CRIPPLED BY THE CRA? LAWFUL PATHWAYS TO CALIFORNIA'S ELECTRIC VEHICLE TRANSITION

by John D. Graham

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SUMMARY

Through a novel yet controversial application of the Congressional Review Act (CRA), in June the federal government disapproved the Environmental Protection Agency's (EPA's) waiver for California's 2022 zero emission vehicle mandate. The state sued to overturn that disapproval, arguing that the federal government abused its authority under the CRA. This Article argues that California is likely to lose the statutory aspects of its litigation due to judicial rulings in 2007, when California's original 2004 climate rule was upheld. It then argues that the loss will not be crippling because California has other tools at its disposal to accelerate the transition to electric vehicles. The state can issue a revised rule that is not substantially the same as the one disapproved by the U.S. Congress, which likely would require the state to win a subsequent lawsuit against the Trump EPA. A more promising strategy for California is new demand-side policies, such as feebates and mileage fees with adjustments for fuel efficiency. The Article explains how the state can adopt targeted tax reforms with only a remote risk of preemption under federal law.

The state of California has been a regulatory pioneer of electromobility since 1990, when the California Air Resources Board (CARB) created its Zero-Emission Vehicle (ZEV) program. The term "zero emission" means no pollution from the onboard source of power in the vehicle.[1] To stimulate innovation in these clean propulsion systems, CARB required all major automakers doing business in California to sell a minimum percentage of ZEVs such as plug-in electric vehicles (PEVs).[2]

PEV is an umbrella term for battery-electric vehicles (BEVs), which rely entirely on electricity, and plug-in hybrid electric vehicles (PHEVs), which make use of both a gasoline engine and electric propulsion. CARB favored BEVs over PHEVs. A qualified PHEV must meet stringent criteria, including 43 miles of all-electric range through 2028 and 70 miles of all-electric range thereafter; even if those criteria are met, the PHEV earns only partial compliance credit.[3]

The ZEV program struggled to achieve meaningful results until lithium-ion battery (LIB) technology spilled over from consumer electronics to automotive in 2010.[4] The first modern PEVs were offered by the California startup Tesla and Nissan, along with BMW, Mitsubishi, and General Motors Corporation (GM).[5] As battery prices declined almost 80%-90% from 2010 to 2020, the prospects for mass commercialization of PEVs improved.[6] The PEV share of California's new vehicle market surged from less than 1% in 2010 to 8.1% in 2020,[7] larger than any

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1. Jonathan Rice, *Zero Emission Vehicle (ZEV): Everything You Need to Know*, ZEV Facts, https://zevfacts.com/zero-emission-vehicle-zev-everything-you-need-to-know/ (last visited July 14, 2025).
2. CARB, *Zero-Emission Vehicle Program*, https://ww2.arb.ca.gov/our-work/programs/zero-emission-vehicle-program (last visited July 14, 2025).
3. These required all-electric ranges are much longer than all the PHEVs currently on the market in the United States. John D. Graham, The Global Rise of the Modern Plug-In Electric Vehicle: Public Policy, Innovation, and Strategy 48 tbl.2.3 (2021).
4. Virginia McConnell & Benjamin Leard, *The California ZEV Program: A Long and Bumpy Road, but Finally Some Success*, Res. for Future (Dec. 2, 2019), https://www.resources.org/common-resources/california-zev-program-long-and-bumpy-road-finally-some-success/.
5. Graham, *supra* note 3, at 16-23 (Tesla Roadster and Model S, BYD F3DM, Nissan LEAF, Mitsubishi i-MiEV, Chevrolet Volt, BMW Mini E).
6. *Id.* at 40-41; Rahul Rao, *Chart: Behind the Three-Decade Collapse of Lithium-Ion Battery Costs*, IEEE Spectrum (May 26, 2021), https://spectrum.ieee.org/chart-behind-the-three-decade-collapse-of-lithium-ion-battery-costs.
7. California New Car Dealers Association, California Auto Outlook (2021), https://www.cncda.org/wp-content/uploads/Cal-Covering-4Q-20.pdf (2020: BEVs = 6.2%; PHEVs = 1.9%; total = 8.1%).

other state.[8] California policies have been more aggressive in promoting PEVs than the policies of other states, including high-occupancy vehicle (HOV) lane access for qualified PEV owners (which ends in the fall of 2025), a PEV purchase rebate (2009-2023), and a relatively large network of public charging stations.[9] In 2024, approximately 25.3% of new passenger vehicles sold in California were PEVs, which is only slightly behind the pace set in Europe and China.[10]

On September 23, 2020, California Gov. Gavin Newsom, via executive order, instructed CARB to require 100% of new passenger vehicles in 2035 to be zero emission.[11] CARB responded to the executive order with its most recent ZEV rulemaking in August 2022.[12] This bold regulation is colloquially referred to as California's "electric vehicle mandate" (EV mandate).[13] The U.S. Environmental Protection Agency's (EPA's) new carbon dioxide (CO_2) standards for passenger vehicles are likewise sometimes called—incorrectly—an "EV mandate," although some automakers will rely predominantly on PEVs to comply.[14]

On May 20, 2023, CARB requested from EPA a waiver of federal preemption for its 2022 EV mandate, as required under the Clean Air Act (CAA). EPA granted CARB's request on December 18, 2024, several weeks prior to the start of the second Donald Trump presidency.[15] Had it been fully implemented, automakers doing business in California would have been required to supply a minimum of 35% PEVs in model year 2026, ramping up to 68% in 2030 and 100% in 2035.[16]

Governor Newsom was arguably leading with his chin, as there were some potent commercial interests eager to undermine his initiative: companies that produce and refine petroleum and petroleum products, companies that produce and refine biofuels, car dealers, and suppliers that provide parts for gasoline engines and transmissions. The automakers were generally supportive of a transition to electrified vehicles, but perceived that CARB's 2035 mandate was implausibly stringent.[17]

The CAA provides California a privileged position among the air quality programs in the 50 states, because CARB is allowed to adopt its own standards for new motor vehicles if they are more stringent than EPA's national standards.[18] The other 49 states are preempted from regulating new vehicles, except they may choose to adopt CARB's program instead of the national EPA program. As of late 2024, 17 states had adopted some of CARB's regulations, with 14 adopting the EV mandate specifically. Thus, when President Trump took office in early 2025, 39.7% of new passenger vehicles were sold in states that have adopted California's EV mandate.[19]

The Joseph Biden Administration and the U.S. Congress took significant fiscal steps to accelerate the transition to PEVs, especially in the Inflation Reduction Act (IRA) of 2022. The $7,500 federal consumer tax credit for qualified PEVs was renewed through 2032, but new restrictions on eligibility were added for high-income buyers and high-priced PEVs; additional restrictions apply to vehicles that are assembled outside of the United States and/or have

8. Zachary Shahan, *Top US States for EV Market Share—13 States With 10%+ EV Share*, CleanTechnica (May 14, 2025), https://cleantechnica.com/2025/05/14/top-us-states-for-ev-market-share-13-states-with-10-ev-share/. *See also* Graham, *supra* note 3, at 413 fig.12.3.

9. California has doubled down on EV infrastructure across the state, approving a $1.4 billion investment plan that will expand the most extensive charging and hydrogen network in the country. The funds approved in December 2024 will result in nearly 17,000 new light-duty, passenger vehicle chargers statewide. Press Release, California Energy Commission, CEC Approves $1.4 Billion Plan to Expand Zero-Emission Transportation Infrastructure (Dec. 11, 2024), https://www.energy.ca.gov/news/2024-12/cec-approves-14-billion-plan-expand-zero-emission-transportation-infrastructure; Press Release, California Energy Commission, California's ZEV Momentum Rolls Into 2025 (Jan. 31, 2025), https://www.energy.ca.gov/news/2025-01/californias-zev-momentum-rolls-2025.

10. Alejandro Lazo, *California's Surge in EV Sales Has Stalled—So What Happens to Its Landmark Mandate?*, CalMatters (Feb. 6, 2025), https://calmatters.org/environment/climate-change/2025/02/electric-car-sales-stall-california/ (PEV share was 25.3% in 2024, up only slightly from 25.0% in 2023 after three years of explosive growth).

11. Press Release, Office of Governor Newsom, Governor Newsom Announces California Will Phase Out Gasoline-Powered Cars & Drastically Reduce Demand for Fossil Fuel in California's Fight Against Climate Change (Sept. 23, 2020), https://www.gov.ca.gov/2020/09/23/governor-newsom-announces-california-will-phase-out-gasoline-powered-cars-drastically-reduce-demand-for-fossil-fuel-in-californias-fight-against-climate-change/; California Exec. Order No. N-79-20, Zero-Emission by 2035 (Jan. 19, 2021), https://ww2.arb.ca.gov/resources/fact-sheets/governor-newsoms-zero-emission-2035-executive-order-n-79-20.

12. CARB, Public Hearing to Consider Advanced Clean Cars II Regulations: Final Statement of Reasons for Rulemaking, Including Summary of Comments and Agency Response (Aug. 25, 2022), https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/accii/fsor.pdf.

13. Edmunds, *California Mandates Electric Cars for 2035 and Here's What That Means*, https://www.edmunds.com/car-news/california-mandates-electric-cars-for-2035.html (last visited July 14, 2025).

14. Candidate Donald Trump mischaracterized that EPA rule as an "EV mandate." D'Angelo Gore et al., *Trump's Misleading Claims About Electric Vehicles and the Auto Industry*, FactCheck.org (Oct. 2, 2023), https://www.factcheck.org/2023/10/trumps-misleading-claims-about-electric-vehicles-and-the-auto-industry/. EPA's CO_2 regulations are performance standards that do not require compliance with a specific propulsion system. Automakers are likely to comply with a mix of technologies such as hybrid-electric vehicles (HEVs), PHEVs, and BEVs. Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles, 89 Fed. Reg. 27842 (Apr. 18, 2024), https://www.govinfo.gov/content/pkg/FR-2024-04-18/pdf/2024-06214.pdf.

    CARB's ZEV mandate is also technically a performance standard, but PEVs are the only feasible compliance technology for the foreseeable future. Hydrogen fuel cell EVs could contribute to compliance in the future, if a hydrogen fuel distribution is developed and if the prices of hydrogen fuel cell vehicles decline rapidly. CARB once had a strong interest in hydrogen fuel cell EVs, but that interest faded. Graham, *supra* note 3, at 125-26 (history of California's hydrogen fuel cell initiative).

15. Press Release, U.S. EPA, EPA Grants Waiver for California's Advanced Clean Cars II Regulations (Dec. 18, 2024), https://www.epa.gov/newsreleases/epa-grants-waiver-californias-advanced-clean-cars-ii-regulations.

16. In 2035, all new passenger vehicles sold in California must have plug-in capability, though up to 20% may be qualified plug-in HEVs. Press Release, CARB, California Moves to Accelerate to 100% New Zero-Emission Vehicle Sales by 2035 (Aug. 25, 2022), https://ww2.arb.ca.gov/news/california-moves-accelerate-100-new-zero-emission-vehicle-sales-2035 (up to 20% of vehicles may be PHEVs in 2035; at least 80% must be BEVs).

17. Grant Schwab, *Top Auto Lobby Warns States of "Unachievable" California Emissions Rules*, Detroit News (Dec. 11, 2024), https://www.detroitnews.com/story/business/autos/2024/12/11/auto-lobby-fights-california-regs-alliance-automotive-innovation-carb-emissons-trump-tesla/76925216007/.

18. On the history of California's special position in the CAA, see John D. Graham, *Clean Air: Controls on Cars, Trucks, and Fuels*, *in* Fifty Years at the U.S. Environmental Protection Agency: Progress, Retrenchment, and Opportunities 83, 85-86 (A. James Barnes et al. eds., Rowman & Littlefield 2021).

19. CARB, *States That Have Adopted California's Vehicle Regulations*, https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/states-have-adopted-californias-vehicle-regulations (last updated Apr. 2025).

supply chains for parts and materials that extend beyond North America and free trade partners of the United States.[20] A new federal grant program was established for states seeking to establish public charging networks; $7.5 billion was dedicated to, among other purposes, installing public fast chargers every 50 miles on Interstate highways.[21] And billions of dollars of new federal loans and grants were made available to companies establishing a U.S. supply chain for PEVs, including the mining and processing of raw materials required for EV components.[22]

Before Trump was elected, the market for PEVs—though robust globally—showed signs of weakness in the United States.[23] Once the pool of early adopters of PEVs was exhausted, mainstream retail consumers were a tougher sell.[24] Some dealers found it increasingly difficult to move the inventory of PEVs on their lots, while sales of Tesla products also slumped.[25] Although the overall number of PEVs sold continued to increase slowly in 2024, automakers announced plans to delay offerings of new PEVs because the market became saturated.[26]

Regulators and industry were also surprised when the rate of growth of hybrid-electric vehicle (HEV) sales, which do not have plug-in capability, outpaced the rate of growth of PEV sales.[27] Many consumers remain hesitant about buying PEVs because of their higher purchase price, weak resale value, limited driving range, long charging times, inadequate and unreliable public charging systems, fears about battery failure and the high cost of battery replacement, and the challenges of towing and hauling heavy loads and operating in severe wintry weather.[28]

Even in California, where most PEVs are sold in large coastal cities with temperate climates, a virtual pause in the growth of PEV sales occurred in 2024; sales of HEVs surged.[29] Given market developments, CARB's 2022 EV mandate is likely too ambitious to be feasible for automakers and consumers,[30] but CARB chose not take any recent steps to revise it, and the Biden EPA did not insist on any revisions to it.[31]

Seizing an opportunity, Trump and Republican candidates for Congress turned the "EV mandate" into a political issue and campaigned to repeal it.[32] The GOP agenda targeted both Biden's pro-EV policies and California's EV mandate. An estimated $15.5 million was spent on EV-related campaign messaging, most of it against the EV mandate.[33]

The issue became even more inflamed as automakers in the Midwest—especially Michigan—feared that Chinese automakers might export cheap EVs into the U.S. market

20. U.S. Internal Revenue Service, *Credits for New Clean Vehicles Purchased in 2023 or After*, https://www.irs.gov/credits-deductions/credits-for-new-clean-vehicles-purchased-in-2023-or-after (last updated July 8, 2025).
21. Initially $5 billion was allocated to the states, but President Trump attempted to freeze this funding in early 2025. A federal court ruled that the monies must be distributed to 14 protesting states. Sudhin Thanawala & Sophie Austin, *Federal Judge Orders Trump Administration to Release Charger Funding in 14 States*, AP News (June 24, 2025), https://apnews.com/article/lawsuit-ev-chargers-trump-washington-california-2a94e98f11d838f91ecf98cf2f939f01.
22. Electrification Coalition, *Federal EV Policy*, https://electrificationcoalition.org/work/federal-ev-policy/ (last visited July 14, 2025).
23. International Energy Agency, Global EV Outlook 2025: Expanding Sales in Diverse Markets (2025), https://iea.blob.core.windows.net/assets/0aa4762f-c1cb-4495-987a-25945d6de5e8/GlobalEVOutlook2025.pdf (on the rapid growth of global PEV sales through 2024).
24. Lazo, *supra* note 10 (describing the struggle to sell PEVs beyond the enthusiastic pool of "early adopters"); Peter Holderith, *We're Entering the Chasm in the EV Adoption Curve*, Drive (July 12, 2023), https://www.thedrive.com/news/were-finally-crossing-the-chasm-with-electric-vehicles (once the pool of early adopters of a new technology is exhausted, innovators must "cross the chasm" and entice ordinary retail consumers).
25. Andres Pinter, *It's 2024, Let's Toast to Mass Confusion! Auto Dealers Will Face More Challenges This Year When It Comes to EV Sales*, Digit. Dealer (Mar. 6, 2024), https://digitaldealer.com/sales-variable-ops/its-2024-lets-toast-to-mass-confusion-auto-dealers-will-face-more-challenges-this-year-when-it-comes-to-ev-sales/ (dealers struggle with growing inventory of unsold PEVs); Chang (Charo) Liu et al., *The Rise and Recent Decline of Tesla's Share of the U.S. Electric Vehicle Market*, 16 World Elec. Vehicle J. 90 (2025), https://doi.org/10.3390/wevj16020090 (explanations for the recent slump in Tesla sales).
26. Jack Ewing, *Automakers Delay EV Spending as Demand Slows*, N.Y. Times (Nov. 7, 2023), https://www.nytimes.com/2023/11/07/business/energy-environment/electric-vehicles-sales.html; Michael Wayland, *EV Euphoria Is Dead. Automakers Are Scaling Back or Delaying Their Electric Vehicle Plans*, CNBC (Mar. 13, 2024), https://www.cnbc.com/2024/03/13/ev-euphoria-is-dead-automakers-trumpet-consumer-choice-in-us.html; Molly Boigon & Richard Truett, *Automakers Reverse Course on EV Targets*, Auto. News (July 28, 2024), https://www.autonews.com/mobility-report/delayed-ev-production-targets-launches-force-automaker-adjustments/; Anthony Capretto, *All the Automakers That Have Backpedaled or Pushed Back EV Production*, CarBuzz (Aug. 3, 2024), https://carbuzz.com/all-the-automakers-that-have-pushed-back-ev-production/.
27. Michael Dwyer, *Hybrid Vehicle Sales Continue to Rise as Electric and Plug-In Vehicle Shares Remain Flat*, Energy Info. Admin. (May 30, 2025), https://www.eia.gov/todayinenergy/detail.php?id=65384; Sean Tucker, *Automakers Are Pushing EVs, Americans Are Buying Hybrids*, Kelley Blue Book (May 17, 2024), https://www.kbb.com/car-news/automakers-are-pushing-evs-americans-are-buying-hybrids/.
28. Press Release, Ernst & Young, EY Mobility Consumer Index Shows U.S. [Consumer] Less Likely to Purchase an EV Than Last Year and Compared to Global Consumers (Sept. 29, 2024), https://www.ey.com/en_us/newsroom/2024/09/us-consumers-less-likely-to-purchase-an-ev-than-last-year; Brittany Moye, *AAA: Americans Slow to Adopt Electric Vehicles*, Am. Auto. Ass'n (June 3, 2025), https://newsroom.aaa.com/2025/06/aaa-ev-survey/; Jeff S. Bartlett & Devin Pratt, *How Much Do Cold Temperatures Affect an Electric Vehicle's Driving Range?*, Consumer Reps. (Feb. 14, 2025), https://www.consumerreports.org/cars/hybrids-evs/how-much-do-cold-temperatures-affect-an-evs-driving-range-a5751769461/; Emily Pandise & Lora Kolodny, *EV Drivers Wrestle With Cold Weather Sapping Their Battery Range*, NBC News (Jan. 18, 2024), https://www.nbcnews.com/business/autos/ev-battery-range-cold-weather-charging-rcna134355.
29. Lazo, *supra* note 10.
30. Toyota, not known for extreme statements in its policy advocacy, describes the California ZEV mandate as "impossible" to meet. Michael Wayland, *Toyota Says California-Led EV Mandates Are "Impossible" as States Fall Short of Goal*, CNBC (Nov. 8, 2024), https://www.nbcnewyork.com/news/business/money-report/toyota-says-california-led-ev-mandates-are-impossible-as-states-fall-short-of-goal/5967415/.
31. As of early 2024, CARB felt it was "premature" to judge whether the EV mandate was feasible for automakers. Stella Nolan, *Automakers Face Mandate Risks as California EV Sales Stall*, EV Mag. (Feb. 21, 2025), https://evmagazine.com/news/california-ev-sales-stall.
32. Tom Perkins, *"Democrats Are Losing": A Battle on EVs Could Cost Kamala Harris Votes in Michigan*, Guardian (Sept. 14, 2024), https://www.pressreader.com/usa/the-guardian-usa/20240914/281668260359006; Gavin Bade, *Trump's False Claim of "EV Mandate" Gains Traction in Michigan*, Politico (Oct. 5, 2024), https://www.politico.com/news/2024/10/04/electric-vehicle-backlash-michigan-democrats-defensive-00182459; Kristoffer Tigue, *Trump's "EV Mandate" Message May Have Helped Him Win Michigan*, Inside Climate News (Nov. 19, 2024), https://insideclimatenews.org/news/19112024/ev-mandate-message-may-have-helped-trump-win-michigan/.
33. Memorandum from American EV Jobs Alliance to Interested Parties, EV Political Advertising in the 2024 Election Cycle (Oct. 15, 2024), https://www.evpolitics.org/news/ev-political-advertising-in-the-2024-election-cycle/.

