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**COMMENTS OF THE NATURAL RESOURCES DEFENSE COUNCIL ON THE
2011 INTEGRATED ENERGY POLICY REPORT
TRANSPORTATION ENERGY FORECASTS**

Docket Number 11-IEP-1L

2011 IEPR – Transportation Energy Forecasts: Historic Demand Forecasts

November 22, 2011

Submitted by: Max Baumhefner

I. NRDC REQUESTS THAT THE TRANSPORTATION ENERGY FORECAST BE REVISED TO AVOID UNDERMINING THE STATE’S ENVIRONMENTAL GOALS

The *Transportation Energy Forecasts and Analyses for the 2011 Integrated Energy Policy Report*, (“Draft Staff Report”) and the presentations given at the workshop of November 14, 2011 contain a series of characterizations and predictions made with unclear assumptions that together could undermine California’s efforts to improve the environmental performance of the transportation sector. NRDC does not believe this is the intent of California Energy Commission (“CEC”) staff and requests that these issues be addressed, and that future public documents be reviewed with an eye to how they could be used by others who may actually wish to slow California’s progress in this area.

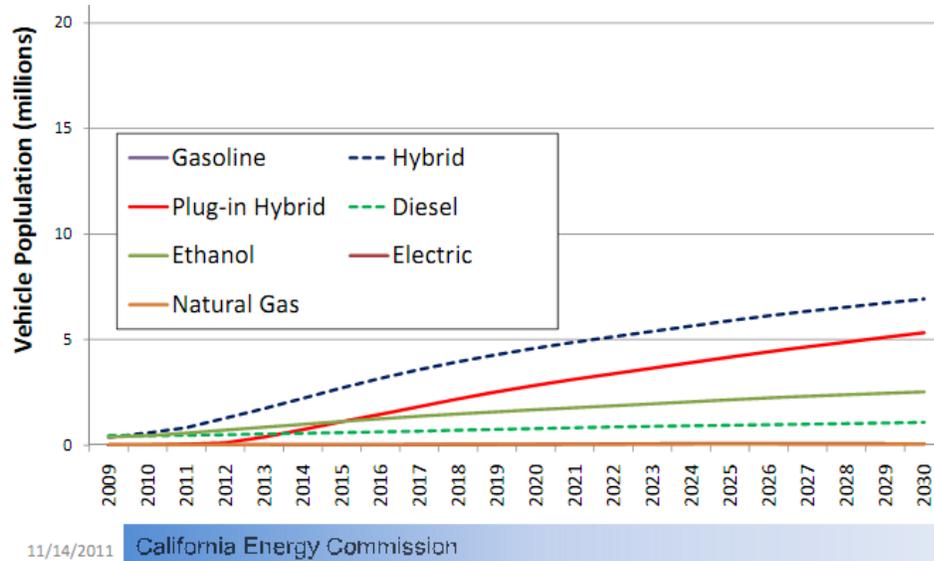
NRDC submitted comments on September 21, 2011 urging staff to include stakeholder views on the Low Carbon Fuel Standard (“LCFS”) High Carbon Intensity Crude Oil provision other than those of the oil industry, to recognize the decades of national and international leadership and impact the State has had on fuel standards, to include scenarios such as that of the Air Resources Board (“ARB”) showing compliance with the LCFS, to reevaluate its projections that almost no Californians will buy battery electric vehicles over the next twenty years, to revise forecasts showing that demand for electricity as a transportation fuel will shrink in the future, to correct a mistake displaying the price of electricity as a transportation fuel as more expensive than that of gasoline, and to make transparent key assumptions throughout the Draft Staff Report. NRDC’s full comments of September 21, 2011 are attached here, as these requests are still relevant.

Comments on the *Perspective & Context of Historic Demand and Alternative Fuels* presentation (“Historic Demand Presentation”) given at the workshop of November 14, 2011 are made below. NRDC intends to submit additional comments on the other presentations given at the same workshop at a later date, but prior to the November 30, 2011 deadline. Given the staff’s oral remarks during the workshop stating that comments would be more useful if submitted in advance of the November 30th deadline, and given the impending Thanksgiving break, NRDC thought it best to submit these comments now, with additional comments on the other presentations to follow.

II. COMMENTS ON THE HISTORIC DEMAND PRESENTATION

A. Forecasts that almost no Californians will buy “Electric Vehicles” over the next twenty years are inaccurate and should be revised

Slides included in the Historic Demand Presentation, which correspond to Figures 3-6 and 3-7 in the Draft Staff Report, show no perceptible market penetration for “Electric Vehicles” for the next two decades.



As a preliminary matter, the term “Electric Vehicle,” which is commonly used as an umbrella term for all plug-in electric vehicles and often hybrid electric vehicles, but is intended by staff to refer only to pure battery electric vehicles should be replaced with the more specific term “Battery Electric Vehicle” to avoid the perception that CEC sees no future for all plug-in electric vehicles. Likewise, the term “Plug-in Hybrid” should be replaced with “Plug-in Hybrid Electric Vehicle” to make it clear that the CEC sees a future for at least one form of plug-in electric vehicles.

