

# CLEAN AIR MAYORS

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## Ozone Non-Attainment Area Recommendations To Be Made By April

The States have new deadlines to make recommendations to the U.S. EPA on the boundaries of non-attainment areas for areas violating the new 8-Hour Ozone and PM-2.5 standards. Recommendations for ozone are due in April, with recommendations for PM-2.5 due in September. Based on these recommendations, EPA will make formal non-attainment designations by April 2004 for Ozone and in late summer 2004 for PM-2.5.

### BACKGROUND

The Clean Air Act requires the U.S. EPA to set Federal standards for six air pollutants at levels to protect human health. The six pollutants, termed "criteria pollutants," are carbon monoxide, sulfur dioxide, ozone, nitrogen dioxide, mercury, lead, and particulate matter. The Act also requires that EPA review the regulatory standards for these pollutants every five years and make revisions as necessary. The last round of these reviews was completed in 1997, with EPA issuing new standards for ozone and particulate matter (PM). Tighter standards for these two pollutants were required because new medical evidence showed negative health impacts at levels lower than the standards in place at that time. The standards for the other four criteria pollutants were left unchanged.

State ozone non-attainment area recommendations would have been due in 1998 had not the new, tighter standards been challenged in court by industry groups. The ozone standard was all but overturned by a 1999 D.C. Circuit Court decision. That decision, however, was then reversed by the U.S. Supreme Court in 2001. After the last remaining legal challenges were resolved in March 2002, the agency was expected to renew its call to the States to submit ozone non-attainment area recommendations.

However, by May the EPA had not moved forward and agency staff were saying to not expect action until 2004. A coalition of environmental and public health advocacy groups began pursuing a lawsuit against EPA to force the agency to move forward on this issue. Instead of going to court, EPA and the groups reached a settlement that included the April 2003 deadline to the States for ozone.

EPA announced on December 20th that particulate matter non-attainment area recommendations by the States are due in September 2003.

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# Cleaner Air is a Priority in the Heart of Silicon Valley

The City of Santa Clara, California is located in the heart of Silicon Valley, where technology is the lifeblood of the people and businesses who call this city their home. The hi-tech battle for cleaner air is being fought on many fronts in Santa Clara and cities like it across the U.S.

A major tool in Santa Clara's arsenal is its municipal electric utility, Silicon Valley Power (SVP). One of the most recent efforts is the purchase of a fleet of electric-hybrid transit buses to provide free commute transportation to

major employment centers in the area. Commissioned in November of 2001, the Breathe Easy Express buses are among the first of their kind in the U.S. Each bus is powered by two packs of gelled lead-acid batteries that are charged with SVP power, which in itself is an act of conservation, as SVP gets less than 25 percent of power from fossil fuels. Two Capstone Micro Turbines running on propane provide additional charge to each bus.

Employees from more than 30 companies, many of them household names in technology such as Applied Materials and 3Com, use the free bus service each working day. Those companies also helped design the bus routes.

## AIR QUALITY 101: OZONE UP HIGH – GOOD; OZONE DOWN LOW – BAD

*Question:* What does the hole in the Ozone Layer have to do with the new 8-Hour Ozone Standards and non-attainment areas?

*Answer:* Nothing.

The role of ozone in the air is a point that is often misunderstood.

The ozone layer is a concentration of ozone molecules in the *stratosphere*. The layer of the Earth's atmosphere that surrounds us is called the *troposphere*. The stratosphere, the next higher layer, extends about 10-50 kilometers above the Earth's surface.

**Stratospheric ozone** is a naturally-occurring gas that filters the sun's ultraviolet (UV) radiation. In the 1980s, scientists began accumulating evidence showing that the ozone layer was being depleted. Depletion of the ozone layer results in increased ultraviolet (UV) radiation reaching the Earth's surface, which can lead to a greater chance of overexposure to UV radiation and the related health effects of skin cancer, cataracts, and immune suppression. Increased UV can also lead to reduced crop yield and disruptions in the marine food chain. In this case, ozone is a good thing – it protects human health and the environment.

In 1987, the U.S. Senate ratified and the President signed the Montreal Protocol, an international agreement designed to protect the ozone layer by phasing out ozone-depleting substances – namely the class of chemicals known as CFC's. If reductions of these chemicals stay on track, the ozone layer is expected to recover by about 2050.

However, **Ground-level ozone** – ozone that occurs in the air around us, the troposphere – is harmful to human health. Ground-level ozone is caused by the release of volatile organic compounds (VOC's) and nitrogen oxides (NOx) into the air. When these chemicals are released into the air, through a chemical reaction they react with sunlight and heat to create ozone. Cities experience ozone violations in the summer months because more heat and sunlight means that more ozone is produced.

## SOLAR ENERGY EDUCATION, INCENTIVES

The use of solar energy also means cleaner air, and the latest project in Santa Clara to promote solar energy education is the creation of the Solar Explorer, a miniature 'house on wheels' equipped with solar panels, energy efficient devices and displays. Funded by Silicon Valley Power's Public Benefits Fund, the Solar Explorer is designed to demonstrate how well energy efficient equipment and solar energy can fit into any home. Built to look like a small ranch style house and equipped with solar panels that power the lighting and electric safety displays inside, the Explorer showcases solar energy, energy efficient lighting (including a "sky tube" skylight), windows, doors, insulation, and other energy efficient technologies. Informative displays explain the technology and advantages of insulated, double-pane windows, compact fluorescent lighting, and cotton or fiberglass insulation. This mobile energy efficiency learning center made its debut in April of this year and is scheduling appearances at schools and public events throughout the city all year around.