or avoid U.S. tariffs by assembling them in Mexico for ultimate sale in the United States.[34] In battleground states in the Midwest, some Democratic candidates for Congress found it difficult to defend Biden's pro-PEV policies, and chose to oppose them.[35] Democratic presidential nominee Kamala Harris backed off her 2019 stance in favor of an EV mandate.[36] Although it was widely expected that Biden's EPA would approve CARB's request for a preemption waiver under the CAA, it may not be an accident that the formal decision—and associated publicity—was delayed until after the November 2024 elections.[37]

The GOP won the White House and majorities in both the U.S. House of Representatives and the U.S. Senate, which put all of President Biden's pro-PEV policies—including the IRA subsidies, the EPA waiver for California's EV mandate, and EPA's climate rules—at risk of repeal. President Trump began with a January 2025 Executive Order calling for repeal of both federal and state policies that mandate EVs.[38] Congress followed in July 2025 with repeal of most of the EV subsidies in the IRA. It did not take long for Congress to dispense with California's EV mandate.

On February 14, 2025, Trump's EPA announced intentions to submit the Biden-era EPA waiver for the California EV mandate to Congress for review under the Congressional Review Act (CRA).[39] Although the U.S. Government Accountability Office (GAO) and the Senate Parliamentarian opined that the EPA waiver for California was an adjudicatory order, not a rule covered by the CRA,[40] neither opinion is binding on Congress; the GOP leadership in Congress decided it was covered by the CRA.[41] The EPA waiver was disapproved, first on the House floor and later the Senate floor. President Trump signed the joint disapproval resolution in June 2025.[42]

Moments later, California and allied states sued the federal government for allegedly abusing its CRA disapproval authority.[43] If the CRA disapproval is allowed to stand, California claims the state's ability to lead the national transition to PEVs will be crippled. As a result, California claims that its ability to protect its population from local air pollution and to contribute to the fight against global climate change will be hampered.[44]

In this Article, I offer a new legal perspective on CRA disapproval that respects EPA's historical position that waiver decisions under the CAA are adjudicatory orders rather than rules, but nonetheless finds that California's EV mandate can lawfully be disapproved under the CRA. More important, I argue that CRA disapproval is not fatal to California's ambition to be a leader in the commercialization of PEVs. I suggest two promising alternative policies, one a revised CARB rule under the CAA and the other a state tax reform package modeled after Norway's experience, to accelerate PEV deployment in California.

Part I begins by explaining why, given the applicable federal statutes, California faces an uphill battle to win its lawsuit against CRA disapproval. In Part II, drawing on my experience from 2001 to 2006 as administrator of the Office of Information and Regulatory Affairs (OIRA) in the George W. Bush Administration, I disclose how we lost our federal preemption claim against CARB's 2004 climate rule: California persuaded two federal district courts that CARB's 2004 rule should be treated not as a state rule but, due to the EPA waiver under the CAA, as a federal rule equivalent to an EPA rule. Those judicial decisions, which the state does not mention in its recent lawsuit against the federal government, create vulnerability for CARB under the CRA even if a court should agree with California that the EPA waiver was an adjudicatory order.

34. Paul Wiseman, *U.S. Automakers Worried About Threat of Low-Priced Chinese EVs Made in Mexico*, PBS News (June 27, 2024), https://www.pbs.org/newshour/nation/u-s-automakers-worried-about-threat-of-low-priced-chinese-evs-made-in-mexico.
35. Timothy Cama, *A New Sherrod Brown? Democrat Runs From Climate Agenda*, E&E News (Aug. 2, 2024), https://www.eenews.net/articles/a-new-sherrod-brown-democrat-runs-from-climate-agenda/; Gavin Bade, *Electric Vehicle Backlash Has Michigan Dems on Defensive*, E&E News (Oct. 7, 2024), https://www.eenews.net/articles/electric-vehicle-backlash-has-michigan-dems-on-defensive/; David Ferris, *3 Ways the EV Is Dominating Michigan's Elections*, E&E News (Oct. 30, 2024), https://www.eenews.net/articles/3-ways-the-ev-is-dominating-michigans-elections/.
36. Madeline Halpert, *Trump Electric Vehicle Attacks Hit Home for Michigan Voters*, BBC (Oct. 11, 2024), https://www.bbc.com/news/articles/c99vlpkzk4no.
37. Press Release, U.S. EPA, *supra* note 15.
38. Exec. Order No. 14154, Unleashing American Energy (Jan. 20, 2025), https://www.whitehouse.gov/presidential-actions/2025/01/unleashing-american-energy/.
39. EPA referred three waivers to Congress, one of which was the rule addressed in this Article. The others addressed electrification of heavy trucks and nitrogen oxide control from heavy trucks. Press Release, U.S. EPA, Trump EPA to Transmit California Waivers to Congress in Accordance With Statutory Reporting Requirements (Feb. 14, 2025), https://www.epa.gov/newsreleases/trump-epa-transmit-california-waivers-congress-accordance-statutory-reporting.
40. Letter from Edda E. Perez. General Counsel, GAO, to Congressional Requesters, Observations Regarding the Environmental Protection Agency's Submission of Notices of Decision on Clean Air Act Preemption Waivers as Rules Under the Congressional Review Act (B-337179) (Mar. 6, 2025), https://www.gao.gov/assets/880/875948.pdf.
41. Stef W. Kight & Nick Sobczyk, *Senate GOP to Bypass Key Rulemaker on California's EPA Waiver*, Axios (May 1, 2025), https://www.axios.com/2025/05/01/senate-gop-parliamentarian-ev-mandate-california.
42. *Statement by the President*, White House (June 12, 2025), https://www.whitehouse.gov/briefings-statements/2025/06/statement-by-the-president/ (announced signing of CRA disapproval resolution covering California's EV mandate).
43. Sharon Udasin, *California, Coalition of States Sue Trump Over Move to Revoke EV Mandate*, Hill (June 12, 2025), https://thehill.com/policy/equilibrium-sustainability/5347074-california-trump-ev-mandate-newsom/ (California was joined by 10 other states: Colorado, Delaware, Massachusetts, New Jersey, New Mexico, New York, Oregon, Rhode Island, Vermont, and Washington). The suit was filed in the U.S. District Court for the Northern District of California. Complaint for Declaratory and Injunctive Relief, State v. Environmental Prot. Agency, No. 3:25-cv-04966 (N.D. Cal. filed June 12, 2025), https://oag.ca.gov/system/files/attachments/press-docs/Filed%20Waiver%20Resolution%20Complaint.pdf.
44. Press Release, Office of Governor Newsom, "Make America Smoggy Again": Governor Newsom Responds to Illegal Senate Vote Aiming to Undo State's Clean Air Policies (May 22, 2025), https://www.gov.ca.gov/2025/05/22/make-america-smoggy-again-governor-newsom-responds-to-illegal-senate-vote-aiming-to-undo-states-clean-air-policies/; Alejandro Lazo & Alejandra Reyes-Velarde, *US Senate Blocks California's Electric Car Mandate in Historic Vote*, CalMatters (May 22, 2025), https://calmatters.org/environment/2025/05/california-electric-car-mandate-senate-revoke-waiver/ (the disapproval will "upend the state's decades-long efforts and authority to clean up its air pollution—the worst in the nation—and reduce greenhouse gases that cause climate change").

In Part III, I assume that California loses its CRA-related lawsuit (or the Trump Administration ultimately repeals the EPA waiver through executive action).[45] I then explore two promising policy responses that California could enact to sustain the state's national leadership position in PEV deployment. Part IV summarizes my arguments.

I. California's Challenge to the CRA Disapproval

A. *Four Statutory Frameworks*

To appreciate the complexity of the legal obstacles that California faces, consider four federal laws that come into play: the Administrative Procedure Act (APA) of 1946, which establishes procedures for rules, adjudicatory orders, and associated judicial review; the CAA of 1967 (amended in 1970, 1977, and 1990), which authorizes California to set stricter pollution standards than the federal government; the Energy Policy and Conservation Act (EPCA) of 1975 (amended in 2007), which prohibits all 50 states from adopting laws and regulations "related to fuel economy standards"; and the CRA of 1996, which authorizes Congress—via streamlined legislative procedures—to disapprove certain rules promulgated by federal departments and agencies. The intersection of the four statutes creates legal complexity.

1. The APA

The struggle over federal rulemaking power between President Franklin D. Roosevelt and a GOP-majority Congress led to compromise legislation called the Administrative Procedure Act.[46] The APA provided federal regulatory departments and agencies some executive discretion rather than subject them to strict judicial oversight, as the GOP leaders proposed. However, the APA—drawing from decades of experience with regulatory activity and judicial review—established uniform procedures for the regulatory activities of agencies such as adjudications and rulemakings.[47] In addition to required public participation opportunities in agency deliberations, the APA provided for limited judicial review of regulatory decisionmaking.

Adjudication determines the rights or duties of a single, identifiable entity, usually a citizen, business, labor union, or state. The adjudicatory process resembles an adversarial, trial-like proceeding because opposing parties may contest the proper allocation of rights and duties; a federal official, sometimes an administrative law judge, issues an order to resolve the question, usually with retroactive effect. In its simplest form, adjudication resolves an issue by applying existing policy or practice to the history of facts established in the proceeding. Examples of adjudicatory processes include merger-approval decisions at the U.S. Department of Justice and new drug approvals at the Food and Drug Administration.

Rulemaking is different, because a federal official establishes a general regulation regarding the future conduct of citizens or organizations. It is a quasi-legislative function because Congress, through statute, delegates to the federal department and agency the authority to design a regulation according to principles and constraints established by Congress. Rulemaking may be a formal process (resembling some of the procedures of adjudication) or, more commonly today, informal, without trial-like procedures but a notice-and-comment process that ensures an opportunity for public participation. Examples of rulemakings include the health standards for workplace contaminants by the Occupational Safety and Health Administration (OSHA) and the motor vehicle safety standards by the National Highway Traffic Safety Administration (NHTSA).

2. The CAA

The state of California had substantial success regulating the automotive industry before EPA was created by President Richard Nixon in 1970.[48] The CAA of 1967 (amended 1970, 1977, and 1990) recognized California's expertise in a highly unusual federal preemption provision.[49] All states except California were forbidden from setting motor vehicle standards related to air quality. California was authorized to set its own standards if the state action satisfies three criteria: the state does not act arbitrarily and capriciously, the state standards are needed to address compelling and extraordinary conditions, and the state standards are at least as protective as the applicable federal standards.

When California applies for a waiver of federal preemption, EPA is required to grant the waiver request

45. Even if California should win its lawsuit, the Trump EPA would likely proceed to revoke California's waiver using executive authority, stimulating another round of litigation. A similar revocation of CARB's CO_2 standards and ZEV mandate occurred in the first Trump Administration. Lawsuits were filed, but a judicial resolution did not occur before the Biden Administration decided to reinstate the waivers. Press Release, U.S. EPA, EPA Restores California's Authority to Enforce Greenhouse Gas Emission Standards for Cars and Light Trucks (Mar. 9, 2022), https://www.epa.gov/newsreleases/epa-restores-californias-authority-enforce-greenhouse-gas-emission-standards-cars-and; California State Motor Vehicle Pollution Control Standards; Advanced Clean Car Program; Reconsideration of a Previous Withdrawal of a Waiver of Preemption; Notice of Decision, 87 Fed. Reg. 14332 (Mar. 14, 2022).

46. 5 U.S.C. §§551-559. For a brief history of the APA, see John D. Graham, Regulatory Reform From Nixon to Biden: Politics, Economics, and Law 16-17 (2024); for a more detailed APA history, see Roni Elias, *The Legislative History of the Administrative Procedure Act*, 27 Fordham Env't L. Rev. 207 (2015), https://ir.lawnet.fordham.edu/cgi/viewcontent.cgi?article=1732&context=elr.

47. The APA provisions covering adjudication are at 5 U.S.C. §§554, 556, and 557; the provisions covering formal rulemaking are at 5 U.S.C. §§553, 556, and 557; and the provisions covering informal rulemaking are at 5 U.S.C. §553. On the evolving definitions of adjudication versus rulemaking prior to passage of the APA, see Elias, *supra* note 46, at 215-19.

48. A. James Barnes, *The Establishment of EPA*, *in* Fifty Years at the U.S. Environmental Protection Agency: Progress, Retrenchment, and Opportunities, *supra* note 18, at 1-7 (the establishment of EPA); Graham, *supra* note 18, at 85-86 (California's pre-EPA successes in regulating automotive emissions).

49. 42 U.S.C. §§7401 et seq. At the time (1967), it was called the Air Quality Act; the name was changed to the Clean Air Act in 1970. *See* GAO, GAO-09-249R, Clean Air Act: Historical Information on EPA's Process for Reviewing California Waiver Requests and Making Waiver Determinations (2009).

unless EPA or private parties can demonstrate that one or more of the three criteria are not satisfied.[50] In 1990, Congress amended the CAA, allowing other states to replicate California standards if they prefer them to the national EPA standards.[51]

At issue here is the ZEV mandate, first issued by CARB in 1990, when CARB determined that its conventional tailpipe emissions standards for cars and trucks were not sufficient to solve the severe local and regional air quality problems in Los Angeles and other cities.[52] The ZEV mandate requires any automaker doing business in California to offer a certain number of ZEVs—originally thought to be BEVs or hydrogen fuel cell vehicles. CARB struggled to make meaningful progress with the ZEV mandate, and revised it numerous times over the past 30+ years due to the limitations of battery technology and other factors.[53] The most recent ZEV requirements, adopted by CARB in 2022 and cleared by the Biden EPA on December 17, 2024, require automakers doing business in California to offer an increasing percentage of ZEVs until 100% of new passenger vehicles in 2035 have plug-in capability (at least 80% must be BEVs; up to 20% may be qualified PHEVs).[54]

3. EPCA

In the aftermath of the Arab oil embargo of 1973-1974, Congress adopted EPCA of 1975.[55] NHTSA, a unit within the U.S. Department of Transportation (DOT), was charged with setting Corporate Average Fuel Economy (CAFE) standards for all automakers doing business in the United States. A CAFE standard sets a mandatory, average miles-per-gallon standard, one for a company's fleet of new passenger cars and another for their new light trucks.[56]

The express federal preemption provision in EPCA is sweeping and applicable to all 50 states: it preempts any state and local law or regulation "related to fuel economy standards."[57] In 2002, for example, a federal district court invalidated an earlier version of CARB's ZEV regulation on the grounds that it offered compliance credits to automakers based on whether a vehicle achieved an unusually high rate of fuel economy.[58] EPCA does not preempt other federal motor vehicle standards. Indeed, NHTSA is required—when setting the maximum feasible level of fuel economy—among other factors, to take the impact of other federal motor vehicle standards (e.g., EPA emissions standards and NHTSA safety standards) into account.[59]

The U.S. Supreme Court has never addressed how a possible conflict between the EPCA and CAA preemption provisions should be resolved. As I explain below, EPCA preemption became a big issue in 2004 when California issued its first climate rule—a regulation of CO_2 emissions from new motor vehicles.[60] Fuel consumption and CO_2 emissions are so highly correlated that EPA uses estimates of a vehicle's fuel consumption to predict its CO_2 emissions.[61] As I explain below, EPCA is relevant to our analysis because the courts allowed CARB to evade federal preemption under EPCA by framing its 2004 climate rule as a federal standard (like an EPA standard), given the unique structure of the CAA.

4. The CRA

When the "Gingrich Revolution" led to a GOP takeover of the House in January 1995, the new speaker of the House, Newt Gingrich of Georgia, launched several legislative initiatives to restrain the regulatory powers of federal departments and agencies. The CRA is a tool created to facilitate congressional rescission of a rule recently passed by a federal department or agency.[62] Under the CRA, before a rule can take effect, an agency must submit the rule to Congress and GAO. GAO's role is to advise on issues such as whether an agency action is covered by the CRA.[63] The APA definition of a rule is used in the CRA, except rules with only a particular effect are excluded.

Once submitted, members of Congress have a specified period to overturn the rule. If Congress does not act within this period, the rule takes effect as planned by the agency. To be enacted, a disapproval resolution must be passed by both the House and Senate and signed into law by the president.[64] Thus, a CRA disapproval is a legislative act of Congress.

