles standard be incorporated as part of the durability and warranty requirements. Virtual miles will allow OEMs to account for energy that is used from an EV for V2X purposes. It is imperative that virtual miles be considered in the durability and warranty requirements because an EV's battery is affected by use regardless of whether the electrons are powering the drive motors or some other V2X purpose. We recommend CARB's durability and warranty requirements treat all uses of an EV's battery the same.

We greatly appreciate Staff's dedication to transitioning the state's LD vehicle fleet to zero-emission and thank you for your consideration of our comments. Please do not hesitate to contact us if you have any questions at kristian@caletc.com and dlittle@calstart.org.

Sincerely,



Kristian Corby
Deputy Executive Director
CalETC



Darryl Little Jr.
State Policy Director
CALSTART

Appendix A: CalETC and Auto Innovators' Comments on Plug & Charge and Roaming Concepts Workshop

April 30, 2026

California Energy Commission
1516 Ninth Street
Sacramento, CA 95814
Re: Docket No. 22-EVI-06

Re: CalETC and Auto Innovators' Comments on Plug & Charge and Roaming Concepts Workshop

The California Electric Transportation Coalition (CalETC) and Alliance for Automotive Innovation (Auto Innovators) appreciate the opportunity to provide comments on the CEC's Plug & Charge and Roaming Concepts Workshop (Workshop). The transition to cleaner and more affordable EVs depends on ubiquitous EV charging that is reliable and hassle free. Drivers should be able to seamlessly locate, use, and pay for a public charging station anywhere they drive, no matter what network the station is on or EV they drive, using their e-mobility service provider (eMSP) platform(s) of choice, and without being charged additional fees to do so. We thank the CEC for its commitment to realizing this vision for a seamless charging experience.

CalETC supports and advocates for the transition to a zero-emission transportation future to spur economic growth, fuel diversity and energy independence, contribute to clean air, and combat climate change. CalETC is a non-profit association committed to the successful introduction and large-scale deployment of all forms of electric transportation. Our Board of Directors includes representatives from: Los Angeles Department of Water and Power, Pacific Gas and Electric, Sacramento Municipal Utility District, San Diego Gas and Electric, Southern California Edison, Southern California Public Power Authority, and the Northern California Power Agency. In addition to electric utilities, our membership includes major automakers, manufacturers of zero-emission trucks and buses, electric vehicle charging providers, and other industry leaders supporting transportation electrification.

Auto Innovators represents the full auto industry value chain, including the manufacturers producing most vehicles sold in the U.S., equipment suppliers, battery producers, semiconductor makers, technology companies, and autonomous vehicle developers. Our mission is to work with policymakers to realize a cleaner, safer, and smarter transportation future and to ensure a healthy and competitive auto industry that supports U.S. economic and national security. Representing over 5 percent of the country's GDP, responsible for supporting nearly 11 million jobs, and driving $1.5 trillion in annual economic activity, the automotive industry is the nation's largest manufacturing sector[1].

[1] Alliance for Automotive Innovation. (n.d.). *Resources and insights*. https://www.autosinnovate.org/resources/insights

II. Plug & Charge and Conformance Testing | ISO 15118-2, ISO 15118-202, and SAE J2953/3

We support requiring ISO 15118-2 (-2) hardware and software capability compliance. This standard has been available for years; many automakers and charging networks have already implemented it. Requiring -2 hardware and software capability creates a technical baseline across charging networks that helps operationalize Plug & Charge long-term. We do not believe it is appropriate to specify requirements beyond this, such as full operationalization, due to the cost and administrative complexity to execute and manage numerous business agreements. Forcing full utilization near-term risks integration failures from rushed implementation, which would harm consumers' charging experience. We support the long-term vision offered by ISO 15118-20 (-20), especially because it supports bidirectional charging and Plug & Charge. However, -20 is not ready for widespread adoption because conformance testing is still in development.

Additionally, we encourage the CEC to apply this requirement to charging infrastructure installed on or after January 1, 2024. This timeline generally aligns with chargers funded and deployed by the National EV Infrastructure Program, which also required -2 capability. Infrastructure installed before this date is less likely to have the necessary hardware to support Plug & Charge and retrofitting this infrastructure would be extremely costly.

We support requiring Extensible SECC Discovery Protocol functionality via ISO 15118-202[2] (-202) compliance, provided that the CEC gives charging networks a 36-month compliance timeline from the date of the final adopted regulation. -2 enables vehicles to accept only one charging network's contract certificate to use Plug & Charge. Therefore, when an automaker enables Plug & Charge with one charging network, their vehicle cannot use Plug & Charge with a second charging network, unless the second network has a roaming agreement with the first network. This limitation undermines customer choice – drivers should not be forced to choose between their preferred charging network and benefitting from Plug & Charge. -202 enables the use of Plug & Charge on multiple charging networks, has already been published, does not require new hardware, and is significantly simpler to implement compared to -2.

We encourage the CEC to require SAE J2953/3 for conformance testing. Since 2024, the SAE Hybrid Communication and Interoperability Task Force (Task Force) has been developing J2953/3[3] to create a better-defined EV conformance test to increase successful charging sessions. They published the first version in 2025 and are updating it to include the EV_Priority_1 test plan (plan), originally developed by CharIN, which has approximately 50 DIN test cases and 50 -2 test cases. This plan prioritizes the most high-impact, safety-critical test cases that meaningfully improve interoperability without requiring automakers to implement ISO 15118-4 (-4) test cases that are not relevant to field performance or that risk degrading interoperability.

