



Monday, June 23, 2014

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# Key Events in the History of Air Quality in California

*This page last reviewed February 06, 2012*

Below you will find listed a few of the more significant events in the history of air quality management in California.

Also to the right, you may interested in viewing a five minute video in entitled "40 Years of Public Health Trailblazing" produced by Bryant Gumbel for the series *OurPlanet*.

### History of Air Pollution Video (27 minutes)



2011	<b>Cap-and-Trade:</b> ARB adopts cap-and-trade, a key element of the state's climate plan that will work with other climate programs to drive innovation and jobs, and promote efficiency and clean energy.
	<b>National Program for Cleaner Cars:</b> The Environmental Protection Agency, Department of Transportation and state of California align a single timeframe for corporate average fuel economy (CAFE) and greenhouse gas standards for the next generation of cars and light-duty trucks for model years 2017-2025. The collaboration provides automakers with a single national program as they work to build the next generation of clean, fuel efficient cars.
	<b>Cleaner Fuels :</b> ARB moves forward with the Low-Carbon Fuel Standard, to reduce the carbon intensity of existing fuels and develop even cleaner fuels, ultimately reducing the state's reliance on petroleum
	<b>Reducing Potent Climate Gases :</b> Do-it-yourself auto mechanics find a newly designed self-sealing A/C auto refrigerant canister, used to recharge vehicle air-conditioning systems. The redesigned canister reduces greenhouse gas emissions of the refrigerant known as R-134a, which is 1300 times more effective at trapping atmospheric heat than carbon dioxide.
	<b>Cleaner Ship Fuel:</b> Research shows clean fuel-use for ships off California's coast delivers huge clean-air benefits. Data collected during a major 2010 state-federal atmospheric research project with the National Oceanic and Atmospheric Administration reveal that the first-in-the-nation regulation requiring ocean-going vessels to use clean fuel when near the California coast has been extremely effective in reducing sulfur dioxide pollution from ships.
	<b>Cleaner Ports – Shore Power :</b> Steps are made to dramatically reduce emissions from ports by making shore power available to docked ships that previously had to idle their engines. Also, more polluting drayage trucks are either removed from service or retrofitted.
	<b>Money to Help Truckers, Construction Equipment Owners :</b> ARB offers funding assistance programs to truckers and buyers of on - and off-road clean vehicles. Business owners who took early action had a range of funding assistance options totaling hundreds of millions of dollars, and were able to tap into low-interest loans to operate clean vehicles.
2010	ARB makes changes to <a href="#">diesel regulations</a> that protect public health, provide relief and flexibility to California business owners of on-road and off-road equipment.
	ARB approves the <a href="#">cap-and-trade</a> regulation, marking a significant milestone toward reducing California's greenhouse gas emissions under AB 32. The regulation helps drive the development of green jobs and set the state on track to a clean energy future.
	California regulations reduce air pollution from 11 categories of consumer products including <a href="#">bug sprays and a variety of household and professionally-used cleaners</a> .
	California adopts the <a href="#">Renewable Energy Standard</a> . One-third of the electricity sold in the state in 2020 will come from clean, green sources of energy.
	California adopts goals of <a href="#">SB 375</a> for more healthy and sustainable communities that improve the way we plan and promote transportation choices.
	Based on a new U.S. EPA methodology, ARB determines that <a href="#">9,000 people die annually due to the amount of fine particle pollution in California's air</a> . The new methodology established that fine PM has a causal link to premature mortality.
	ARB acts to further slash toxic diesel emissions originating from four of the <a href="#">busiest railyards</a> in the state.
	ARB and the Bureau of Automotive Repair jointly sponsor legislation that is signed into law on September 24, 2010. The new law will save consumers money and time, and provide further emissions reductions from the state's <a href="#">Smog Check program</a> .
	The regulation to reduce greenhouse gas emissions from <a href="#">do-it-yourself automotive air-conditioner refrigerant cans</a> becomes law. The gas in these small containers is 1,300 times more powerful than carbon dioxide in trapping heat from the sun.
2009	California regulates leakage of potent greenhouse gases from large <a href="#">refrigeration systems</a> that will reduce emissions equivalent to removing about 1.4 million cars from the road per year.
	ARB adopts new limits for <a href="#">air fresheners, paint thinners and multi-purpose solvents</a> . The regulation will reduce the release of volatile organic compounds and prohibit the use of several toxic air contaminants.
	ARB amends a landmark rule to reduce toxic emissions from the state's estimated 180,000 <a href="#">off-road vehicles</a> such as tractors and bulldozers used in construction, mining and other industries. The amendments help business owners comply with the 2007 regulation.