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50. Fact Sheet, CARB, California & the Waiver: The Facts (Sept. 17, 2019), https://ww2.arb.ca.gov/resources/fact-sheets/california-waiver-facts.
51. U.S. EPA, *Vehicle Emissions California Waivers and Authorizations: State Adoption of California Standards*, https://www.epa.gov/state-and-local-transportation/vehicle-emissions-california-waivers-and-authorizations#state (last updated Feb. 20, 2025).
52. For a detailed history of CARB's ZEV program, see Gustavo Collantes & Daniel Sperling, *The Origin of California's Zero Emission Vehicle Mandate*, 42 Transp. Rsch. Part A: Pol'y & Prac. 1302 (2008), https://www.sciencedirect.com/science/article/abs/pii/S0965856408001195.
53. Ann Carlson, *Federalism, Preemption, and Greenhouse Gas Emissions*, 37 U.C. Davis L. Rev. 281, 304 (2003) (CARB was forced to amend the ZEV mandate several times because the industry lacked the technology to comply); Graham, *supra* note 3, at 116-227 (CARB's struggles with the ZEV program from 1990-2010).
54. Press Release, CARB, *supra* note 16.
55. 42 U.S.C. §6201.
56. DOT, *Corporate Average Fuel Economy (CAFE) Standards*, https://www.transportation.gov/mission/sustainability/corporate-average-fuel-economy-cafe-standards (last updated Aug. 11, 2014).
57. 42 U.S.C. §§6272-6273, 6294. A useful history of the CAA and EPCA preemption provisions can be found in Sara A. Colangelo, *The Politics of Preemption: An Application of Preemption Jurisprudence and Policy to California Assembly Bill 1493*, 37 Env't L. 175, 181-83 (2007) (comparing the federal preemption provisions in the CAA and EPCA), 183-86 (early history of preemption jurisprudence).
58. Central Valley Chrysler-Plymouth v. Kenny, No. CIV F-02-05017 REC SMS (E.D. Cal. June 11, 2002).
59. 49 U.S.C. §32902(f); *see also Backgrounder: Final SAFE Vehicles Rule*, NHTSA (Mar. 31, 2020), https://www.nhtsa.gov/corporate-average-fuel-economy/backgrounder-final-safe-vehicles-rule.
60. DieselNet, *USA: California: Light-Duty Vehicles: Greenhouse Gas Emissions*, https://dieselnet.com/standards/us/ca_ghg.php (last revised June 2018).
61. U.S. EPA, *Greenhouse Gas Emissions From a Typical Passenger Vehicle*, https://www.epa.gov/greenvehicles/greenhouse-gas-emissions-typical-passenger-vehicle (last updated June 12, 2025).
62. 5 U.S.C. §§801-808.
63. Congress may disapprove a rule that was not referred by the agency; a member might ask GAO to opine on whether an unreferred rule is covered by the CRA.
64. The disapproval process under the CRA can be seen as a rejuvenation of the legislative veto of rules that occurred with increasing frequency during the 1970s. The Supreme Court held that the legislative veto was unconsti-

Since Congress can always repeal an agency rule through direct legislation, what is special about a disapproval action under the CRA? First, a rank-and-file member of Congress has access to a CRA procedure that may bring the disapproval resolution to the floor for a vote, without the normal committee deliberations that govern legislation. If a member does not sit on the committee of jurisdiction or lacks support from the committee chair, a disapproval resolution may be a more promising strategy than introduction of a conventional bill to repeal the rule.[65] Second, a simple majority vote on the floor of the Senate and House is sufficient to pass a disapproval resolution; a filibuster in the Senate is not permitted.[66]

Departments and agencies have special fear of CRA disapprovals for a simple reason: once a rule has been disapproved, the department or agency is prohibited under the CRA from enacting a rule that is "substantially the same" without further authorization from Congress.[67] Since the "substantially the same" language has not yet been interpreted by a federal court, there is only speculation about how difficult it would be for a department and agency to issue a revised rule after a disapproval action.[68]

CRA disapprovals are virtually impossible to pass in the face of White House opposition, since the president can veto the disapproval resolution; overrides require a two-thirds majority in both chambers.[69] The CRA has proven to be an effective tool only when there is a shift in party control of the White House, and Congress is controlled by the same party as the new White House. Prior to the second Trump Administration, the CRA had been used to overturn a total of 36 rules: 1 after the transition from President Bill Clinton to President George W. Bush; 16 after the transition from President Barack Obama to President Trump; 3 after the transition from President Trump to President Biden[70]; and 16 after the transition from President Biden to President Trump.[71]

tutional, in part because the president was excluded from the process. Immigration & Naturalization Serv. v. Chadha, 462 U.S. 919 (1983). Unlike a legislative veto, which did not require presidential signature to take effect, a disapproval resolution under the CRA requires presidential signature.

65. Graham, *supra* note 46, at 248-49.
66. Maeve P. Carey & Christopher M. Davis, Congressional Research Service, The Congressional Review Act (CRA): A Brief Overview (2024), https://www.congress.gov/crs_external_products/IF/PDF/IF10023/IF10023.11.pdf.
67. 5 U.S.C. §801(b)(2).
68. Adam M. Finkel & Jason W. Sullivan, *A Cost-Benefit Interpretation of the "Substantially Similar" Hurdle on the Congressional Review Act: Can OSHA Ever Utter the E-Word (Ergonomics) Again?*, 63 Admin. L. Rev. 707 (2011) (exploring whether OSHA might be able to issue a different ergonomics rule than the one Congress disapproved in 2001).
69. Graham, *supra* note 46, at 249.
70. George Washington University Regulatory Studies Center, *Congressional Review Act*, https://regulatorystudies.columbian.gwu.edu/congressional-review-act (last visited July 14, 2025).
71. BallotPedia, *Federal Agency Rules Repealed Under the Congressional Review Act*, https://ballotpedia.org/Federal_agency_rules_repealed_under_the_Congressional_Review_Act (last visited Aug. 1, 2025).

B. *Key Litigation Issues*

The state of California has sued the federal government seeking, among other remedies, reinstatement of CARB's EV mandate.[72] The lawsuit contains three counts related to statutory violations and three counts related to constitutional issues.[73] Although California is raising constitutional concerns, I focus on the state's challenge to the authority of EPA and Congress to disapprove the EPA waiver for California's ZEV mandate under the CAA, the CRA, and the APA. I leave it to constitutional scholars to evaluate the merits of California's constitutional concerns.[74]

1. Preclusion of Judicial Review

A plain reading of the CRA suggests that Congress precluded judicial review of CRA disapproval actions and related determinations by Congress: "no determination, finding, action, or omission under this chapter shall be subject to judicial review."[75] According to the Congressional Research Service:

> A number of courts have examined this provision. The majority view interprets the provision as prohibiting judicial review of any statutory question arising under the CRA. Adopting this view, multiple federal appeals courts have held that they may not void rules based on an agency's alleged noncompliance with the CRA. The minority view, adopted by a few federal trial courts, concludes that the provision prevents review of *Congress*'s determinations, findings, actions, or omissions made under the CRA—but does not preclude review of *agency* actions.[76]

In the case of California's lawsuit, EPA referred an agency action that is arguably not a rule covered by the CRA. There are no judicial rulings related to this fact pattern.[77]

Could California effectively challenge EPA's original decision to refer the EPA waiver to Congress for review under the CRA? The referral was a bit odd because the Trump EPA referred the Biden-era waiver approval without explaining why the Agency had changed its mind about CRA coverage.[78] An advantage of this approach is that a court could rescind EPA's determination rather than create a direct confrontation with Congress. The ruling would presumably be that EPA acted arbitrarily when it

72. Complaint for Declaratory and Injunctive Relief, *supra* note 43.
73. The statutory violations concern the APA, the CRA, and the CAA. The constitutional violations concern the Take Care Clause, the separation-of-powers doctrine, and the principle of federalism. *Id.*
74. The Center for Biological Diversity, an environmental group, earlier mounted a constitutional challenge to the CRA; the group lost, but the case was somewhat different than the CRA disapproval of California's ZEV rule. Center for Biological Diversity v. Bernhardt, 946 F.3d 553 (9th Cir. 2019).
75. 5 U.S.C. §805.
76. Carey & Davis, *supra* note 66.
77. In different contexts, the U.S. Court of Appeals for the Tenth Circuit and the U.S. Court of Appeals for the Ninth Circuit have declined to review CRA disapproval resolutions. Kansas Nat. Res. Coal. v. U.S. Dep't of Interior, 971 F.3d 1222 (10th Cir. 2020); *Center for Biological Diversity*, 946 F.3d 553.
78. Press Release, U.S. EPA, *supra* note 39.

referred the EPA waiver to Congress for review; the court could remand the issue to EPA for further consideration and explanation as to why EPA has changed its mind.

The obvious problem with this ruling is that Congress has already indicated that it agrees with EPA that the EPA waiver is a rule, and Congress has voted to disapprove the EPA waiver. The court's decision would therefore be a de facto reversal of the legislative action as well as EPA's referral. Insofar as disapproval is legislation, it may be irrelevant whether the EPA waiver is an adjudication or a rule; Congress has nullified the waiver, even if based on a misunderstanding or a debatable CRA coverage issue.

2. The EV Mandate as a Political Question

Even if a court felt that some avenue existed to review the CRA disapproval, the court might instead conclude that the issue is a political question poorly suited to judicial review.[79] In the November 2024 campaigns for president and Congress, as noted above, opposition to the EV mandate was a prominent issue for both GOP presidential candidate Trump and GOP candidates for the House and Senate. Since the GOP won the White House and majorities in the House and Senate (admittedly by slim margins), judicial protection of California's EV mandate could be seen by conservatives as a ploy by the judiciary to block the operation of democracy. The current Supreme Court might not tolerate such a ploy, but the litigation pathway might end in the U.S. Court of Appeals for the District of Columbia (D.C.) Circuit, as some important cases never reach the Supreme Court.

A court with aversion to entering a political squabble might invoke the "political question doctrine," the rule, grounded in separation of powers, that federal courts will refuse to hear a case if they find that it presents a political question that should be left to the other branches.[80] This doctrine refers to the idea that an issue is so politically charged that federal courts, which are typically viewed as the more apolitical branch of government, should not hear the issue.[81] Also referred to as the justiciability doctrine or the nonjusticiability doctrine, it is notoriously difficult to define with respect to its applicability and limits.[82] The post-election setting of this issue, coupled with the design of the CRA, might lead a court to avoid confrontation with a newly elected president and Congress.[83]

3. The EPA Waiver as an Adjudicatory Order

California's complaint explains that EPA has awarded CARB 75+ EPA waivers under the CAA since the waiver provision was established by Congress in 1967.[84] EPA rarely declines waiver requests from CARB[85]; no waiver has ever been revoked, and the one previous denial was quickly reversed.[86] The waiver has always been characterized as an adjudicatory order rather than a rule. Since the CRA covers rules as defined in the APA but not adjudicatory orders, California insists the EPA waiver for CARB's EV mandate is not subject to the CRA.

The CRA was not adopted until 1996; many of the CAA waivers in EPA's 55-year history occurred before 1996.[87] Moreover, many EPA waivers for California rules do not address costly or controversial issues, so there was little incentive for anyone to scrutinize the conventional wisdom that they are adjudicatory orders. When CARB entered the more controversial territory of climate change in 2004, opponents—including the George W. Bush Administration—chose, as I explain below, to challenge CARB's 2004 climate rule by asserting federal preemption of CARB under EPCA and to decline CARB's request for a CAA waiver in March 2008.

Subsequent presidents have played ping-pong with the EPA waiver for California's climate rule: the Bush-era waiver decision was reversed by the Obama EPA; reversals were then made by the first Trump Administration and then the Biden Administration.[88] If the CRA disapproval should be blocked in court, the Trump EPA would likely reverse the waiver decision again, presumably leading to more litigation.

EPA's waiver for CARB's EV mandate is far more consequential than any previous EPA waiver. CARB's rule bans, by 2035, most new gasoline vehicles sold in California, including the HEVs that are now surging in popularity among consumers.

Historically, the most significant technology to emerge from the EPA-CARB waiver process was the three-way catalytic converter, which has been highly effective in curbing conventional pollutants from the tailpipe exhaust stream.[89] GM was a pioneer of the catalytic converter,

79. On the history of courts avoiding (and entering) political questions, see Louis Michael Seidman, *The Secret Life of the Political Question Doctrine*, 37 J. Marshall L. Rev. 441 (2004).
80. Legal Information Institute, Cornell Law School, *Political Question Doctrine*, https://www.law.cornell.edu/wex/political_question_doctrine (last visited Aug. 1, 2025).
81. When the doctrine is used, it tends to be on foreign policy questions. Here is a case for its applicability to sovereign immunity. *Political Questions, Public Rights, and Sovereign Immunity*, 130 Harv. L. Rev. 723 (2016).
82. The Supreme Court's best effort to define the doctrine is in *Baker v. Carr*, 369 U.S. 186 (1962).
83. The lower courts have invoked the political question doctrine numerous times since 1962. The Supreme Court has invoked the doctrine in a majority opinion only three times since 1962. Curtis A. Bradley & Eric A. Posner, *The Real Political Question Doctrine*, 75 Stan. L. Rev. 1031, 1038 (2023) (used in a majority opinion only three times since 1962: 1973, 1993, 2019), 1051 (the doctrine is "alive and well in the lower courts").
84. Complaint for Declaratory and Injunctive Relief, *supra* note 43, at 2, para. 3.
85. Prior to the emergence of the controversial climate issue, the best GAO could document is a few partial approvals/denials. GAO, *supra* note 49.
86. Fact Sheet, CARB, *supra* note 50.
87. U.S. EPA, *supra* note 51.
88. California State Motor Vehicle Pollution Control Standards; Notice of Decision Denying a Waiver of Clean Air Act Preemption for California's 2009 and Subsequent Model Year Greenhouse Gas Emission Standards for New Motor Vehicles, 73 Fed. Reg. 12156 (Mar. 6, 2008); Press Release, U.S. EPA, EPA Reconsiders Previous Administration's Withdrawal of California's Waiver to Enforce Greenhouse Gas Standards for Cars and Light Trucks (Apr. 26, 2021), https://www.epa.gov/newsreleases/epa-reconsiders-previous-administrations-withdrawal-californias-waiver-enforce.
89. Graham, *supra* note 18, at 86 (GM was a pioneer of the catalytic converter, as its research and development (R&D) was stimulated by California regulators).

as its R&D was stimulated by Dr. Arie Haagen-Smit's research into the causes of smog, California's subsequent establishment of tailpipe emission regulations in 1966, and the establishment of CARB in 1967. EPA standards later led to the development of the three-way catalytic converter, which simultaneously controlled carbon monoxide, hydrocarbons (HCs), and nitrogen oxides (NO_x). In 1976, CARB and EPA tapped into Volvo's research into sensors that control precisely the air-fuel mixture in the gasoline engine, which further enhanced the effectiveness of catalytic converters.[90]

The three-way catalytic converter with air-fuel mixture control was a breakthrough innovation that might have added a few hundred dollars to the cost of producing a new car.[91] In contrast, an all-electric vehicle currently costs $5,000 to $10,000 more than a gasoline vehicle, even after accounting for the 90% decline in battery prices since 2010.[92] One of the reasons that EVs remain so expensive is that automakers have learned that consumers demand more driving range, faster charging times, and better towing/hauling and cold weather performance than proponents of EVs realized when Tesla was launched prior to 2010.

Instead of treating EPA waivers as a homogenous category of adjudicatory actions, which places all of them outside the province of the CRA, EPA might have taken a more nuanced approach (e.g., some EPA waivers have broader, more impactful, more costly ramifications than others). Indeed, EPA's decision to treat the waivers as adjudicatory orders rather than rules may have a parochial side benefit for EPA: it insulates the waivers from both Office of Management and Budget (OMB) review under Executive Order No. 12866 (which does not authorize OMB review of adjudicatory orders) and the requirement for a benefit-cost analysis under OMB's Circular A-4 guidance.[93]

CARB did prepare a benefit-cost analysis of its EV mandate, but the analysis covered only impacts on the state of California and did not adhere to the quality standards in OMB's Circular A-4 guidelines.[94] EPA never prepared a benefit-cost analysis of California's EV mandate (e.g., covering the ramifications for consumers and businesses residing outside the state of California).[95] Nor did EPA prepare an analysis of the benefits and costs of numerous other states joining California's EV mandate.

