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May 31, 2022
Liane Randolph, Chair
California Air Resources Board
1001 I St.
Sacramento, CA 95814

Dear Chair Randolph and CARB Board Members,

The Community Environmental Council (CEC), founded in 1970, has worked for over 50 years to pioneer environmental solutions in California. For the last 15 years we have focused on building on-the-ground momentum to reverse the threat of the climate crisis, working most closely in Ventura, Santa Barbara, and San Luis Obispo counties. Our programs work across energy, transportation, and buildings to mitigate carbon emissions, sequester carbon in working lands, and build climate resilient communities.

CEC has extensive experience accelerating the Zero Emission Vehicle market. We started [ElectricDrive805](#), the regional EV Readiness collaborative for the Central Coast, which in partnership with our three Air Districts has many initiatives to make it easier to drive electric in our region. CEC contributed to California Energy Commission funded EV Readiness Plans, pushed local governments to streamline EV codes, aggregated EV charger sites for grants, and talked with hundreds of businesses, multifamily properties, and others about adding EV charging. CEC has organized dozens of green car shows (the largest hosted 35,000 people, 40 EVs, and OEMs doing test drives, etc.), owners circles, and EV 101 webinars, conducted bilingual EV education and outreach to low-moderate income folks (funded by Electrify America), and worked as intervenors at the CPUC on Transportation Electrification proceedings including SCE Charge Ready, PG&E EV Charge 2, DRIVE and others. CEC has contributed to every part of the EV ecosystem and have lived knowledge as EV drivers for a decade.

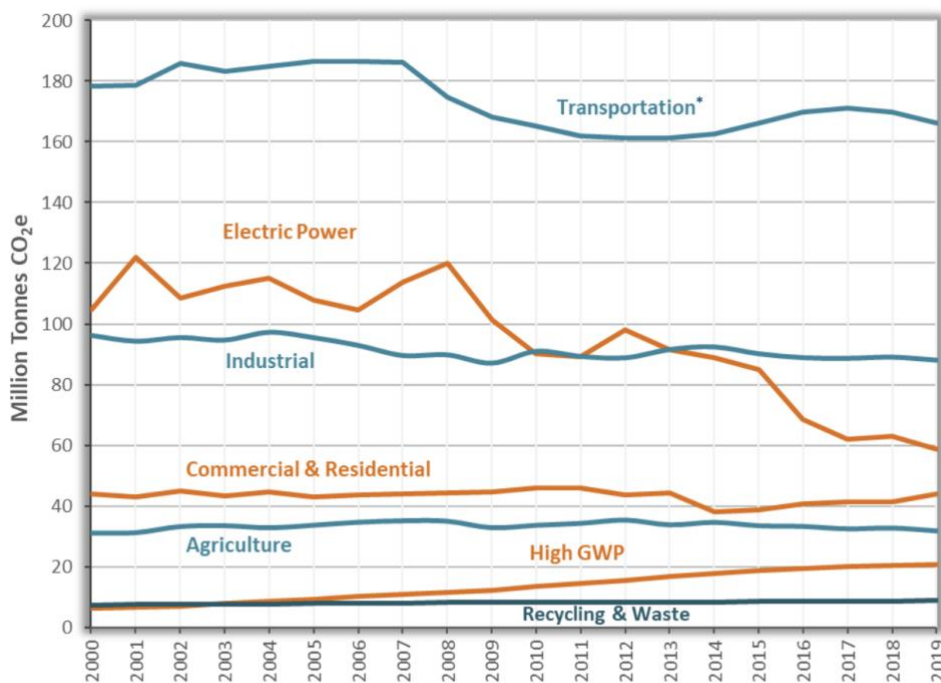
CEC is generally supportive of the Advanced Clean Cars II proposal. The warranty, durability, and charging standards will give certainty to potential ZEV buyers and staff has done excellent work on many of the regulations. However, the Clean Cars 2 staff proposal does not sufficiently accelerate the ZEV market in California:

- **CARB should set a standard of 100% ZEVs by 2030. This is needed to reach 8 million ZEVs, which are needed to achieve California's 40% reduction in GHGs by 2030 goal.**
- **The staff proposal of 68% ZEVs by 2030 leads to only 5 million ZEVs. This jeopardizes California reaching our climate goals, and may trail automaker ZEV**

- commitments, risking oversupply of credits, as is occurring now. This could reward ZEV laggards and punish ZEV leaders.
- Accelerated ZEV targets would yield higher equity results for low-moderate income Californians, who are severely burdened by the high cost of gasoline. They would also more quickly reduce air pollution in Disadvantaged Communities.