	ARB passes a regulation mandating nearly 2,000 <a href="#">ocean-going ships</a> that travel within 24 nautical miles off California's coast to use cleaner burning diesel fuel that reduces the emissions of oxides of sulfur and nitrogen and diesel particulate matter. The regulation aims to help coastal residents breathe cleaner air and reduce pollution in oceans and waterways.
	ARB adopts new standards for car windows that block the sun's heat-producing rays that will help keep <a href="#">cars cooler</a> , increase their fuel efficiency and reduce global warming pollution.
	ARB adopted amendments to the <a href="#">Pavley regulations</a> that reduce greenhouse gas emissions in new passenger vehicles from 2009 through 2016.
	ARB adopts the <a href="#">landfill methane control measure</a> that will reduce 1.5 million metric tons of greenhouse gas emissions in the state's landmark fight against global warming.
	ARB adopts the <a href="#">Low Carbon Fuel Standard</a> aimed at diversifying fuels used for transportation which will achieve 16 million metric tons of greenhouse gas emission reductions by 2020. The regulation is described as the most important early-actions called for under AB 32, the Global Warming Solutions Act.
	ARB adopts the <a href="#">tire pressure regulation</a> that requires California's automotive maintenance industry to check tire pressure of every vehicle they service. The regulation will annually eliminate 700,000 metric tons of greenhouse gas emissions, reduce the state's fuel consumption by 75 million gallons and extend the average tire's useful life by 4,700 miles.
	ARB adopts regulations to control, and in some cases phase out, potent chemicals used in the <a href="#">manufacture of computer chips</a> and other industries that contribute to global warming at many times greater than carbon dioxide.
	ARB adopts a regulation on do-it-yourself <a href="#">cans of automobile refrigerant</a> . The regulation includes a deposit and recycling program that will cost an estimated \$11 for each ton of greenhouse gases prevented from entering the atmosphere.
2008	ARB adopts two critical regulations aimed at cleaning up harmful emissions from the estimated one million heavy-duty diesel trucks. One requires installation of diesel exhaust filters or engine replacement and the other requires installation of fuel efficient tires and aerodynamic devices.
	ARB approves a landmark Scoping Plan, a central requirement of the Global Warming Solutions Act of 2006, to reduce the state's greenhouse gas emissions to 1990 levels by 2020. The plan fights global warming and provides economic stimulus for jobs and a clean energy future.
	ARB adopts new regulations that will reduce toxic gasoline emissions from outboard marine tanks and components by up to 4.2 tons per day by 2020, thus saving consumers about 4.6 gallons of gasoline per year in lost fuel.
	ARB celebrates the launch of the clean trucks program with Ports of Los Angeles/Long Beach. Drayage trucks will emit 75 percent less diesel particulate matter and 55,000 - 89,000 fewer tons of carbon dioxide emissions per year.
	ARB adopts a regulation requiring the use of lower sulfur content fuel which will eliminate 15 tons of diesel exhaust daily from ocean-going vessels. Both U.S. and foreign-flagged vessels are subject to the regulation which is the most stringent and comprehensive requirement for marine fuel-use in the world.