Given EPA's pattern of approving California's waiver requests without independent analysis and given that the Biden EPA delayed and then granted the waiver soon after Harris' defeat, it is likely that some members of Congress were suspicious of EPA's waiver for California. When Trump turned the EV mandate into a political issue, there was no authoritative benefit-cost analysis in the record that California's allies in Congress could use to defend the EV mandate. With a GOP-majority Congress dominated by members from the Midwest and South, it was not difficult to find members eager to support disapproval resolutions under the CRA, even though much of the nascent U.S. electric vehicle industry resides in southern and midwestern states.[96]

4. EPA's Nonexistent Case for Changing Its Position

EPA under President Trump has not yet provided a legal explanation as to why the Agency changed its mind and referred the EPA waiver to Congress for review as a covered rule under the CRA.[97] The most detailed case for why the EPA waiver is a rule has been provided by two creative attorneys at Boyden Gray Associates in Washington, D.C. A key pillar of their argument, which was not considered in GAO's opinion, is that the EPA waiver allows all of the other 49 states to adopt the EV mandate without any additional waivers or EPA/CARB review.[98] More recently, after the congressional deliberation, OMB, in an official Trump Administration letter to GAO, provided a blistering critique of GAO's legal opinion; it argues that the EPA waiver for California's EV mandate is a rule covered by the CRA.[99]

5. Congressional Deliberation on CRA Disapproval

Members of Congress were made aware of the alternative views as to whether the EPA waiver is covered by the CRA. GAO, echoed by the Senate parliamentarian, informed members that the EPA waiver is not covered by the CRA. The GOP leadership in Congress decided that the EPA waiver is a rule under the CRA and allowed

90. Alina Moore, *30 Years of Volvo's Revolutionary Lambda Sensor*, Top Speed (Mar. 30, 2006), https://www.topspeed.com/cars/car-news/30-years-of-volvo-s-revolutionary-lambda-sensor/.
91. *Id.* at 92 (industry claims were as high as $800 to $1,400 per car, but the National Academy of Sciences tended to agree with the $200 estimate published by EPA after consultation with equipment suppliers).
92. Renee Valdes, *How Much Are Electric Cars?*, Kelley Blue Book (June 25, 2025), https://www.kbb.com/car-advice/how-much-electric-car-cost/.
93. John D. Graham & Cory R. Liu, *Regulatory and Quasi-Regulatory Activity Without OMB and Cost-Benefit Review*, 37 Harv. J. L. & Pub. Pol'y 425, 431-39 (2014) (how the EPA waiver for California's ZEV mandate insulated California from OMB and cost-benefit review).
94. *Id.*
95. EPA prepares an action memo about each CARB waiver request. It may address issues of feasibility and lead time, but the waiver-approval process does not include any benefit-cost analysis by EPA. GAO, *supra* note 49.
96. Tom Taylor et al., *Tracking the State of U.S. EV Manufacturing* 9 fig.4, Atlas Pub. Pol'y & BlueGreen All. Found. (2025), https://atlaspolicy.com/wp-content/uploads/2025/01/Tracking-the-State-of-U.S.-EV-Manufacturing.pdf.
97. EPA was not necessarily required by law to provide an explanation. If the Agency was not sure about CRA coverage, it may have been prudent to refer anyway, so Congress could decide.
98. Michael Buschbacher & Jimmy Conde, *Congress Has the Authority to Review EPA "Waivers" of Clean Air Act Preemption*, Yale J. on Regul.: Notice & Comment (Mar. 5, 2025), https://www.yalejreg.com/nc/congress-has-the-authority-to-review-epa-waivers-of-clean-air-act-preemption-by-michael-buschbacher-jimmy-conde/.
99. Letter from Russell Vought, OMB Director, to Gene Dodaro, Comptroller General, GAO (June 18, 2025).

the CRA disapproval resolutions to come to a vote in the House and Senate.

Democratic leaders in both chambers argued forcefully against the disapproval resolutions, emphasizing the process argument that EPA should never have referred the EPA waiver to Congress in the first place.[100] The Democratic leadership of the Senate went so far as to remind the Republican leadership that the tables could turn in the future, and a Democratic Congress could disapprove oil and gas leases (adjudications) under the CRA.[101] Members of Congress from California and allied states had plenty of opportunity to participate in the debate and did so.

Opponents of California's EV mandate stressed the adverse economic impacts: "These job losses will not be confined to California, but they will be spread all across the nation," Senate Environment and Public Works Chair Shelley Moore Capito (R-W. Va.), said on the Senate floor. "Workers in auto manufacturing, oil and gas production and the agriculture sector across this country would lose jobs because of California's EV mandate, and the elected officials who represent Michigan autoworkers, Nebraska corn farmers or West Virginia gas workers had no say in California and EPA's decision."[102]

Key Senate Democrats defended the EV mandate on environmental grounds while criticizing the GOP tactics. California Sens. Alex Padilla and Adam Schiff argued that the tactic used by Senate Republicans under the CRA is illegal and that the state's EV mandate is vital to cleaning up polluted air.[103]

The final vote tallies in Congress speak for themselves. The votes for disapproval were 246-164 in the House and 51-44 in the Senate. The Republicans in Congress voted unanimously in favor of disapproval; in the House, 48 Democrats crossed over in favor of disapproval; only one Senate Democrat (Sen. Elissa Slotkin, the junior senator from Michigan) joined the Senate Republicans.[104]

II. Could California's EV Mandate Be a Federal Rule Covered by the CRA?

A better way to understand the issue is to view California's EV mandate—coupled with the EPA waiver for it—as the federal rule that was disapproved by Congress. According to this view, the EPA waiver can continue to be viewed as an adjudicatory order. How can a state regulatory agency in California be an author of a federal rule covered by the CRA?

I know the answer to this intriguing legal question because, as a senior OMB official in the George W. Bush Administration (2001-2006), I helped design a failed legal strategy, under EPCA, to preempt California's original 2004 climate rule covering motor vehicles.[105] The strategy failed in 2007 because two federal district courts—one in Vermont, the other in Fresno, California—ruled that, under the CAA, CARB's climate rule had the status of a federal rule, which insulated it from EPCA preemption.[106] The story of our failure is fascinating as it relates to the CRA and California's current protest of the disapproval resolution passed by Congress and signed into law by President Trump.

As Bush's Senate-confirmed Administrator of OIRA, I led an interagency task force from 2002-2006 to revive federal fuel economy standards under EPCA.[107] President Bush's primary concern was not climate change but U.S. dependence on foreign oil.[108] America's fracking revolution, which virtually eliminated U.S. net oil imports, did not occur until a decade later.[109]

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100. Senate Minority Leader Chuck Schumer (D-N.Y.) said, "By weaponizing the CRA, Republicans . . . cross a point of no return for the Senate, expanding what this chamber can do with a majority threshold." John L. Watson, *U.S. Senate Disapproves California's Clean Air Act Waivers—Effectively Teeing Up a Complex Battle in the Courts*, Spencer Fane (May 23, 2025), https://www.spencerfane.com/insight/u-s-senate-disapproves-californias-clean-air-act-waivers-effectively-teeing-up-a-complex-battle-in-the-courts/.
101. Press Release, Office of Senator Padilla, Leader Schumer, Padilla, Whitehouse Lead Democratic Ranking Members in Warning Republicans Against Overruling Parliamentarian's Decision on California's Clean Air Act Waivers (May 5, 2025), https://www.padilla.senate.gov/newsroom/press-releases/leader-schumer-padilla-whitehouse-lead-democratic-ranking-members-in-warning-republicans-against-overruling-parliamentarians-decision-on-californias-clean-air-act-waivers/.
102. David Jordan & Valerie Yurk, *In CRA First, Senate Blocks EPA Waivers After Procedural Change*, Roll Call (May 22, 2025), https://rollcall.com/2025/05/22/in-cra-first-senate-blocks-an-epa-waiver-after-procedural-change/.
103. Lazo & Reyes-Velarde, *supra* note 44.
104. Had it been fully implemented, automakers doing business in California would have been required to supply 100% PEV vehicles in the light-duty passenger market by 2035. Specifically, the California rule stipulated that 35% of new 2026 model cars sold in the state must be zero emissions, ramping up to 68% in 2030 and 100% in 2035. In calendar year 2024, approximately 25.3% of passenger vehicles sold in California were all-electric vehicles or PHEVs.
105. California's 2004 climate rule, which covered model years 2009-2016, established the first CO_2 standards in the United States. The standards later lost their practical significance when the Obama Administration incorporated them into EPA's first national CO_2 standards for motor vehicles. If an automaker complied with EPA's national standards, they were famously "deemed to comply" with the 2004 CARB standards. CARB, *Low-Emission Vehicle Greenhouse Gas Program*, https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/lev-program/low-emission-vehicle-greenhouse-gas (last visited Aug. 1, 2025); *see also* Graham, *supra* note 3, at 165.
106. In *Green Mountain Chrysler Plymouth Dodge Jeep v. Crombie*, 508 F. Supp. 2d 295, 346, 347 (D. Vt. 2007), the court found that the EPCA term "'other motor vehicle standards of the Government' continues to include both emission standards issued by EPA and emission standards for which EPA has issued a waiver under Section 209(b) of the CAA." The court observed that the plaintiffs did "not dispute that a California regulation that receives an EPA waiver is a government standard for purposes of §32902 [of EPCA]." The court concluded that it "seems beyond serious dispute therefore that once EPA issues a waiver for a California emissions standard, it becomes a motor vehicle standard of the government, with the same stature as a federal regulation with regard to determining maximum feasible average fuel economy under EPCA." And in *Central Valley Chrysler-Jeep, Inc. v. Goldstene*, 529 F. Supp. 2d 1151, 1182 (E.D. Cal. 2007), as corrected (Mar. 26, 2008), the court determined that EPCA treats CARB standards having received a CAA waiver from EPA like federal standards for the purpose of determining whether EPCA preempts them, and the court specifically "decline[d] to cast the issue as being one of 'federalization' of the proposed California standards."
107. For a history of Bush's revival of the CAFE program, see John D. Graham, Bush on the Home Front: Domestic Policy Triumphs and Setbacks 164-84 (2010).
108. *Id.* at 164; *see also* Graham, *supra* note 3, at 88-89 (how anti-terrorism became a key rationale for Bush energy-conservation and alternative-energy policies).
109. Graham, *supra* note 46, at 299 (Bush's economic advisors projected that, if policy was unchanged, the United States would be importing 50% of its oil needs by 2025; his foreign policy advisors argued that Middle East oil

Bush was especially disturbed that oil revenues from high global oil prices were, indirectly, through Islamist and other charities, helping finance the terrorist networks that engineered the tragedies of 9/11.[110] We feared that more attacks were coming in the years and decades ahead. By reviving the CAFE program, which Congress had sidelined with appropriations riders for the previous decade, Bush believed that more fuel-efficient cars would diminish U.S. oil consumption, which would attenuate growth in the global price of oil and taper the flow of revenues to Saudi Arabia and other Organization of Petroleum Exporting Countries (OPEC) nations.[111]

We were also concerned that regulators in the state of California were developing two new regulatory programs—one curbing CO_2 emissions from vehicles (what became CARB's 2004 climate rule[112]), the other an updated version of the 1990 ZEV requirements. Both rules could conflict with our national agenda under NHTSA's CAFE program pursuant to EPCA.

President Bush was impressed with Toyota's progress with HEVs (notably the Toyota Prius, as well as Ford's Escape Hybrid sport utility vehicle (SUV), which utilized some technology licensed from Toyota).[113] California regulators were less impressed with HEVs and gave them only partial compliance credit under the ZEV mandate, and only for a limited period.[114] CARB was fascinated with BEVs, as Tesla was created in 2004; its first product, the Roadster sports car, was produced in 2008; the premium all-electric Model S was first sold in 2012.

At the time, opinions in the industry varied about the likelihood of mass commercialization of PEVs.[115] Since Bush Administration officials anticipated that HEVs might be a viable long-run compliance strategy under stricter CAFE standards, CARB's preoccupation with BEVs and skepticism about HEVs could conflict with national policy.[116] We therefore supported, along with the established automakers, NHTSA's position that California's CO_2 emissions standards and ZEV program were preempted by EPCA.[117]

We succeeded in reviving the CAFE program for light trucks and SUVs, tightening fuel economy standards from model years 2004 to 2011. At the suggestion of the National Academies, we made pro-safety reforms of the CAFE program that discouraged automakers from simply downsizing vehicles.[118] In 2007, Bush worked with a Democratic-majority Congress to codify our pro-safety reforms of the CAFE program, which were later applied by Congress to cars as well as light trucks and SUVs.[119] In this legislation, EPCA's preemption language was unchanged.

The Bush-era revival of CAFE was then implemented even more aggressively by President Obama after a federal appeals court determined that NHTSA's model-year 2011 fuel economy standards did not adequately account for the benefits of curbing the CO_2 emissions linked to climate change.[120] Obama's NHTSA first issued a rule to increase average fuel economy from 29 miles per gallon in model year 2012 to 34.5 miles per gallon in 2016; a subsequent rulemaking, coordinated with EPA's CO_2 standards, upped the standards to 54.5 miles per gallon by model year 2025.[121]

On the preemption front, we lost our EPCA preemption case against California in 2007. California persuaded two federal district courts that California's 2004 CO_2 rule was not a state rule subject to EPCA preemption because the EPA waiver under the CAA transformed CARB's CO_2 rule into a federal rule with status equivalent to an EPA

money was financing terrorist attacks against Western countries). See also the foreign policy arguments for revival of energy conservation made by President Ronald Reagan's former national security advisor. Robert McFarlane, *The Right Is Wrong on McCain*, Wall St. J. (Feb. 11, 2008), https://www.wsj.com/articles/SB120269602724357987.

110. Srishti Singh Sisodia, *9/11 Attacks and the Money Trail: How Terrorists Got Funds for the Devastating Strike*, WION (Sept. 10, 2022), https://www.wionews.com/world/911-attacks-and-a-money-trail-how-terrorists-planned-the-devastating-attacks-412286 (tracing the flow of money to Osama bin Laden and al Qaeda for the 9/11 terrorist attacks; funds came from core group of financial facilitators who raised money from a variety of charities, donors, and other fundraisers, primarily in the Gulf countries and particularly in Saudi Arabia).

111. Graham, *supra* note 107, at 164.

112. CARB refers to the 2004 climate rule as the landmark Pavley regulation, named after Fran Pavley, the member of the legislature that spearheaded the authorizing law for CARB. CARB, *California's Greenhouse Gas Vehicle Emission Standards Under Assembly Bill 1493 of 2002 (Pavley)*, https://ww2.arb.ca.gov/californias-greenhouse-gas-vehicle-emission-standards-under-assembly-bill-1493-2002-pavley (last visited Aug. 1, 2025).

113. In the Energy Policy Act of 2005, 42 U.S.C. ch. 134, Bush worked with Congress on a new $3,400 federal tax credit for consumers that purchased HEVs; even larger credits were provided for alternative-fuel vehicles. Separately, President Bush approved the U.S. Department of Energy's plan for increased R&D for PHEVs; R&D funding for hydrogen was given much higher priority than BEVs. Bush saw HEVs and PHEVs as possible bridge technologies to a hydrogen future. Graham, *supra* note 3, at 89 (the $3,500 credit for HEV purchasers), 90 (PHEV and hydrogen R&D and the FreedomCAR initiative).

114. For an insightful history of the ZEV program, including how and when CARB allowed and then eliminated credits for HEVs, see Virginia McConnell et al., Resources for the Future, California's Evolving Zero Emission Vehicle Program: Pulling New Technology Into the Market 6-10 (2019), https://media.rff.org/documents/RFF_WP_Californias_Evolving_Zero_Emission_Vehicle_Program.pdf.

115. Graham, *supra* note 3, at 126-27 (CARB staff were buoyed by the spillover of the LIB from consumer electronics to automotive, by the Silicon Valley startup Tesla, the rollout of the Nissan LEAF and the Chevrolet Volt in 2010, and the rumblings that China was getting serious about PEVs).

116. We were also concerned that, since most auto-related plants and workers were based in the Midwest, California might not take their welfare into account when designing ZEV regulations. And Bush was enthusiastic about the expansion of biofuels, which could be threatened by electrification. On Bush's policies to expand biofuel use in the transportation sector, see Graham, *supra* note 107, at 149-60.

117. DOT & U.S. EPA, Fact Sheet: EPCA Preemption, https://www.nhtsa.gov/sites/nhtsa.gov/files/documents/fact_sheet_-_epca_preemption_final_clean_080218_v1-tag.pdf.

118. Press Release, White House, President George W. Bush, Fact Sheet: CAFE Reform for Passenger Cars (Apr. 28, 2006), https://georgewbush-whitehouse.archives.gov/news/releases/2006/04/20060428-9.html; *see also* Graham, *supra* note 46, at 300-01.

119. Energy Independence and Security Act of 2007, 42 U.S.C. ch. 152.

120. Center for Biological Diversity v. National Highway Traffic Safety Admin., 538 F.3d 1172, 1203 (9th Cir. 2008). The Ninth Circuit issued the 2008 opinion after vacating and withdrawing its prior opinion, 508 F.3d 508, issued on Nov. 15, 2007.

121. These two rulemakings are rightly seen as the first federal rulemakings to address climate change, where reduced greenhouse gases were a primary objective of regulators. John D. Graham, Obama on the Home Front: Domestic Policy Triumphs and Setbacks 225-26 (2016) (how Obama's NHTSA built on the Bush-era rulemakings and legislative authority).

rule.[122] The industry abandoned plans to appeal those rulings when Obama was elected president, the financial crisis deepened, and GM and Chrysler sought relief from the Obama Administration to escape bankruptcy.[123]

EPCA does not preempt other federal motor vehicle standards; indeed, it authorizes NHTSA to account for them.[124] The Supreme Court's 2007 decision upholding EPA's climate authority also called for coordination of the multiple regulatory programs of motor vehicles.[125] While the Court's holding was not about federal preemption, its reasoning implies that fuel economy standards and emissions standards can be consistent or compatible. Thus, according to the reasoning of those district courts and *Massachusetts v. Environmental Protection Agency*, California's EV mandate is arguably equivalent to a federal rule that needs to be coordinated with other federal rules when setting maximum fuel economy standards; if it were simply a state rule, it would be vulnerable to preemption under EPCA.[126]

Based on this judicial setback for the Bush Administration, I found it somewhat ironic—almost 20 years later—to read California's recent lawsuit where it emphasizes that CARB is simply a state agency that issues state rules. Can California have it both ways? Can it avoid federal preemption under EPCA by arguing that the CAA transforms its 2004 CO_2 standard into a federal rule, but then avoid disapproval under the CRA by arguing that its 2022 EV mandate under the CAA is a state rule, not a federal rule?[127] The same word often has a different meaning in different statutory contexts, but the possible tension here was not addressed in either the GAO opinion or the California complaint.

Is it possible that California's EV mandate is a federal rule under the CAA but not a federal rule covered by the CRA? Yes, but I doubt it. We may never know the answer to this question because the courts may never consider the merits of the issue (given the preclusion of judicial review in the CRA). Nonetheless, let us suppose the courts do get involved.

California's ZEV requirements have the general applicability specified under the CRA, because they apply to all automakers doing business in the state of California. A ZEV requirement is not an adjudicatory order involving a historical question about the behavior of a single company; it is a rule of general applicability for the future. Nor is it a rule with only particular applicability. Once EPA issues its waiver under the CAA, the other 49 states are entitled to adopt the California ZEV rule without an additional EPA waiver or any review by EPA or CARB. Section 177 of the CAA broadens the potential applicability of CARB's rule. Seventeen states have already adopted California's standards, and they account for almost 40% of new vehicle sales.[128] This is a highly unusual power for any state agency, and CARB is widely seen to be at least as powerful as EPA.[129]

Prof. Daniel Farber has questioned whether the federalization process under the CAA causes the EPA waiver to be covered by the CRA. He characterizes the decisions of other states to adopt CARB's rule as a consequence of the CAA that is not relevant to whether the EPA waiver itself

122. See discussion on *Green Mountain Chrysler Plymouth Dodge Jeep v. Crombie*, 508 F. Supp. 2d 295, 346, 347 (D. Vt. 2007), *supra* note 106. And in *Central Valley Chrysler-Jeep, Inc. v. Goldstene*, 529 F. Supp. 2d 1151, 1189 (E.D. Cal. 2007): "The court expresses no disagreement with the *Green Mountain* court's conclusion that California regulations that are granted waiver of preemption under section 209 of the Clean Air Act become laws of the federal government not subject to preemption."

