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Comments of EDF and NRDC on AB 2127 Report

Additional submitted attachment is included below.



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March 8, 2021

California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

Re: Comments on Implementation of AB 2127 Electric Vehicle Charging Infrastructure Assessment, Docket No. 19-AB-2127

Environmental Defense Fund (EDF) and the Natural Resources Defense Council (NRDC) (Joint Parties) thanks the California Energy Commission (the CEC) for the opportunity to file these comments in response to the AB 2127 Electric Vehicle Charging Infrastructure Assessment (Assessment). As a general matter, Joint Parties believe that this report is a critically important piece of analysis and applauds the CEC for its recognition of the importance of planning for adequate infrastructure in a way that maximizes the benefits of zero-emission vehicles for the grid, the environment, and customers. Joint Parties offer brief thoughts on the breadth of analysis, elements of vehicle-grid integration, equity, interconnection, and the need for public investment.

Infrastructure Deployment

Joint Parties commend the CEC for its comprehensive analysis of the infrastructure needed to support vehicle deployment in line with state targets. As the CEC no doubt recognizes, adequate infrastructure deployment is critical to supporting additional vehicles and alleviating the still persistent range anxiety that creates hesitation among would-be adoptees. This is of particular importance in low-income and disadvantaged communities that are most burdened by air pollution; focusing on low-hanging fruit will perpetuate and exacerbate inequities. As stated by the CEC, “low-income census tract communities throughout the state have slightly fewer public chargers per capita than middle- and high-income communities, though about half of all public Level 2 and DCFCs in the state are installed in low-income communities.”¹ Given that low-income residents often reside in multi-unit dwellings that may not have access to building charging, this is a gap that should be further explored.

¹ California Energy Commission, *Assembly Bill 2127 Electric Vehicle Charging Infrastructure Assessment: Analyzing Charging Needs to Support Zero-Emission Vehicles in 2030* at 14 (Jan. 2021).

As well, much analysis has been done on the light-duty front, but less has been done on medium- and heavy-duty vehicles. Given the disproportionate emissions from the medium- and heavy-duty sector relative to the size of that population, as well as the fact that it is an incredibly diverse sector with fundamentally different needs than light-duty vehicles, the considerations for infrastructure deployment need necessarily to be different as well. As such, Joint Parties are supportive of future efforts like HEVI-LOAD that will evaluate the infrastructure need for and impact of commercial vehicles; Joint Parties look forward to weighing in on the analysis that comes out later this year and encourages the CEC to carefully analyze capacity constraints that may result from more commercial vehicle deployment and include private and public charging for fleets.

Finally, Joint Parties believe the CEC should be careful about over-reliance on Level 1 charging. While the CEC shows a healthy skepticism about the utility of Level 1 chargers, they still state that “in some cases, Level 1 chargers may be a sufficient substitute for Level 2 chargers serving MUDs or TNC vehicles.”² Joint Parties are concerned this is contrary to the critical need for smart charging and vehicle-grid integration recognized by the CEC, beyond the fact that reliance on Level 1 chargers will result “in the largest network size.”³ Level 1 chargers are rarely networked, so it is more difficult for utilities to monitor load data and pass price signals that incentivize helpful charging behavior; as well, they are markedly less convenient, even for drivers utilizing charging at single family homes. Finally, because telemetry is not a standard, given that every vehicle manufacturer has proprietary on-board technology, interoperability will be impossible. This will frustrate the ambitions set by the CEC to facilitate effective vehicle-grid integration.

Vehicle-Grid Integration

In order to ensure that vehicles maximize grid, environmental and cost benefits, the ability of vehicles to act as storage must be leveraged to the extent possible. As recognized by the CEC, this means that smart charging is a necessity in order to ensure that vehicles can concentrate charging during times of lower demand and high renewable availability, reflected by time-variant price signals. Smart charging is also important in ensuring customers can respond to increasingly dynamic price signals. As well, there should emphasis on ensuring that infrastructure at fleet sites is paired with solutions like on-site solar and storage; doing so may make the total cost of ownership more favorable for fleets transitioning to zero-emission vehicles.