1. ARB should set a standard of 100% ZEVs by 2030. This is needed to reach 8 million ZEVs, which are needed to achieve California’s 40% reduction in GHGs by 2030 goal.

California has only made modest progress on reducing transportation GHG emissions, with 1990 emissions at 152 Million Metric Tons (MMT), emission plateauing above 180 MMT from 2002-2007, and undulating to 163 MMT in 2019. Increases in more efficient gas vehicles and ZEVs have been offset by Californians purchasing larger vehicles and driving them more.



This figure shows changes in emissions by Scoping Plan sector between 2000 and 2019. Emissions are organized by the categories in the AB 32 Scoping Plan.,

Figure 1 GHG Emissions by Sector in California¹

CARB’s 2020 Mobile Source Strategy found that 8 million ZEVs are needed for California to achieve our 2030 GHG targets. However, CARB’s draft Scoping Plan only shows approximately 5

¹ https://ww2.arb.ca.gov/sites/default/files/classic/cc/ca_ghg_inventory_trends_2000-2019.pdf

million ZEVs will be sold under the current Clean Cars 2 regulations. The Scoping Plan’s ambitious aim is to reduce transportation emissions from 152 Million MMT in 1990 to 86 MMT by 2030, ie. a cut of 77 MMT. However, the assumptions of the Scoping Plan and the proposed ACC are only likely to achieve 47 MMT reductions for a likely total of 116 MMT emissions.² Note that California’s SB 32 goal is to reduce emissions 40% below the 1990 level by 2030. Transportation emissions went up from 152 to 163 MMT from 1990 to 2019, so achieving the SB32 goal will be challenging.

