

AIR CURRENTS

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Air District Makes Climate Protection a Top Priority

On June 1, 2005, the Air District's Board of Directors adopted a resolution establishing the agency's climate protection program. The climate protection program is designed to provide support and leadership for climate change initiatives throughout the region, to stimulate additional climate protection activities, and to integrate climate protection concerns with traditional Air District programs.

Air District staff have been working on a number of efforts to implement this resolution. As one of its first climate protection activities, the Air District joined the California Climate Action Registry, a voluntary greenhouse gas reporting entity. As a member of the Registry, the Air District conducts an annual in-house inventory of its greenhouse gas emissions from electricity consumption and vehicle use. This in-

house inventory, like that of all Registry members, must be certified by a third party according to a protocol developed by the Registry. The certification process ensures reliable and comparable reporting by Registry members.

The Air District is also a pledging partner of Sustainable Silicon Valley (SSV), a project of the Silicon Valley Leadership group. SSV is a voluntary membership organization comprising business, government, and non-governmental organizations that facilitates strategies to reduce carbon-dioxide emissions by promoting energy and fuel efficiency and the use of alternative sources of energy.

The Air District has identified a number of additional initiatives for its climate protection program. Among these are:

- A Bay-Area-wide climate protection summit
- A study of greenhouse gas reduction technology for permitted, stationary sources

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Public Asked to Limit Wood Burning Spare the Air Tonight Season Underway

The Air District's winter *Spare the Air Tonight* season began on November 20, 2006 and will continue through February 16, 2007. During this period, the Air District will issue *Spare the Air Tonight* advisories when unhealthy levels of air



pollution are forecast. On these *Spare the Air* nights, the Air District asks the public to refrain from burning wood, and to drive less.

To find out when a *Spare the Air Tonight* advisory is issued, call the 1-800-HELP AIR air quality forecast phone line, or visit the Air District's www.sparetheair.org website, where you can sign up to be notified by e-mail AirAlerts.

PM_{2.5}

The pollutant of chief concern in the winter is PM_{2.5}, or particulate matter 2.5

microns or smaller in size, sometimes referred to as fine particulates. Microns are one-millionth of a meter, and PM_{2.5} is more than 25 times smaller than the diameter of a human hair. It can be trapped in the lungs for years, causing

respiratory problems, aggravating asthma, and leading to serious health issues including increased mortality for people with cardiopulmonary disease.

Unlike summer ozone that peaks in the late afternoon, wintertime particulate pollution is at its worst at night and in the early morning hours. On winter evenings, the ground cools the air closest to the earth, which can then become trapped beneath a layer of warmer air, forming a shallow temperature inversion. When there is no wind or rain, unhealthy levels

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TOLL-FREE NUMBERS

DAILY AIR QUALITY	1-800-HELP-AIR
COMPLAINT LINE	1-800-334-ODOR
SMOKING VEHICLES	1-800-EXHAUST

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Free Morning Commute Program A Success Busy Summer Spare the Air Season Ends

This year, the Air District issued 11 *Spare the Air* advisories, the most since 1999—but that number included an unprecedented six full days of free travel on transit systems throughout the region.

Partnering with the Metropolitan Transportation Commission (MTC) and 26 regional transit agencies, the Air District expanded the *Spare the Air* Free Fare program this summer. Residents initially were offered three full days of free public transportation on *Spare the Air* weekdays, a departure from previous years in which free commutes were restricted to morning hours. But when a hot spell led to high ozone counts and free fare days on June 22, 23, and 26, funding was raised for an additional three days of free transit, which then took place on July 17, 20, and 21.

Overall, unusually warm weather, particularly in the early months of summer, led to the worst local air quality conditions in years. During one stretch in July, state ozone standards were exceeded for ten days straight. Through the course of the season, the federal eight-hour ozone standard was exceeded 12 times, the state one-hour ozone standard was exceeded 18 times, and the state eight-hour standard was exceeded 22 times. Still, the Bay Area's air quality record continued to compare favorably with that of the other major California urban air districts (see table on this page).

As intended, the 2006 *Spare the Air* Free Fare program led to significant increases in transit ridership. According to estimates by the 26 participating transit agencies, ridership increased 15 percent on free transit days—adding up to 225,000 additional transit riders per day. Survey data indicated that Bay Area drivers reduced an estimated 528,279 vehicle trips and more than 3.5 million miles of travel during the free fare days, and that overall emission reductions equaled 32 tons of pollutants.