	State presents Proposition 1B Bond funds in the amount of \$5.6 million to the San Joaquin Valley Air Pollution Control District to clean up 80 percent smog forming and particulate matter emissions. Funds are used to retrofit older, dirty diesel fuel trucks with diesel particulate filters or replace engines.
	ARB approves \$200 million of the first installment of \$1 billion in Proposition 1B funding among California's four trade corridors in a grand move to clean-up the air. Over the life of the program is estimated to reduce nitrogen oxide emissions by 26,900 tons and particulate matter by 1,800 tons.
	ARB's Carl Moyer Program provides \$8.2 million in incentives for cleaner diesel engines via projects that improve air quality in several air districts.
	ARB approves the nation's first regulation limiting emissions from air canisters which will annually remove the equivalent of 200,000 metric tons of carbon dioxide, smog-forming volatile organic compounds by 2,000 tons and toxic air contaminants by over 70 tons.
	New car label makes it easier to choose clean, efficient transportation. The Environmental Performance Label, on all new vehicles manufactured after Jan. 1, 2009, gives consumers a tool to compare climate change and smog forming emissions
	ARB receives an additional \$48 million from AB 118 to comply with regulations aimed at cleaning up diesel emissions from an estimated 420,000 trucks and buses. These funds will help truckers pay for the engine retrofits, replacements, and other fuel efficient equipment.
	ARB adopts new Zero Emission Vehicle (ZEV) rules. The measure puts up to 65,000 cleaner vehicles on the road by 2012.
	The second E85 station opens to the public in Brentwood, funded in part by a \$580,000 grant from ARB. Ethanol is a clean, renewable fuel that is a key component toward cleaner California air.
	ARB offers rebates up to \$5,000 to Californians who purchase or lease alternative fuel and electric vehicles.
	ARB celebrates 40 years of clean-air success.
2007	ARB adopted greenhouse gas emissions limits to reflect 1990 levels, per the Global Warming Solutions Act of 2006 (AB32) -- a roughly 25 percent reduction by 2020.
	Annual greenhouse gas mandatory reporting requirements are set for the largest facilities in the state.
	Shore power regulations require operators of certain types of ocean-going vessels to shut down their diesel auxiliary engines and hook up to shore power while docked at the state's busiest ports.
	Diesel port trucks that haul goods to and from ports and rail yards throughout the state will be required to have fewer emissions.
	ARB adopted an Air Toxics Control Measure (ATCM) to reduce diesel emissions from commercial ferries, excursion vessels, tugs and towboats.
	ARB adopted the nation's first regulation to prohibit indoor air cleaners emitting more than 0.050 ppm of ozone.
	ARB approved the South Coast and San Joaquin Valley Air Quality Management Districts' strategies to improve air quality in their regions.
	Auto manufacturers must label vehicles to reflect smog and greenhouse gas emissions, helping consumers consider a vehicle's environmental impact.
	Early action strategies are proposed to cut greenhouse gas emissions from the trucking industry, greener ports, cement and semiconductor industries, clean fuels and consumer products.
	ARB adopted an ATCM for formaldehyde in composite wood products.