Secondly, as noted in previous comments by both NRDC and Nissan, the prediction that battery electric vehicles will never achieve significant market penetration should be revised to better reflect the consensus of other expert forecasts.¹ San Diego Gas & Electric forecasts there will be 27,500 battery electric vehicles in its service territory alone by 2020, ten years before

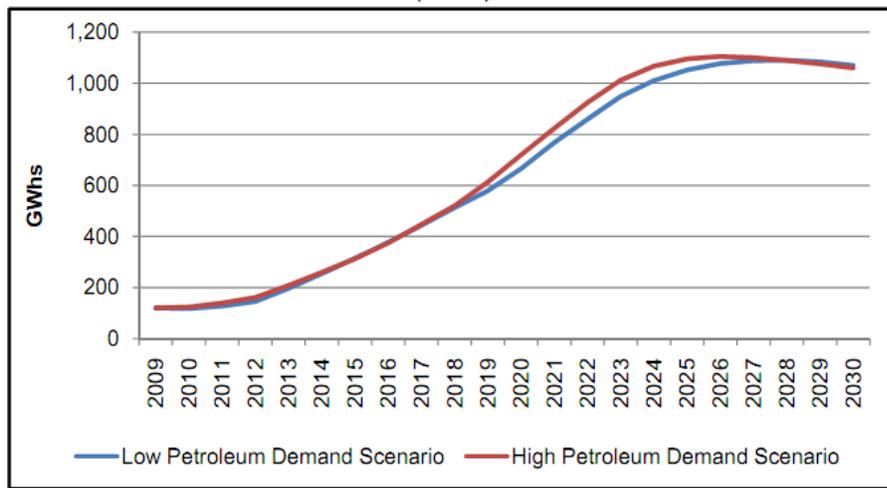
¹ See NRDC, *Comments of the Natural Resources Defense Council (NRDC) on the 2011 Integrated Energy Policy Report (IEPR) Transportation Energy Forecasts, Docket Number 11-IEP-1L 2011 IEPR – Transportation Energy Forecasts*, September 21, 2011 p. 8-12 (“NRDC Comments of September 21, 2011”); Nissan North America, *Comments to the California Energy Commission Draft Transportation Energy Forecasts and Analyses for the 2011 Integrated Energy Policy Report*, September 21, 2011.

the close of the CEC timeframe.² We reiterate our request that CEC look seriously at the forecasts conducted for NRDC by the Planning Edge and Baum and Associates, which are neither pessimistic nor optimistic, but are firmly in the middle of a group of similar market forecasts conducted by the International Energy Agency, Roland Berger, Boston Consulting Group, McKinsey, and Deutsche Bank.³ In contrast, the CEC forecasts are anomalously pessimistic as to the future of battery electric vehicles such as the Nissan Leaf, for which there are still waiting lists in this state. NRDC also reiterates its request that the assumptions behind the prediction that almost no Californians will choose battery electric vehicles be made transparent.

B. Predictions that demand for electric vehicles and for electricity as a transportation fuel will decrease in the 2025 timeframe are anomalous and should be revised

Slide 16 of the Historic Demand Presentation predicts that sales of electric vehicles will decrease in the 2025 timeframe. Figure 3-15 of the Draft Staff Report, reproduced here, makes a similar prediction for demand for electricity as a transportation fuel.

Figure 3-15: California Transportation Electricity Demand Forecast (GWhs)



Source: California Energy Commission

As noted in staff’s oral remarks during the workshops of September 9, 2011 and November 14, 2011, these predictions reflect a peculiarity of the CEC model and not the opinions of experts. Anomalous information, however caveated with oral remarks, should not