123. Some lawyers in the Bush Administration were disappointed when industry dropped the lawsuit against CARB because they felt that the legal reasoning of the two federal district courts was flawed. A federal appeals court has not yet ruled on the EPCA preemption issue relative to either California's CO_2 standards or ZEV requirements.

124. 49 U.S.C. §32902(f).

125. Massachusetts v. Environmental Prot. Agency, 549 U.S. 497 (2007) ("The two obligations may overlap, but there is no reason to think the two agencies cannot both administer their obligations and yet avoid inconsistency.").

126. *Green Mountain*, 508 F. Supp. 2d at 347:

> Thus, in 1975 when EPCA was passed, Congress unequivocally stated that federal standards included EPA-approved California emissions standards. §502(d)(3)(D)* [sic]. In 1994, when EPCA was recodified, all reference to the modification process applicable for model years 1978 through 1980, including the categories of federal standards, was omitted as executed. However, the 1994 reeodification [sic] was intended to "revise[ ], codi[fy], and enact[ ]" the law "without substantive change." Pub. L. No. 103-272, 108 Stat. 745, 745 (1994); *see also* H.R. Rep. No. 103-180, at 1 (1994), *reprinted in* 1994 U.S.C.C.A.N. 818, 818; S. Rep. No. 103-265, at 1 (1994). If the recodification worked no substantive change in the law, then the term "other motor vehicle standards of the Government" continues to include both emission standards issued by EPA and emission standards for which EPA has issued a waiver under Section 209(b) of the CAA, as it did when enacted in 1975.

Id. at 398:

> Having reviewed the legislative history of the CAA and EPCA for evidence of Congress's intent, the Court concluded that Congress intended California emissions standards for which EPA granted a waiver pursuant to Section 209(b) of the CAA to constitute "other motor vehicle standards of the Government," under Section 502 of EPCA.

127. *Id.* at 344 ("Defendants argue that once EPA issues California a waiver for its regulations the California and Vermont regulations effectively have the force of federal regulations and are not susceptible to federal preemption."); *Central Valley Chrysler-Jeep*, 529 F. Supp. 2d at 1165 ("Defendants take the opposite position and ask the court to reconsider its order holding that a state law that is granted waiver of preemption under the Clean Air Act does not become 'federalized' and therefore immune from preemption.").

128. A few of the 17 have refrained from including the ZEV mandate or have recently delayed enforcement of the ZEV mandate due to its impracticality. The governor of Maryland has declined to enforce the ZEV mandate for model years 2026 and 2027. Christine Condon & Bryan P. Sears, *Moore Issues Executive Order That Could Delay EV Sales Penalties*, Md. Matters (Apr. 4, 2025), https://marylandmatters.org/2025/04/04/moore-planning-executive-order-delaying-ev-sales-penalties/; Maryland Exec. Order No. 01.01.2025.10, Ensuring Success With Advanced Clean Cars II and Advanced Clean Trucks in Maryland (Apr. 4, 2025), https://governor.maryland.gov/Lists/ExecutiveOrders/Attachments/83/EO%2001.01.2025.10%20Ensuring%20Success%20with%20Advanced%20Clean%20Cars%20II%20and%20Advanced%20Clean%20Trucks%20in%20Maryland_Accessible.pdf.

129. CARB is not simply another state regulatory agency. It is one of the most powerful regulatory bodies in the world due to the size of the California car market, the unusual preemption provision in the CAA, and EPA's tendency to defer to CARB in the waiver process. Graham, *supra* note 3, at 114 (2021). Prof. Ann Carlson, in her theory of "iterative federalism," has gone so far as to describe CARB, in its role in the auto sector, as a "super regulator." Ann E. Carlson, *Iterative Federalism and Climate Change*, 4 J. Scholarly Persps. 3, 6 (2008) (CARB as a "super regulator" under the CAA's unusual preemption provision).

is covered by the CRA.[130] Farber also noted that CARB is a state agency (the CRA covers only federal agencies), and CARB rules are enforced only in state courts.

Farber's arguments are sensible but may not carry the day. The preemption language in the CAA makes federal enforcement unnecessary, since compliance with California's standard is sufficient to comply with related federal standards.[131] CARB is a state agency with respect to most of its programmatic activities but, since CARB and its EV rule have federal status under the unusual CAA preemption provision, CARB also acts as a federal agency.[132] The transformational aspect of the EPA waiver process should not be underestimated: the waiver relaxes federal preemption under the CAA, allows CARB to enforce against automaker noncompliance with the ZEV mandate, allows other states to join California, and insulates CARB from federal preemption under EPCA as if it were an EPA rule.[133]

Strictly speaking, Congress has so far disapproved only the EPA waiver, not CARB's EV mandate. With the EPA waiver disapproved, California and the 17 allied states must abide by EPA standards unless CARB obtains EPA approval of a revised rule. Suppose a court were to overturn the CRA disapproval on the grounds that the CRA does not cover the EPA waiver. Would Congress be forced to redo the votes on CRA disapproval, targeting the California EV mandate directly instead of the EPA waiver? In theory, yes, but my guess is that a court would refrain from such a ruling because it might be seen as micromanagement of Congress.

In other words, since the combination of the CARB mandate and the EPA waiver can reasonably be seen as a federal rule under the CRA, disapproving either the EPA waiver or the EV mandate has the same effect. An advantage of this interpretation is that a court need not upset EPA's historical view—and GAO's view—that the EPA waiver, by itself, is an adjudicatory order, yet the court can still conclude that the combination of the EPA waiver and the CARB rule are covered by the CRA.

III. Options for California's Policy Response to the CRA Disapproval

CARB is already exploring alternative policy instruments to promote PEVs.[134] Conceptually, the state can focus on pro-PEV demand-side policies, defined as those that encourage consumers to purchase and use PEVs, and/or supply-side policies, defined as those that require or induce automakers to offer PEVs, or both. In general, I argue that demand-side policies at the state level are unlikely to be vulnerable to disapproval under the CRA or preemption under the CAA or EPCA. Supply-side policies at the state level run into greater risk of federal resistance and preemption.

I begin by exploring the more challenging policy option, a supply-side requirement of automakers under the CAA that is not substantially the same as the ZEV mandate. Then, I consider a potent demand-side, tax reform package that draws on a successful experience in Norway.

A. *Revising the ZEV Program to Address Concerns and Sidestep the CRA*

A common view is that the CRA disapproval delivers "a substantial blow to California's EV leadership."[135] I believe the practical effect of the CRA disapproval is more modest: it forces CARB to do what the agency would have done (reluctantly and belatedly) anyway: surgery on an unrealistic rule. Since its adoption in 1990, the ZEV program has been amended numerous times as deadlines approached because CARB was overly optimistic about the promise of battery and electric motor technology.[136] CARB can and should consider amending it again.

130. Daniel Farber, *The Congressional Review Act and the California Emissions Waiver: A Deeper Dive*, Yale J. on Regul.: Notice & Comment (Mar. 11, 2025), https://www.yalejreg.com/nc/the-congressional-review-act-and-the-california-emissions-waiver-a-deeper-dive-by-daniel-farber/.

131. Once EPA grants the waiver, compliance with the California standard shall be treated as compliance with the applicable federal standard. 42 U.S.C. §7543(b)(3).

132. According to the *Green Mountain* court, 508 F. Supp. 2d at 398:

> Having reviewed the legislative history of the CAA and EPCA for evidence of Congress's intent, the Court concluded that Congress intended California emissions standards for which EPA granted a waiver pursuant to Section 209(b) of the CAA to constitute "other motor vehicle standards of the Government," under Section 502 of EPCA. Such a finding is entirely consistent with the language of the statutes, the House and Senate reports that accompanied the legislation, and NHTSA's practice of taking California standards into consideration when setting CAFE standards. Because this case involves potential conflict between "federal" provisions, preemption analysis does not apply.

133. The court in *Central Valley Chrysler-Jeep* was originally skeptical of California's claim that the EPA waiver "federalizes" CARB's standard. Later, after the Supreme Court ruled in *Massachusetts v. Environmental Protection Agency*, the court in *Central Valley Chrysler-Jeep, Inc. v. Goldstene*, 529 F. Supp. 2d 1151, 1173 (E.D. Cal. 2007), moved much more closely to the *Green Mountain* court's position:

> In sum, when a California regulation is granted waiver of preemption pursuant to section 209 of the Clean Air Act, the California regulation assumes three attributes. First, the California regulation becomes available for adoption by any other state, subject only to the identically and lead-time requirements. Second, compliance with the California regulation or standard is deemed "compliance with applicable Federal standards for purposes of [Sub-chapter II—Emissions Standards for Moving Sources]." 42 U.S.C. §7543(b)(3). Third, as discussed in *Green Mountain*, the California regulation or standard becomes an "other motor vehicle standard!] of the government" that affects fuel economy and that the Secretary of Transportation must consider in formulating maximum feasible average fuel economy standards under EPCA. 49 U.S.C. §32902(f). *Green Mountain*, 508 F. Supp. 2d at 347; Doc. #533 at 115.

The court in *Central Valley Chrysler-Jeep*, 529 F. Supp. 2d at 1189, concludes:

> The court expresses no disagreement with the *Green Mountain* court's conclusion that California regulations that are granted waiver of preemption under section 209 of the Clean Air Act become laws of the federal government not subject to preemption. The court has offered here an alternative analysis that avoids the issue of "federalization" in the hope of adding a measure of clarity to the discussion.

134. Alex Nieves, *California Regulator Eyes Replacement for EV Rules Revoked by Trump*, E&E News (July 10, 2025), https://subscriber.politicopro.com/article/eenews/2025/07/10/carb-chair-lays-out-options-for-replacing-ev-rules-revoked-by-trump-ee-00442999.

135. Lazo & Reyes-Velarde, *supra* note 44 (opening paragraph of article).

136. For a description of CARB's revisions to the ZEV program over the first 30 years, see McConnell et al., *supra* note 114, at 6-16; *see also* Graham, *supra* note 3, at 116-26, especially 124-25 ("Setbacks for the ZEV Program").

CARB may fear language in the CRA that precludes, after disapproval, agency adoption of a rule that is "substantially the same" as the disapproved rule. Such fear is somewhat justified because the phrase has never been interpreted in a court decision. However, this restriction on CARB may not be relevant since a major revamp of the ZEV program is needed anyway. To begin with, the rule's compliance metric needs to account for life-cycle emissions, which is state-of-the-art science, not simply emissions from the vehicle's onboard source of power.[137] BEVs cause pollution through multiple pathways that CARB's metric ignores.

First, since a BEV is heavier than a comparably sized gasoline vehicle (due to its large battery pack), it will have greater particle emissions from tire wear than a gasoline vehicle.[138] Second, there are emissions that occur when a PEV and its components are manufactured (including each step in the supply chain). The mining and processing of the materials used in LIBs are energy-intensive, which leads to substantial emissions.[139] Third, when a BEV accesses the electrical grid, it triggers additional emissions at the electric power station unless the source of electric power is zero emission. Those indirect emissions can be quite large, especially in regions where fossil fuels are used intensively.[140] CARB should revise the rule to compare different propulsion systems based on their life-cycle emissions and offer credits for automakers in proportion to how much life-cycle emissions are reduced.

There are practical issues with the life-cycle metric. Consumers typically do not have any choice over the fuel sources used by their electricity supplier. A vehicle may be purchased at a different location from where most of its miles are driven and where its battery is charged from the grid. And automakers will likely resist responsibility for life-cycle emissions, even though they are already taking determined steps to understand their supply chains and give priority to more sustainable suppliers.[141] In design of the life-cycle metric, CARB should not let perfection be the enemy of the good; a simple step toward life-cycle analysis, using statewide or national averages, would be better than pretending that BEVs have zero emissions.

In addition, the current ZEV requirements offer compliance credit only for PEVs (PHEVs and BEVs), but there should be no bias against a vehicle that reduces emissions without plug-in capability. HEVs, which rely on regenerative braking and utilization of the electric motor for their improved fuel efficiency, are making a significant contribution to climate change mitigation, and they do so partly because they do not access the electrical grid, which remains heavily dependent on fossil fuel combustion.[142] Even in California, which has emphasized renewables, natural gas remains a primary source of power generation.[143] HEVs are a cost-effective climate change mitigation technology, especially when analyzed from a life-cycle perspective.[144]

Toyota is not the only manufacturer selling HEVs; Ford, Honda, and Hyundai/Kia also have vibrant hybrid offerings.[145] Other manufacturers, including Nissan and

137. Emiliano Pipitone et al., *A Life Cycle Environmental Impact Comparison Between Traditional, Hybrid, and Electric Vehicles in the European Context*, 13 Sustainability 10992 (2021), https://doi.org/10.3390/su131910992 (explaining why a life-cycle perspective is crucial when comparing environmental impacts of automotive propulsion systems).

138. *Tyres Not Tailpipe*, Emissions Analytics (Jan. 29, 2020), https://www.emissionsanalytics.com/news/2020/1/28/tyres-not-tailpipe; *see also* Emissions Analytics, *Gaining Traction, Losing Tread Pollution From Tire Wear Now 1,850 Times Worse Than Exhaust Emissions*, https://www.emissionsanalytics.com/news/gaining-traction-losing-tread (last visited July 14, 2025) (BEVs have tire-related particle emissions approximately 400 times greater than comparable gasoline vehicles with operational particle controls).

139. Atieh Fahimi Bandpey et al., *Greenhouse Gas Impact Related to Minerals Mining and Processing*, 130 Procedia CIRP 1001 (2024) (comprehensive examination of greenhouse gases from mining and processing of minerals, finding that those emissions are greatest for EV batteries compared to other renewable energy technologies).

140. U.S. Department of Energy Alternative Fuels Data Center, *Emissions From Electric Vehicles*, https://afdc.energy.gov/vehicles/electric-emissions (last visited July 14, 2025) (the life-cycle emissions of BEVs depend strongly on how clean the source of electricity is; presents average state-by-state estimates (2022) of how much EVs reduce life-cycle greenhouse emissions compared to HEVs and gasoline vehicles; California appears cleaner than the national average). California's electricity looks cleaner than the U.S. average in standard statistics, but the picture is complicated because California imports 25% of its electricity from neighboring states where fossil fuels are widely used. Jacques A. de Chalendar et al., *Tracking Emissions in the U.S. Electricity System*, 116 PNAS 25497 (2019), https://doi.org/10.1073/pnas.1912950116 ("Electricity transfers are especially important in the western United States and can be responsible for more than 20 to 40% of emissions. . . . In a number of regions, a large fraction of pollutant-intensive electricity is exported[.]"). And indirect emissions from BEV use depend on when during the day an owner decides to plug in. Joshua S. Graff Zivin et al., *Spatial and Temporal Heterogeneity of Marginal Emissions: Implications for Electric Cars and Other Electricity-Shifting Policies*, 107(pt. A) J. Econ. Behav. & Org. 248 (2014) (electricity emissions from EVs can be worse than average statistics suggest because of the time of day when BEV owners charge and the sources of electricity used at that time of the day).

141. Chloe Williment, *How GM Is Driving Sustainable Battery Technology?*, Sustainability Mag. (Apr. 15, 2025), https://sustainabilitymag.com/articles/how-gm-is-driving-sustainable-battery-technology (how GM plans to source sustainable batteries in North America); Jasmine Young, *Sustainable Sourcing for Electric Vehicle Batteries*, Battery Style (Feb. 20, 2023), https://www.batterystyle.com/sustainable-sourcing-electric-vehicle-batteries/ (the battery industry itself is moving toward circular and sustainable sourcing of raw materials and components); KPMG, Sustainable Batteries (2023), https://kpmg.com/kpmg-us/content/dam/kpmg/pdf/2024/whitepaper-automotive-sustainable-batteries.pdf (guidance for automakers on how to source sustainable batteries for EVs).

142. Energy Information Administration, *Electricity Explained: Electricity in the United States*, https://www.eia.gov/energyexplained/electricity/electricity-in-the-us.php (last updated Mar. 26, 2024) (in 2023, 60% of electric power in the United States was generated from fossil fuels).

143. GridInfo, *Summary of Electricity Activity in California*, https://www.gridinfo.com/california (last visited July 14, 2025) (natural gas ranks #2 behind solar in California's current sources of electricity production).

144. Sarah Kennedy, *Toyota Still Thinks Hybrids Are Actually Much, Much Cleaner Than EVs*, MotorBiscuit (June 23, 2025), https://www.motorbiscuit.com/toyota-still-thinks-hybrids-cleaner-evs/ (Toyota's modeling shows that HEVs are cleaner than BEVs on a life-cycle basis in areas that rely heavily on fossil fuels). If batteries or battery materials are in short supply, more CO_2 reduction is accomplished by using those batteries in HEVs than in BEVs. John D. Graham & Wallace R. Wade, *Reducing Greenhouse Emissions From Light-Duty Vehicles: Supply-Chain and Cost-Effectiveness Analyses Suggest a Near-Term Role for Hybrids*, 5 SAE Int'l J. Sustainable Transp. Energy Env't & Pol'y 151 (2023), https://doi.org/10.4271/13-05-02-0011; Pipitone et al., *supra* note 137 (from an environmental perspective, HEVs are competitive with BEVs from a life-cycle perspective); Wallace Wade, *Efficiency and Emissions of Electric and Hydrogen Light- and Heavy-Duty Vehicles*, 5 SAE Int'l J. Sustainable Transp. Energy Env't & Pol'y 213 (2024), https://doi.org/10.4271/13-05-02-0015 (in California, life-cycle analysis shows HEVs, such as the Toyota Prius, are competitive with BEVs in life-cycle CO_2 emissions).

