



Cartoon by Steve Greenberg in the *Daily News*, Los Angeles, September 16, 1979. The cartoon appeared following a prolonged bout of first- and second-stage smog alerts in the Los Angeles basin. (Courtesy of the *Daily News*, Los Angeles.)

offender was the automobile, with its output of hydrocarbons, oxides of nitrogen, and toxic carbon monoxide.

The state legislature in 1960 passed the first automobile antismog law in the nation, requiring the installation of various smog-control devices in motor vehicle engines. To meet federal air-quality standards, the legislature in 1982 required car owners to have their vehicles inspected every other year. Cars that met strict emission standards would be certified, whereas those that failed would have to be repaired.

The state Air Resources Board (ARB) also adopted the world's stiffest clean-burning gasoline rules, intended to cut smog-forming emissions by one-third. To meet the new standards, oil refiners reformulated their gasoline to make it burn more cleanly. In 1991 the ARB approved the most sweeping vehicle emissions standards in the world, including the first-ever requirement for the mass production of electric cars that produced zero emissions. The major automakers fought the requirement, arguing that electric vehicles were too costly to manufacture and that consumer demand was too low. The ARB in 2001 agreed to modify its standard promoting instead the production of vehicles with extremely low emissions. The new standards (coupled with the steadily rising costs of gasoline) increased dramatically the popularity of *hybrid vehicles*. Hybrids, powered by a gasoline-burning engine and battery-operated electric motor, not only produced lower emissions they also could get between 50 and 60 miles per gallon.

The combined effect of state and federal regulations was a steady improvement in California air quality. The San Francisco Bay area in 1995 became the nation's largest metropolitan area to achieve federal air-quality standards. Annual exposure to smog in the Los Angeles basin, the most seriously polluted region in the country, decreased 50 percent between 1980 and 2000. In the early 2000s, however, air pollution along the southern coast worsened once again as population and economic growth ate away at earlier gains. Los Angeles mayor Antonio Villaraigosa pledged himself in 2005 to renew the battle for cleaner air. "A clean environment is the foundation of a livable community," he declared. "I will dedicate myself to transforming Los Angeles into the cleanest, greenest big city in America." Meanwhile, air pollution also was worsening in inland communities that were even more vulnerable to smog than the coastal areas. Medium-size cities in the Central Valley, such as Bakersfield and Fresno, had smog problems rivaling those of New York and Chicago. The impact on the health of valley residents was alarming. By 2005, about 30 percent of children in the Fresno public schools were suffering from asthma and other respiratory disorders.

In spite of decades of progress, 90 percent of all Californians in the early 2000s still breathed unhealthy air on some days. Especially disturbing was the proliferation of heavy polluters such as the newly popular sport utility vehicles (SUVs), dubbed by the Sierra Club the "cars from hell" because they produced 47 percent more air pollution than average cars. Democratic Senator Dianne Feinstein led an unsuccessful campaign to convince the administration of Republican George W. Bush to "close the SUV loophole" by requiring all vehicles to meet stringent mileage and pollution standards.

Scientists warned that air pollution was causing devastating changes to the earth's atmosphere and climate. When airborne pollutants reach the upper atmosphere, they damage the protective ozone layer that shields the earth from the sun's harmful ultraviolet rays. Increased exposure to ultraviolet radiation produces an elevated risk of skin cancer. Pollutants also create a blanket of gases over the earth, trapping the reflected heat from the sun like a greenhouse and thus contributing to *global warming*, an increase in the temperature of the earth's lower atmosphere sufficient to cause climate changes. Scientists warned that the consequences of continued global warming will be devastating for life on earth. "For all foreseeable human generations," the director of the Goddard Institute for Space Studies warned in 2006, "it will be a far more desolate world than the one in which civilization developed and flourished during the past several thousand years."

Environmentalists were angered when President George W. Bush, shortly after he began his first term, rejected the 1997 Kyoto treaty on global warming. The president argued that reducing the emission of greenhouse gases, as mandated by the treaty, would hurt the nation's economy. He also confounded environmentalists by breaking a campaign pledge to curtail emissions of carbon dioxide, the largest single contributor to global warming. "Bush is turning his back not only on his campaign promise," commented a senior researcher with the Natural Resources Defense Council, "but on the world's scientists, who warn this problem is more serious than we previously thought."

California once again led the way in responding to the latest environmental challenge. In 2002 the legislature passed a law requiring the reduction of greenhouse-gas