California Light-Duty Motor Vehicle Emission Control Timeline

1950s

1955

Los Angeles County Motor Vehicle Pollution Control lab began within the Los Angeles APCD.

1959

California legislation required Dept. of Public Health to establish air quality standards for motor vehicle emissions.

Governor Pat Brown in office.

1960s

1960

Motor Vehicle Pollution Control Board established to test and certify devices for installation on cars for sale in California.

1961

Positive crankcase ventilation, or PCV, the first auto emissions control technology in the nation, was mandated by the California Motor Vehicle State Bureau of Air Sanitation.

1963

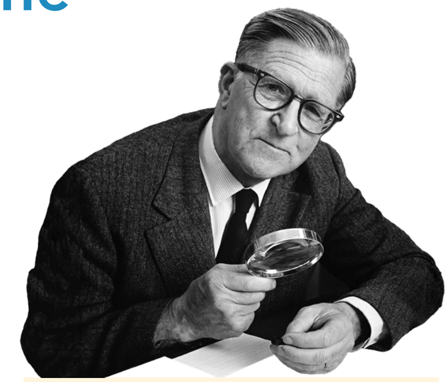
Positive crankcase ventilation (PCV) went into effect on domestic passenger cars for sale in California.

1964

California's Motor Vehicle Pollution Control Board approved Chrysler's exhaust control system; four other independent companies also received approvals.

1965

Federal Clean Air Act of 1963 was amended by the Motor Vehicle Pollution Control Act of 1965; direct air quality regulation by the federal government is provided for, including establishment of auto emission standards by the Dept. of Health, Education and Welfare.



Dr. Arie Haagen-Smit, first chair of the Air Resources Board.

1966

Automotive tailpipe emission standards for carbon monoxide and hydrocarbons adopted by the California Motor Vehicle Pollution Control Board, the first of their kind in the nation.

1967

Signed into law by Gov. Ronald Reagan, the Mulford-Carell Air Resources Act created CARB, merging the Motor Vehicle Pollution Control Board and Bureau of Air Sanitation and its lab.

Federal Air Quality act of 1967 enacted; allowed California a waiver to set and enforce its own emission standards for new vehicles.

Governor Ronald Reagan in office.

1968

First CARB hearing took place Feb. 8, 1968.

Dr. Arie J. Haagen-Smit, CARB's first chair.

CALIFORNIA AIR RESOURCES BOARD

1970s

1970
U.S. EPA created.

First Earth Day held on April 22, 1970.

1971
CARB adopted the first automobile NO_x standard in the nation.

1973
Charles Conrad, CARB's second chair.

1975
The first two-way catalytic converters came into use as part of CARB's Motor Vehicle Emission Control Program.

Honda CVCC the first car to be certified to meet 1975 model year certification standards.

Tom Quinn, CARB's third chair.

Governor Edmund G. Brown Jr in office.

1976
CARB limited lead in gasoline, allowing catalytic converters to optimally operate.

Volvo introduced a 1977 model year car billed "smog-free" featuring the first 3-way catalytic converter to cut HC, NO_x and CO emissions.