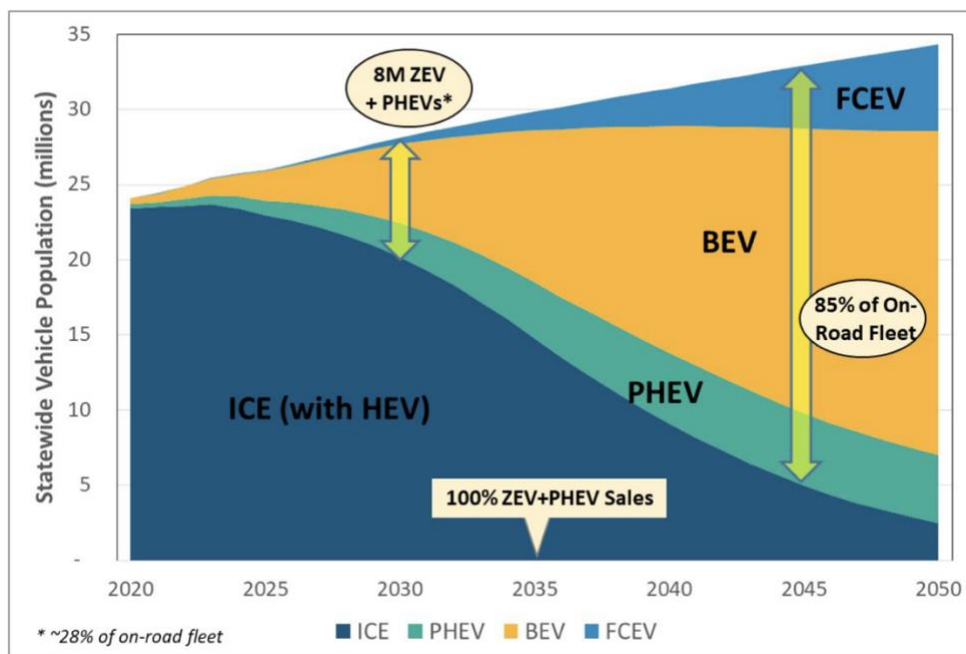


Figure 2 Statewide Light-Duty Vehicle Penetration in the On-Road Fleet³

2. The Proposal Trails Automaker ZEV Commitments, and Risks Oversupply of Credits

Clean Cars was successful in early years, and pushed automakers to bring new ZEV models to market and at times offer them with affordable pricing. Currently, automakers are producing much higher numbers of ZEVs and are banking credits. The Clean Cars 2 proposal trails automaker commitments and misses an opportunity to accelerate ZEV adoption, which could put California’s climate goals in jeopardy. The proposal must be strengthened to push the market forward. Otherwise it misses the opportunity to spur change, as is happening now with Clean Cars and CARB’s Cap and Trade program, which has been criticized as setting too low of a price floor and giving away too many allowances to regulated industries. From a ProPublica

² Jack Lucero Fleck’s ACCII Comment Letter

<https://docs.google.com/document/d/1dbGbONo6EQDFVJUck8qZelbUIk051M7t5wYMoWV3V0E/edit>

³ Page 95 https://ww2.arb.ca.gov/sites/default/files/2021-12/2020_Mobile_Source_Strategy.pdf

report “the cap is likely not having much, if any, effect on overall emissions” and “the way market-based climate change solutions are set up provides loopholes and giveaways.”⁴

More ambitious ZEV targets are also needed to make sure California reaches its goal of a 40% reduction in greenhouse gas emissions by 2030.

“The state is currently not on track to meet this target as reported in the recently released [2021 California Green Innovation Index](#),⁵ largely due to the state’s transportation sector emissions. The report finds that statewide emissions in California dropped only 1.6% between 2018 and 2019. To reach the 2030 target, the state requires emissions reductions at an annual rate of 4.3% – almost three times the current rate. The transportation sector remains the state’s largest source of emissions, contributing a whopping 40.7% of total emissions in 2019” - The Climate Group

When accounting for upstream emissions, this 40.7% figure increases to over 50% of California’s greenhouse gas emissions, as CARB describes in the ISOR. On the ISOR page 4, transportation is responsible for, “approximately 50-percent of statewide GHG emissions, when accounting for transportation fuel production and delivery.”

Norway has already reached 92% ZEV sales in recent months, and went from 5.6% in 2013 to 86% ZEVs in 2021, in an era of much smaller ZEV model availability than now and future years. While Norway is a smaller and less complex market than California, it has hurdled challenges such as range-sapping cold weather and a high proportion of residents living in multifamily towers in Oslo.

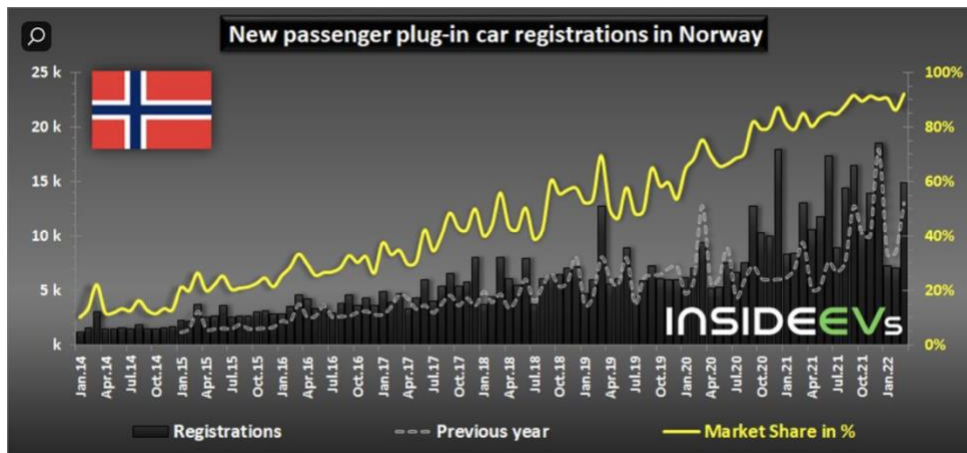


Figure 3 New Passenger Plug-in Car Registrations In Norway⁶

⁴ <https://www.propublica.org/article/cap-and-trade-is-supposed-to-solve-climate-change-but-oil-and-gas-company-emissions-are-up>