	ARB adopted stricter standards for nitrogen dioxide (NO <sub>2</sub> ). The 1-hour average state standard for NO <sub>2</sub> was lowered from 0.25 ppm to 0.18 ppm. A new annual average state standard was established for NO <sub>2</sub> at 0.030 ppm.
	The phase-out of perchloroethylene from dry cleaning processes will be completed by 2023.
2006	AB 32 signed. The California Global Warming Solutions Act of 2006 establishes the first-in-the-world comprehensive program of regulatory and market mechanisms to achieve real, quantifiable, cost-effective reductions in greenhouse gases (GHG). It makes the ARB responsible for monitoring and reducing GHG emissions.
	AB 1811, directed the ARB to develop a joint plan with the CA Energy Commission to spend \$25 million to provide incentives for the use and production of alternative fuels.
	California switched to new ultra low sulfur diesel fuel.
	The ports of Long Beach and Los Angeles, in cooperation with the United States Environmental Protection Agency (USEPA), the ARB, and the South Coast Air Quality Management District (AQMD), developed the most comprehensive plan in the US seaport history to reduce air pollution and associated health risks generated from port-related operations.
	ARB implemented the Lower Emission School Bus Program to reduce children's exposure to both cancer-causing and smog forming pollution.
	ARB identified environmental tobacco smoke (ETS) or second hand smoke, as a toxic air contaminant.
2005	ARB adopted an air toxic control measure (ATCM) for on-board cruise ship incineration.
	ARB adopted regulation limiting "unnecessary idling" of heavy diesel duty trucks (HDDT).
	ARB adopted regulation requiring engine manufacturers to install on-board diagnostic systems on HDDT engines beginning in 2010. Nitrogen oxide emissions will be reduced by 110 tons/day.
	ARB signed a Memorandum of Understanding (MOU) with Union Pacific and Burlington Northern Santa Fe Railroads to significantly reduce diesel emissions in and around rail yards in CA.
	ARB defined "large" confined animal facilities.
	ARB approved the "Air Quality and Land Use Handbook: A Community Health Perspective".
	ARB adopted new 8-hour ozone standard at 0.070 parts per million (ppm).
2004	ARB adopted low sulfur diesel fuel rules for intrastate locomotives and harbor craft.
	ARB adopted the nation's first "Greenhouse Gas" rule that requires automakers to begin selling vehicles with reduced greenhouse gas emissions by model year 2009.
	Community Health Air Pollution Information System (CHAPIS) was unveiled. CHAPIS is a free web based tool to map various air pollution sources in CA and gives an itemized account of the sources' air emissions.
	ARB adopted Heavy Duty Diesel Trucks idling controls. The regulation required Heavy Duty Diesel Trucks and interstate bus operators to shut their engines down after five minutes of non-essential idling. The regulation affected more than 400,000 trucks and buses registered in CA and all out-of-state trucks and buses operating in CA.
2003	ARB adopted a regulation banning of all outdoor residential waste burning. The regulation went into effect January 1, 2004.
	ARB adopted new diesel fuel standards. The rule required greater than 95% reduction in the amount of sulfur in diesel fuel.
2002	ARB adopted an ATCM to reduce pollution from school bus idling.
	ARB adopted new particulate matter standards. The new annual-average standard for PM <sub>10</sub> is 20 ug/m <sup>3</sup> and for PM <sub>2.5</sub> is 12 ug/m <sup>3</sup> . The 24-hour standard of 50 ug/m <sup>3</sup> for PM <sub>10</sub> is retained as well as the 24-hour average standard for sulfates at 25 ug/m <sup>3</sup> .
2001	Zero-emission vehicle mandate was upheld, with modified requirements. Automakers were required to produce between 4,450 and 15,450 zero-emission cars starting in 2003.
	ARB joined a new private/public fuel cell collaborative seeking to reduce demand on California's electrical grid by encouraging commercialization of stationary fuel cells.
	ARB adopted new rules that limit public exposure to asbestos-laden dust from construction and quarry sites. These measures will better protect Californians from the potential threat of cancer, asbestosis, and mesothelioma caused by exposure to asbestos fibers.
	New standards were passed to reduce diesel soot and smog forming emissions by 90% from new large diesel engines. The new standards take effect with the 2007 model year and affect engines that power big rig trucks, trash trucks, delivery vans, and other large vehicles.
	The ARB adopted new Environmental Justice Policies to ensure that residents of low-income and minority communities receive equal consideration under all ARB regulations and programs.
2000	California's population grows to 34 million with 23.4 million registered vehicles in the state. Annual vehicle miles traveled (VMT) reaches 280 billion miles. Cumulative California vehicle emissions for nitrogen oxides and hydrocarbons are about 1.2 million tons per year. This is 200,000 tons/year less than 1990 despite an increase in VMT of 40 billion miles per year.
	The South Coast Air Quality Management District's maximum one-hour ozone concentration recorded is 0.18 parts per million. The area has no Stage 1 Smog Alerts (0.20 ppm ozone) this year, down from 42 Alerts in 1990.
	Six communities are chosen for Children's Environmental Health Protection Program. Community studies in Boyle Heights, Wilmington (Los Angeles), Fruitvale (Oakland), Barrio Logan (San Diego), Crockett (Contra Costa County) and Fresno aim to improve our understanding of the impact of air pollution on children's health and development.
	A long-term children's health study funded by the ARB revealed that exposure to high air pollution levels can slow down the lung function growth rate of children by up to 10 percent.
	ARB approved a comprehensive plan to reduce harmful particulate matter emissions from diesel powered equipment.
	The Board voted unanimously to keep the Zero Emission Vehicle mandate in place.
	ARB amended the state's agricultural burning guidelines to reduce the public health impact of smoke from controlled burns.
	ARB adopted regulations to further reduce air pollution from transit buses operating in CA.

