



October 28, 2019

Secretary Jared Blumenfeld  
California Environmental Protection Agency  
1001 I Street  
Sacramento, CA 95812-2815

Dear Secretary Blumenfeld,

The Center for Biological Diversity commends Governor Newsom and the California Legislature for prioritizing the decarbonization of the transportation sector by appropriating funds for a statewide study to “identify strategies to significantly reduce vehicles emissions in order to achieve carbon neutrality in the sector,” as described in the 2019-2020 budget.

As the Newsom administration begins to define the study’s scope, we are pleased to provide suggested research priorities with respect to electric vehicle adoption. Specifically, we urge Governor Newsom and the California Environmental Protection Agency to ensure that the study identifies the suite of policies necessary to provide the steepest possible reductions in greenhouse gas emissions, including a transition away from fossil fuel vehicles such **that 100% of California’s new passenger vehicle sales will be zero emissions vehicles (“ZEVs”) by no later than 2030.** This transition must be achieved in a way that is fair, equitable, and just to low-income communities that are the first and worst affected by transportation’s fossil fuel pollution.

Amidst tragic wildfires, record heat waves, devastating sea level rise, and the recent power grid failures, there is no question that Californians are in the midst of the climate emergency. Combatting the climate crisis requires slashing carbon emissions in California’s transportation sector—the state’s leading source of greenhouse gas emissions—as soon as possible to meet the Paris Agreement goals of limiting warming to 1.5 degrees Celsius. At the same time, the phase-out of fossil fuel cars is necessary to reduce the state’s heavy reliance on oil and combat the immense public health consequences of fossil fuel car pollution, which has been disproportionately borne by California’s lower income communities and communities of color.

Transitioning away from fossil fuel cars is no longer an issue of technological or economic feasibility, but rather one of political will and government policy. Due to the falling market price of batteries and electric vehicles, ZEVs are projected to reach cost parity with fossil fuel cars as early as 2021. Strong government policy has further driven the expansion of the ZEV market;

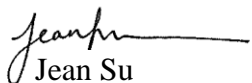
fourteen countries, including the UK, France, and Scandinavian nations, and dozens of cities have announced a ban on the sale of fossil fuel cars as early as 2025, signaling to both consumers and automakers that the fleet of the future is fully electric.

Despite international precedent, no state, much less the federal government, has committed to banning fossil fuel cars in the United States. We are eager to work with Governor Newsom to be the first leader in the nation to break this glass ceiling—propelling California into the vanguard of national and global climate leadership by instituting policies to achieve 100% ZEV sales no later than 2030.

We encourage the Newsom administration to incorporate the following research priorities to establish a policy pathway to reaching 100% ZEV sales by 2030. We note that, while the focus of the attached research priorities is on passenger vehicle sales, we see ZEV adoption as just one pillar of the multi-pillared strategy to rapidly decarbonize of the state's entire transportation sector, including the urgently-needed reduction in vehicle miles traveled, the immense expansion of clean public transportation, and the full electrification of heavy-duty vehicles.

We look forward to working with the Newsom administration on this critical study.

Sincerely,



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**RESEARCH PRIORITIES FOR THE VEHICLES EMISSIONS REDUCTION STUDY -  
Pathway to Ensure that 100% Sale of New Cars are Zero Emissions Vehicles by 2030  
Submitted by Center for Biological Diversity**

**1. EVALUATE POLICIES FOR MANAGING DEMAND-SIDE DYNAMICS SUPPORTING A 100% ZEV SALES MARKET BY 2030.**

**1.1 Policies to Ensure ZEV Affordability.**

- a. *Estimate the projected acquisition costs of ZEVs versus fossil fuel cars from current day over time.*** With rapid decreases in battery costs, the cost of acquiring a ZEV will be on par with a fossil fuel car by 2025, and as early as 2021 according to some studies. Factors in this analysis should include, but are not limited to, the availability of ZEVs in different car segments (e.g. compact, mid-size, full-size, luxury, SUV, truck) in current and projected vehicle inventories.
- b. *Estimate the projected ownership and operating cost of ZEVs versus fossil fuel cars from current day over time.*** ZEVs already cost 66 to 75 percent less per mile to drive than fossil fuel cars due to fewer moving parts, greater reliability, lower maintenance costs, and lower fuel costs. The ownership and operating costs of ZEVs are expected to rapidly drop, significantly enlarging the cost of ownership differential between ICEVs and ZEVs.
- c. *Identify and evaluate policies that ensure affordability of ZEVs for different income groups.*** Factoring in both the upfront cost and total cost of ownership of ZEVs v. fossil fuel cars, identify and evaluate policies that enhance affordability of ZEVs by 2030 and evaluate sliding scale policies based on income level. Policies should include existing policies, policies under consideration, and new policies from other jurisdictions, including but not limited to the following: (i) state ZEV rebates, including a sliding scale dependent on income level; (ii) state tax exemptions, including a sliding scale dependent on income level; (iii) VAT rebates, including a sliding scale dependent on income level; (iv) ZEV ownership and leasing financing packages and loans, including a sliding scale dependent on income level.
- d. *Evaluate the current effectiveness of existing policies and assess the gap to ensuring system readiness by 2030.*** Identify and assess the suite of policies that can address the gap.