2006 Days over National Ozone Standard

Air District	Days
San Diego	9
Bay Area	12
Sacramento	41
San Joaquin	85
South Coast	86

As in recent years, air quality in the Bay Area in 2006 compared favorably with that of other major urban air basins in California.

Spare the Air program recognition was high this summer, with surveys indicating that 81 percent of Bay Area residents had heard of the program. Registration for AirAlerts—the e-mail notification system that gives 24-hour advance notice of *Spare the Air* days—also reached an all-time record of over 40,000 individuals.

The Air District initiated the *Spare the Air* program in 1991, in order to protect public health by notifying residents when air quality is expected to approach unhealthy levels. The Air District asks residents to reduce polluting activities on *Spare the Air* days, and advises them to limit their own exposure to unhealthy air. The free transit component was introduced in 2004, when the Air District partnered with Bay Area Rapid Transit (BART) to offer free morning commutes on *Spare the Air* days. The Free Fare campaign expanded to include 21 transit agencies in 2005, and then 26 agencies and full-day commutes last summer.

Each year, *Spare the Air* days are announced when ozone concentrations are predicted to reach unhealthy levels. These advisories are issued through the media, the employer notification network, CALTrans message signs, AirAlert e-mails, the Air District's 1-(800) HELP AIR telephone line, and the www.sparetheair.org website.

—Aaron Richardson

Spare the Air Tonight

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of air pollution can accumulate under this inversion layer.

Wood Burning

Along with motor vehicle traffic, residential wood burning is a major source of fine particulate pollution—and on certain nights, in some parts of the Bay Area, wood burning can be the greatest single source of PM_{2.5}. Wood burning also generates carbon monoxide and toxic air pollutants such as benzene and dioxin.

As part of the *Spare the Air Tonight* program, the Air District encourages Bay Area residents to replace their fireplaces or woodstoves with natural gas models. A traditional wood-burning fireplace emits almost one half-pound of particu-

late pollution on a given evening. Gas fireplaces eliminate more than 99 percent of this pollution and are six to nine times more energy-efficient. (Some traditional fireplaces even have a negative efficiency, drawing warm air out of the house and up the chimney.)

For the past three years, in Santa Clara County, the Air District has administered the Wood Smoke Changeout Program, offering rebates to local residents who convert their wood burning appliances to natural gas. Scheduled to conclude as funding runs out this winter, the Santa Clara Wood Smoke Changeout Program has so far overseen the conversion of 1,818 fireplaces and woodstoves, with emission reductions at the program's conclusion estimated to amount to 15 tons of particulate matter. For more information about

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Air District Expands Open Burn Outreach Effort

With the start of the agricultural open burn season, the Air District's Compliance and Enforcement Division is working together with local agricultural departments to inform the Bay Area agricultural industry about the ins-and-outs of proper burn management practices. Air District staff will be attending growers meetings in Alameda, Contra Costa, Napa, and Santa Clara counties to explain the Air District's *Regulation 5*, which governs all open burning in the region.

Since agricultural burning is the largest type of permissible open burning that takes place in the Bay Area, outreach to the agricultural industry is important to ensure that all applicable requirements are understood and followed. Participants will be instructed by Air District personnel on the various components of proper open burning, such as how they should notify the District, when they should burn, what is permissible to burn, how long they can burn, and where they should burn.

"Participants will be given the necessary information to conduct a successful agricultural open burn that produces the least amount of smoke pollution," said



Janet Simon, Air Quality Specialist. "They will gain a better understanding of the regulation governing open burning, and they will also be able to ask any questions they may have regarding its enforcement."

As part of the outreach effort, Air District staff will show and distribute copies of a DVD entitled "Burning Cleaner, Burning Better." The video concept was created by the Air District and the Napa County Fire Marshal's Office.

This colorful ten-minute DVD takes viewers through *Regulation 5* and the process of conducting an agricultural

burn of vineyard waste, step-by-step. From positioning the fire pile in a safe place, to constructing it properly and keeping watch over it, the DVD guides viewers through it all, while outlining the administrative requirements. "Although the video shows an open burn at a vineyard, the open burning principles and require-

ments are applicable to the entire agricultural industry," said Paul Hibser, Supervising Air Quality Specialist.

