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January 27, 2021

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

Re: Comments of the Natural Resources Defense Council (NRDC) on the 2020 Integrated Energy Policy Report Update, Volume 1 [Docket No. 20-IEPR-01]

Commissioner Hochschild:

On behalf of the Natural Resources Defense Council (NRDC), and our more than 95,000 members in California, we appreciate the opportunity to comment on the 2020 Integrated Energy Policy Report (IEPR) Update, Volume 1. NRDC appreciates the Energy Commission staff's efforts in developing this IEPR in a thorough and transparent manner, and strongly supports the IEPR's emphasis on transportation electrification as a key strategy to help achieve California's climate, air quality, and equity goals. NRDC's comments can be summarized as:

- The draft IEPR correctly recognizes the importance of decarbonizing the transportation sector to achieve California's economy-wide decarbonization goals. The IEPR should highlight that transportation electrification will also significantly reduce pollution in California's disadvantaged communities.
- The IEPR should underscore the effectiveness of well-planned utility infrastructure investments in promoting transportation electrification. If California wants mass adoption of electric vehicles, then it needs to develop efficient policy to make sure sufficient charging infrastructure are available.
- Affordable clean electricity is necessary to ensure continued and equitable adoption of electric vehicles by all Californians. California's energy agencies should keep working to promote the most cost-effective decarbonization strategies; the IEPR should recognize the downward pressure electric vehicles put on electric rates.
- Electric vehicles need to be charged with clean electricity to reduce carbon emissions and pollution; the California Energy Commission and the California Public Utilities Commission should set near term emissions reduction milestones that are aligned with Senate Bill 100's target to get to zero-carbon electricity by 2045.



Accelerating Transportation Electrification is Critical to Meeting California's Carbon and Pollution Reduction Goals in a Timely Manner

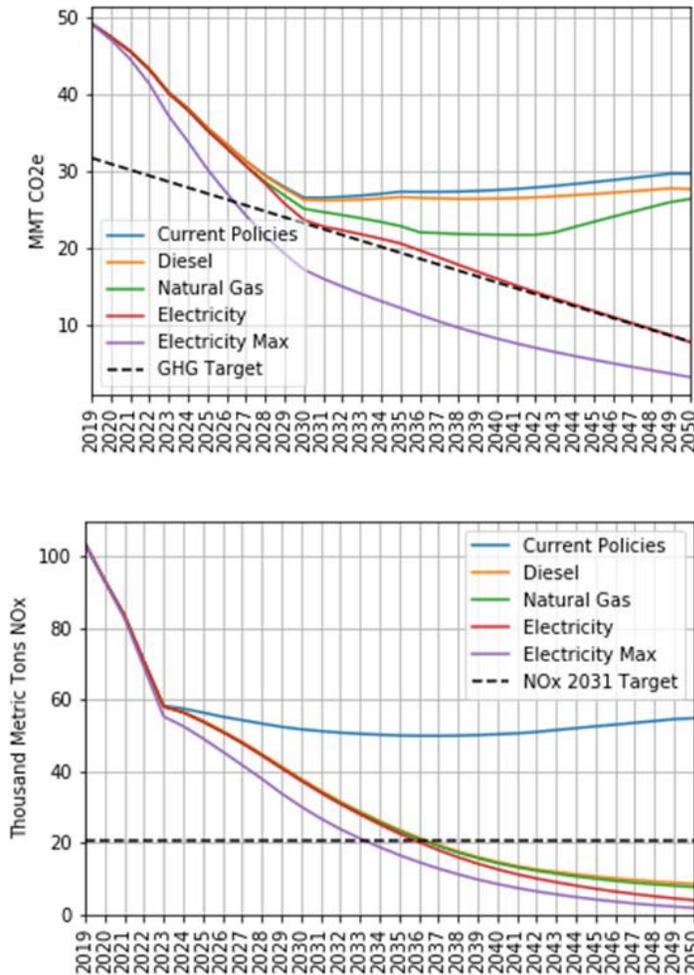
As the report rightly highlights, the transportation sector is the leading source of greenhouse gas and air pollutant emissions in California. Enabling the electrification of all types of vehicles will be essential to meet the goals set forth in Executive Orders B-48-18 and N-79-20, which established ambitious targets of deploying 250,000 chargers by 2025, 1.5 million zero-emission vehicles on the road by 2030, having 100 percent of in-state sales of passenger cars and trucks be zero emission by 2035, and having 100 percent of medium- and heavy-duty vehicles in the state be zero emission by 2045. Accordingly, the report's emphasis on promoting the electrification of medium- and heavy-duty vehicles is well-placed, and we support the recommendation to explore multiple incentive and financing approaches to improve the total cost of ownership of these vehicles. The report also appropriately highlights the importance of electrifying medium- and heavy-duty vehicles and investments in charging infrastructure for promoting equity and environmental justice in underserved communities, which are often most affected by air pollution from transport, transit, and freight.