1979
Mary D. Nichols, CARB's fourth chair.

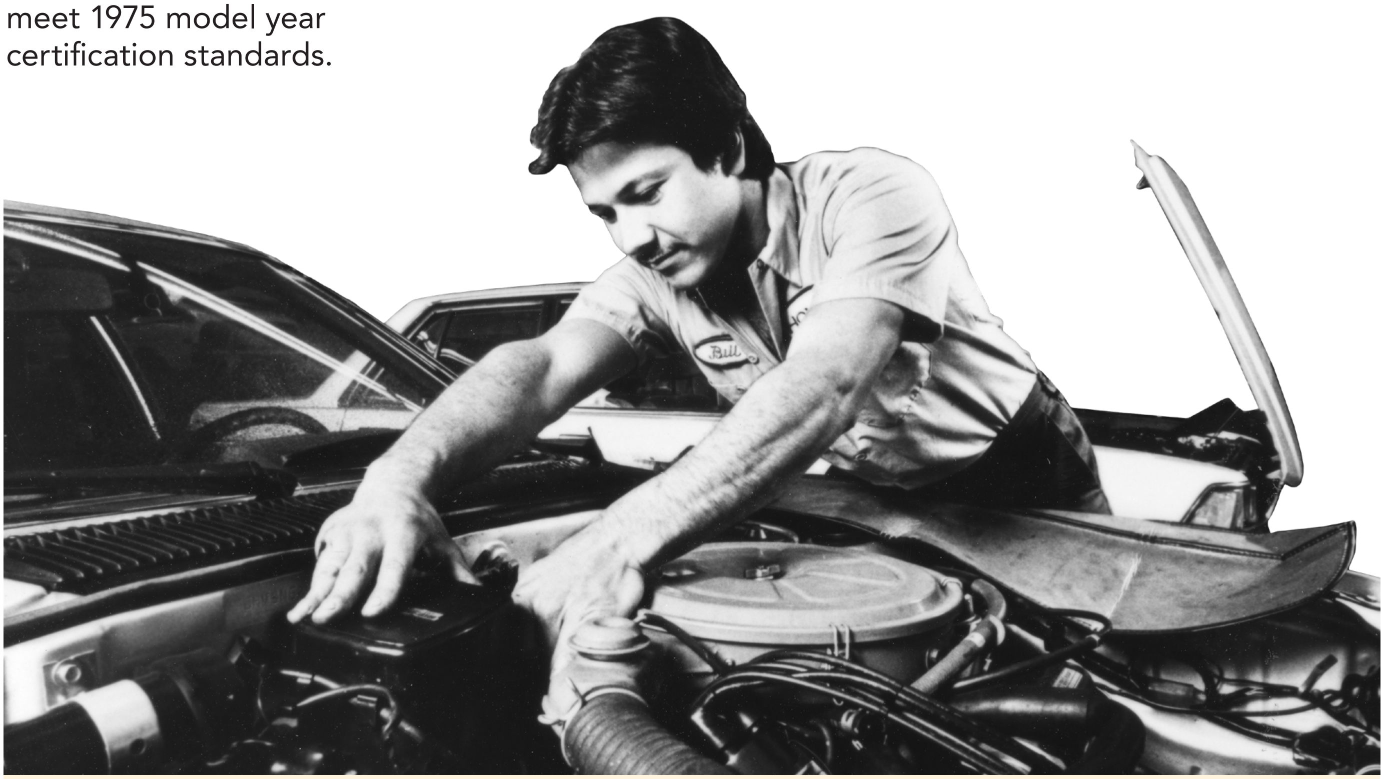
1980s

1983
Gordon Duffy, CARB's fifth chair.

Governor George Deukmejian in office.

1984
California Smog Check Program in effect.

1988
CARB adopted on-board diagnostics (OBD) regulations effective on 1994 model year and newer cars.



A certified mechanic inspects the car's emission control system, as part of the California Smog Check Program. July 1984.

1990s

1990

CARB approved standards for cleaner-burning gasoline and the first zero-emission vehicle (ZEV) requirements.

1991

Phase 1 of California cleaner-burning gasoline on the market, eliminating lead from gasoline and cutting reactive organic gas (ROG) emissions 220 tons per day (TPD) and carbon monoxide (CO) emissions by 10%.

Governor Pete Wilson in office.

1993

CARB enacted new standards for diesel fuel, reducing diesel particulate matter emissions by 14 TPD, SO_x by 80 TPD and NO_x by 70 TPD.

Jananne Sharpless, CARB's sixth chair.

Jaqueline Shafer, CARB's seventh chair.

1994

Smog Check II signed into law, targeting vehicles that polluted at least 2 to 25 times more than the average.

John D. Dunlap, III, CARB's eighth chair.

1995

California registered vehicles at 26 million and vehicle miles traveled (VMT) at 271 billion; statewide average per vehicle for NO_x and HC emissions per vehicle cut 58% and 80%, respectively, from 1970 levels.