145. Winston Davis, *Top 10 Hybrid Car Brands (Hybrid Cars, SUVs, Trucks)*, Ride + Drive, https://rideplusdrive.com/hybrid-car-manufacturers/ (last

Subaru, have announced plans to offer new HEVs. Consumer demand for PEVs continues to rise but consumer demand for HEVs, which have improved with sustained innovation,[146] is growing more explosively.[147] A larger number of HEVs are now sold nationally than PEVs; even in California, where the public charging network is better developed than in most states, the rate of increase in HEV sales has outstripped the rate of increase in PEV sales.[148] Given the recent slump in Tesla sales and the new HEVs about to be offered,[149] even California may soon find HEV sales outnumbering PEV sales. Thus, even without any CRA disapproval, CARB regulators would have been forced to respond to the market developments such as insufficient consumer demand for PEVs, innovation in HEVs, and consumer preferences for HEVs, each factors that the agency did not anticipate.

Finally, the program should be flexible enough to accommodate innovation in low-carbon fuels. As designed for 2035, the ZEV program bans any liquid fuel in an internal combustion engine unless it produces zero emissions during vehicle operation. Since some low-carbon fuels may have relatively low emissions in their supply chains, it may be acceptable—from a life-cycle perspective—to have small amounts of emissions during vehicle operation.[150]

California can make a strong case that the revised rule outlined here is not substantially the same as the disapproved rule. Virtually the only feature that would be the same is the environmental rationale for the rule. All other features would be different: the compliance metric, the technologies allowed, and the deadlines for compliance. To avoid duplicative regulation, the state could also eliminate its separate CO_2 standards since the rationale for keeping them and the revised rule is questionable.

The revised rule would require a new EPA waiver under the CAA, which means the three waiver criteria in the CAA come into play: the rule must not be arbitrary and capricious, it must be more stringent than the EPA rule(s), and it must respond to "compelling and extraordinary" conditions in the state.

If the rule has realistic compliance deadlines and is supported by a benefit-cost analysis that meets the guidelines in OMB Circular A-4, it is unlikely to be "arbitrary and capricious."[151] Since the rule will likely be more stringent than the federal CO_2 standard (which the Trump Administration plans to repeal after the 2009 endangerment finding is rescinded),[152] the revised rule will be more protective than federal requirements. Making the case that the rule responds to compelling and extraordinary conditions in the state is not as straightforward as it might seem at first blush.

The local and regional air quality rationales for a revised rule are not as strong as they were in 1990, when the ZEV requirements were established. The tailpipe emissions that contribute to smog and fine particulate matter ($PM_{2.5}$)—especially NO_x and HCs—have been reduced dramatically (99%) by fuel injection, the three-way catalytic converter, sensors that control the air-fuel mixture in the engine, and California's special requirements on refiners for fuel composition.[153] Air concentrations of smog and $PM_{2.5}$ in Los Angeles have declined substantially in recent decades.[154]

Nonetheless, California cities continue to have compliance difficulties with EPA's national ambient air quality standards. Much of the residual emissions are from stationary sources, older vehicles with dysfunctional catalytic converters,[155] and the diesel-powered heavy-duty truck sec-

visited July 14, 2025) (top HEV manufacturers are Toyota, Honda, Ford, Hyundai-Kia).

146. Aaron Isenstadt & Peter Slowik, *Hybrid Vehicle Technology Developments and Opportunities in the 2025-2035 Time Frame* 7 (International Council on Clean Transportation (ICCT), Working Paper, 2025) (examining the history of CO_2 emissions from strong HEVs shows how HEVs have consistently improved, based on 12 HEV models available in 2024 with one or more previous generations).
147. Monica Abboud, *U.S. Share of Electric and Hybrid Vehicle Sales Reached a Record in the Third Quarter*, Energy Info. Admin. (Dec. 4, 2024), https://www.eia.gov/todayinenergy/detail.php?id=63904.
148. Press Release, California New Car Dealers Association, CNCDA Files Lawsuit Against Volkswagen and Scout Motors for Violation of California Franchise Laws (Apr. 22, 2025), https://www.cncda.org/news/category/auto-outlook/ ("California's hybrid market is soaring. Hybrids now hold 17.9 percent of the market share, coming closer than ever to reaching the state's ZEV numbers.").
149. Tim Levin, *A Whole Bunch of Hybrids Are Coming Soon: Report*, Inside EVs (June 9, 2025), https://insideevs.com/news/762172/hybrids-evs-car-wars-report/ (Bank of America survey shows automakers planning 58 hybrid offerings over the next few years).
150. R&D programs in industry are exploring liquid fuels that will be much cleaner than current liquid motor fuels. Sebastian Blanco, *Porsche Working on Synthetic Fuel to Make ICE Cars as Clean as EVs*, Car & Driver (Feb. 23, 2021), https://www.caranddriver.com/news/a35577611/porsche-synthetic-efuel-clean-emissions-testing/ (sustainable liquid fuel made from hydrogen); Tuhin K. Poddar et al., *Life Cycle Analysis of Fischer-Tropsch Diesel Produced by Tri-Reforming and Fischer-Tropsch Synthesis (TriFTS) of Landfill Gas*, 57 Env't Sci. & Tech. 19602 (2023) (sustainable diesel fuel made from landfill gas); U.S. Department of Energy, *Poet-DSM: Project Liberty*, https://www.energy.gov/eere/bioenergy/poet-dsm-project-liberty (last visited July 14, 2025) (demonstration of cellulosic ethanol as a motor fuel where the ethanol is made from corn stover, not the corn).
151. Over the past 30+ years, the federal courts have read a substantive benefit-cost test into the APA's "arbitrary and capricious" provision unless the agency's statute expressly precludes benefit-cost balancing. Describing this trend, Prof. Cass Sunstein coined the phrase "cost-benefit state." Cass R. Sunstein, The Cost-Benefit State: The Future of Regulatory Protection (2002), https://archive.org/details/costbenefitstate0000suns. For a review of judicial decisions that reinforced cost-benefit balancing under the APA, see Paul R. Noe & John D. Graham, *The Ascendency of the Cost-Benefit State?*, 5 Admin. L. Rev. ACCORD 85 (2020).
152. Jack Fitzgerald, *Trump's EPA Dismantles Biden-Era Emissions Standards*, Car & Driver (Mar. 13, 2025), https://www.caranddriver.com/news/a64174155/trumps-epa-dismantles-biden-era-emissions-standards/ (Trump EPA plans to scrap Biden-era emission standards for vehicles).
153. Ann Carlson, *The Trump Administration's Assault on California's Global Climate Leadership*, 112 AJIL Unbound 269 (2018), https://doi.org/10.1017/aju.2018.75 ("The combination of California and federal regulations imposed in the 1970s led to the development of a three-way catalytic converter that has made cars 99 percent cleaner than their counterparts in the 1960s."). For a more in-depth analysis of the operation of the state-federal partnership in motor vehicle emissions control, see National Research Council, State and Federal Standards for Motor Vehicle Emissions (2006).
154. Caleigh Wells, *Hotter, More Humid, but Cleaner: How LA's Air Has Changed*, KCRW (Sept. 29, 2022), https://www.kcrw.com/news/shows/greater-la/air-change-dodgers/rising-temperatures-humidity-less-pollution (California's South Coast Air Quality Management District estimates that ozone levels are half today what they were in the 1950s).
155. Compared with ambient and on-road emissions, the standard CARB emissions model underpredicts 2018 gasoline vehicle NO_x emission factors by more than a factor of 2.6. Contributing to these differences is that vehicles

tor.[156] To its credit, California has adopted catalytic converter laws that require replacement converters to meet CARB standards, which should further reduce emissions from older vehicles.[157]

EPA and California are also strengthening their tailpipe emissions standards for specific pollutants that contribute to smog and $PM_{2.5}$ (e.g., Europe requires automakers to install gasoline particle filters that reduce by 90+% the number of fine particles in the exhaust stream; cars in California and the United States will soon have those gasoline filters).[158] The additional regulatory progress against conventional air pollution weakens, but does not eliminate, the air quality rationale for an EV mandate. Cities in California remain in the top 10 of U.S. cities in terms of both smog and particulate matter, though light-duty vehicles play a larger role in smog formation than in particle pollution.[159]

Scientifically, a revised rule can also be based on global climate change, since the catalytic converter does not control CO_2 emissions and the transportation sector in California is the single largest source of CO_2 in the state's economy.[160] The impacts of global climate change—ranging from more extreme weather patterns to melting of the polar ice caps—are obviously "compelling," even though California's action makes a meaningful dent on the problem only if other states and countries follow their lead.[161] However, California needs to analyze carefully whether the revised rule satisfies the "extraordinary" conditions test in EPA's waiver authority.

CO_2 is a pollutant that mixes globally in the atmosphere; a ton of CO_2 emitted in California is no different than a ton of CO_2 emitted anywhere in the nation or the world.[162] California accounts for a tiny—and declining—share of global CO_2 emissions.[163] This makes the global greenhouse effect fundamentally different from the local and regional air quality problems that gave rise to the ZEV program in 1990.[164]

California can argue that the impacts of climate change are extraordinary because the state has the country's largest population, the largest economy, and the largest (in absolute terms) impoverished population. Poor families will find it especially difficult to adapt to climate change.[165] On the other hand, the climate change impacts, normalized for population size, are not necessarily larger in California than in other states, as people in many states experience special effects of climate change.[166]

For example, the long coastline in California likely exposes the state to expensive adaptation costs, but other states also have substantial coastlines (e.g., Alaska, Florida, Louisiana, Maine, North Carolina, Texas, and Virginia).[167] The snowpack in California's mountains is a key source of surface water and groundwater in the state, and rising temperatures from climate change will cause a decline in snowpack by more than one-third by 2050 and more than half by 2100, even if precipitation levels remain stable.[168] A comparison of water-source vulnerability in California to the vulnerability in other states may provide a plausible case for a determination of extraordinary impacts. The recent wildfires in California were extraordinary, and

older than model year 2006 have NO_x emission deterioration rates that are up to 4 times higher on-road than predicted by CARB's model. Gary A. Bishop, *Does California's EMFAC2017 Vehicle Emissions Model Underpredict California Light-Duty Gasoline Vehicle NO_x Emissions?*, 71 J. Air & Waste Mgmt. Ass'n 597 (2021), https://doi.org/10.1080/10962247.2020.1869121.

156. CARB, *Heavy-Duty Omnibus Regulation Fact Sheet*, https://ww2.arb.ca.gov/our-work/programs/heavy-duty-low-nox/heavy-duty-omnibus-regulation-fact-sheet (last visited July 14, 2025) (on-road heavy-duty trucks are the single largest source of NO_x emissions in California's 2023 NO_x Emissions Inventory; light-duty passenger vehicles are 7%). But in urban areas with high concentrations of people and cars, emissions from light-duty passenger vehicles play a relatively larger role. Libby H. Koolik et al., *$PM_{2.5}$ Exposure Disparities Persist Despite Strict Vehicle Emissions Controls in California*, 10 Sci. Advances eadn8544 (2024), https://doi.org/10.1126/sciadv.adn8544.

157. Do It by Law, *California Catalytic Converter Law: What You Need to Know*, https://doitbylaw.com/california-catalytic-converter-law/ (last updated Jan. 8, 2024).

158. Xiangxiao Kong et al., *Particle Size-Dependent Filtration Efficiency and Pressure Drop of Gasoline Particle Filters With Varying Washcoat Volumes*, 7 Emission Control Sci. & Tech. 105 (2021), https://doi.org/10.1007/s40825-021-00193-3 (gasoline particle filters, which are used in Europe but not in the United States, are highly effective in reducing the number of particles emitted from passenger vehicle tailpipes). EPA's proposed new standards will phase in (2027 through 2030) more stringent particulate matter limits, starting with light-duty vehicles in model year 2027 (reducing from the final Tier 3 standard of 3 milligrams per mile (mg/mi) down to 0.5 mg/mi). To meet these stricter standards, automakers are expected to widely adopt gasoline particulate filters on gasoline vehicles with internal combustion engines. *US EPA Finalizes Multi-Pollutant Emissions Standards for MY 2027 Light-Duty Vehicles*, DieselNet (Mar. 20, 2024), https://dieselnet.com/news/2024/03epa.php.

159. American Lung Association, *Most Polluted Cities*, https://www.lung.org/research/sota/city-rankings/most-polluted-cities (last visited Aug. 1, 2025).

160. California Energy Commission, *Transforming Transportation*, https://www.energy.ca.gov/about/core-responsibility-fact-sheets/transforming-transportation (last visited July 14, 2025) (transportation accounts for 50% of the state's greenhouse gas emissions).

161. Office of Environmental Health Hazard Assessment, California Environmental Protection Agency, Indicators of Climate Change in California (2018), https://oehha.ca.gov/sites/default/files/media/downloads/climate-change/report/2018caindicatorsreportmay2018.pdf (analyzing the indicators of climate change such as extreme heat events; impacts on physical systems such as snowmelt runoff and coastal ocean temperature; impacts on biological systems including vegetation, wildlife, and humans).

162. 73 Fed. Reg. 12156, 12160, 12168 (Mar. 6, 2008).

163. The United States accounts for less than 15% of global carbon emissions, and California accounts for about 6.2% of the U.S. total. Within California, transportation emissions account for roughly 39% of emissions, with light-duty passenger vehicles accounting for the majority of those emissions. CARB, *Current California GHG Emission Inventory Data*, https://ww2.arb.ca.gov/ghg-inventory-data (last visited Aug. 1, 2025).

164. Collantes & Sperling, *supra* note 52 (the motivation for the ZEV program had nothing to do with climate change; it was all about local and regional air quality problems in the cities of California, especially Los Angeles). A shift in the program rationale to emphasize climate change mitigation began in 2009-2011. *See* Graham, *supra* note 3, at 167-68 (explaining why the state shifted to a climate rationale, without abandoning completely the air quality rationale).

165. U.S. EPA, Climate Change and Social Vulnerability in the United States: A Focus on Six Impacts (2021) (EPA 430-R-21-003) (for low-income families and communities, the challenge of adaptation to climate change is especially large).

166. William R. Montalvo, *Cracks on the Wall: Why States Should Be Allowed to Lead on Climate Change*, 21 Fordham Env't L. Rev. 383, 393-95 (2010) (emphasizing the special effects of climate change in New York, Florida, and Louisiana).

167. Lisa Medeiros, *U.S. States With the Longest Coastlines*, WorldAtlas (Sept. 8, 2020), https://www.worldatlas.com/articles/us-states-by-length-of-coastline.html (ranking the states according to the length of coastlines).

168. State of California, *Summary of Projected Climate Change Impacts on California*, https://climateresilience.ca.gov/overview/impacts.html (last visited July 14, 2025).

thus the state could make the case that they are related to climate change. Finally, California could argue that the higher temperatures due to climate change will aggravate adverse health effects due to the state's relatively poor local and regional air quality.[169]

A vulnerability in this regulatory response is that the revised rule could be overturned due to EPCA's 50-state preemption provision. A renewed CARB interest in deployment of HEVs could be seen as being "related to" federal fuel economy standards.[170] Fortunately, the revised rule is quite different from a fuel economy standard, which does not account for life-cycle pollutant emissions. Ultimately, to avoid EPCA preemption, the state will need to rely on the same federal-transformation argument that allowed California's 2004 climate rule to avoid EPCA preemption.

The Trump EPA would likely decline CARB's request for a preemption waiver under the CAA, given Trump's general positioning on these issues. But Trump does not get the final word. CARB can sue the Trump EPA in federal court and—given how the burden of proof is structured in the CAA and the legal history of EPA waiver decisions—California stands a substantial chance of winning, especially in the D.C. Circuit where CAA cases are generally heard.

As this Article goes to press, the Trump EPA proposed to rescind the 2009 endangerment finding that underpins all of EPA's regulatory authority related to CO_2 emissions.[171] Even if that rule is finalized and survives judicial review (a questionable assumption), CARB can still move forward with the revised rule outlined here by basing it solely on the need for further control of conventional air pollutants related to smog and particle formation.

B. *Tax Reforms to Promote PEVs: The Norwegian Approach*

Although California was a pioneer of command-and-control regulation in the 1960s, modern regulatory reformers prefer the use of more innovative policy instruments (e.g., information and incentives) whenever possible, in part because they minimize the use of coercion.[172] Indeed, California has innovated with a cap-and-trade program for stationary sources of greenhouse gases, but its motor vehicle programs have relied on command and control. Norway, a country of five million people and harsh winters that are not ideal for PEV use, has demonstrated that widespread PEV deployment can be accomplished without a command-and-control regulation.

In 2024, 88.9% of new passenger vehicles sold in Norway were BEVs compared to about a 1% BEV share 15 years ago (2010).[173] California also started at less than 1% in 2010 but surpassed only 25% in 2024, even though the California data include PHEVs as well as BEVs.[174] There is nothing special about the BEVs sold in Norway, as Norway does not have any homegrown automakers. Norwegian consumers, like California consumers, are purchasing PEVs from global producers such as Tesla, Volvo, Volkswagen, Toyota, Hyundai/Kia, Nissan, and BMW.[175]

How did Norway succeed? The humble truth is that the achievement did not result from a systematic, ex ante policy analysis or a detailed long-term plan; it was a "learning by doing" process with some adjustments made over the 2010-2025 period.[176] Nonetheless, with the benefit of hindsight, there is much California can learn from Norway's experience.[177]

Norway did not rely on subsidies from the European Union (EU). Indeed, long ago, Norway, one of the most prosperous countries in Europe, declined full membership in the EU in favor of a limited affiliate status.[178] Nor did Norway adopt a ZEV mandate covering automakers doing business in Norway. It was crucial not to ban petrol and diesel cars: "That would have made people angry. People don't like to be told what to do," says Christina Bu, head of the Norwegian EV Association.[179] Norway's achievement was attributable to powerful incentive-based policies that encouraged consumers to purchase PEVs and discouraged them from purchasing gasoline- and diesel-powered vehicles.

1. PEV Exemption From the Value-Added Tax

Norway exempted sales of PEVs from the country's sales tax (technically a 25% value-added tax (VAT)). The exemption began in 2001, but global automakers did not begin

169. Beatriz Cardenas et al., *What Happens When Extreme Heat and Air Pollution Collide?*, World Res. Inst.: Insights (Sept. 10, 2024), https://www.wri.org/insights/extreme-heat-air-pollution.