1999	The California Fuel Cell Partnership, a public-private venture to demonstrate fuel cell vehicles in CA, formally began. The Partnership includes auto manufactures, energy providers, fuel cell manufacturers and the State of California.
	ARB adopted a new regulation that reduces by over 70% the smog-forming emissions from portable gas cans.
	ARB adopted consumer products rules cut smog-forming emissions and volatile organic compounds from an estimated 2,500 common household products ranging from nail polish remover to glass cleaners.
	ARB approved a new set of gasoline rules that will ban the additive MTBE while preserving all the air-quality benefits obtained from the state's cleaner-burning gasoline program.
1998	ARB identified diesel particulate emissions as a toxic air contaminant.
	ARB amended off-road engine regulations for lawn mowers, weed trimmers and other small engine power tools.
	ARB adopted LEVII emission standards for most mini vans, pickup trucks and sport utility vehicles up to 8,500 pounds gross vehicle weight to reduce emissions to passenger car levels by 2007.
	Marine engine regulations were adopted to greatly reduce smog-forming emissions and water pollution from outboard engines and personal watercraft.
1996	The SCAQMD's maximum one-hour ozone concentration recorded is 0.24 pm, 59% improvement from 1965. The area exceeded Stage 1 Smog Alerts (0.20 ppm ozone) on 7 days this year. This is an improvement of 111 days or a 94% reduction as compared to 1975.
	Big seven automakers commit to manufacture and sell Zero Emission Vehicles.
	CA's Phase II Cleaner Burning Gasoline (CBG) came to market. CBG reduces lung-damaging ozone and ozone precursors by 300 tons/day, as well as reducing airborne toxic chemicals like benzene that can cause cancer. This is equivalent to taking 3.5 million cars off the road.
	CA's State Implementation Plan for ozone was approved by USEPA on September 26, 1996.
1995	Total registered vehicles reached 26 million and vehicle miles traveled is 271 billion. Cumulative California auto emissions for NOx and HC are about 1.1 million tons/year, a 31% reduction compared to 1970 levels, despite a 137% increase in vehicle miles traveled from 1970 levels. Statewide averaged for NOx and HC emissions per vehicle reduced respectively by 58% and 80% from 1970 levels.
1994	US Court ordered USEPA to develop Federal Implementation Plan (FIP) for numerous non-attainment areas in CA.
	CA "SIPs the FIP" with submittal a more cost effective State Implementation Plan to USEPA.
	Smog Check II signed into law following lengthy negotiations with the USEPA, designed to meet the requirements of the Federal Clean Air Act as amended in 1990. This program targeted vehicles which pollute at least 2 to 25 times more than the average vehicle and requires repairs and retesting of offending vehicles.
1993	ARB enacted new standards for cleaner diesel fuel, resulting in a reduction of diesel particulate emissions by approximately 14 tons/day, 80 tons/day less SOx and 70 tons/day NOx emissions. Diesel busses and trucks are a major source of NOx emissions.
	CA fuel came to market.
	SCAQMD adopted its Regional Clean Air Incentives Market (RECLAIM) program for NOx and SOx.
1992	Phase I CA cleaning burning gasoline came to market. The result was 220 tons less of reactive organic gases (ROG) released every day (6 percent reduction), and elimination of the use of lead in gasoline. ARB required the addition of oxygenates in gasoline to cut carbon monoxide emissions by 10%.
1990	CA's population reached 30 million people. Total registered vehicles reached 23 million and vehicle miles traveled is 242 billion. Cumulative California vehicle emissions for NOx and HC are about 1.4 million tons/year. This is 200,000 tons/year less than in 1980 despite a rise of 87 billion in VMT.
	The SCAQMD's maximum one-hour ozone concentration recorded is 0.33 ppm. The area exceeded Stage 1 Smog Alerts (0.20 ppm ozone) on 42 days this year, an improvement of 41 days since 1985.
	ARB approved standards for cleaner burning gasoline and low and zero emission vehicles.
	The CAA Amendments of 1990 were signed into law by President George H.W. Bush. They relied largely on elements of the CCAA, and required a number of new programs aimed at curbing urban ozone, rural acid rain, stratospheric ozone, toxic air pollutant emissions and vehicle emissions, and establishes a new, uniform national permit system.
1988	CCAA was signed by Governor Deukmejian. The Act set forth the framework for how air quality will be managed in California for the next 20 years.
	ARB adopted regulations effective on 1994 model cars requiring they be equipped with on-board computer systems to monitor emission performance and alert owners when there is a problem.
1985	The SCQMD's maximum one-hour ozone concentration recorded is 0.39 ppm. The area exceeded Stage 1 Smog Alerts (0.20 ppm ozone) on 83 days this year, an improvement of 19 days since 1980.
1984	CA Smog Check Program went into effect identifying vehicles in need of maintenance and to assure the effectiveness of their emission control systems on a biennial basis
1980	CA's population reached 24 million people. Total registered vehicles surpassed 17 million and vehicle miles traveled is 155 billion. Cumulative CA vehicle emissions for NOx and HC remain at 1970 levels of 1.6 million tons/year despite a rise of 45 billion in VMT over these 10 years.
1977	Federal Clean Air Act Amendments of 1977 were enacted. Required the review of all National Ambient Air Quality Standards by 1980.
1976	The South Coast Air Quality Management District was formed. It included portions of Los Angeles, Orange, Riverside and San Bernardino counties.
	The Toxic Substances Control Act was established by Congress in response to an increasing awareness of toxic substances used by industry.
	ARB limited lead in gasoline.
	Volvo introduced 1977 year car billed as "Smog-Free". Featured the first three-way catalytic converter to control HC, NOx, and CO emissions.
1975	The SCAQMD's maximum one-hour ozone concentration recorded was 0.39 ppm. The area exceeded Stage 1 smog alerts (0.20 ppm) on 118 days.
	The first two-way catalytic converters came into use as part of the ARB's Motor Vehicle Emission Control Program.
	The California Air Pollution Control Officers Association was created.
	USEPA Working Group established to develop strategies for State Implementation Plan activities.