The Honda EV Plus, the first battery-electric vehicle from a major automaker with non-lead acid batteries.

1996

Big seven automakers commit to manufacture and sell ZEVs.

California Phase II Cleaner-Burning Gasoline on the market, its use the equivalent of removing 3.5 million cars from the road.

Honda the first to meet California's low-emission vehicle (LEV) standard with its Civic.

General Motors EV1 first-year leases.

1996

CARB uses its recall authority for the first time, requiring GM to fix more than 11,000 1992 model year pickups and SUVs for emissions problems.

1997

First-year Honda EV Plus leases.

CARB adopts new test procedures to mimic real-world driving behavior.

1998

CARB identified diesel particulate matter (PM) as a toxic air contaminant.

CARB adopted LEV II emission standards for most pickups, SUVs and minivans up to 8500 lbs. gross vehicle weight to cut emissions to passenger car levels by 2007.

Honda the first to meet California's ultra-low emission vehicle (ULEV) standard with its 1998 model year Accord.

1999

California Fuel Cell Partnership formed.

CARB approved new gasoline rules to ban the additive MTBE.

Honda the first to meet California's super-ultra-low emission vehicle (SULEV) standard with its 2000 model year Accord.

Dr. Alan Lloyd, CARB's ninth chair.

Governor Gray Davis in office.

2000s

2000

CARB voted unanimously to keep the ZEV program in place.

CARB begins offering rebates up to $9,000 to Californians who purchase or lease a ZEV.

2001

ZEV mandate upheld, with modifications; automakers required to produce between 4,450 and 15,450 ZEVs starting in 2003.

Honda the first to meet California's advanced technology partial credit zero-emission vehicle (AT PZEV) standard with its 2001 model year Civic GX natural gas model.

2002

Honda's 2003 model year Civic Hybrid the first car certified by CARB as an AT PZEV hybrid vehicle.

Honda FCX Clarity, the first fuel cell electric vehicle (FCEV) to be certified for sale in California.

CARB follow-on rebate program begins offering up to $5,000 to California consumers and $11,000 to California fleet operators in areas of poor air quality who purchase or lease a ZEV.

2003

CARB adopted new diesel fuel standards, requiring a 95% reduction in sulfur content.

Governor Arnold Schwarzenegger in office.

2004

CARB adopted the nation's first rule to require automakers to sell vehicles with reduced greenhouse gas (GHG) emissions beginning with the 2009 model year.

Governor Schwarzenegger signed an Executive Order directing government, academia and industry to develop the Blue Print Plan, leading to the original California Hydrogen Highway Network.

2005

Cindy Tuck, CARB's tenth chair.

Dr. Robert Sawyer, CARB's eleventh chair.

SB 76 authorized CARB and the funding to develop the first hydrogen stations and directed Dept. of Measurement Standards to establish a hydrogen quality standard.

Thousands of letters from ZEV owners sit in front of board members during a public meeting to review ZEV regulations. September 2000.

Governor Arnold Schwarzenegger signing AB 32 on September 27, 2006.

2006

AB 32 signed into law by the California legislature; CARB responsible for monitoring and reducing GHG emissions.

AB 1811 directed CARB to develop a joint plan with California Energy Commission to spend $25 million for incentives for the use and production of alternative fuels and advanced technology vehicle rebates.

California switched to new ultra-low sulfur diesel fuel.

2007

CARB welcomes back Mary D. Nichols as chair.

AB 118 (Nunez) creates the Air Quality Improvement Program (AQIP).

2008

The Environmental Performance Label must be placed on all new vehicles after Jan. 1, 2009; gives consumers a tool to compare smog and GHG emissions.

The Alternative Fuel Vehicle Incentive Program begins offering rebates up to $5,000.

2009

CARB adopted new ZEV rules to put up to 65,000 cleaner vehicles on the road by 2012.

The second E85 station opens in Brentwood, funded in part by a CARB grant.

