

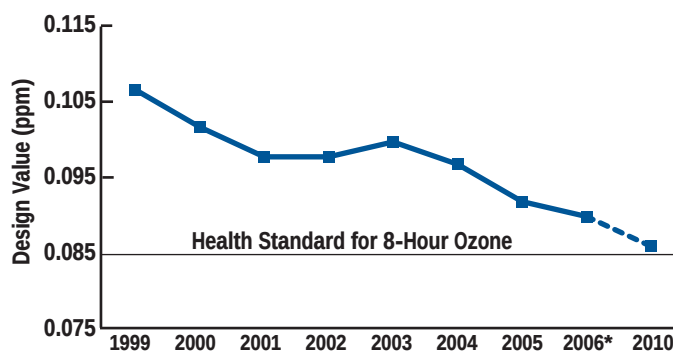
Improving Air Quality: Ozone

Metropolitan Washington Region Air Quality Plan

THE METROPOLITAN WASHINGTON AIR QUALITY COMMITTEE IS DEVELOPING A NEW PLAN TO IMPROVE AIR QUALITY IN THE WASHINGTON REGION. THE PLAN CONTAINS PROGRAMS THAT WILL ENABLE THE REGION TO MEET THE NATIONAL AIR QUALITY STANDARD FOR OZONE AND PROTECT PUBLIC HEALTH AGAINST OZONE'S HARMFUL EFFECTS.

Metropolitan Region Air Quality Plan

States are required to monitor air to ensure compliance with the U.S. Environmental Protection Agency's (EPA's) national air quality standards. A region with air containing more pollution than the standards permit is a "nonattainment area." The Clean Air Act gives deadlines for meeting the air quality standards, the timing of which depends upon the severity of the region's pollution. Each nonattainment area must prepare a State Implementation Plan (SIP) to show how it will meet the standards by the EPA deadline. The proposed "Plan to Improve Air Quality in the Washington, DC-MD-VA Region" is the latest revised SIP in a series beginning in the 1970s. It contains some of the same information presented in previous plans, but also includes new information based on the latest available data important to air quality planning.



*2006 data are preliminary.

Note: Design Value = 3-year average of the 4th highest 8-hour maximum ozone concentration.

Ozone levels have dropped since 1999, and are expected to meet the health standard in 2009.

Air Quality Plan Revisions

A SIP revision is necessary when planning assumptions or requirements change significantly. In response to studies that indicated that serious health effects were occurring at levels of exposure lower than the national ozone standard, in 1997 EPA lowered the standard to 0.08 parts per million averaged over 8 hours, because it more directly relates to the health effects of exposure to ozone. The new standard is designed to reduce long-term exposures to ozone, which can inflame the lungs, impair lung defense mechanisms, and lead to emphysema, bronchitis, and other chronic respiratory illnesses.

In 2004, the Washington region was designated to be “in moderate nonattainment” of the 8-hour ozone standard. The region’s proposed air quality plan presents a strategy for meeting the 8-hour standard by the 2009 EPA deadline.

Elements of Air Quality Plans

A SIP must contain an inventory of all man-made emissions in the region, an estimate of the quantity of emissions allowed under the air quality standard, a plan for reducing emissions to that level, and a plan for additional “contingency” reductions, to be implemented if the region fails to meet its attainment deadline. The region must also demonstrate that it considered all reasonably available emission control measures during the design of its air quality plan. The proposed air quality plan contains all of these elements.

Emission Inventories

The Clean Air Act requires the region to continually reduce emissions below 2002 levels until the ozone standard is attained. The new plan contains an accounting of man-made volatile organic compound (VOC) and nitrogen oxide (NO_x) emissions, starting with a 2002 “baseline” inventory and continuing through 2009, the year the region expects to meet the standard. The 2002–2009 inventories include emissions from four source categories: point, area, on-road, and non-road sources. Because the quantity of emissions in the region is directly related to the number of people and businesses, future inventories are calculated using population, household, and employment data.

Emission Controls

Since 1990, the region has adopted one of the nation’s most aggressive sets of air quality controls, covering everything from power plants to hair sprays. In cooperation with the states, the Metropolitan Washington Air Quality Committee (MWAQC) identifies which control strategies to adopt and when they must be implemented. Once the air quality plan is approved by EPA, its control strategies become binding regulatory obligations. The new plan calculates the reductions from each of the control measures and totals them to demonstrate that the region will reduce emissions to the required levels.

Metropolitan Washington Air Quality Committee

MWAQC is the regional air quality planning committee, consisting of elected officials from 21 cities and counties in the Washington nonattainment area, plus representatives from state legislatures, air agencies, and transportation agencies. MWAQC has primary responsibility for developing SIPs to achieve the air quality standard for ozone and fine particles.