1973	OPEC oil embargo resulted in rising fuel cost, the use of smaller, more efficient automobiles, and more cost conservative use of fuel by industry and corresponding lower air emissions.
1972	CA submitted its State Implementation Plan to USEPA. It was rejected.
1971	ARB adopted the first automobile NOx standards in the nation.
	USEPA promulgated the National Ambient Air Quality Standards for particulates, photochemical oxidants (including ozone), hydrocarbons, carbon monoxide, nitrogen dioxide and sulfur dioxide.
	ARB adopted guidelines to control agricultural burning.
1970	CA's population reached 20 million people. Total registered vehicles exceeded 12 million and VMT was 110 billion. Cumulative CA vehicle emissions for NOx and HCs were 1.6 million tons/year.
	The SCAQMD's maximum one-hour ozone concentration recorded was 0.58 ppm, nearly five times greater than the health-based national standard of <0.12 ppm that would be adopted in 1971.
	Backyard burning was banned in selected areas of California.
	National Environmental Protection Act (NEPA) was signed.
	USEPA was created to protect all aspects of the environment.
	The first Earth Day was held on April 22, 1970.
	Federal New Source Performance Standards for opacity were published.
	Federal Clean Air Act Amendments of 1970 were enacted. They served as the principal source of statutory authority for controlling air pollution. Established the basic US program for controlling air pollution.
1969	Air Quality Standards were set by the new ARB for total suspended particulates, photochemical oxidants, sulfur dioxide, nitrogen dioxide, and carbon monoxide.
1968	Dr. Arie J. Haagen-Smit was appointed Chairman of the Air Resources Board by Governor Ronald Reagan. First meeting of the State Board was held in Sacramento on February 8, 1968.
	Santa Cruz and Monterey counties combined to form the Monterey County Unified Air Pollution Control District.
1967	The California Air Resources Board was created from the merging of the California Motor Vehicle Pollution Control Board and the Bureau of Air Sanitation and its Laboratory. The Mulford-Carell Air Resources Act was signed into law by Governor Ronald Reagan.
	Federal Air Quality Act of 1967 was enacted. It established a framework for defining "air quality control regions" based on meteorological and topographical factors of air pollution. It allowed the State of California a waiver to set and enforce its own emissions standards for new vehicles based on California's unique need for more stringent controls.
1966	Auto tailpipe emission standards for HC and CO were adopted by the California Motor Vehicle Pollution Control Board. First of their kind in the nation.
1965	Reliable measurements of ozone concentrations began to be recorded. The maximum one-hour ozone concentration for the year in the South Coast Air Basin was 0.58 ppm.
	Federal Clean Air Act of 1963 was amended by the Motor Vehicle Air Pollution Control Act of 1965. Direct regulation of air pollution by the federal government is provided for, and the Department of Health, Education, and Welfare was directed to establish auto emission standards.
1964	Chrysler exhaust control system was approved by the Motor Vehicle Pollution Control Board. Four other independent companies also received approvals.
1963	Positive Crankcase Ventilation requirement of 1961 went into effect on domestic passenger vehicles for sale in California.
	First Federal Clean Air Act of 1963 was enacted. Empowered the Secretary of the federal Health, Education, and Welfare to define air quality criteria based on scientific studies. Provided grants to state and local air pollution control districts.
1962	Rachel Carson's "Silent Spring" was published. It brought to the public's attention of the disruptive impact humans have upon the earth's fragile ecosystems.
1961	The first automotive emissions control technology in the nation, Positive Crankcase Ventilation, was mandated by the California Motor Vehicle State Bureau of Air Sanitation to control hydrocarbon crankcase emissions. Positive Crankcase Ventilation withdraws blow-by gases from the crankcase and returns them with the fresh air and fuel mixture in the cylinders.
1960	CA's population reached 16 million people. Total registered vehicles approached 8 million and VMT was 71 billion.
	The Motor Vehicle Pollution Control Board was established. Primary function was to test and certify devices for installation on cars for sale in California.
	Federal Motor Vehicle Act of 1960 was enacted. Required federal research to address air pollution from motor vehicles.
1959	CA enacted legislation requiring the state Department of Public Health establish air quality standards and necessary controls for motor vehicle emissions. The first statewide air quality standards were set by the Department of Public Health for total suspended particulates, photochemical oxidants, sulfur dioxide, nitrogen dioxide, and carbon monoxide.
1956	"Killer Fog" enveloped London, England resulting in 1,000 deaths above normal.
	Interstate Highway Act of 1956 passed, paving the way for increased highway construction.
1955	Federal Air Pollution Control Act of 1955 was enacted, providing for research and technical assistance and authorizing the Secretary of Health, Education and Welfare to work towards a better understanding of the causes and effects of air pollution.
	The Bay Area Air Pollution Control District was established. It included the counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, and portions of Solano and Sonoma counties.
	Los Angeles County Motor Vehicle Pollution Control laboratory began within the Los Angeles APCD.
	The Bureau of Air Sanitation was formed within the State Department of Public Health.
1953	Los Angeles County started "Smoke School Program" for black smoke, beginning the standardization of "Visible Emission Programs" nationwide.
1952	Over 4,000 deaths attributed to "Killer Fog" in London, England.