⁵ <https://www.next10.org/publications/2021-gii>

⁶ <https://insideevs.com/news/578743/norway-electric-car-sales-march2022/>

Requiring automakers to meet higher targets for ZEVs is the most important way California can spur the ZEV market and make sure ZEVs are affordable for all Californians, especially low-moderate income drivers. Setting targets too low risks oversupply of credits. From CARB's Initial Statement of Reasons:

As described in the 2017 Midterm Review, staff estimated minimum compliance with the existing ZEV regulation to be nearly 8-percent of new vehicle sales as ZEVs and PHEVs by the 2025 model year. Manufacturers have thus far over-complied with the regulatory requirements, already selling nearly 12-percent of new vehicles in California as ZEVs and PHEVs in 2021 model Year (ISOR, pg. 25)...As written, manufacturers are already over-complying and amassing significant credits, which do not expire. (ISOR, pg. 26).

While the proposal seeks to reach 68% ZEVs by 2030, and 100% by 2035, many automakers will have already surpassed these goals and have banked significant credits. From the ISOR pg. 37:

- Volvo is going all electric by 2030
- Fiat is going all electric by 2030
- Mercedes Benz is going all electric by 2030 where feasible
- GM is going all electric by 2035

Ford, Honda and VW have less ambitious goals on electrification, but are continually announcing larger and larger investments than planned. This is due to overwhelming market response to their new EV offerings such as the VW ID 4 and Ford F150 EVs. Kelley Blue Book reports that Ford closed reservations for the F150 EV, because of a 3 year backlog.⁷

a. **CARB's ISOR Doesn't Account for EV-only Entrants**

A major flaw in CARB's staff report is the assumption that, "In all cases, the market share of individual manufacturers are assumed to remain constant at their 2019 model year shares of new vehicles." (ISOR, page 40) The automotive industry is going through the largest shake-up in 100 years, with new ZEV-only brands emerging in the US, China, and Europe, and taking market share from incumbent automakers.

- Tesla has been all electric since 2012
- New California-based companies like Rivian and Lucid are all electric

The ISOR spends modest time on Tesla, which has significant operations and an auto factory in California, and currently sells more EVs than all the other automakers combined. Tesla has been all electric since 2012 and is rapidly taking market share from the incumbent automakers. Tesla in 2021 sold more cars (not just ZEVs) than BMW, Audi, Lexus, and Mercedes-Benz in the US,⁸

⁷ <https://www.kbb.com/car-news/ford-closes-reservations-for-f-150-lightning-has-3-year-backlog/>

⁸ <https://insideevs.com/news/583340/plugin-car-sales-california-us-2022q1/>

as well as took market share from lower priced automakers such as GM, Toyota, and Ford. Because of Tesla, ZEVs have grown from nothing to in eight years being California's largest export, according to the Governor's Office at \$5.6 billion in value in 2020.⁹

The latest data shows that California's Q1 2022 ZEV sales have increased to 16.3% from the 12% level of 2021.¹⁰ A large reason for this is that Tesla's Model Y and Model 3 were the top selling cars in California in that quarter:

The top models (above 9,000 registrations):

1. **Tesla Model Y - 21,812**
2. **Tesla Model 3 - 21,506**
3. Toyota RAV4 - 15,990
4. Toyota Camry - 12,257
5. Honda Civic - 11,057
6. Ford F-Series - 10,279
7. Toyota Tacoma - 9,616
8. Chevrolet Silverado - 9,378
9. Toyota Corolla - 9,318
10. Ram Pickup - 9,137
11. Honda Accord - 9,061

Figure 4, Top Selling Vehicles in California, Q1 2022:¹¹

While the pandemic supply chain has disrupted all automakers, Tesla currently has an 11.3% share of California's market, compared to 5.3% in 2021, and 3.8% market share in 2019.¹² Thus Tesla's market share has tripled from the ISOR's 2019 constant assumption.

The explosive growth is expected to continue, with new factories recently opening in 2022 in Texas and Germany. Two new models, the Cybertruck and Roadster, are being released in the next year, with a lower cost Model 2 in development. Tesla has a goal of reaching 20 million ZEVs sold annually worldwide by 2030. This would make Tesla twice as large as the current leaders, Toyota (10 million globally) and VW (9.3 million globally), and California is its strongest and home market. If or when Tesla hits this target may be uncertain. But, the ISOR does not sufficiently account for new disruptive market entrants, many of them based in California.

