

DOCKETED

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on AB 2127 Draft Report

Additional submitted attachment is included below.

February 26, 2021

California Energy Commissioners
1516 9th St.
Sacramento, CA 95814

Re: San Diego Gas & Electric Comments on AB 2127 Electric Vehicle Charging Infrastructure Assessment

SDG&E thanks the Energy Commission ("CEC") for its longstanding leadership in the transition to zero-emission vehicles ("ZEVs"). This leadership has resulted in thousands of charging connectors installed, hundreds of millions of dollars of grants, and state-wide assessments that guide ZEV and infrastructure adoption efforts. Presently, SDG&E is pleased to submit comments to the inaugural AB 2127 Electric Vehicle Charging Infrastructure Assessment ("AB 2127 Assessment").

SDG&E has played a leadership role in supporting EV adoption and deployment of charging stations in SDG&E's service territory, with our first transportation electrification filing in 2014. We have installed over 3,200 charging connectors across all vehicle segments at workplaces, multi-unit dwellings, public charging locations, and multiple fleets, with 3,300 additional charging connectors in development. Further, SDG&E has invested extensively in education and outreach, deploying pilots that educate and incentive dealerships to sell EVs, hosting the largest EV Day in the country, and significant collaboration with our regional partners, including transit agencies, regional and local governments, and planning agencies.

SDG&E has also dedicated its expertise to advancing the market in the critical areas of technology development, Vehicle-Grid Integration, and Vehicle-to-Grid. There are five EV-specific rates deployed and one pending CPUC approval for SDG&E customers, covering all vehicles' segments, including the first large-scale deployment of a dynamic, locational hourly EV rate. We have also extensively studied EV submetering and vehicle-to-grid (V2G), with a current V2G pilot in the deployment that will explore the benefits and costs of V2G.

From this broad experience with infrastructure deployment, SDG&E offers general support along with respectful suggestions to maximize the relevance and impact of the AB 2127 Assessment.

SDG&E supports the overall approach and results of the AB 2127 Assessment

The CEC continues its leadership as a state agency using quantitative methods to investigate and assess California's charging infrastructure needs. SDG&E applauds the CEC's leadership and supports the draft forecast of 1.5 million charging stations needed to support 8 million vehicles by 2030. It is worth noting that this outcome is corroborated by other industry work, most notably the [CalETC White Paper](#) on infrastructure needs.¹

The CEC should anchor its AB 2127 Assessment to the target of 8 million zero-emission vehicles by 2030

The AB 2127 Assessment provides a sorely needed concrete charging infrastructure goal. Establishing a charging infrastructure goal offers clarity to the broader industry for how to support state goals. Due to key Executive Orders ("EOs"), including N-79-20 and B-55-18, the California Air Resources Board ("CARB"), via its 2020 Mobile Source Strategy ("MSS") Draft, has set a goal of 8 million ZEVs on California

¹ <https://caetc.com/assets/files/EV-infrastructure-study-white-paper-FINAL.pdf>.

roads by 2030. This estimate rightly supersedes EO B-48-18, which called for 5 million vehicles by 2030, based on market developments.

SDG&E urges the CEC to anchor its AB 2127 Assessment to support the 8 million ZEVs called for by CARB's Draft MSS (unless otherwise updated by CARB). Presently, the AB 2127 Assessment develops scenarios for supporting the 8 million ZEVs goal per the MSS. However, the report gives more attention to the infrastructure needed to support 5 million ZEVs by 2030, per EO B-48-18.² It is time to embrace the updated MSS goals, which are supported by updated state policies.

SDG&E supports the CEC's call for additional quantitative modeling

The AB 2127 Assessment underscores the importance of continued quantitative modeling efforts to support the widespread deployment of charging infrastructure into the future. SDG&E strongly supports such further efforts.

