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on AB 2127

Additional submitted attachment is included below.



Adam Davis, Ph.D.
Air Pollution Specialist
Fuels and Transportation Division
California Energy Commission
Adam.Davis@energy.ca.gov

November 11, 2022

Dear Adam,

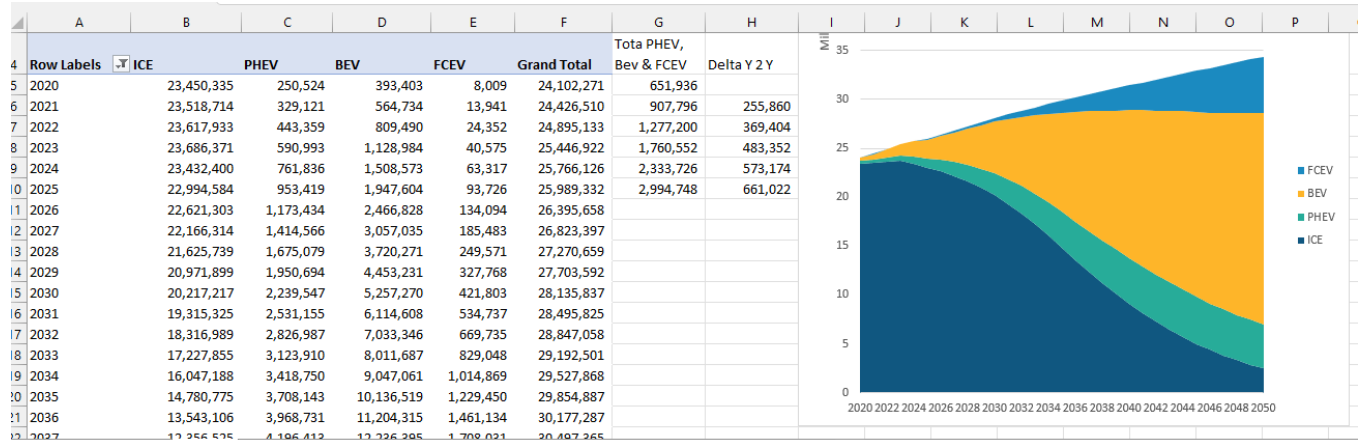
We would like to call your attention to what we believe is a very significant correction that the CEC should make in its second AB 2127 report if not sooner in its otherwise excellent infrastructure planning efforts. We also offer suggestions on performance tracking metrics in number 2 below.

1. We recommend that the CEC use a higher forecast of LD Vehicles for 2025 to estimate needed EVSE

The CECs AB 2127 report references an electric vehicle service equipment (EVSE) goal of 250,000 chargers including 10,000 direct current fast chargers (DCFCs) that needs to be reached by 2025. This goal was part of Governor Brown’s EO intended to support a target of 1.5 million LD EVs on the road by 2025. Since then, Governor Newsom’s N-79-20 EO supersedes that target and states, “The Energy Commission, in consultation with the State Air Resources Board and the Public Utilities Commission, shall update the biennial statewide assessment of zero-emission vehicle infrastructure required by Assembly Bill 2127 to support the levels of electric vehicle adoption required by this Order.” [*Emphasis added*]

CARB’s approved Mobile Source Strategy (MSS) estimates that there needs to be 2.9 million LD EVs by 2025 (see Exhibit 1 below) and 8 million by 2030 to come close to supporting the Governor’s goal of having 100% of LD vehicles sales be ZEVs by 2035. (Actually, even these estimates would still only result in 85% of LD passenger cars being ZEVs and PHEVs by 2045.)

Exhibit 1



Further, there is a disconnect in how the CEC is presenting this information. For 2030 it has most often referenced that there will be 8 million LD EVs by 2030 and that this will require 1.2 million chargers. The 8 million number is from the MSS. But then, usually, whenever the CEC references chargers for 2025, it talks about the 250,000 from Gov Brown’s E.O. and not the 2.9 million from the MSS. The CEC should be referencing both numbers consistently from the same source, CARB’s MSS. Without sufficient charging infrastructure in place by 2025 (perhaps in the range of 500,000 chargers or twice the 250,000 being discussed) it will be very difficult to achieve 1.2 million by 2030.

1.5 million EVs by 2025 is now an unrealistically and severely low estimate considering actual EV growth in the state. According to the CEC’s Dashboard for Vehicles and EVSE¹, as of the end of 2021, the state reached cumulative sales of 1,054,095 ZEVs. Cumulative sales through Q3 2022 are at 1,304,581 and the CEC is forecasting 1,413,216 by the end of 2022. That is nearly the 1.5 million ZEVs CEC is using for 2025 but two years sooner!

We should assume an increasing rate of sales of ZEVs for many reasons including rapidly increasing vehicle type availability including in popular categories such as LD pickup trucks and SUVs, significantly increased production of vehicles from OEMS such as Tesla, VW, Ford, and others, lower costs for some new models, currently higher gasoline prices, the new federal vehicle incentives from the IRA extending until 2032, etc. Even moderate increases in annual EV sales growth will achieve 2.5 to 2.9 million plug-in vehicles by 2025.

Market share of ZEVs in California continues to grow at an accelerating rate. In 2017, it was 4%, by 2020 it was 8%, in 2021 it grew to 12% and YTD this year its at 17.8 %.

Rapid increases in LD ZEV adoption is also occurring globally.