Attendees throughout the Bay Area will receive a copy of this DVD, as well as a copy of *Regulation 5*, an open burn notification form, a helpful checklist, and copies of the latest compliance advisories. In addition, these meetings will provide participants with the opportunity to interact with and hear from other owners and workers in similar situations.

Officials anticipate that these outreach efforts will result in a cleaner agricultural open burn season for the entire region.

—Jennifer Alverson

Air District Evaluates Carl Moyer Grant Applications

The Air District's grant application period for the latest funding cycle of the Carl Moyer Program concluded on December 22, 2006. Grant awards are expected to be announced in the spring of 2007. About \$10.3 million dollars will be available in this funding cycle.

This amount may be augmented with Mobile Source Incentive Funds (MSIF), if the Carl Moyer Program is oversubscribed and there are MSIF funds available. The MSIF allocates revenues from a \$2 per vehicle fee surcharge for all motor vehicles registered within the Air District boundaries.

The Carl Moyer Program provides funding to both public agencies and

private entities in the Bay Area for projects that reduce emissions from heavy-duty engines. Heavy-duty engines have been identified as a major source of air pollution, producing emissions that include nitrogen oxides (NOx), particulate matter (PM), and air toxics.

Projects eligible for Carl Moyer Program funding include the replacement of old heavy-duty engines with new cleaner engines, the retrofitting of vehicles with emission control devices, or the purchase of new eligible vehicles or equipment. A wide range of projects are eligible for funding, including on-road heavy-duty vehicles, off-road heavy-duty equipment, marine engines, locomotives,

forklifts, airport ground-support equipment, and stationary agricultural irrigation pumps. The Air District also encourages the use of Carl Moyer Program funds for zero-emission projects, which typically involve electric motors.

State law (AB 1390, Lowenthal) requires that at least 50 percent of the Carl Moyer Program funds be spent on projects that reduce emissions in areas that are heavily impacted by air pollution. The Air District has defined impacted areas as those communities where sensitive populations (children and the elderly) are exposed to a high level of PM emissions.

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Spare the Air Tonight

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this program, see www.sparetheair.org/changeout.htm.

Model Wood Smoke Ordinance

All year long, the Air District encourages residents to ask their local governments to adopt a version of the District's Model Wood Smoke Ordinance. This ordinance, which has been implemented in 41 cities and 8 counties in the Bay Area since it was first drafted in 1998, requires that all fireplaces or wood stoves installed in new housing—or during the course of remodeling—be EPA-certified, natural gas, or pellet-fueled appliances. (For a list of cities and counties that have passed a version of the ordinance, visit the Air District's website at www.baaqmd.gov and click on "Pollution Prevention" and then "Wood Burning/Wood Smoke.")

Climate Change

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- A regional greenhouse gas emissions inventory

Climate Protection Summit

On November 10, the Air District hosted the Bay Area Climate Protection Summit, convening Bay Area leaders at the Yerba Buena Center for the Arts in San Francisco and involving them in a public discussion about climate protection in the region. The program featured as keynote speaker former Vice President Al Gore, who presented an impressive multimedia overview of the global effects of climate change. Air District Board Chairperson Gayle B. Uilkema opened the proceedings, followed by the District's Executive Officer, Jack Broadbent.

Other speakers included:

- Dave Douglas, Vice President of Eco-Responsibility at Sun Microsystems
- Michelle Wyman, Executive Director of ICLEI Local Governments for Sustainability

EPA Passes New PM Standards

The federal Clean Air Act authorizes the U.S. EPA to set *National Ambient Air Quality Standards* for pollutants considered harmful to public health and the environment.

On September 21, the EPA passed a new national air quality standard for $PM_{2.5}$. The new rule retains the previous $PM_{2.5}$ annual standard of 15 micrograms per cubic meter, but lowers the 24-hour average standard from 65 to 35 micrograms per cubic meter. (The EPA also decided to retain the existing PM_{10} standards.)

The rule was published in the Federal Register in early October, and became effective on December 18. The Bay Area has met the previous national standards for $PM_{2.5}$ and the current national standards for PM_{10} , but remains out of attainment of the stricter California standards for both of these pollutant categories.

So this winter, if you feel the urge to cuddle up in front of a warm fireplace, try a natural gas model. And if you must burn wood, please don't do so on *Spare the Air Nights*.

