

Air Quality Gold Book

State and Local Government Initiatives to Clean the Air

Metropolitan Washington, D.C. Severe Ozone Nonattainment Area

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Air Quality Gold Book – Introduction

Government agencies in the Washington, DC ozone nonattainment area have a long history of undertaking emission control measures to improve air quality and protect public health. The region recently completed a plan demonstrating that the air quality standard for ozone will be met by 2005, which is the region's attainment date under the Clean Air Act. This State Implementation Plan (SIP) includes dozens of measures that reduce emissions from multiple sources in the region and quantifies the emission reductions resulting from those measures.

State and local governments in the area are taking several additional steps that result in improved air quality, but which are not easily quantifiable or are not being credited in the SIP. Several additional initiatives that have been explored and are of significant interest, but have not been implemented by state and local governments because of a shortage of time or resources.

This gold book is a compendium of those initiatives. It presents the innovative measures that are now underway and promising measures for the future that make a difference in our region's air quality. Through the efforts of the participating state and local governments, as outlined in this document, the region has taken many important steps to reduce emissions above and beyond the requirements of federal or state law.

The Gold book measures contained in this document are categorized into the following types:

- I. Programs that are currently in place
- II. Promising initiatives that exist and are available for expansion without significant new effort
- III. Promising initiatives that could be in place in the future with additional effort.

The second and third categories include measures that have been discussed at the regional level and have interest, or those that are already planned but will not take place until after the region's 2005 ozone attainment date.

None of the measures in this gold book are included in the SIP. This gold book is intended to be a changing document. It currently represents programs and/or discussions that have been implemented or that have taken place to date. Additional measures are likely to be added in the future, and some of these measures may be used in a future SIP and therefore will be removed from the gold book.

I. EXISTING PROGRAMS

1. Smart Growth Planning

This measure requires or supports development along corridors or in sub-regional areas that is not vehicle-dependent. This development takes advantage of proximity to transit and/or commercial and retail establishments and is of a density sufficient to support trip-making by modes other than vehicles.

Status

Transportation policies in the region have resulted in investments in mass transit facilities and services. Efforts to promote transit oriented development are helping to encourage use of transit rather than private vehicles. The Rosslyn-Ballston corridor in Arlington County, Virginia is a nationally-recognized model of long-range planning which has resulted in the location of high-density commercial and residential development within close proximity to Metrorail stations, and accompanying high levels of transit use. Similar success stories can be found in the District of Columbia and suburban Maryland.

The region's current transportation program includes a new Metrorail station and associated transit-oriented development at New York Avenue on the Red Line in the District of Columbia, as well as an extension of the Blue Line from Addison Road to Largo in Prince George's County. Both of these Metrorail improvements will be open and contributing to emissions reductions in the attainment year of 2005.

Emission Benefits

Smart Growth planning aims to reduce VMT, which leads to fewer VOC and NOx emissions.

2. Locomotive Idling Restrictions

This measure involves signing Memoranda of Understanding (MOU) between the state air agencies and local freight and commuter rail operators in the Metropolitan Washington region. Locomotives may operate in idle mode while sitting in stations for long periods, resulting in emissions from diesel engines.

Status

The Virginia Railway Express has signed a commitment letter that states VRE will install electrified auxiliary power units (APUs) for 13 locomotives. The installation of these units will reduce fuel consumption and emissions from idling locomotive engines.

MOUs are also being pursued between the Maryland Department of the Environment, the District of Columbia Department of Health and CSX Transportation (CSX), a freight railroad operating switchyards in the Metropolitan Washington region. CSX will install APUs on 22 switching locomotives in the region. The installation of APUs reduces fuel consumption and emissions from idling locomotive engines.

Emission Reductions

The 13 APUs that VRE has committed to use will result in a 0.10 ton per day reduction in NOx emissions in 2005. The MOUs with CSX will result in a 0.20 ton per day reduction in NOx emissions in 2005.