“Table C-4 [below] presents the range of EVI-Pro 2 results for CARB’s Draft Mobile Source Strategy, which corresponds to 8 million ZEVs by 2030. This scenario reflects the goals set by

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https://tableau.cnra.ca.gov/t/CNRA_CEC/views/DMVDataPortal_15986380698710/SALES_Dashboard?%3AshowAppBanner=false&%3Adisplay_count=n&%3AshowVizHome=n&%3Aorigin=viz_share_link&%3AisGuestRedirectFromVizportal=y&%3Aembed=y

Executive Order N-79-20. This scenario includes about 5.3 million BEVs, 2.2 million PHEVs, and 422,000 FCEVs in 2030.”

Table C-4: Annual Statewide EVI-Pro 2 Results for CARB Draft 2020 Mobile Source ZEVs by 2030)

Year	MUDs (Level 1+2)		Work (Level 2)		Public (Level 2)		Public (DCFC)		Total Chargers	
	Low	High	Low	High	Low	High	Low	High	Low	High
2020	60,482	90,455	26,051	26,767	49,672	50,741	3,423	3,542	139,627	171,505
2021	69,615	103,075	36,227	37,187	66,380	67,781	4,709	4,866	176,931	212,909
2022	79,699	118,214	47,998	49,130	86,050	87,734	5,807	5,991	219,555	261,069
2023	85,039	126,230	67,675	69,097	117,388	119,530	7,623	7,850	277,724	322,708
2024	96,199	142,897	86,904	88,606	144,557	147,099	8,276	8,518	335,936	387,120
2025	114,702	170,516	115,986	118,119	188,380	191,558	10,679	10,978	429,747	491,171
2026	133,655	198,796	149,555	152,179	238,594	242,502	12,834	13,183	534,638	606,660
2027	157,901	234,954	181,969	185,066	281,864	286,399	17,108	17,557	638,842	723,976
2028	190,555	283,685	225,442	229,172	337,427	342,773	22,245	22,815	775,669	878,445
2029	226,262	336,943	271,340	275,740	395,829	402,022	27,077	27,760	920,508	1,042,464
2030	264,949	394,706	324,425	329,598	466,404	473,626	30,193	30,950	1,085,972	1,228,880
2031	305,753	455,604	378,574	384,535	538,595	546,869	33,981	34,826	1,256,904	1,421,834
2032	335,053	499,378	437,966	444,794	611,488	620,827	40,573	41,572	1,425,080	1,606,571
2033	362,997	541,136	499,911	507,642	678,298	688,612	47,621	48,786	1,588,828	1,786,176
2034	389,087	580,206	556,542	565,099	747,185	758,501	54,498	55,824	1,747,312	1,959,629
2035	412,981	615,938	611,690	621,050	790,347	802,293	61,072	62,552	1,876,090	2,101,834

C-3

Source: CEC and National Renewable Energy Laboratory

According to this exhibit, California will need between 429,747 and 491,171 chargers by 2025, not the 250,000 currently being planned for.

We strongly recommend that the CEC use CARB’s MSS projected 2.9 million EVs as the only assumption for 2025 and that it use its newly updated analytical tools (EVI-Pro 2, etc.), to calculate the quantity of EVSE needed. This new estimate should then be made publicly available. This item is so time critical that we recommend that this revised forecast for needed EVSE by 2025 to support 2.9 million EVs be brought to the CEC Commission for their approval without waiting for the next updated AB 2127 report in 2023.

Failure to realistically estimate ZEV populations by 2025 and the resulting significant underbuilding of EVSE could have a catastrophic impact on ZEV adoption and could fuel fears of EVSE insufficiency slowing down EV adoption for many years to come. However, taking these corrective actions now could support California’s leading the nation in how to successfully plan for and implement charging infrastructure to support the rapidly growing EV populations.

2. Key Indicators Performance Dashboard

Currently, the CEC reports planned chargers in the AB 2127 report at a high level and reports actual vehicles and chargers in its dashboard web page quarterly which is a great beginning. However, there are no performance tracking reports.

Having a set of new reports that compares planned vs actual performance and variances for a few key indicators would go a long way to enhance stakeholder's confidence that the state does have a plan, is tracking actual performance against that plan and (hopefully) that it is on plan.

We recommend that the home page of the CEC's Dashboard, be modified to display key indicator reports and that for each key indicator, shows planned, actual, variance and % variance activity. The format would be very similar to a financial budget variance report. The indicators could be organized first at the highest level and then at increasingly more detailed levels on subsequent web pages as needed. At a minimum, the key indicators to include could be:

1. Vehicles - Numbers of Mobile Source Strategy planned vs actual vehicles by LD, MD and HD vehicles. This is critical because it drives the number of chargers needed.
2. Chargers - Status of actual chargers installed vs CEC planned chargers for a given year. The first level of stats could be on total chargers by AC, DC and total for the whole state. Additional more detailed reports could be prepared as resources are available and if needed. For example,
 - By local geography - by county, city or zip code.
 - By use type – e.g. Urban, MUD, at employer sites, transportation corridors for MHD vehicles, with stats for level II vs DCFC for each of these. etc.All of these variance reports could use “traffic signal colors” for status – i.e. green for OK on plan, yellow for beginning problem area variance and red for serious negative variance warranting immediate attention to fix.
3. Grid Readiness – Planned vs actual electrical capacity by grid region (Integrated Capacity Area) by year and where there are gaps. This would come from the CEC's EVSE Development Grid Evaluation (EDGE) modeling tool. (I understand that more work is being done in this area to determine how the CEC will share this info with the utilities and how the utilities can use it to drive funding requests and plans for “least regrets” grid upgrades in their IRPs to the CPUC to fill gaps in anticipation of need.

Thank you very much for considering our recommendations.

Ray Pingle,
Sierra Club California
Ray_Pingle@msn.com
11/1/22