To address the health, climate, and equity impacts from pollution generated by transportation, the relevant science and analysis reveals that California needs to electrify light, medium, and heavy-duty vehicles. Recent scenario analysis by ICF examines the ability of alternative fuels and electrification in the medium- and heavy-duty sectors to meet California's climate and air quality goals.¹ The study shows that widespread electrification of medium- and heavy-duty vehicles is absolutely essential to meet both 2030 and 2050 GHG goals and can significantly help in meeting California's 2031 NO_x target, which is necessary to meet the National Ambient Air Quality Standard for ozone.

¹ ICF, Comparison of Medium- and Heavy-Duty Technologies in California, December 2019 (available at <https://caletec.com/comparison-of-medium-and-heavy-duty-technologies-in-california/>).



FIGURE 1: SCENARIO GHG EMISSION (MMT CO₂E/YR.) AND TAILPIPE NO_x EMISSION COMPARISON



This study found that only the “Electricity” (entailing 100,000 medium- and heavy-duty EVs in 2030 and 1.4 million in 2050) and “Electricity Max” (entailing 800,000 medium- and heavy-duty EVs in 2030 and 2.2 million in 2050) scenarios deliver the emissions reductions necessary to comply with the GHG targets codified by SB 350 and SB 32. The “Electricity Max” scenario is also the only scenario that comes close to complying with the 2032 air quality standards for NO_x. Accordingly, to comply with SB 350 and the 2023 and 2032 federal air quality standards—and to realize the significant health, climate, and equity benefits from attaining these goals—widespread electrification of medium- and heavy-duty vehicles is essential.



Utility Investment is Necessary to Accelerate Adoption of Electric Vehicles

We support the Commission's intent of attempting to maximize efficient infrastructure deployment to support the development of this market, but caution against premature reliance on market maturity assessments and unduly circumscribing the role of the utilities. The utilities have a critical role to play in helping the state achieve its equity and climate goals by accelerating widespread transportation electrification and increasing access to the use of electricity as a transportation fuel for underserved communities. While the report notes that the CPUC's Transportation Electrification Framework (TEF) "identifies the appropriate role of the IOUs in transportation electrification as an area for consideration" and "describes the need for the utilities to assess the market maturity of transportation electrification segments," it currently fails to adequately reflect the widespread concern echoed by parties responding to the TEF's market maturity proposals. As noted by parties in that proceeding, "as desirable as it would be to have a crystal ball with insight into the future of TE market maturity, the Commission must not react to the current uncertainty by prematurely cutting off utility support for TE infrastructure."² The EV market is still nascent and evolving, and the state should not limit utility roles or programs based on premature presumptions about market maturity. A better approach would be to flip the presumption about market maturity to assume that markets are immature and in need of continued utility support until the goals established by Senate Bill 350 have been achieved.

Relatedly, utility support and investment in the provision of utility-side make-ready infrastructure will be critical for assisting the development of the medium- and heavy-duty EV market. As recognized by the report, Assembly Bill 841 directs the utilities to establish new tariffs or rules that authorize the utilities to design, construct, own, and maintain electrical distribution equipment on the utility-side of the meter needed to charge EVs. While we agree with the report that Vehicle-Grid Integration has a role to play in minimizing the frequency of the need for ratepayer-funded upgrade costs, we disagree with the report's implication that tariffs required by AB 841 are in conflict with the goal of efficient infrastructure deployment. The Report notes that "IOU funding programs focused predominantly on utility distribution infrastructure expansion do not value the benefits of these alternatives" and that "[a] focus on meeting energy demands created by transportation electrification, rather than necessarily increasing the power capacity of the grid, may help the charging infrastructure market value all options more adequately." The report currently fails to capture that these considerations have

² R.18-12-006, Opening Comments of Center for Community Action and Environmental Justice, East Yard Communities for Environmental Justice, Sierra Club, Union of Concerned Scientists, and Center for Biological Diversity on Sections 2, 3.1, 3.2, 3.3, 4, and 5 of the Energy Division Staff Proposal for a "Draft Transportation Electrification Framework" at 14.