For example, Rivian, based in Orange County, and Lucid, based in the Bay Area, both only produce ZEVs. They are now delivering highly anticipated vehicles, have multi-year backorders,¹³ and could experience Tesla-like success. California has 34-ZEV related

⁹ <https://www.gov.ca.gov/2022/02/25/california-leads-the-nations-zev-market-surpassing-1-million-electric-vehicles-sold/>

¹⁰ <https://insideevs.com/news/583340/plugin-car-sales-california-us-2022q1/>

¹¹ <https://insideevs.com/news/586690/california-plugin-car-sales-2022q1/>

¹² <https://insideevs.com/news/399907/2019-tesla-model-3-sales-california/>

¹³ <https://www.thedrive.com/news/43049/rivian-might-still-be-building-pre-ordered-electric-trucks-through-2023>

manufacturers and 360 ZEV-related companies.¹⁴ CARB’s analysis excludes these companies, and the impact they may have on overall ZEV sales.

In addition to homegrown California ZEV manufacturers, new ZEV-only entrants from China could take market share from current automakers. China is the largest ZEV market in the world, with 3.3 million ZEVs sold in 2021¹⁵ compared to 250,279 ZEVs sold in California.¹⁶ Polestar is a joint venture between Volvo and Zhenjian Geely Holding, the third largest automaker in China, and is the first Chinese car to now be sold in California. BYD, based in China, is the largest ZEV manufacturer in the world, and has a large share of the US EV bus market, with a factory in Lancaster, CA. They have many successful consumer EV models and have been planning to enter the US market. Other compelling Chinese EVs like Nio are already being sold in Europe. It is very likely that Chinese ZEVs could gain a large market share in California by 2030.

CARB’s economic analysis doesn’t take into account how the proposed regulations will positively impact job growth and overall economic impact from California’s rapidly growing ZEV industry. ZEVs have grown from zero export sales to being California’s largest export, at \$5.6 billion in value in 2020.¹⁷ If ZEV targets trail the market, credits will be worthless, while stronger targets could force laggards to sell credits to automakers with higher ZEV sales, reducing prices for consumers and encouraging growth of California’s homegrown ZEV industry.

In summary, California can reach much higher than 68% ZEV sales by 2030. Norway has already reached 92% ZEV sales in recent months, and went from 5.6% in 2013 to 86% ZEVs in 2021, in an era of much smaller ZEV model availability than now and future years. California should target 100% ZEV sales by 2030. If this is not possible, California should establish interim targets of 75-90% ZEVs by 2030 or our way to 100% ZEVs by 2035.

3. An Accelerated ZEV Deployment Target Enhances Equity for Low-Moderate Income Californians with Increased Access to Used ZEVs and Affordable Leased ZEVs

a. Access to Used ZEVs

Californians face high gasoline costs and other significant barriers to EV adoption, especially low-moderate income households. Lower income households spend a disproportionately large share of income on transportation. As the ISOR states on page 21, “the used car market can be a powerful tool in ensuring ZEV access at all income levels.” Lower cost EVs, particularly used EVs, are an attractive option to reducing transportation costs. The fastest way to get more used

¹⁴ [https://cal.streetsblog.org/2021/10/01/ca-to-vastly-investments-in-zero-emission-vehicles-and-infrastructure/](https://cal.streetsblog.org/2021/10/01/ca-to-vastly-increase-investments-in-zero-emission-vehicles-and-infrastructure/)

¹⁵ <https://www.electrive.com/2022/01/11/china-counts-more-than-3-million-nev-sales-in-2021>

¹⁶ https://www.veloz.org/wp-content/uploads/2022/04/2011-%E2%80%932021-Annual-Electric-Vehicle-Sales-in-California_Final.pdf

¹⁷ <https://www.gov.ca.gov/2022/02/25/california-leads-the-nations-zev-market-surpassing-1-million-electric-vehicles-sold/>

ZEVs into the market is to increase sales of new ZEVs. Increased new ZEV sales also lead to decreased used ZEV prices as supply rises to meet demand.