State and Federal Control Measures

Over 100 different state and federal control measures have been or will be adopted to achieve clean air in the Washington region. The following regulatory control strategies, which target the four source categories, achieve the greatest reductions:

Point Sources

- Power plant controls to reduce smokestack NO_x emissions

Area Sources

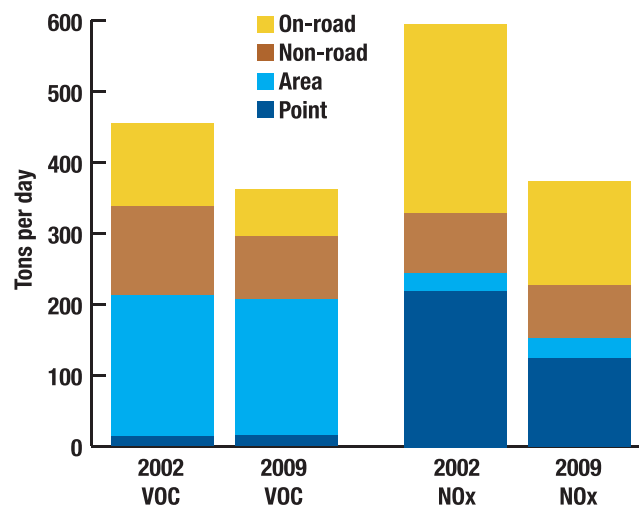
- Reformulated consumer products—aerosols, portable fuels, and adhesives—to reduce vapors
- Redesigned portable fuel containers for kerosene

Non-road Sources

- National standards for cleaner heavy-duty engines

On-road Sources (Cars, Trucks, Buses)

- Inspection and maintenance programs to maintain vehicle emission systems
- Cleaner-burning gasoline
- National controls to require cleaner engines on all new cars, SUVs, and heavy-duty trucks



The air quality plan's state and federal measures for controlling VOC emissions from the evaporation of alcohol and petroleum products and NO_x emissions from burning energy-producing fuels will enable the Washington region to achieve the national 8-hour ozone standard by 2009.

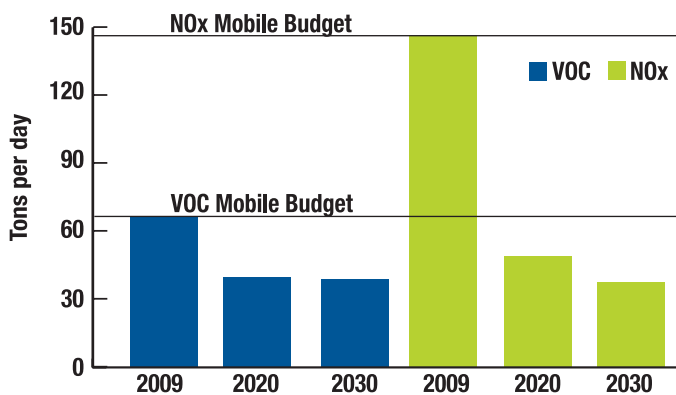
Local Government Initiatives

The new air quality plan contains a group of innovative, nonregulatory emission reduction programs developed and funded by state and local governments. These programs focus on reducing emissions at the local level by purchasing renewable energy and low-emission vehicles, constructing green buildings, using low-emission paint, and retrofitting diesel school and transit buses to reduce emissions. Several counties in the region have pledged to participate in these programs. In addition, local governments are adopting energy efficiency and green building initiatives that produce air quality benefits beyond the 2009 horizon of the proposed air quality plan. These environmentally beneficial actions taken by local governments will set the stage for future emission reduction strategies.



Transportation Planning

The Clean Air Act requires air quality plans to include limits on VOC and NO_x emissions from mobile sources, such as cars, trucks, and buses. These limits are referred to as “mobile source emissions budgets.” The emissions budget incorporated in the most recent regional transportation plan is set at a level consistent with achieving the ozone standard by September 2009. It was based on 2009 mobile emissions, taking into account all control measures designed to reduce emissions from vehicles or the number of miles traveled. The plan projects that cleaner vehicle technology will significantly reduce mobile emissions over the next decade.



The air quality plan's proposed mobile emissions budget sets 2009 caps of 66.68 and 146.53 tons a day for VOC and NO_x emissions, respectively. On-road mobile emissions of these ozone precursors are expected to continue to decline in the region as mobile emission control programs are implemented.

Next Steps

Maryland, Virginia, and the District of Columbia will submit the new regional air quality plan to EPA in the spring of 2007. Once EPA verifies that the plan is technically correct and meets all Clean Air Act requirements, it will issue an official rulemaking approving the plan. EPA will also conduct a separate review of the mobile emissions budget to determine whether it is consistent with the goal of attaining the national 8-hour ozone standard. EPA is expected to complete the rulemaking process in 2008. The Metropolitan Washington Air Quality Committee will periodically revisit the plan to review its assumptions and determine if the region is still on course to meet the national ozone standard.

Regional Air Quality Contacts

MWAQC www.mwcog.org/environment/air

District of Columbia Department of Environment www.doh.dc.gov

Maryland Department of the Environment www.mde.state.md.us

Virginia Department of Environmental Quality www.deq.virginia.us

Clean Air Partners www.cleanairpartners.net

Air Quality Hotline 202-962-3299

Real-Time Air Quality Data www.air-watch.net

Alternative formats of this publication can be made available for persons with disabilities.

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