The City of Santa Clara has been active in the development and promotion of the use of solar energy since 1975, when it established the nation's first municipal solar utility. Under current programs, the City's water utility supplies, installs and maintains solar water heating systems (solar pool heating and domestic hot water heating) for residents and businesses within Santa Clara. Silicon Valley Power has also worked with Santa Clara residents to help fund the installation of 12 solar electric systems.

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## City Leaders Recognize the Significance of Renewable Energy By Committing to EPA's Green Power Partnership

In today's energy market, there are substantial differences among energy sources that are used to create electricity, with a wide variation in environmental impact. Traditionally, electricity in the United States is produced by the combustion of fossil or nuclear fuels—forms of power generation that can be harmful to human health and the environment. However, market changes are making cleaner ways of producing power increasingly available and consumers now have the opportunity to choose how their power is generated. These market changes have given commercial, industrial and public sector organizations the opportunity to choose power from green, renewable sources, like wind and solar.



The U.S. Environmental Protection Agency (EPA) has created the Green Power Partnership to assist and promote organizations that want to commit to using renewable energy for a portion of their electricity needs. Those interested in becoming Partners in the program pledge to procure an amount of renewable energy proportional to their annual electricity use. Innovative government leaders like the Cities of Chicago, Santa Monica, and Portland are emerging to drive demand for new green power capacity and reducing their own environmental impacts. They have joined the Green Power Partnership as Founding Partners and have committed to purchase green power—seeking out the latest energy innovations to improve the environment.

The City of Chicago has committed to meet 10 percent of its electricity needs with green power. Initially, the majority of the power will come from landfill gas plants, with the remainder coming from a mix of wind, solar, and small hydro. In setting a green power goal for the City, Chicago Mayor Richard M. Daley was able to encourage a variety of additional participating townships and government agencies to purchase green power. The City plans to increase the percentage of green power supply to 20 percent within five years.

“We are going to buy cheaper energy, we are going to buy less energy, and we are going to help develop a deregulated

electricity market in Illinois in a way that improves the environment as well as the economy,” says Mayor Daley.

Another city with a commitment to green power is Santa Monica – the first municipality in the United States to purchase 100 percent renewable energy for its facilities. Starting in May 1999, the City entered into a one-year agreement with Commonwealth Energy for the purchase of 100 percent renewable energy for all City facilities within Southern California Edison's service territory. After the first one-year term ended, the City renewed the agreement through May 2001.

In late 2000, despite significant renewable energy purchases like that of the City of Santa Monica, the market for green energy nearly collapsed in California. Wholesale electricity costs spiraled out of control and made it difficult for green energy service providers to offer competitively priced power. Since then the renewable energy market in California has been subject to severe stress and many renewable energy providers have ceased electricity generation. Despite the uncertainties, the City of Santa Monica continued to purchase renewable electricity.

When, in March 2001, a significant rate increase for all investor-owned utility customers went into effect, City staff commenced discussions with Commonwealth Energy to try

**“We are going to buy cheaper energy, we are going to buy less energy, and we are going to help develop a deregulated electricity market in Illinois in a way that improves the environment as well as the economy.”** *Chicago Mayor Richard M. Daley*

to negotiate a lowered power cost for the upcoming contract renewal period. Commonwealth agreed to provide the City with 90 percent renewable energy from geothermal plants in Northern California and 10 percent new renewable energy from other sources at a significant savings over what the City would have had to pay the local utility for non-renewable power. So, the City agreed to another renewable energy purchase from Commonwealth through May 2002 with an option to renew for five additional years.

*For more information about the Green Power Partnership, go to <http://www.epa.gov/greenpower>*

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## Silicon Valley

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### **EV'S, HYBRIDS AND PEDAL POWER**

To reduce the impact of automobile emissions, Santa Clara has purchased a fleet of hybrid-electric and all-electric vehicles (EV's) for official city use. A total of 8 Honda EV's are 'plugged in' at city government and utility lots, and 19 hybrid Toyota Prius have been added to the fleet as well. The city donated 6 electric-assisted bikes to the Santa Clara Police Department's bicycle patrol unit.

### **CONSIDER THE SOURCE**

Improving the air quality in our cities is best achieved by approaching the problem from every conceivable angle. Incentive programs that encourage participation by businesses and residents can be most effective, such as solar rebates, ride sharing, corporate power reduction pools, and any pro-

gram that engages citizens in working toward a common goal.

Where we buy, and how we generate, electrical power makes a difference in our cities' air quality and in the regions we buy it from. Renewable resources include geothermal, small hydroelectric, solar and wind. Non-renewable, and having a more negative effect on air quality, are sources such as coal and natural gas.

Silicon Valley Power has been a leader by purchasing electricity from the cleanest available and most cost-effective sources. The utility recently published its Power Content Label, that details the various sources of energy purchased by the utility for distribution to the people and businesses of the Santa Clara area. Santa Clara customers enjoyed twice the amount of renewable energy in their power mix, on average, than others in the state of California.

*Visit the City of Santa Clara online at [www.ci.santa-clara.ca.us](http://www.ci.santa-clara.ca.us)*

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