The Task Force continues to develop J2953/3 for potential use by regulators; **we strongly encourage the CEC to work with the Task Force to include the corresponding EVSE test cases in the standard and then reference J2953/3 in any potential regulation**. Doing so can maximize alignment in requirements between automakers and charging networks when implementing -2. We recommend the CEC reference J2953/3 instead of specifying individual -4 test cases so the CEC's regulation would maintain alignment

[2] https://www.iso.org/standard/94023.html
[3] https://www.sae.org/standards/j29533_202502-plug-electric-vehicle-communication-interoperability-electric-vehicle-supply-equipment

with updates SAE makes in the future to J2953/3 instead of having to update the individual -4 test cases listed in the regulation.

Charging networks and automakers typically rely on accredited labs and defined test plans to properly implement a given standard. Real world operation of vehicles and infrastructure subsequently reveals if there are interoperability failures between companies' products and whether more testing is necessary or whether the test plan needs refining. As a result, this dynamic serves as a self-enforcing mechanism to ensure proper implementation of standards. By specifying J2953/3 for conformance testing, charging networks and automakers will naturally rely on existing accredited labs and subsequent real world operational data to enforce implementation.

Finally, we encourage the CEC to invite CARB to present on its corresponding Plug & Charge policy development work at a future interoperability workshop; bringing CARB and CEC staff together for a coordinated discussion on Plug & Charge implementation for both automakers and charging networks can increase alignment and clarity while ensuring that agency staff are receiving the same feedback regarding potential implementation questions and challenges.

III. Open Charge Point Interface

We support requiring OCPI 2.3 as a minimum, provided that the CEC gives charging networks a 36-month compliance timeline from the date of the final adopted regulation. While charging networks have implemented earlier versions of OCPI, 2.3 is not yet widely adopted, nor does a certification program yet exist. Adopting any new protocol requires staffing and resources to engineer implementation and validate its operability. Requiring charging networks to adopt OCPI 2.3 can also have downstream impacts on automakers, necessitating coordination between their respective cloud communication systems to maintain interoperability.

IV. Public Key Infrastructure

We encourage the CEC to work with SAE to focus on root certificate development, given that there is currently no central registration authority who manages, administers, and enforces the use of root certificates for U.S. charging infrastructure, which creates cybersecurity risks for the industry and consumers.

When a driver plugs their vehicle into a charger, certificates are exchanged to verify that they are valid devices. Certificates are also exchanged between the charge point operator and the eMSP to identify the customer and establish who gets billed for the charge event. If there is no central entity enforcing roles for the management of certificates, vehicle manufacturers, charge point operators, and eMSPs may use different rules. They also may not know when a certificate's security has been breached. These scenarios risk interoperability issues and cybersecurity breaches. We believe SAE, especially given its existing Electric Vehicle Public Key Infrastructure work group, would be an appropriate entity to take on this critical role.

V. Leverage the American Center for Mobility and Charge Yard as the ChargeX successor

In 2023, Argonne National Lab, Idaho National Lab, and the National Laboratory of the Rockies created

the National Charging Experience Consortium ("ChargeX")[4], which brought together EV industry stakeholders to measure and significantly improve public charging reliability and usability. It published many technical resources to improve interoperability, including recommended OCPI improvements, KPIs for VGI, recommendations for minimum required diagnostics information, and more. Since its conclusion last September, the American Center for Mobility (ACM) has taken over some of this standards development work, but it would benefit from additional resources and support.

We encourage the CEC to leverage Charge Yard jointly with ACM as successor efforts to ChargeX by focusing on ongoing technical implementation of -2, -20, -202, OCPI, and more to increase EV-EVSE interoperability. To maximize the benefits, Charge Yard could similarly publish technical documents based on extensive testing events to help mature industry's implementation efforts. We would also recommend Charge Yard host forums that bring together subject matter experts to discuss detailed engineering questions and challenges, potentially breaking down siloes among industry and facilitating more widespread learning. Charge Yard, in conjunction with ACM, offers immense promise to continue ChargeX's critical work.

VI. Medium- and Heavy-Duty Vehicles

We recommend the CEC exempt medium- and heavy-duty vehicle (MHDV) charging infrastructure from any potential OCPI and ISO-15118 requirements. Not only is the MHDV market significantly younger compared to light-duty EVs, but these communication standards discussed in this letter more appropriately serve and benefit consumers of light-duty passenger vehicles that are not directly transferable to the MHDV charging market.

In summary:

- We support requiring -2 hardware and software capability, which should only apply to infrastructure installed on and after January 1, 2024.
- We support requiring Extensible SECC Discovery Protocol functionality via -202 implementation with a 36-month compliance timeline.
- We support requiring J2953/3 conformance testing that has both EV and corresponding EVSE test cases.
- We support requiring OCPI 2.3 with a 36-month compliance timeline.
- We encourage the CEC to work with SAE on root certificate development.
- We support Charge Yard, alongside ACM, as a successor effort to ChargeX.
- We support exempting MHDV charging infrastructure from any potential regulation.

Thank you for your consideration of our comments. Please do not hesitate to contact us at kristian@caletc.com or cbullis@autosinnovate.org should you have any questions.

Kind regards,

Kristian Corby
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California Electric Transportation Coalition

Cory Bullis
Director, Energy & Environment Policy
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[4] https://inl.gov/chargex/