170. CARB took this path previously and lost in federal district court to the industry's EPCA preemption argument. Central Valley Chrysler-Plymouth v. Kenny, No. CIV F-02-05017 REC SMS (E.D. Cal. June 11, 2002).

171. Press Release, U.S. EPA, EPA Releases Proposal to Rescind Obama-Era Endangerment Finding, Regulations That Paved the Way for Electric Vehicle Mandates (July 29, 2025), https://www.epa.gov/newsreleases/epa-releases-proposal-rescind-obama-era-endangerment-finding-regulations-paved-way.

172. Graham, *supra* note 46, at 22-23 (California was a pioneer of traditional command-and-control regulation, but regulatory reformers have suggested alternative policy instruments that rely more on information and incentives and less on coercion of regulatees).

173. Nerijus Adomaitis, *In Norway, Nearly All New Cars Sold in 2024 Were Fully Electric*, Reuters (Jan. 2, 2025), https://www.reuters.com/business/autos-transportation/norway-nearly-all-new-cars-sold-2024-were-fully-electric-2025-01-02/ (in 2024, 88.9% of new car sales in Norway were all-electric).

174. California New Car Dealers Association, *supra* note 7.

175. Carla Westerheide, *New EV Record in Norway*, Electrive (Oct. 1, 2024), https://www.electrive.com/2024/10/01/new-ev-record-in-norway-2/ (leading sellers of PEVs in Norway in September 2024 were Tesla, Volvo, Toyota, Volkswagen, Nissan, BMW, Hyundai/Kia).

176. Erik Figenbaum, *An Empirical Study of the Policy Processes Behind Norway's BEV-Olution*, 15 World Elec. Vehicle J. 37 (2024), https://doi.org/10.3390/wevj15020037 (Norway's success is testimony to learning by doing).

177. For a more complete description of Norway's transition to PEVs, see Graham, *supra* note 3, at 397-403.

178. Isak Ladegaard, *Why Norwegians Never Wanted EU Membership*, Sciencenorway.no (Aug. 21, 2012), https://www.sciencenorway.no/democracy-european-union-forskningno/why-norwegians-never-wanted-eu-membership/1375602 (referenda to join the EU were defeated by a majority of Norway's voters in 1972 and 1994, as opponents guarded the country's sovereignty).

179. Adomaitis, *supra* note 173 (quoting Christina Bu).

offering modern PEVs until 2010. (The exemption was amended in 2023, so it now applies only to PEVs priced under $50,000.) Thus, from 2001 to 2023, the consumer of an $80,000 gasoline vehicle paid about the same amount of money as a $100,000 PEV.

2. Vehicle Registration Fees Adjusted for CO_2 Emissions

In 2007, Norway adopted a tax on the CO_2 emissions from newly registered passenger vehicles.[180] Similar to the CO_2 tax in other European countries, Norway's tax ensures that purchasers of gasoline- and diesel-powered cars pay for some of the pollution that their car-purchasing decisions create.[181] Owners of BEVs did not pay any CO_2 tax. A more sophisticated version of the tax could account for life-cycle emissions from different vehicle propulsion systems.

3. Conversion to Feebate Structure

In 2009, Norway's registration tax was modified to a structure with consumer subsidies for low-emitting vehicles coupled with consumer fees for high-emitting vehicles. This is called a "feebate."[182] Although the government of Norway lost money (net) on its feebates, the system can be designed to be revenue-neutral or it can even be designed to address a government's need for additional revenue.[183]

4. Norway's PEVs Are Cheaper to Buy Than Gasoline Vehicles

The combination of these tax reforms has caused Norway's consumers to pay much less for PEVs than gasoline- or diesel-powered vehicles at the time of purchase. For example, in 2017, a Volkswagen e-Golf retailed in Norway for $26,381; the conventional Golf cost $29,830, a savings at purchase of roughly $3,600. The Tesla Model S retailed for $63,840; the Audi A-7, a popular premium model in Norway, cost $69,730, a savings of roughly $5,900.

In the United States, the price premiums work against BEVs: consumers typically pay $5,000 to $10,000 more than they do for a gasoline vehicle. Although the prices of BEVs are gradually declining, nobody knows, without tax reforms, exactly how long it will take (if ever) for a BEV to be priced significantly less than a comparable gasoline vehicle.[184]

5. Consumer Savings in Energy Costs

In Norway, additional financial savings occur after the consumer purchases the BEV. The reasons relate primarily to energy prices. Norway's taxes on automotive fuels such as diesel and gasoline are quite high: in May 2025, the average price of gasoline in Norway was $7.58 per gallon—most of the price reflects taxation.[185] The fuel tax in Norway includes a separable CO_2 tax that is around one-third or one-quarter of the other components of the taxes on liquid fuel.[186]

In contrast, the average gasoline price in the United States in May 2025 was $3.50 per gallon; California had the second-highest average price among the 50 U.S. states at $4.48 per gallon. California's excise tax on gasoline ($0.68 per gallon) is the largest among the 50 states, 3.72 times larger than the federal gasoline tax ($0.18 per gallon).[187] So, California has moved in the right direction on fuel taxation to encourage PEVs, but not nearly as far as Norway moved.

6. Norway's Low Electricity Prices

Electricity was once so cheap that most people did not keep track of the rate they were paying. Now, with rising electricity prices, the anticipated future price of electricity is a salient consideration for a PEV purchaser.

Norway's commitment to affordable electricity helped set the stage for its consumer-led transition to PEVs.[188] With an electricity system dominated by hydropower, Norway has an inexpensive source of renewable power with relatively low rates of maintenance and repair costs at power facilities.

In March 2025, the average household price of electricity in Norway was $0.15 per kilowatt hour (kWh); the U.S. average was $0.18 per kWh.[189] The California average

180. Gunnar S. Eskeland & Shiyu Yan, *The Norwegian CO_2-Differentiated Motor Vehicle Registration Tax: An Extended Cost-Benefit Analysis* (Organisation for Economic Co-operation and Development, Environment Working Paper No. 178, 2021), https://doi.org/10.1787/ee108c96-en.

181. European Automobile Manufacturers Association, CO_2-Based Motor Vehicle Taxes in the European Union (2020), https://www.acea.auto/files/CO2-based_motor_vehicle_taxes_European_Union_2020.pdf (listing European countries and a description of their CO_2 taxes on vehicle acquisition and use).

182. The term "feebate" was apparently coined in the 1970s by former California Energy Commissioner Arthur Rosenthal. For an in-depth introduction to feebate systems, see Natalie Mims & Heidi Hauenstein, Rocky Mountain Institute, Feebates: A Legislative Option to Encourage Continuous Improvements in Automobile Efficiency (2008), https://rmi.org/insight/feebates-a-legislative-option-to-encourage-continuous-improvements-to-automobile-efficiency/.

183. Kenneth C. Johnson, *Feebates: An Effective Regulatory Instrument for Cost-Constrained Environmental Policy*, 34 Energy Pol'y 3965 (2006).

184. Sina Orangi et al., *Historical and Prospective Lithium-Ion Battery Cost Trajectories From a Bottom-Up Production Modeling Perspective*, 76 J. Energy Storage 109800 (2024) (updated forecasts of battery price decline suggest that BEVs may be less expensive than gasoline-powered vehicles around 2030).

185. Erica Sandberg, *A Look at Gas Prices Around the World*, US News & World Rep. (June 18, 2025), https://money.usnews.com/money/personal-finance/spending/articles/a-look-at-gas-prices-around-the-world (Norway has the 10th highest gas prices in the word, at $7.578 per gallon).

186. Eskeland & Yan, *supra* note 180 (the carbon tax component of the fuel tax is about one-fourth to one-third of the other components).

187. Dave Focareta, *Fuel Taxes by State 2025*, ConsumerAffs. (May 7, 2024), https://www.consumeraffairs.com/automotive/fuel-taxes-by-state.html (California gas tax at $0.681/gallon, highest in the country; federal tax at $0.184/gallon).

188. Norway also socializes the costs of charging infrastructure, but California has also taken steps in that direction through the electricity-pricing policies of the California Energy Commission.

189. Statista, *Household Electricity Prices Worldwide in March 2025, by Country*, https://www.statista.com/statistics/263492/electricity-prices-in-selected-countries/ (last visited July 14, 2025).

was $0.31 per kWh.[190] California's electricity prices have increased significantly in recent years, faster than the U.S. average, a trend that is expected to continue through at least 2026.[191]

The comparison of trends in gasoline and electricity prices becomes important as the market expands beyond the enthusiastic early PEV adopters to ordinary retail car buyers and fleet buyers. The energy costs of a PEV in the United States will be anywhere from 50% to 80% lower than the energy costs for gasoline vehicles, depending on the state's gasoline and electricity prices.[192] But this assumes that motorists can charge their BEVs at home, where electricity is cheapest, and that electricity prices do not increase. Thus, one of the most important, tangible, private benefits of a BEV—lower energy costs—diminishes if electricity prices rise faster than gasoline prices and if motorists (e.g., those without a dedicated garage) must rely on public charging stations that price electricity as much as three times more than residential electricity.[193]

C. Lessons for California

It is not feasible for California to replicate the entire Norwegian experience. California does not have a VAT for vehicle purchases, so it cannot rescind it for PEV purchasers. But it does have a 7.5% sales tax on new vehicle purchases; an exemption from that tax would save a consumer approximately $4,500 on the purchase of a $60,000 electric vehicle.

Nor can California meet most of its power needs with hydropower. The state has reduced dependence on coal, natural gas, and nuclear power by expanding wind, solar, geothermal, and hydropower (some of it imported from states in the Pacific Northwest).[194] California has innovated by expanding energy storage capacity, which makes intermittent renewable sources of energy (solar and wind) more reliable in meeting the state's daily needs for power.[195]

However, the demand for power is surging due to new artificial intelligence data centers, while wind and solar developers need more long-range transmission lines to bring cheap renewable power to the market. California must find ways to restrain the growth in its electricity prices (e.g., through permitting reform for transmission lines and subsidies for the capital costs of nuclear power, which has relatively low operation and maintenance costs). Without affordable electricity, it will become more difficult to persuade the remaining 75% of consumers in California to shift from gasoline cars to PEVs.

There is, however, much California can do through tax reform to sustain its leadership in PEV deployment, without using a variant of the command-and-control ZEV mandate. For each reform below, I comment on whether it requires an EPA waiver, may be vulnerable to CRA disapproval, or may be vulnerable to federal preemption under EPCA.

1. California Should Consider Adopting a Feebate System That Provides Rebates for PEVs/HEVs and Charges Fees for Gasoline and Diesel-Powered Vehicles

The ideal carbon tax is applied throughout the entire global economy.[196] It is not restricted to a specific sector (transportation). Nor is it applied only to the purchase of the vehicle; the daily use of older and new vehicles is included. Since the ideal carbon tax is not yet politically feasible, analysts have explored alternative incentives. A feebate, which is based on fuel consumption or CO_2 emissions, is a promising alternative in the transportation sector.[197]

In a feebate system based on vehicle fuel economy, consumers that purchase high-mileage vehicles receive a rebate while consumers of low-mileage vehicles pay a fee. The "pivot point" is the vehicle in the middle of the mileage ratings, which receives no rebate and pays no fee.[198] The size of the fees and rebates is proportional to vehicle fuel efficiency. Both the rebates and fees would need to be sub-

190. *Electricity Prices in California: What You Need to Know in 2025*, EcoFlow (July 4, 2025), https://www.ecoflow.com/us/blog/california-electricity-prices-tips (using Energy Information Administration data).

191. Owen Comstock, *U.S. Electricity Prices Continue Steady Increase*, Energy Info. Admin. (May 14, 2025), https://www.eia.gov/todayinenergy/detail.php?id=65284 (forecasting faster increase in electricity prices in the Pacific Coast region); Greg Iacurci, *Why Electricity Prices Are Surging for U.S. Households*, CNBC (June 21, 2025), https://www.cnbc.com/2025/06/21/why-electricity-prices-are-surging-for-us-households.html (comparing recent trends in average electricity prices in the United States to specific regions of the United States).

192. Graham, *supra* note 3, at 37-39.

193. Greg Sowder, *Is It Cheaper to Charge an EV at Home or in Public?*, Qmerit (Oct. 27, 2023), https://qmerit.com/blog/comparing-long-term-cost-analysis-of-ev-home-charging-vs-public-charging/.

194. Here is how California obtained its electricity in 2023: natural gas, 37%; solar, 17%; hydro, 13%; wind, 11%; nuclear, 9%; geothermal, 5%; other, 4%; and coal and geothermal, each 2%. All of California's nuclear energy is produced by a single nuclear plant named the Diablo Canyon Power Plant, which is operated by Pacific Gas & Electric Company. This single plant produces 9% of the energy for the entire state, but it is currently scheduled to be retired in a few years. Adam Gentry, *3 Charts Showing Where California's Energy Really Comes From*, CPI (Mar. 5, 2025), https://www.thinkcpi.com/insights/california-energy-sources.

195. For more on California's innovative path to decarbonization, see Mark Golden, *All Eyes on California to Figure Out Energy Decarbonization, Economic Growth, and Fairness*, Stan. Univ. Precourt Inst. for Energy (Feb. 2, 2024), https://energy.stanford.edu/news/all-eyes-california-figure-out-energy-decarbonization-economic-growth-and-fairness (emphasizing how California is leading on energy storage technology to make intermittent renewables more reliable).

196. The classic case for a global carbon tax, recognized with a Nobel Prize in Economics, was made by William Nordhaus, A Question of Balance: Weighing the Options on Global Warming Policies (2008).

197. David L. Greene et al., *Feebates, Rebates, and Gas-Guzzler Taxes: A Study of Incentives for Increased Fuel Economy*, 33 Energy Pol'y 757 (2005), https://doi.org/10.1016/j.enpol.2003.10.003.

198. On best practices in the design of feebate systems, see John German & Dan Meszler, ICCT, Best Practices for Feebate Program Design and Implementation (2010), https://theicct.org/wp-content/uploads/2021/06/ICCT_feebates_may2010.pdf.

stantial, to approximate the powerful PEV incentive that Norway provided to consumers.

A variant of the feebate system operates within each vehicle size class (e.g., all small SUVs are compared based on fuel economy; rebates and fees are allocated among the small SUVs).[199] Without an adjustment for size class, the feebate tends to penalize consumers who purchase larger vehicles (e.g., households with large numbers of children or a construction worker who needs a pickup truck to haul material) and reward single people who purchase a mini-car.

A feebate system would require legislation from the California State Legislature. In 1990, a feebate was proposed in California (the DRIVE+ system) and passed by the legislature, but vetoed by the governor.[200] Lack of adoption was not necessarily due to public opposition, as evidence suggests that California residents might support feebates.[201] CARB financed a simulation study to determine the effectiveness of feebates; the study found that a specific feebate system would encourage low-emitting vehicles, more so HEVs than PEVs.[202] California instead adopted consumer rebates for PEVs (HEVs were excluded), without any fees.

Specifically, California once had the Clean Vehicle Rebate Project (CVRP) that offered purchase incentives—most recently $2,000 for a BEV and $1,000 for a PHEV (2023)—for consumers. From fiscal year 2009-2010 (when the rebates began) to fiscal year 2023-2024, the state expended $1.4 billion on rebates (not including more than $90 million for program administration and outreach).[203] The program was regressive because most people who purchase BEVs (especially Tesla products) have very high incomes; most low-income consumers buy used cars, not new cars.[204]

The CVRP faced chronic funding problems because it did not have an adequate, dedicated funding source to meet the consumer demand for rebates; when the project ran out of money in the middle of a fiscal year, qualified consumers were placed on a waiting list until more funds became available. The size of the awards was not large enough to make a powerful difference in a consumer's purchasing decision, as the average transactions price for a new PEV in 2024 was almost $55,554.[205]

The CVRP was terminated in 2023 and replaced with a smaller program, Clean Cars 4 All, aimed at encouraging lower-income households to replace their old gasoline cars with BEVs or PHEVs.[206] The focus on low-income households is more equitable, as California has a substantial rate of poverty (12.0% in 2024, only slightly less than the national average of 12.3%).[207] Whether this new program is the most compelling way to help lower-income households is open to question.