Joint Parties agree that bidirectional capabilities are key. Making bidirectionality more feasible – through market signals that make advanced capabilities on equal footing with other DERs and attach revenue to these services – will provide resiliency. Recent years have proven that natural disasters like wildfires can cause blackouts and leave scores of residents without power. Enabling bidirectionality that can provide energy back to the grid and power buildings like emergency centers that can provide needed services to displaced residents can provide significant

² *Id.* at 49.

³ *Id.* at C-2.

benefits. As well, revenue from V2G services can be critical for low-income customers – for example, providing revenue for these capabilities in, for example, low-income school districts can be an important way of making the economics for purchasing zero-emission vehicles pencil out. That being said, V1G services should also be leveraged – managed, unidirectional charging is often forgotten, but can be a powerful tool for storage, frequency and voltage control, and peak load reduction, similar to V2G. As such, incentivizing V1G capabilities can bolster the grid and enable customer cost savings – which should not be given short shrift.

Interoperability standards are critical for future proofing equipment and ensuring consumers have a seamless experience, and it is clear that there needs to be a standardized protocol between the vehicle and the charger. Within the next few years, aligned with international standards processes, the Commission should work to adopt communications standards that ensure equipment is futureproofed and act as a pathway for more advanced charging capabilities beyond that facilitated by telemetry. Failure to do so will hamper the ability of drivers to get price signals and may prevent the EVSE from getting information about the state of battery charge; as well, having reliable access to locational information (which cannot be reliably derived from telematics) will better enable distribution grid services such as voltage control. As well, OCPP is critical to avoid stranded assets and OCPI is important to enable roaming between networks. Finally, cybersecurity to ensure that customer information remains private is critical.

Equity

The CEC states that “transportation planning and projects have often insufficiently considered the needs of the local community, particularly low-income and disadvantaged communities suffering disproportionate health impacts.”⁴ Joint Parties wholeheartedly agree – and concurs that “policymakers must directly involve communities in identifying and planning high quality charging solutions that meet local needs and yield direct community benefits.”⁵ Working with environmental justice advocates and community-based organizations to ensure that equity is an overarching lens through which all policy recommendations are viewed – and that the input and recommendations of these groups are incorporated at the outset as a common practice. As well, charging programs that focus on medium- and heavy-duty vehicles should also be sure to reach out to smaller businesses to avoid concentrating benefits amongst large fleets that may already have been inclined to adopt zero-emission vehicles.

Streamlining Interconnection

The report states that “given that PEV adoption is growing across California, POUs should seek to sharpen their analysis of and preparedness for the impacts of increased electricity demand from vehicle charging.”⁶ In addition to describing “charging load impacts in greater detail and identify possible grid upgrade needs,”⁷ utilities should be encouraged to reliability and consistently collect load data, as well as provide for market potential in its planning to

⁴ *Id.* at 62.

⁵ *Id.*

⁶ *Id.* at 69.

⁷ *Id.*

proactively prepare for increasing numbers of vehicles and streamline interconnection standards. Under the current piecemeal approach that utilities often take, interconnection can take months, if not years, which could chill adoption if not managed. As such, measures should be taken to reduce these timelines and future proof grid build-out to avoid delays down the line.

Financing

Finally, Joint Parties agree that public investment for infrastructure is critical in the near-term and can be a means of unlocking private capital as the market matures. Indeed, policies like the Low Carbon Fuel Standard have been proven to help improve the total cost of zero-emission medium- and heavy-duty vehicles, and rebates/incentives are critical to defray the upfront cost of zero-emission commercial vehicles. Of course, financing solutions are not one-size-fits all – fleets of all sizes, including small and independent fleet owners, must be able to take advantage of programs designed to help reduce cost; ensuring that businesses with less access to capital and less technological know-how are provided with the right tools will ensure a more equitable deployment of infrastructure and vehicles.

Conclusion

Joint Parties thank the CEC for this critical analysis and looks forward to working with the agency as it focuses more on medium- and heavy-duty vehicles.

Respectfully submitted,

/s/ Larissa Koehler

Larissa Koehler
Environmental Defense Fund
lkoehler@edf.org

/s/ Miles Muller

Miles Muller
Natural Resources Defense Council
mmuller@nrdc.org