CARB adopted new standards for car windows that block the sun's heat that help keep cars cooler, increase their fuel efficiency and cut GHG emissions.

CARB adopted amendments to the Pavley regulations (SB 1493) that reduce GHG emissions in new passenger vehicles from 2009-2016.

CARB adopted LCFS, described as the most important early action under AB 32.

CARB adopted rules for the California auto service industry to check tire pressure on every vehicle serviced to cut GHG emissions and fuel consumption, and extend tire life.

The California Plug-In Electric Vehicle Collaborative launched with CARB as a founding member.

First Nissan LEAF delivered in California.

First Chevrolet Volt delivered in California.

2010s

2011

CARB, U.S. EPA and DOT align on CAFE timeline and GHG standards for cars and light-duty trucks for 2017-2025 model years.

Governor Edmund G. Brown Jr takes office again.

2012

U.S. EPA granted California a waiver for the Advanced Clean Car Program (California ZEV & LEV III programs) for new vehicles sold through 2025; it also allowed other states to adopt California clean car regulations.

Honda first to meet California's SULEV20 standard with its Accord Plug-In Hybrid.

CARB approved an amendment, called "deem to comply," acknowledged that the federal vehicle standard satisfies California's requirements.

AB 2289 authorized Smog Check to use advanced monitoring OBD systems vehicles 2000 model year and newer; 1999 model year and older vehicles directed to new STAR inspection stations.

10,000th Clean Vehicle Rebate Project rebate awarded to Natasha Casteel of Meadow Vista, Calif.

U.S. EPA announced nation's first GHG standards for 2017-2025 model year cars and light trucks; also increases fuel economy requirements.

CARB approved new emissions rules, the Advanced Clean Cars Program, for cars and light trucks through 2025.

Governors from eight states unite to put 3.3 million ZEVs on the road by 2025; CA, CT, MD, MA, NY, OR, RI and VT were signatories.

First Tesla Model S rolls off the assembly line.

Gov. Brown signed an Executive Order to put 1.5 million ZEVs on California roads by 2025, along with supporting ZEV refueling infrastructure.

2013

California joins the International ZEV Alliance, a task force working to electrify transportation and accelerate deployment of zero-emission vehicles.

Eight Northeast and West Coast states, including California, sign a memorandum of understanding to support the deployment of ZEVs through involvement in a ZEV Program Implementation Task Force (Task Force).

Chair Mary D. Nichols at the 2014 ZEV Showcase, announcing that the national ZEV sales have passed the quarter-million mark.

2014

In a joint announcement, representatives from the eight ZEV state partnership announced that national electric vehicle sales had reached 250,000.

10 hydrogen fueling stations are operational in California.

CARB adopted enhancements to its Enhanced Fleet Modernization Program (EFMP) car scrap program, including limiting the retirement-only portion of the program to low-income residents.

The EFMP Plus-Up program begins in the South Coast and San Joaquin Valley air districts.

California joined H2USA, a public-private partnership led by the U.S. DOT.

First Hyundai Tucson FCEV delivered in California.

2015

"Dieselgate" begins: CARB discovered Volkswagen intentionally installed defeat devices in many of its diesel models to evade clean air standards.

$183 million to fund CVRP and light-duty pilot projects in disadvantaged communities came from the Greenhouse Gas Reduction Fund (GGRF) and AQIP.

2016

CARB, U.S. EPA and NHTSA released a draft technical assessment report (TAR) showing automakers can meet 2022-2025 standards at similar or lower costs than anticipated in the 2012 rulemaking.

CARB and the California Attorney General's Office announced Volkswagen will pay more than $1 billion for excess emissions caused by the automaker's 2.0 liter vehicles fitted with cheating devices.

New eligibility requirements for CVRP adopted; increased incentives for low and moderate-income consumers and an income cap for higher-income consumers.

2017

$800 million will be invested in ZEVs in California over 10 years as a result of VW's settlement for the use of emissions defeat devices.