**1.2 Policies to Incentivize ZEV Purchasing from Present Over Time.**

- a. *Identify and evaluate policies that incentivize consumers to purchase ZEVs to reach 100% sales in a range of time frames, including 2030.*** Policies should include, but are not limited to, existing policies, policies under consideration, and policies from other jurisdictions. Specifically consider tax rebates and subsidies, carpool lane benefits,

parking benefits, and other incentives, with a specific emphasis on sliding-scale benefits dependent on income level.

- b. *Identify and evaluate policies that disincentivize consumers to purchase fossil fuel cars.*** Policies should include, but are not limited to, existing policies, policies under consideration, and policies from other jurisdictions. Specifically consider congestion fee-pricing and other disincentives.
- c. *Evaluate the current effectiveness of existing policies and assess the gap to ensuring system readiness by 2030.*** Identify and assess the suite of policies that can address the gap.

**1.3 Policies to Improve Education Programs on ZEVs.** A key barrier to ZEV deployment is the lack of both consumer and auto dealer education about ZEVs, specifically addressing the five major consumer concerns about purchasing ZEVs: cost, driving range, charging infrastructure, charge time, and safety.

- a. *Identify and evaluate consumer and public education programs.*** Policies should include, but are not limited to, existing policies, policies under consideration, and policies from other jurisdictions. Policies should consider and leverage partnerships with non-governmental, private, and community actors.
- b. *Identify and evaluate auto dealer education programs.*** Policies should include, but are not limited to, existing policies, policies under consideration, and policies from other jurisdictions. Policies should consider and leverage partnerships with non-governmental, private, and community actors.
- c. *Evaluate the current effectiveness of existing policies and assess the gap to ensuring system readiness by 2030.*** Identify and assess the suite of policies that can address the gap.

## **2. EVALUATE POLICIES FOR INFRASTRUCTURE DESIGN THAT SUPPORTS THE 100% ZEV SALES MARKET BY 2030.**

### **2.1 Policies regarding Charging Infrastructure.**

- a. *Evaluate the charging infrastructure system required to support 100% ZEV sales by 2030.*** Factors for consideration include, but are not limited to: (i) number of charging stations; (ii) location and placement (residential/multi-use dwelling, commercial and office, public spaces, off-highways, etc.), with particular attention to accessibility for low-income communities; (iii) charging speed (DCFC v. Level 2), including projected technology improvements in charging infrastructure (beyond current DCFC and Level 2 chargers).
- a. *Evaluate the current amount of charging infrastructure in place and/or planned and assess the gap to ensuring system readiness by 2030.***

- b. *Identify and assess the suite of policies that can address the gap.*** This should include evaluating the several barriers to charging infrastructure deployment, including but not limited to financing and ownership policies, location of charging stations with an emphasis on deploying charging infrastructure in areas with multi-unit dwellings and other living conditions where communities do not own single-family homes. Discussion should also include the role of utility v. private v. public ownership and financing of charging stations depending on type and appropriate model.

## **2.2 Grid Infrastructure.**

- a. *Evaluate the grid infrastructure that is required to support 100% ZEV sales by 2030 and beyond).*** Factors for consideration include, but are not limited to: (i) electricity throughput (kWh); (ii) weekday charging load (kW) to support the estimated number of ZEVs under the 2030 scenario; (iii) assumptions about charging behavior and charger utilization rates; (iv) consideration of both increased distributed energy sources and the onboarding of new renewable energy sources; (v) role of ZEV batteries and second-life batteries; and (v) reducing energy demand and avoiding demand spikes on the grid.
- b. *Evaluate the current grid infrastructure in place and/or planned and assess the gap to ensuring system readiness by 2030.***
- c. *Identify and assess the suite of policies that can address the gap.*** This can include evaluating the barriers to grid infrastructure expansion, the role of utilities and power providers, as well as the utility commission and power provider regulators, in infrastructure management, and the financing options for grid infrastructure build-out with sliding-scale financing options based on income levels.