SDG&E ask for inputs and parameters used in the model

As discussed above, the AB 2127 Assessment has provided critical insights as the ZEV industry marches toward needed but ambitious ZEV goals. However, to truly support the ZEV industry, the CEC should share the inputs, assumptions, and methodologies that have fed this analysis. Without this information, the industry cannot perform and enhance its modeling efforts based on the CEC's expertise. This creates a disconnect and lack of clarity across the industry that can obstruct progress.

SDG&E agrees that achieving the foundational goal of a self-sustaining private market will require continued near-term public investments

SDG&E supports the AB 2127 Assessment's call for continued public support and a dedicated, strategic focus on transitioning to a self-sustaining private industry. To achieve our state's ambitious ZEV goals, there must be reliable and sufficient public support to cultivate a private industry that can thrive independent of state support. Presently, the state's investments in ZEV efforts are litigated cyclically, the majority being litigated on an annual basis. This variability creates uncertainty around state financial support, decreasing its effectiveness and disrupting signals to the private market.

Making this transition equitable must be an uncompromised priority

In multiple locations, the AB 2127 Assessment stresses the need to prioritize equity in charging infrastructure deployment. SDG&E strongly agrees with this priority and asks that the CEC continue increasing its focus on equity. To this end, SDG&E agrees and supports the AB 2127 Assessment's suggestion of an increased emphasis on community engagement and community-centric planning.

California is an extremely diverse state, not just in population but in its variations in geography, infrastructure, location, and economy. Each community has varying degrees of challenge based on these and other criteria. These variations contribute to the long-recognized differences in air quality across the state. Recognizing these differences, it is critical that state-wide efforts related to transitioning to ZEVs, especially those undertaken by state agencies, empower communities to have an authoritative voice when developing these solutions. This will further help build state knowledge about the unique challenges facing each region.

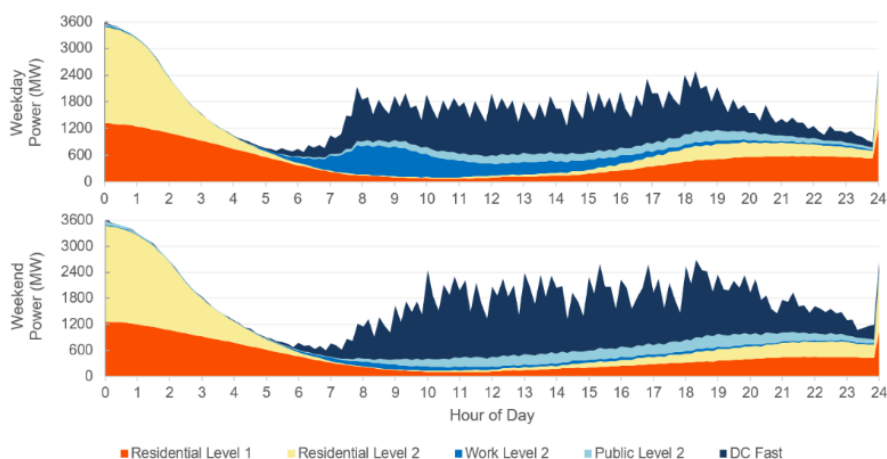
² Figure 4 and Table 3 of the AB 2127 Assessment

The CEC should include clearer and stronger identification of the variability of load impacts from modeling results

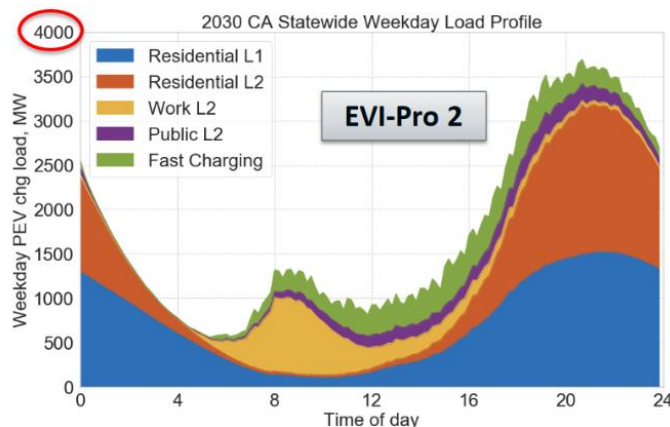
Figure 14 of the AB 2127 Assessment updates a tremendously critical analysis that the CEC has pioneered and led for years on forecasted load impacts of plug-in electric vehicle (PEV) charging. The iteration featured in the present AB 2127 Assessment unveils significant and exciting updates from previous iterations. Most notably, the overall load shape has shifted, with peak moving from roughly 8 pm to midnight. Further, the bi-modal second peak, at roughly 8 am, is no longer present. (See figures below for reference.) As noted in the AB 2127 Assessment, this underscores the importance of the innovative rates passed by SDG&E and other utilities.