Electrify America's first of the four investment cycles was approved by the Board. The Cycle 1 Zero-Emission Vehicles Investment Plan spanned January 2017 to June 2019, with a $200 million budget and strives to ensure 35% of the investment is in low-income or disadvantaged communities. The budget includes $120 million for ZEV infrastructure in five metropolitan areas and travel routes, $20 million on ZEV awareness, $44 million on ZEV access – Green City, and $16 million for allowable operational expenses.

CARB completes Advanced Clean Cars Midterm Review, paving the way for GHG reductions and ZEV programs through 2025.

Sacramento launched the state's first ZEV car share program for disadvantaged communities and Los Angeles launched the nation's largest ZEV car sharing program for disadvantaged communities.

CARB announced that California Climate Investments in zero-emission vehicles reached $599 million since 2013, putting hundreds of thousands of ultra-clean cars, and entire fleets of zero-emission trucks and buses on California roads and highways.

Our Community CarShare Sacramento, 2017.

The nonprofit Veloz is launched; it is California's first large-scale electric car consumer awareness effort to educate, empower and provide consumers with behind-the-wheel experiences.

CARB approves $140 million for CVRP, which offered up to $5,000 in rebates for the purchase or lease of new, eligible ZEVs and PHEVs.

CARB approves $125 million for transportation equity projects focused on disadvantaged communities and low-income consumers, including vehicle scrap-and-replace, cleaner school buses and ZEV car-sharing.

CARB approves 2017 Climate Change Scoping Plan to reduce climate-changing gases an additional 40 percent below 1990 levels by 2030 under SB 32 through a menu of actions, including ambitious clean vehicles, low-carbon fuels and renewable energy, and smart community planning.

2018

Cumulative ZEV sales in California exceed 500,000.

CARB submits extensive comments on federal proposal to freeze fuel economy and greenhouse gas standards.

Electrify America's second cycle was approved. The Cycle 2 Zero-Emission Vehicles Investment Plan spans July 2019 to December 2021, with a $200 million budget and strives to ensure 35% of its investment is in low-income or disadvantaged communities. The budget includes $153 million for ZEV infrastructure, $17 million on ZEV awareness, $10 million on efforts to drive station utilization, and $20 million for allowable operational expenses.

CARB approves a $423 million Beneficiary Mitigation Plan funded by the VW settlement's Environmental Mitigation Trust allocation. The investments in zero-emission buses and trucks, and low-NO_x trucks, locomotives, and boats will fully mitigate excess NO_x emissions from VW diesel vehicles in California.

CalEPA Secretary Matthew Rodriquez, CARB Chair D. Mary Nichols, and Attorney General Xavier Becerra testified in strong opposition to the proposed rule rolling back existing cleaner cars standards.

Board approved amendments to the LCFS regulation, which included strengthening and smoothing the carbon intensity benchmarks through 2030 in line with California's 2030 greenhouse gas emission reduction target enacted through SB 32, adding new crediting opportunities to promote zero-emission vehicle adoption, advanced technologies to achieve deep decarbonization in the transportation sector and more.

CARB announced a new statewide grant and loan program—the Clean Vehicle Assistance Program—to help lower-income consumers across California get into the cleanest new and used cars on the market. The program includes up to $5,000 down payment assistance, special financing, and free vehicle charger and installation.

Nine Northeast and West Coast states, including California, reaffirmed their strong commitment to a clean, low-carbon transportation sector with the release of a new Multi-State ZEV Action Plan for 2018-2021 to support the successful implementation of the states' ZEV programs.

2019

CARB adopts open access standards for electric vehicle charging equipment under SB 454.

California consumers are applying for clean-vehicle rebates at a record pace as demand for the cleanest vehicles on the market skyrocketed over the past year; ZEV rebates in California were 50% higher in 2018 than 2017.

Governor Gavin Newsom in office.

2020s

2020

Governor Gavin Newsom signs an Executive Order for sales of new passenger cars and light trucks to be 100% ZEVs by 2035, bolstered by a growing charging and refueling network to support these vehicles.