Additionally, low-moderate income (LMI) Californians can access enhanced rebates such as the Clean Vehicle Rebate Project (CVRP) and Clean Vehicle Assistance Programs (CVAP), which provide \$4,500 to \$5,000 toward a ZEV for Californians making under \$106,000 for a family of 4. The CVAP program is offered as a grant that can be used as a down payment toward a used or new ZEV. These programs can also pay for a significant portion of a ZEV three year lease, allowing LMI Californians to afford a new ZEV, which then leads to more used ZEVs on the road.

More than twice as many used vehicles are sold each year than new vehicles, and used ZEVs are a very effective way for Californians to reduce fuel and maintenance costs. If CARB were to accelerate interim targets and require 100% ZEV sales by 2030, millions of additional used ZEVs would be available by 2030, and multiple millions more used ZEVs would be available by 2035. This would provide more equitable access to ZEVs and allow more LMI Californians to reduce their transportation costs.

Currently, used ZEVs can be purchased for under \$10,000 for the oldest, low range ZEVs, which are adequate as one car in multiple car households. These affordable options can help LMI Californians switch to affordable electric fuel rather than expensive gasoline. Used 200+ mile range ZEVs are not affordable and are often over \$20,000 for the lowest cost ones like the 2017 Chevy Bolt, because longer range ZEVs haven't been on the market sufficient time. Accelerating ZEV sales targets is the quickest and most meaningful way to get more used ZEVs on the market and available to Californians.

b. Access to Low Cost Leased ZEVs

LMI Californians with good credit scores can also access new ZEVs through leasing, using enhanced rebates or grants through the CVRP or CVAP programs to pay for a large portion of a three year lease. Stringent ZEV targets cause manufacturers to offer affordable leases. In 2018 and 2019, leases of affordable ZEVs such as the Chevy Bolt, Nissan Leaf, VW eGolf, and Fiat 500e were as low as \$7,000-\$11,000 total for a three year lease.

CEC and partners, through our Central Coast ZEV Equity Grant from Electrify America, helped many LMI drivers purchase or lease ZEVs. LMI Californians could use the enhanced rebate or grant to pay for around half of the cost of a three year lease, leaving them with a ZEV for effectively no money down and payments of \$50-\$150/month. At this price point, combined with gas and maintenance savings, many ZEV drivers were able to significantly reduce their transportation costs by leasing a ZEV, reducing financial pressure in their lives and allowing them to build savings. At one point the programs could be combined, allowing LMI Californians to lease a ZEV for free.¹⁸ After leasing a low cost ZEV for three years, the driver may have saved

¹⁸ <https://clean-coalition.org/news/getting-paid-to-go-green/>

sufficient money to purchase it, or the vehicle can add to the supply of used ZEVs, benefiting another driver.

c. Disproportionate Pollution Burden and Accelerating the Transition Away from Petroleum

Increased ZEV targets will benefit LMI Californians and residents of Disadvantaged Communities (DACs), who suffer a disproportionate pollution burden. These Californians are more likely to live near freeways or other busy streets, and/or near oil extraction wells, refineries, and other polluting industries associated with the oil industry. Accelerated ZEV targets will help California more quickly reduce pollution associated with using petroleum, and allow California to more quickly shut down oil production, refineries and other massive greenhouse gas emitters in the backyards of Disadvantaged Communities. Faster transition away from petroleum reduces local air pollution, paves a new equitable future that leaves behind environmental injustices, and ensures California is more likely to meet our carbon neutrality goals.

Higher ZEV targets will disproportionately help slow the climate crisis due to the time value of carbon. An average ZEV reduces carbon emissions by 3-5 metric tons of carbon/year, depending on the carbon intensity of the electricity it uses. A ZEV sold in 2025 thus reduces emissions for an additional decade compared to a ZEV sold in 2035. It is imperative that California gets as many ZEVs into use as fast as possible.

CEC thanks CARB for the Clean Cars 2 proposal and all the fantastic work CARB has done to move California and the world toward more zero-emission vehicles. We hope that our analysis helps staff and decisionmakers see that California should set a 100% ZEV target by 2030. A stronger target is achievable and will reward ZEV leaders for moving the market forward. It will have huge equity benefits, reduce air and carbon pollution faster, and make sure California is on track to meet our carbon neutrality goal.

Sincerely,

A handwritten signature in black ink that reads "Michael Chiacos". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Michael Chiacos
Director of Climate Policy