To encourage PEV deployment in the new vehicle market, California came to rely primarily on the $7,500 federal tax credit for qualified PEVs.[208] Since the credit was launched in 2009, consumers in California have been primary beneficiaries of the credit, as the state has been Tesla's largest source of customers in the United States and Tesla has dominated the U.S. market for PEVs.[209]

Although California is entitled to access available federal subsidies, the federal tax credit policy was controversial and contributed to the politicization of the EV issue. Why should taxpayers outside of California subsidize California consumers to purchase a PEV? While California has a poverty problem, it is not a poor state. The cost of living in California is high (primarily due to elevated housing costs), but it ranks #4 among the 50 states in gross domestic product (GDP) per capita,[210] #7 in median household income,[211] and #7 in concentration of millionaires.[212] In short, some might argue that California should pay for its own PEV subsidies, an outcome that is now forced on California

199. Kenneth Gillingham, *The Economics of Fuel Economy Standards Versus Feebates* 10 (National Energy Policy Institute, Working Paper, 2013) (The feebate policy need not have a single rate and single pivot point. In fact, much like CAFE standards, the feebate policy could have a separate pivot point for each fleet and even a separate rate for each fleet. One of the downsides of a size-based feebate is that it could encourage automakers to upsize vehicles.).
200. *See generally* Leo Levenson & Deobrah Gordon, *DRIVE+: Promoting Cleaner and More Fuel Efficient Motor Vehicles Through a Self-Financing System of State Sales Tax Incentives*, 9 J. Pol'y Analysis & Mgmt. 409 (1990).
201. For analysis of public perception of feebates in California, see Elliot Martin et al., *Evaluating the Public Perception of a Feebate Policy in California Through the Estimation and Cross-Validation of an Ordinal Regression Model*, 33 Transp. Pol'y 144 (2014), https://doi.org/10.1016/J.TRANPOL.2014.01.016.
202. Changzheng Liu et al., *Feebates and Fuel Economy Standards: Impacts on Fuel Use in Light-Duty Vehicles and Greenhouse Gas Emissions*, 2252 Transp. Rsch. Rec. 23 (2011), https://doi.org/10.3141/2252-04.
203. CVRP, *FAQs*, https://cleanvehiclerebate.org/en/faqs (last visited July 14, 2025).
204. Arthur L. Ku & John D. Graham, *Is California's Electric Vehicle Rebate Regressive? A Distributional Analysis*, 13 J. Benefit-Cost Analysis 1 (2022), https://doi:10.1017/bca.2022.2 (the income levels of PEV purchasers are so high that the California rebates, even after the income caps were imposed, were regressive).
205. Sean Tucker, *Average New Car Price Flirting With Record*, Kelley Blue Book (Jan. 15, 2025), https://www.kbb.com/car-news/average-new-car-price-flirting-with-record/ (average transactions price for new passenger vehicles in December 2024 was $49,740; average EV price was $55,544).
206. CARB, *Clean Cars 4 All*, https://ww2.arb.ca.gov/our-work/programs/clean-cars-4-all (last visited July 14, 2025).
207. California is 23rd out of 50 states in its rate of poverty (12.0% in 2023; U.S. average is 12.3%). Wikipedia, *List of U.S. States and Territories by Poverty Rate*, https://en.wikipedia.org/wiki/List_of_U.S._states_and_territories_by_poverty_rate (last updated July 7, 2025).
208. Chris Butsch, *California EV Incentives, Tax Credits, and Rebates*, ConsumerAffs. (May 7, 2025), https://www.consumeraffairs.com/automotive/california-ev-incentives.html (consumer-facing guidance on how a California consumer can obtain an EV incentive; now that most state incentives have dried up, the federal tax credit is the best option).
209. A majority of BEVs sold in the United States since 2009 have been Tesla products, and Tesla sales in California (until recently, when Elon Musk became unpopular) have dominated California's BEV market. Kristin Toussaint, *Tesla Once Made Up a Majority of EV Sales in California—Now It's Less Than Half*, Fast Co. (Apr. 18, 2025), https://www.fastcompany.com/91319627/tesla-once-made-up-a-majority-of-ev-sales-in-california-now-its-less-than-half (Tesla share of the California EV market: 2022, 71%; 2023, 60%; first quarter 2024, 55.5%; and first quarter 2025, 43.9%).
210. In 2025, California ranks fourth highest among the 50 states in GDP per capita (just over $104,000/person). World Population Review, *Richest States 2025*, https://worldpopulationreview.com/state-rankings/richest-states-in-usa (last visited July 14, 2025).
211. In 2025, California ranks seventh highest in median household income ($78,672). *Id.*
212. California ranks third highest according to a cost-of-living index, which is driven almost entirely by high housing costs (2025). World Population Review, *Cost of Living Index by State 2025*, https://worldpopulationreview.com/state-rankings/cost-of-living-index-by-state (last visited July 14, 2025).

since the Trump Administration and Congress rescinded the $7,500 credit in July 2025.[213]

Governor Newsom pledged to reinstate the CVRP if Trump and Congress rescinded the $7,500 tax credit.[214] A superior solution would be a new feebate system, as the fees provide a dedicated source of funding for the rebates, and both the fees and rebates could be much larger than the CVRP rebates and therefore produce a larger effect on PEV deployment.

A feebate system would not require an EPA waiver, because the CAA provides EPA no statutory authority over state taxation of vehicle purchases or state vehicle registration systems. Since feebates are a fiscal instrument, not a federal rule under the APA, they would not be vulnerable to disapproval under the CRA.

History suggests that the federal government might assert EPCA preemption of state feebates, although a federal court has never ruled on the validity of this assertion. In the early 1990s, several states considered legislation to adopt feebates. The only bill to pass was in the state of Maryland in 1991.[215] However, in the face of a NHTSA preemption threat, Maryland decided not to implement the feebate and the authorization in Maryland was later repealed. Other states considering feebates were also deterred by NHTSA's claim of EPCA preemption.[216]

The case that EPCA preempts supply-side policies is stronger than the case that it preempts demand-side policies. Examples of demand-side policies include public information and education about PEVs, financial incentives for purchasing PEVs, nonfinancial incentives for purchasing PEVs (e.g., HOV lane access and preferred inner-city parking arrangements), higher state and local gasoline taxes, provision of free or reduced-price electricity at public charging stations, waiver of registration or driver licensing fees for PEV purchasers, subsidies for the buildout of public charging networks, and tax breaks to defray the costs of home chargers. For the past decade, the §177 states (plus California) have been meeting regularly and sharing information on the effectiveness of alternative demand-side policies to promote PEVs.[217] I could not find a single court decision where a demand-side policy to promote PEVs (e.g., a higher gasoline tax or a PEV rebate) was nullified based on EPCA preemption.[218]

A feebate, if implemented at the point of sale or vehicle registration, is another example of a demand-side policy. Applying a rebate at the point of registration, which occurs annually in most states, might be a more effective incentive than applying it only at the point of sale. California already collects registration fees for vehicles, so the feebate system could be embedded in that process. A feebate applied at registration is also more transparent to the consumer than a feebate that is applied to vehicle manufacturers.

Demand-side policies to promote PEVs are less vulnerable to EPCA preemption than supply-side policies for two reasons. One relates to the plain wording of EPCA; the other relates to provisions in the Energy Policy Act of 1992, which was enacted after EPCA and after the Maryland experience.[219]

The preemption language in EPCA does not encompass any state and local law related to "fuel economy" generally; it refers to "fuel-economy standards." The latter is a term of art in NHTSA's CAFE program; it refers to a specific supply-side policy, regulation of vehicle manufacturers based on the miles per gallon of their new vehicle fleet. Congress was understandably concerned that vehicle manufacturers might confront a conflicting array of supply-side regulations in different states.

Second, in the Energy Policy Act of 1992, Congress required the U.S. Department of Energy, in consultation with DOT, to establish a state and local incentive program for alternative-fueled vehicles (AFVs), including PEVs.[220] Under this program, the governor of each state was encouraged to submit a plan designed to result in scheduled progress toward the goal of introducing substantial numbers of AFVs by the year 2000.[221] Although the Act was not effective in achieving its goal,[222] its language suggests that the intent of Congress was to encourage—not prohibit—state

213. Greg Iacurci, *Trump Megabill Axes $7,500 EV Tax Credit After September*, CNBC (July 1, 2025), https://www.cnbc.com/2025/07/01/trump-big-beautiful-bill-axes-7500-ev-tax-credit-after-september.html.

214. Karah Rucker, *Gavin Newsom's EV Tax Break Would Exclude Tesla, Musk Responds*, SAN (Nov. 26, 2024), https://san.com/cc/gavin-newsoms-ev-tax-break-would-exclude-tesla-musk-responds/.

215. NHTSA (during the George H.W. Bush Administration) issued an official letter to the governor of Maryland asserting federal preemption based on EPCA, arguing that "feebates" are laws "related to fuel economy." The Maryland attorney general, in its official response to NHTSA, argued that a feebate would not be preempted by EPCA if the state legislature amended the bill to remove the state's additions to the federal consumer label (EPCA forbids state modification of the federal fuel economy label). Therese Langer, American Council for an Energy-Efficient Economy, Vehicle Efficiency Incentives: An Update on Feebates for States 1, 14 (2005) (Report. No. T051), https://www.aceee.org/sites/default/files/pdfs/t051.pdf.

216. *Id.* (the Maryland experience with feebates); *see also* Memorandum from Steve Bernow, Tellus Institute, to RI GHG Stakeholder Committee, Program Design Features for Feebate Initiative: Survey of Existing Feebate Programs (Nov. 25, 2002), http://righg.raabassociates.org/Articles/Tellus_FeebateMemo_Nov25.doc (the experience of each state that has considered feebate legislation, including the legal issues in Maryland, and the position of the Maryland attorney general).

217. ZEV Program Implementation Task Force, Multi-State ZEV Action Plan (2014), https://www.nescaum.org/documents/multi-state-zev-action-plan.pdf; Josh D. Boone & Dylan McDowell, *States Can Lead the Charge on Electric Vehicle Policy*, Nat'l Caucus Env't Legislators (Apr. 23, 2025), https://ncelenviro.org/articles/states-can-lead-the-charge-on-electric-vehicle-policy/.

218. Of course, it is not obvious who would be motivated to sue to block a demand-side policy.

219. 42 U.S.C. §13201.

220. State plans were required to consider numerous policy options, including (1) tax exemptions; (2) state procurement of AFVs; (3) special parking; (4) programs of public education; (5) treatment of fuel sales; (6) methods to provide recharging at public locations; (7) allowing public utilities to include in rates the cost of vehicles and charging infrastructure; and (8) any other programs and incentives as the state may describe. *Id.* §13235 (2020).

221. *Id.* §13235(a)(2).

222. Eight years after adoption, an investigation by GAO found that the 1992 Energy Policy Act was not highly effective in promoting deployment of AFVs. The major barriers to effectiveness were the low price of gasoline, the lack of refueling stations for AFVs, and the high purchase costs of AFVs. GAO, GAO/RCED-00-51, Energy Policy Act of 1992: Limited Progress in Acquiring Alternative Fuel Vehicles and Reaching Fuel Goals (2000) (the state incentive programs for AFVs did not accomplish a large increase in AFV deployment; analyzes reasons for failure).

and local governments from adopting demand-side policies to promote AFVs, including PEVs.[223]

To further minimize the risk of EPCA preemption, California should design the feebate so that it is a net source of revenue for the state, which will allow the state to argue that the program is not a closet fuel economy regulation[224]; it is a genuine fiscal instrument that helps the state balance its budget.[225] Given that California faced a $27-$45 billion budget deficit in fiscal year 2025-2026, the additional revenue from feebates would help the state's fiscal condition.[226] The feebates should be phased in gradually over the next five years, allowing time for consumers and producers to adjust to them.

Whether a feebate is applied to consumers or automakers may not matter from an economic perspective, as the same results may occur[227]; to minimize risks of EPCA preemption, it may be best to apply them at point of vehicle registration, a traditional state function. In addition, California would be wise to use the federal architecture related to fuel economy (e.g., the federal measurement of fuel economy, the federal labels for consumers, the federal vehicle classifications, and the federal size categories ("footprints") that have different fuel economy requirements).

2. California Should Consider Replacing Liquid Fuel Taxes With Mileage Fees, Including a Fee Adjustment Based on Vehicle Fuel Economy

As more motorists switch to HEVs and PEVs, gasoline taxes lose their revenue-raising capability.[228] However, roads still need to be built and repaired. The state of Oregon is a pioneer of a promising fuel-tax replacement: a road user fee called a mileage fee, a tax on vehicle miles traveled (VMT). There are different ways for a state to implement a VMT tax ranging from new, tamper-proof monitoring technology in the vehicle to photographs of the odometer reading submitted to the state motor vehicle registry.

California is taking a constructive step forward with a small 2025-2026 pilot project of mileage fees.[229] The six-month pilot will include around 800 volunteers randomly split into two groups. One will be charged a flat rate of 2.8 cents per mile, which the state describes as a "revenue-neutral rate" (i.e., brings in the same amount of money as the current gas tax). The other group will be taxed based on their vehicle's fuel efficiency: the tax rate decreases as vehicle fuel efficiency increases.[230] The fuel-efficiency adjustment of the fee has the same effect as an adjustment based on the vehicle's CO_2 emissions. If large enough, the fuel economy adjustment would provide a strong incentive for motorists to purchase an HEV or PEV.

Once the California pilot project is finished and evaluated, state leaders will need to decide whether to replace current fuel taxes with the mileage tax. There is evidence that a mileage tax would receive more public support than a higher gasoline tax.[231]

When PEVs capture more than 50% of the market in California, the lower mileage tax for PEVs will need to be gradually phased out because there won't be enough gasoline vehicles to provide the revenues needed for road repairs and other purposes. By then, the prices of PEVs should have declined significantly and a tipping effect may occur in consumer preferences for PEVs.

A state mileage fee does not require an EPA waiver under the CAA because EPA has no authority over state fiscal instruments. Nor is a state mileage fee a federal rule under the CRA. The risk of EPCA preemption for state mileage taxes is more remote than it is for feebates because the fee applies to all motorists on the road, not simply purchasers of new vehicles. The EPCA preemption provision refers to conflict with fuel economy standards, which apply only to new vehicles.

Adoption of a mileage fee will not be an easy vote for elected officials. Indeed, in the first year of the Obama Administration (2009), the Secretary of Transportation made a moderate statement that a mileage fee is worth looking into, since the federal gasoline tax is losing its revenue-raising capability. Soon after this public statement, the Obama White House issued a clarifying statement that the White House would not be supporting a mileage fee.[232]

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223. Greg Dotson, *State Authority to Regulate Mobile Source Greenhouse Gas Emissions, Part 2: A Legislative and Statutory History Assessment*, 32 Geo. Env't L. Rev. 625, 647-50 (2020) (Energy Policy Act of 1992 encourages states to promote AFVs such as PEVs, casting doubt on the expansive notion that EPCA was intended to prohibit policies to encourage PEVs by state and local governments).

224. There are plausible conditions under which a fuel economy standard and a feebate are equivalent. Gillingham, *supra* note 199, at 15-18.

225. One study found that a revenue-increasing feebate is better for overall public welfare than a revenue-neutral or revenue-declining feebate. Adamos Adamou et al., *Welfare Implications of Car Feebates: A Simulation Analysis*, 124 Econ. J. F420 (2014), https://doi.org/10.1111/ecoj.12094.

226. Trân Nguyen, *California Has a Multibillion-Dollar Budget Deficit. Here's What You Need to Know*, AP News (May 10, 2024), https://apnews.com/article/california-budget-deficit-18ff9c1ec885ec5bc69e790a836d9bdd (California revenues have fallen for second consecutive year; facing inflation and an unusual slowdown in the state's information technology industry; forecasted deficit of $27-$45 billion); Nicole Nixon et al., *Newsom, Lawmakers Lean on Reserve Funds and Medi-Cal Premiums in Final Budget Plan*, Sacramento Bee (June 24, 2025), https://www.sacbee.com/news/politics-government/capitol-alert/article309306170.html (California covers $12 billion deficit by dipping into reserve funds and other measures).

227. Gillingham, *supra* note 199, at 13-15 (according to economic theory, it does not matter whether the feebate is applied to the consumer or the manufacturer).

228. Ulrik Boesen, *Who Will Pay for the Roads?*, Tax Found. (Aug. 25, 2020), https://taxfoundation.org/research/all/federal/road-funding-vehicle-miles-traveled-tax/ (revenue-raising capability of gasoline tax eroded due to improved vehicle fuel efficiency and other factors).

229. S.B. 339, Vehicles: Road Usage Charge Pilot Program, 2021-2022 Leg. Sess. (Cal. 2021), https://leginfo.legislature.ca.gov/faces/billCompareClient.xhtml?bill_id=202120220SB339&showamends=false.

230. BrieAnna J. Frank, *California Program Testing Per-Mile Tax Rates on Drivers, but Not 30 Cents—Fact Check*, USA Today (June 7, 2024), https://www.usatoday.com/story/news/factcheck/2024/06/07/california-tax-per-mile-pilot-program-fact-check/74001992007/.

231. For the case that a VMT tax is more efficient, more progressive, and less unpopular than higher gasoline taxes, see Ashley Langer et al., *From Gallons to Miles: A Disaggregate Analysis of Automobile Travel and Externality Taxes*, 152 J. Pub. Econ. 34 (2017), http://dx.doi.org/10.1016/j.jpubeco.2017.05.003.

232. Kara Yates, *Transportation Agency: Obama Will Not Pursue a Mileage Tax*, CNN (Feb. 20, 2009), https://www.cnn.com/2009/POLITICS/02/20/driving.tax/.

Public acceptance of a new mileage fee is a major challenge.[233] While any new tax is potentially unpopular, a mileage fee raises a host of concerns: Will the state try to adopt it as a supplement to—rather than replacement for—the gasoline tax? Will some motorists cheat to avoid paying the fee? Will the state violate the privacy of motorists by collecting data on where they travel as well as how much they travel?

There are a variety of refinements to the design of a mileage fee that can minimize adverse public reaction.[234] Research suggests that a new mileage fee is more acceptable to the public than raising gasoline taxes.[235] However, it is telling that no state, including Oregon, has yet adopted a mandatory, universal mileage fee. Nonetheless, if California decides to replace the gasoline tax with a mileage fee, the fee could be adjusted based on the fuel efficiency of the vehicle to accelerate deployment of PEVs and HEVs.

IV. Conclusion

Congress enacted a joint resolution of disapproval to nullify EPA's waiver of California's EV mandate, and President Trump signed the resolution of disapproval into law. Although California has sued the federal government for abusing its CRA authority, California faces an uphill battle in the courts to win its lawsuit. Based on my experience as OIRA Administrator in the George W. Bush Administration, I uncover an intriguing tension between California's contemporary argument against CRA disapproval of its 2022 ZEV mandate and its argument 20 years ago against preemption of its 2004 climate rule under EPCA.

In 2007, California persuaded two federal district courts that the EPA waiver transformed its 2004 climate rule from a state rule into a federal rule under the CAA, thereby insulating it from EPCA preemption. Now, California is arguing the CRA does not apply to EPA's waiver for its 2022 EV mandate because the mandate, even though activated by an EPA waiver, is a state rule issued by a state agency and therefore not covered by the CRA. In my opinion, courts are likely to view California's EV mandate as a federal rule under the CAA, which increases its vulnerability to rescission under the CRA.

However, this Article argues that the CRA disapproval of California's EV mandate is not a crippling blow to California's leadership position in PEV deployment. To the contrary, the CRA disapproval, if upheld in the courts, will force CARB to do what it might have done (reluctantly and belatedly) anyway: reconsider an unrealistic rule that is not based on sound science, engineering, and economics. While it is feasible for CARB to propose a promising revised rule that is not substantially the same as the disapproved rule, a better path forward may be for California to adopt a tax reform package—possibly based on the success in Norway—to ensure that the state accomplishes a high level of PEV deployment.

233. Denvil Duncan et al., *The Road Mileage User-Fee: Level, Intensity, and Predictors of Public Support*, 53 Transp. Pol'y 70 (2017); Denvil Duncan et al., *Demand for Benefit Taxation: Evidence From Public Opinion on Road Financing*, 34 Pub. Budgeting & Fin. 120 (2014).

234. Denvil Duncan et al., *Bumpy Designs: Impact of Privacy and Technology Costs on Support for Road Mileage User Fees*, 63 Nat'l Tax J. 505 (2014).

235. Langer et al., *supra* note 231.