CARB teamed up with California electric utilities to offer the California Clean Fuel Reward (CCFR), a point-of-sale price reduction of up to $1,500 for the purchase or lease of any eligible new battery-electric or plug-in hybrid-electric vehicle from a participating automotive retailer.

2021

California's Clean Cars 4 All program (formerly the EFMP Plus-Up program) is responsible for scrapping more than 10,000 old, dirty cars and replacing them with cleaner alternatives such as new and used zero-emission or plug-in hybrid cars. The program expanded to cover the state's four most populated air districts.

Liane Randolph, CARB's thirteenth chair.

45 hydrogen stations open in California.

The Transportation Decarbonization Alliance's Call to Action underscores the urgent need for countries, regions and cities to rapidly invest in and upgrade their zero-emission charging and fueling infrastructure for the success of the zero-emission vehicle market. Signatories include more than 30 countries, companies, regions, cities, and states, including California.

Twenty-one California nonprofits, local governments, transit agencies, and Native American tribal governments in under-resourced communities were awarded a total of $20 million by the new Clean Mobility Options Voucher Pilot Program to launch zero-emission mobility projects, such as electric car share, bike-share and ride-on-demand services, aimed at overcoming transportation challenges faced by residents in their communities.

California Attorney General Xavier Becerra, CARB Chair Mary D. Nichols, Governor Gavin Newsom, and CalEPA Secretary Jared Blumenfeld. California filed a lawsuit challenging the Trump Administration's repeal of the Clean Power Plan and its replacement rule, the so-called Affordable Clean Energy (ACE) Rule. August 2019.

The Sustainable Transportation Equity Project provided $44.5 million in grants for 13 community-driven planning and implementation pilot projects that address local transportation needs and increase access to key destinations while reducing vehicle miles traveled in disadvantaged and low-income communities.

Clean Mobility in Schools Pilot Program provided $34.4 million in grants to California public school districts located in disadvantaged and low-income communities for zero-emission vehicles, charging infrastructure, active and alternative modes of transportation, fleet and energy transition plans, education, curriculum, and workforce training.

CARB adopted the Clean Miles Standard. The rule requires rideshare companies operating in California to meet annual greenhouse gas and electrification targets. By 2030, the regulation will require rideshare companies to achieve a level of zero greenhouse gas emissions and to ensure 90% of their vehicle miles are fully electric.

The brand new all-electric school bus fleet arrived at South El Monte High School, heralding the inception of the District's $9.8 million Clean Mobility in Schools Pilot Project, celebrated during a "green" ribbon-cutting ceremony held August 18, 2021.

California directs more clean vehicle rebates to lower income families through its Clean Vehicle Rebate Project. CARB dedicated an additional $25 million to ensure that low- and moderate-income households receive an increased rebate.

2022

California Clean Fuels Reward program surpasses 250,000 point-of-sale financial incentives for electric vehicle buyers.

The California Climate Crisis Act is signed into law to achieve statewide net zero greenhouse gas emissions no later than 2045.

One hundred low-income electric vehicle owners in the San Joaquin Valley receive reloadable contactless debit cards to use at electric vehicle charging stations as part of a demonstration project by partners Valley Clean Air Now (Valley CAN) and the State of California.

CARB approves the Advanced Clean Cars II regulatory package that establishes a year-by-year roadmap so that by 2035 100% of new cars and light trucks sold in California will be zero-emission vehicles, including plug-in hybrid-electric vehicles. The rule includes enhanced warranty and durability standards and provides credits to automakers for certain actions that increase access to zero-emission vehicles by low-income households and people living in disadvantaged communities. Beginning with the 2026 model year, by 2037, the regulation will deliver a 25% reduction in smog-causing pollution from light-duty vehicles.

CARB approves a $2.6 billion investment—its largest-to-date—for clean cars, trucks and mobility options. This includes $326 million for vehicle purchase incentives and $55 million for clean mobility investments.