—Aaron Richardson

- Thomas B. King, CEO of PG&E
- Michel Gelobter, Executive Director of Redefining Progress
- Steve Heminger, Executive Director of MTC
- Carl Guardino, President and CEO of the Silicon Valley Leadership Group

Afterwards, Bay Area leaders participated in five engaging and well-attended network discussion sessions, where they strategized and developed climate protection solutions for the region.

Session titles and hosts were as follows:

- Policy-Makers, hosted by Timothy Burroughs of ICLEI;
- Business, hosted by Margaret Bruce of the Silicon Valley Leadership Group and Andrew Michael of the Bay Area Council;
- Nongovernmental Organizations, hosted by Michel Gelobter of Redefining Progress;
- Transportation, hosted by Steve Heminger of MTC; and
- the Next-Generation, hosted by Jim Callahan, a 2004 Clean Air Champion, and Nia Robinson of the

Environmental Justice and Climate Change Initiative.

Over 500 people attended the Climate Protection Summit. Among those invited were mayors and supervisors from the 101 cities and nine counties in the Bay Area, the directors of the regional agencies (the Air District, the Association of Bay Area Governments, and the Metropolitan Transportation Commission), directors from the larger transit agencies, local community leaders, and executives from some of the most visible and influential private companies in the region. Other invitees included local government staff members, representatives from nongovernmental organizations, and a contingent of high-school and college students active in climate protection.

The summit successfully brought together hundreds of Bay Area leaders and inspired participants to take action to protect the climate. It is expected to be part of a long-term climate protection effort for the whole region. The Air District intends to follow up through the use of sector-based network groups that will provide participating organizations with resources and support for implementing climate protection solutions.

Technology Study

The study of greenhouse gas emission-reduction technology is currently in progress. This study focuses on identify-

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Climate Change Basics

Climate change refers to changes in the Earth's weather patterns, including rising temperatures, that are due to an increase in heat-trapping—or "greenhouse"—gases in the atmosphere. These heat-trapping gases allow sunlight to enter the atmosphere, but prevent radiative heat from escaping into outer space, thus altering the energy balance of the Earth. Greenhouse gases include carbon dioxide, methane, nitrous oxide, and sulfur hexafluoride, among others. Human activities are producing tremendous amounts of these gases, with the burning of fossil fuels for heat, electricity, and transportation the main source.

Climate change is already taking place: the average surface temperature of the Earth has increased about one degree Fahrenheit over the last century. There has been a rise in ocean water temperatures and mean sea level, and snow and ice cover have decreased at the poles and on mountain glaciers. Seasons have correspondingly changed—the growing season has lengthened and trees are flowering earlier. As a result of these climatic changes, some animal and plant ranges have been migrating toward higher latitudes, while other plant and animal species have experienced a decline. If climate change remains unabated, surface temperatures are expected to increase anywhere from 1.4° to 5.8° Fahrenheit by the end of the century.

The most severe climate change impacts can still be avoided, however, if we act now. Everyone can take actions to reduce emissions of greenhouse gases. Driving less, or driving more fuel-efficiently, will lower emissions, as will recycling, composting, and decreasing the amount of waste we produce. Using less electricity and water will also contribute to greenhouse gas emission reductions. In the end, it's up to each of us to make a difference.

—Ana Sandoval

State Targets

Hours after the Air District adopted the climate protection program resolution, Governor Schwarzenegger signed Executive Order #S-03-05 establishing the following greenhouse gas (GHG) emission reduction targets for the state of California: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; by 2050, reduce GHG emissions to 80 percent below 1990 levels.

In that same Executive Order, the governor assigned the California Environmental Protection Agency to coordinate efforts to meet these targets with the Business, Transportation and Housing Agency, the Department of Food and Agriculture, the Resources Agency, the California Air Resources Board, the Energy Commission and the Public Utilities Commission. In April 2006, these agencies, also known as the Climate Action Team, submitted a report to the governor with recommendations and strategies for meeting the established targets.

In September 2006, Governor Schwarzenegger signed AB 32 (Nunez and Pavley) into law. This California Global Warming Solutions Act of 2006 incorporates the Governor's greenhouse gas reduction targets and creates a mechanism and timeline for achieving them. Under its terms, the California Air Resources Board is tasked with developing regulations to facilitate this process.