## **3. ASSESS THE CLIMATE, ENVIRONMENTAL, HEALTH, GRID RESILIENCY, AND ECONOMIC BENEFITS OF A 100% ZEV SALES TARGET BY 2030.** These include but are not restricted to the following:

### **3.1 Climate Impacts:** Avoided CO<sub>2</sub> and other GHG emissions, factoring (i) phased-out fossil fuel combustion from fossil fuel cars and (ii) electricity sector emissions, which includes the projected decarbonization of the electricity sector in line with CA's 2040 carbon neutrality policies.

- a.** We emphasize the importance of reducing oil consumption and oil extraction in tandem. Synergies between this vehicles study and the oil extraction phase-out study should be considered.
- b.** Importantly, the electrification of vehicles needs to be fueled by electricity that is clean and renewable. In order to meet the Paris Agreement goals of reducing warming to 1.5°C, California should seek 100% renewable energy power generation as soon as possible.

- 3.2 Air Quality:** Avoided criteria pollutant emissions (including nitrogen oxides (NO<sub>x</sub>), particulate matter (PM), and sulfur oxides (SO<sub>x</sub>)).
- 3.3 Health Benefits:** Public health benefits accrued from phase-out of fossil fuel cars, including, e.g. reduced risks for those in close proximity to highways and high-traffic zones, morbidity, mortality, and medical costs avoided.
- 3.4 Environmental Justice Implications:** Identifying where supply-side policies could reduce the disproportionate burdens from fossil fuel car pollution on environmental justice communities, and the related health benefits in those communities. In addition, positive economic implications, whereby ZEVs could represent added job creation benefits, e.g., building ZEVs and maintaining ZEVs.
- 3.5 Grid Resilience and Stabilization Benefits:** Stabilization of grid benefits due to added battery storage capacity as well as second-life battery capacity.
- 3.6 Other Benefits:** Avoided harm to species and environment due to avoided pollution from fossil fuel cars.
- 4. ASSESS POTENTIAL IMPACTS TO, AND OPPORTUNITIES FOR, DISADVANTAGED AND LOW-INCOME COMMUNITIES AND STRATEGIES TO ADDRESS THOSE IMPACTS.**
- 4.1 Conduct stakeholder engagement with communities dependent on fossil fuel cars and jobs related to the industry** (e.g., fossil fuel car mechanics) to identify the types of transition support communities desire. Process should include a community advisory group, clear timeline, and benchmarks. Note that there is no one-size fits all approach to a “just transition,” and impacts of fossil fuel car phase-out could be felt widely. Identify alternative job opportunities for those impacted by the transition, which should include assessing jobs projected to be created in the ZEV industry.
- 4.2 Conduct stakeholder engagement with disadvantaged and low-income communities** to ensure that ZEV policies are designed in tandem with reducing vehicles miles traveled and strengthening mass public transportation to be clean and renewable and to be accessible and affordable to low-income communities. Discussion in the stakeholder engagement group should include the transportation needs of disadvantaged and low-income communities. To the extent individual car ownership is identified as a need and desired, the engagement group should discuss ways to ensure that: ZEVs are affordable to those communities, including the implementation of a sliding-scale subsidy plan based on income level; charging and grid infrastructure are available in low-income communities, including multi-unit buildings, single-unit residences, and public areas; education program is a widely accessible; and policies are designed to adequately respond to the needs of low-income communities.

**5. DEVELOP INTEGRATED FINDINGS AND RECOMMENDATIONS FOR ENSURING THE 2030 100% ZEV SALES TARGET.**

**5.1 Provide an integrated plan for reaching 100% ZEV sales by 2030,** including milestones for ramping up the percentage of sales of ZEVs from present to 2030 and associated demand-side market and infrastructure policies, and associated transition plans.

**5.2 These plans should consider and discuss the following factors:**

- a.** The decline in passenger vehicles demand due to parallel improvements in public transportation, reduction in vehicle mile traveled, expansion of shared riding and autonomous vehicles, and increased use of alternative modes of transport;
- b.** The baseline of California's existing policies including ZEV targets and the 2045 carbon neutrality goal, and how the new suite of policies build upon those existing targets;