California's Greenhouse Gas Inventory indicated that in 2020—when many Californians stayed home due to COVID-19—the transportation sector had the steepest decline in greenhouse gas emissions in 20 years, dropping 16%, likely a result of the shelter-in-place orders and a consequent drop in vehicle miles traveled.

CARB updates its Climate Change Scoping Plan, a sector-by-sector plan for California to achieve carbon neutrality by 2045 or earlier (pursuant to AB 32 of 2006). The plan's transition away from fossil fuels benefits residents of the state's most impacted communities that are disproportionately burdened by pollution from the transportation sector.

The U.S. EPA reinstated California's Clean Air Act waiver for CARB's Advanced Clean Cars ZEV and LEV III GHG standards, reversing the 2019 revocation.

The federal Inflation Reduction Act provided significant incentives for zero-emission vehicle uptake.

2023

California achieved its goal of 1.5 million zero-emission vehicles sold in the state two years ahead of schedule.

California's new ZEV sales hit 25% in the second quarter of 2023 and remained there all of 2023.

California reported more than 80,000 public and shared private electric vehicle chargers and more than 60 hydrogen stations.

CARB's Climate Accountability Report tracked progress toward carbon neutrality by 2045, highlighting transportation as the largest emissions source.

2024

CARB and Stellantis announce an agreement to further the automaker's greenhouse gas emissions reductions from passenger vehicles and investments in charging infrastructure. The automaker will extend its existing zero-emission vehicle educational programs, invest $4 million in California to deploy public charging, and another $6 million in other states that have adopted California's greenhouse gas emissions standards for the 2026-2030 model years.

CARB launched a new $242 million effort, the Driving Clean Assistance Program, that prioritizes low-income Californians who need grants and loan assistance to get a zero-emission vehicle.

CARB Chair Liane Randolph speaks during the BNEF Summit. At left is Patty Monahan, Transportation Lead Commissioner of the California Energy Commission. At right is moderator and BloombergNEF Head of US Power Helen Kou. This policy dialogue delves into how California's major regulatory agencies are putting these standards and incentives into action–and thereby driving the state toward its net-zero future.

CARB updates the Low Carbon Fuel Standard to increase access to cleaner fuels, zero-emission transportation options, and electric vehicle charging and hydrogen refueling infrastructure. The rule goes into effect July 2025.

U.S. EPA approved California's Clean Air Act waiver to implement Advanced Clean Cars II for further pollution reduction solutions for passenger cars.

CARB augmented equity programs with additional funding for Clean Cars 4 All and community-based zero-emission vehicle car share in disadvantaged areas.

California's Clean Mobility Options Voucher Program, Planning and Capacity Building, Clean Mobility in Schools, and the Sustainable Transportation Equity Project announce $73.5 million in awards for 67 projects that address mobility gaps, increase access, improve air quality and reduce vehicle-miles travelled. Projects must directly benefit residents of a low-income or disadvantaged community.

2025

In response to the federal government's attempt to target California's Clean Air Act waivers, Governor Newsom signs an executive order doubling down on the state's commitment to clean cars and trucks and kickstarts the next phase of leadership.

CARB's executive officer testified before the U.S. Environmental Protection Agency in opposition to the agency's proposal to rescind its 2009 endangerment finding, which has helped guide the U.S. to global leadership in addressing harmful greenhouse gas pollution.

Following a statewide series of dialogue sessions, California state agencies published [a report] in response to Governor Newsom's executive order on zero-emission vehicle deployment. The report charts a path to expand vehicle uptake, protect public health, and maintain the state's momentum in the face of federal rollbacks.

CARB begins emergency rulemaking as a result of federal actions targeting California's Clean Air Act waivers to regulate certain aspects of vehicle emissions. Meanwhile, Advanced Clean Cars II standards become optional.

Lauren Sanchez, CARB's fourteenth chair.

The San Gabriel Valley (SGV) Carshare program is funded through the new statewide Clean Mobility Options Voucher Pilot Program (CMO).