	Dr. Arie Haagen-Smit discovered the nature and causes of photochemical smog. He determines that nitrogen oxides and hydrocarbons in the presence of ultraviolet radiation from the sun forms smog (a key component of which is ozone).
1950	CA's population reached 11 million people. Total registered vehicles in California exceeded 4.5 million and VMT was 44.5 billion.
	More than 100 electric transit systems were replaced with buses in 45 US cities including Los Angeles.
	CA's Rule 50A passed, limiting smoke based upon the Ringelmann System.
1948	Donora, Pennsylvania air pollution episode kills 20 people, numerous animals and half of the town's 12,000 residents became ill due to uncontrolled emissions from industrial facilities.
1947	June 10, 1947, California Governor Earl Warren signs into law the Air Pollution Control Act, authorizing the creation of an Air Pollution Control District in every county of the state.
	The Los Angeles County Air Pollution Control District was established. It was the first of its kind in the nation.
	CA officially adopted the Ringelmann System, which measured the opacity of smoke rising from stacks and other sources.
1946	Raymond R. Tucker studies the Los Angeles area's smog problem and recommends that county-wide collaboration is needed.
1945	World War II Ended -- Urban sprawl began to take root in much of the U.S.
	The City of Los Angeles began its air pollution control program, establishing the Bureau of Smoke Control in its health department.
1943	First recognized episodes of smog occur in Los Angeles in the summer of 1943. Visibility is only three blocks and people suffer from smarting eyes, respiratory discomfort, nausea, and vomiting. The phenomenon is termed a "gas attack" and blamed on a nearby butadiene plant. The situation does not improve when the plant is shut down. See <a href="#">video clip</a> .
1940	CA's population reached 7 million people. Number of registered vehicles in California approached 2.8 million and the total VMT was 24 billion.
1939	World War II Begins -- Explosion of California's population soon to occur to meet the needs of the war.
1938	Sulfur Dioxide and Dust Fall Air Sampling stations are set up in the United States (U.S.) under the Federal Works Progress Administration.
1930	CA's population was less than 6 million people. Total registered vehicles reached 2 million.
	Meuse Valley, Belgium air inversion results in 60 dead and thousands sick from exposure to industrial air emissions.

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