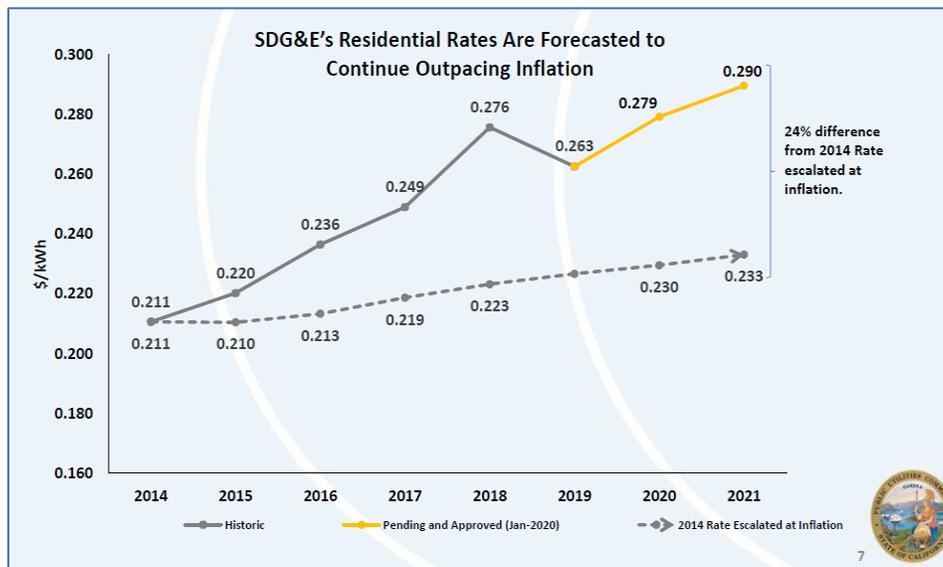


already been flagged and discussed by stakeholders and the Commission in the CPUC’s ongoing TEF proceeding. We would caution against premature characterizations of, and reactions to, the utility tariff proposals and stakeholder discussion currently pending at the CPUC.

Affordable Clean Electricity Is Critical for EV Adoption by all Californians, and New Load From Adopting Decarbonization Technologies Can Help Keep Electricity Affordable

Affordable clean electricity is necessary to ensure continued and equitable adoption of electric vehicles by all Californians. California’s energy agencies should keep working to promote the most cost-effective decarbonization strategies. Californians, especially residents of disadvantaged communities, will be dissuaded from adopting electric vehicles if the price of electricity is higher relative to the price of gasoline. Rates have already been increasing faster than inflation for many reasons (such as the cost borne by ratepayers due to recent wildfires) and the current NEM structure adds to the problem. Figure 2 illustrates the pace at which electric rates have been increasing in San Diego Gas & Electric service territory.

FIGURE 2 SDG&E’S RESIDENTIAL RATES ARE FORECASTED TO CONTINUE OUTPACING INFLATION ³



³ California Public Advocates Office, Electric Rate Trends (2009- 2021): Assembly Utilities and Energy Committee Electricity Prices Matter Informational Hearing (February 2020), at 7. These estimates do not include the rate increases due to recent wildfire mitigation legislation.



If electric rates continue to rise, and if residential electricity becomes more expensive than gasoline, then EV adoption will be less accessible to non-affluent Californians. Increasing electric rates, if unabated, will lead to the benefits of clean energy being distributed inequitably—as well as decreased adoption of all types of electrification technologies. Adding load to the electric grid through electrification of vehicles and buildings puts downward pressure on electric rates to the benefit of all utility customers, as demonstrated by NRDC’s [recent research](#). Proactive electrification of buildings and transportation keeps rates in check, thereby forming a virtuous circle which further encourages adoption of electrification technologies.

Additional analysis by Synapse Energy Economics finds that EV charging has *already* put significant downward pressure on rates in California, with revenues from EV charging far exceeding the costs of accommodating EV load. That analysis compared the new revenue utilities collected from EV drivers to the cost of the energy required to charge those vehicles, plus the costs of any associated upgrades to the distribution and transmission grid, and the costs of utility transportation electrification programs. In total, EV drivers contributed an estimated \$806 million more than the associated costs over an eight-year period.

The IEPR should recognize these levers for downward pressure on rates and recommend that California’s energy agencies further promote policies to kickstart this virtuous circle.

Reducing Carbon Through Transportation Requires Clean Electricity

Electric vehicles need to be charged with clean electricity to reduce pollution and carbon emissions through transportation. Continued decarbonization of the electric sector is therefore paramount to decarbonizing the economy. The rate of carbon emissions reductions in the power sector needs to be commensurate with the [Senate Bill 100’s goal of zero-carbon electricity](#) by 2045. The IEPR should recommend that the CPUC and CEC should [require load serving entities to reduce enough emissions by 2030](#) to put the state on track to comply with Senate Bill 100 in a timely manner.



Conclusion

We appreciate the consideration of these comments and look forward to continuing to work with the CEC and Staff on accelerating widespread transportation electrification in California.

Sincerely,

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