—Ana Sandoval

Climate Change

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ing technology and processes to reduce greenhouse gas emissions from permitted sources in the Air District's jurisdiction, and evaluating them to determine which are most viable. A final report is expected in early 2007.

Emissions Inventory

A regionwide greenhouse gas emissions inventory has been completed for base year 2005. The inventory was presented at the November 10 climate protection summit for future use as an informational and educational tool.

As the regulatory agency for air pollution emissions in the Bay Area, the Air District is a natural fit for addressing the greenhouse gases that contribute to climate change. By taking a leadership role in mitigating these emissions, the District will continue its traditional mission of achieving health-based air quality standards, while assisting in reducing the overall regional contribution to global climate change.

—Ana Sandoval

Carl Moyer

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Four Grant Application Workshops for the Carl Moyer Program were held in early December. At the workshops, Air District staff described the Carl Moyer Program guidelines, explained how to apply for a grant, and answered questions about the program.

In the spring of 2006, the Air District's Board of Directors approved \$15.8 million in incentive funding for 110 projects. The grants will be funded by a combination of \$2.67 million in Carl Moyer Program funds provided by the California Air Resources Board, and approximately \$13.2 million in revenues from the Air District's MSIF Fund.

For more information, visit the Air District's website at www.baaqmd.gov, and select "Carl Moyer Program" on the toolbar under "Grants and Incentives."

—Alison Kirk & David Burch

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2006 Rulemaking Activity

April 5 — Amended
Regulation 12: Miscellaneous Standards of Performance, Rule 12: Flares at Petroleum Refineries

The amendments to *Regulation 12, Rule 12* require a causal analysis of flaring at rates lower than the current 500,000 cubic feet per day of vent gas if emissions of sulfur dioxide exceed 500 pounds per day.

June 7 — Amended
Regulation 3: Fees

The amendments to *Regulation 3: Fees* increased permit program fees effective July 1, 2006 to enable the Air District to address increasing regulatory program activity costs. Permit fees are usually increased on an annual basis, and this amendment also incorporates suggestions made as the result of a Cost Recovery Study performed in 2005.

July 19 — Adopted
Regulation 2: Permits, Rule 10: Large Confined Animal Facilities — Amended

- *Regulation 1: General Provisions and Definitions;*
- *Regulation 2: Permits, Rule 1: General Requirements*

The adoption of this rule for Large Confined Animal Facilities, with the associated rule amendments, was necessary for compliance with the requirements of SB 700 regarding agricultural sources of air pollution. Current agricultural facilities in the Bay Area, concentrated in Marin, Napa, and Sonoma counties, are not large enough to be affected by SB 700 requirements. Staff may consider regulating confined animal facilities or other equipment used in agricultural operations in the future.

October 18 — Amended
Regulation 8: Organic Compounds, Rule 5: Storage of Organic Liquids

This rule regulates large organic liquid storage tanks usually found in petroleum refineries, chemical plants, and bulk gasoline distribution facilities. The amendments implement control measure SS-9 from the *Bay Area 2005 Ozone Strategy*, in order to reduce emissions of organic compounds that form ozone. The amendments:

- 1) create a new, voluntary self-inspection and maintenance program, in order to encourage more frequent inspections to find and repair minor defects in tanks;
- 2) add leak requirements for tank shells and emission limitations on tank pontoons;
- 3) require low-emission cleaning agents to be used on tank interiors, and impose containment standards for sludge removed from tanks; and
- 4) require emissions monitoring during tank degassing.

The amendments also clarify language throughout the rule.

December 6 — Amended
Regulation 9: Inorganic Gaseous Pollutants, Rule 9: Nitrogen Oxides from Stationary Gas Turbines.

The rule sets emission limits for gas turbines used to generate electricity or provide steam or mechanized power in various industries. The rule amendments implement control measure SS-14 from the *2005 Ozone Strategy*, reducing allowable nitrogen oxide (NOx) emissions from some categories of Bay Area turbines. The rule creates a new form of emission standard, pounds-NOx per Megawatt-hour, which encourages energy efficiency as a way to reduce global warming emissions. Also, the amendments categorize turbines by heat input (fuel used) and create minor exemptions for very limited-use turbines and inspection and maintenance activities.

For more information on recently adopted rules, visit the Air District's website at www.baaqmd.gov, and click on "Rules & Regulations" and then "Adopted & Amended."

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