The fact that there are such updates to the forecasted load impacts reflects two important characteristics: (1) the industry's understanding of charging behavior is just as nascent as the market itself and (2) charging behavior is subject to meaningful changes based on market developments. Accordingly, SDG&E suggests contextualizing this analysis to show how estimates have changed over time. The load forecasts will inherently communicate that significant adaptation is necessary to support charging infrastructure without any context. However, by providing proper context, the broader audience will understand that continual market analysis and appropriate policy support, such as utility rates, can (and have) positively influenced charging behavior.

AB 2127 Report: Projected 2030 PEV Load Forecast, Page 33



2020 Integrated Energy Policy Report Workshop: [Projected 2030 PEV Load Forecast](#), Slide 16



The CEC should release comprehensive details and solicit significant public input on its "Cost of Enabled Charging" concept before exploring further or adopting

SDG&E thanks the CEC for its commitment to innovation and supporting the market. The Cost of Enabled Charging concept, discussed on pages 86-88 of the AB 2127 Assessment, is a new idea introduced in 2020 by CEC staff. The idea appears to attempt to minimize investment in charging infrastructure using creative financing and bidding strategies. However, this concept's exact strategy and execution are not clear as presented, and there may be considerable issues related to equity of infrastructure deployment and fairness to electricity ratepayers depending on such details. SDG&E urges that, if this concept is to be further considered, CEC staff develop comprehensive materials to elucidate the full proposal of this concept and, from that, engage the public for comment and input.

Adopting ISO 15118 could cause unnecessary technology burdens and increase soft costs, likely increasing barriers to underserved communities

On pages 57-59, the AB 2127 Assessment extols the International Organization for Standardization (ISO) 15118 standard. The AB 2127 Assessment highlights ISO 15118's proposed "Plug and Charge" feature and its standardization communication protocols for smart and advanced charging. However, neither Plug and Charge nor many of the advanced charging capabilities highlighted in the AB 2127 Assessment are currently offered capabilities in the current ISO 15118 iteration. By requiring ISO 15118 now, the industry will have the obstacle of deploying a communications standard that cannot support essential functions actively being tested. Thus, it would add a layer of complexity and customization for the deployment of advanced use cases.

Further, requiring ISO 15118, as a still-developing standard, will inherently raise the soft costs of charging infrastructure and operations. At a time when the state is woefully behind meeting its charging infrastructure deployment and when infrastructure deployment is struggling to be executed equitably, requiring a cost-adding and incomplete communication protocol would add a barrier to infrastructure deployment that could significantly impact underserved communities.

SDG&E also has the following clarifying questions:

- The AB 2127 Assessment states an assumption of 180,000 medium- and heavy-duty (MD/HD) ZEVs needed by 2030, based on CARB's MSS. SDG&E requests clarification on how 180,000 was derived. Looking at the CARB 2020 MSS materials, it appears that the MSS estimates a need for 210,000 MD/HD ZEVs by 2030.³
- Are the EVI-RT, WIRED, and EVI-Pro 2 models interlinked? If not, how is staff ensuring there is not unnecessary duplicity or redundancy being recommended from these modeling efforts?

Sincerely,



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³ https://ww2.arb.ca.gov/sites/default/files/2020-10/2020_MSS_October_Webinar_Presentation.pdf