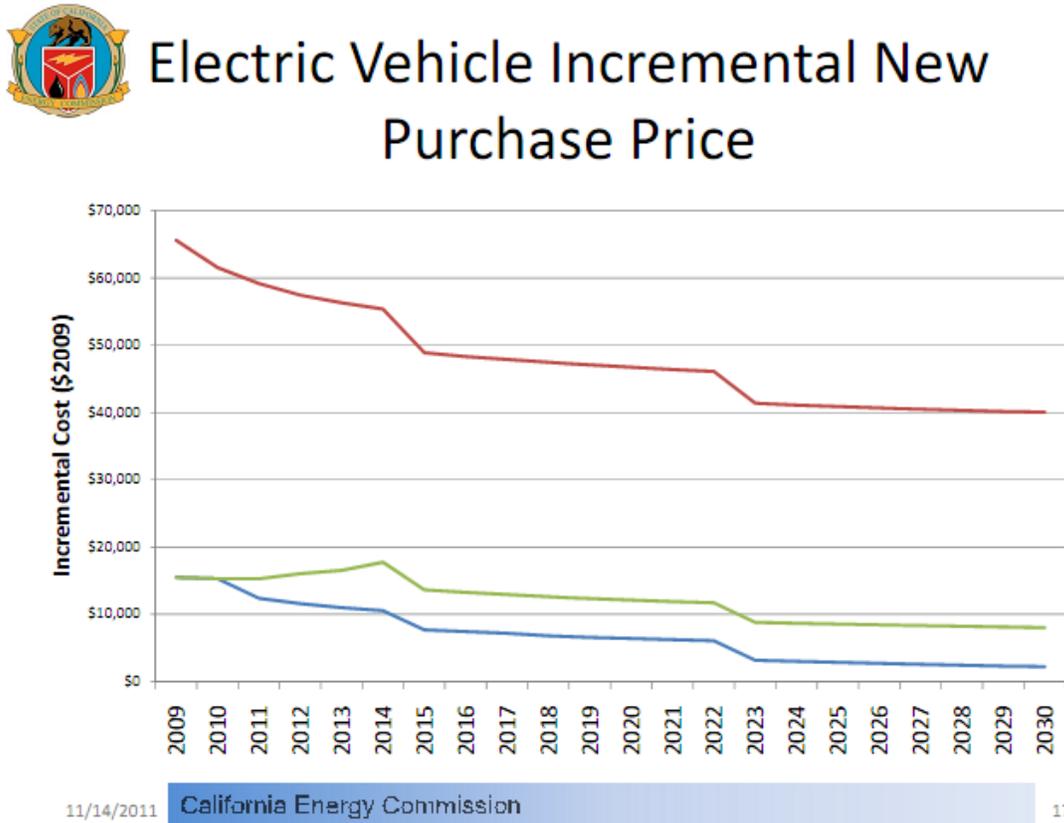
² San Diego Gas & Electric, *Prepared Testimony of Kathleen H. Cordova on Behalf of San Diego Gas & Electric*, December, 2010, p. KHC-28.

³ *NRDC Comments of September 21, 2011*, p. 8-12.

be included in publicly available CEC documents which will likely be used by others, stripped of any disclaimer.

C. Misleading estimates as to the incremental cost of electric vehicles should be removed from public documents

Slide 17 of the Historic Demand presentation depicts estimates for the incremental costs of electric vehicles over time:



As noted in staff remarks during the workshop of November 14, 2011, the red line, which shows an incremental cost of nearly \$70,000, is misleading because it depicts the cost of a Tesla Roadster relative to the cost of the average sports car which is an inappropriate comparison. As noted by Commissioner Boyd during the workshop, the Tesla Roadster is no longer in production, so predictions as to its future cost are also irrelevant. Unfortunately, oral remarks made during the workshop do not accompany the image which is currently available on the CEC’s website for all to download. Misleading information, however caveated in oral remarks, should not be included in public presentations or documents which display the seal of the CEC and will be viewed as California’s official view on energy matters.

The CEC forecasts should also take into account the fact that customers are unlikely to see the full incremental cost of electric drive technology. The zero-gram upstream emissions treatment plug-in electric vehicles receive under the national greenhouse gas and Corporate Average Fuel Economy standards results in automaker savings of several thousand dollars for every plug-in produced. It is quite likely that much, if not all of those savings will be used to reduce the retail price of plug-in electric vehicles. CEC forecasts should take this into account.

D. Estimates for the cost of home charging equipment should be revised downwards to reflect actual market data and consumer adoption patterns

Slide 21 of the Historic Demand Presentation states the cost of home charging equipment is \$3400, which is significantly more than the Department of Energy's estimate of \$2100.⁴ Even the DOE estimate is likely too high, given that it is three years old and does not reflect the rapid pace at which equipment costs are declining today.⁵ Furthermore, there is an implicit assumption in the CEC's analysis that every plug-in electric vehicle owner will install Level Two equipment. As noted in public remarks at the workshop of November 14, 2011, automakers and utilities are reporting that only around half of the early adopters are opting to do so. Cost estimates should be revised to reflect lower and rapidly declining costs and actual adoption patterns.

III. CONCLUSION

Thank you for the opportunity to comment on the issues relating to the Transportation Energy Forecasts workshop and CEC Draft Staff Report and for considering our recommendations. We look forward to continuing to work with the CEC to ensure the accurate and successful forecast analysis of transportation energy in California.

Sincerely,



Max Baumhefner
Sustainable Energy Fellow
Natural Resources Defense Council

⁴ US Department of Energy Vehicles Technologies Program, "Plug-in Hybrid Electric Vehicle Charging Infrastructure Review," November, 2008, Table 6-2, p.31.

<http://www.inl.gov/technicalpublications/Documents/4138366.pdf>

⁵ See Jim Motavalli, Plug-in Cars, "Cheap Charging: Level II Doesn't Have to Cost \$2,000," November 14, 2011. <http://www.plugincars.com/cheap-charging-level-ii-doesnt-have-cost-2000-110210.html>