3. Clean Air Partners Program

In late 1994, the governments of Maryland, Virginia and the District of Columbia provided funds for a regional coordinated clean air public outreach program administered by the Baltimore Metropolitan Council (BMC) and the Metropolitan Washington Council of Governments (COG). The intent was to create a public education program, which would involve citizens and businesses in taking voluntary actions to reduce emissions and improve air quality.

The Clean Air Partnership adopted Ozone Action Days as the key element of the public education effort for the summer of 1996. Employer participants in Ozone Action Days agreed to promote voluntary actions among their employees and establish workplace policies to reduce emissions, especially during predicted ozone episodes. Ozone Action Day materials were developed and nearly 120 employers were recruited to join the Ozone Action Day program. More than 1.5 million pieces of literature were printed; lobby posters and flags were produced for participating organizations.

During episodic high ozone days, the Maryland Department of the Environment (MDE), with the assistance of the Clean Air Partners, is involved in a strategic public outreach project that concentrates on lowering daily ozone levels. By giving the ozone level a code (red/ orange/ yellow/ green) and notifying the public and the business world, the MDE acts to educate the hazards of ground-level ozone and reduce many of the human based activities that enhance ozone creation. On high ozone days, faxes, emails, and phone calls go out to the members of the Clean Air Partnership who promote carpooling, fueling after dark, ride-sharing, trip and reductions. Surveys have shown that the system is successful in educating the public on the ozone problem and assists in the reduction of human based activities that enhance ozone creation.

Emission Reductions

The Board of Directors and funding agencies for Clean Air Partners is discussing the issue of placing the program into the region's State Implementation Plan for emissions

credit. Clean Air Partners has quantified many of the program’s benefits through surveys and transit ridership data collection.

4. Episodic Measures

Episodic measures are those that are put into place on days when ozone levels are forecasted to approach or exceed the air quality standards. Episodic measures involve eliminating or postponing activities that produce ozone-forming emissions. These include vehicle fueling, painting, driving, operating lawn and garden equipment and construction equipment, and many other activities. The region has an extensive ozone action day program to educate the public, employers, and local governments about episodic programs and obtain their participation on high-ozone days.

By eliminating or postponing the emission-producing activities the region may avoid an exceedance of the ozone standard.

Status

Numerous local governments in the region and the Virginia Department of Transportation (VDOT) have taken this voluntary program one significant step forward and signed letters that commit them to episodic programs. They include:

- Telework on Code Red days: Fairfax County
- Episodic Ban on use of lawn and garden equipment by government employees or contractors: Fairfax, Montgomery, Prince George’s counties, Maryland-National Capital Park and Planning Commission, VDOT
- Episodic ban on paint striping on roadways: Montgomery and Prince George’s counties
- Episodic ban on paint application: Fairfax , Arlington counties
- Episodic ban on pesticide application: Fairfax county
- Episodic ban on vehicle refueling: Prince George’s, Fairfax counties, VDOT, Maryland-National Capital Park and Planning Commission

Emission Benefits

Eliminating or postponing this activity on high ozone days will result in fewer emissions produced on those days.

5. Tax Incentive for Hybrid Vehicles

This measure provides an economic incentive to purchase hybrid vehicles.

Status

Loudoun County's proposed FY 2005 Fiscal Plan has a property tax rate schedule containing a separate category for "special fuels" for commercial and non-commercial vehicles with a proposed rate of \$0.01 per \$100 of assessed value. This would provide personal property tax relief for the special fuels classification or hybrid vehicle. The proposed budget must go to public hearing before it is adopted next year

Emission Benefits

Hybrid vehicles cost more than conventional gasoline-powered vehicles of the same size and containing similar features. The tax credit provides an economic incentive to purchase a hybrid that reduces the increased cost. This will lead to additional purchases of hybrid vehicles.

6. Best Practices: Pesticide Application

This practice involves the use of Integrated Pest Management to control pests as an alternative to applying pesticides in government buildings.

The pest-killing compounds in pesticide formulations are labeled as "active" ingredients, and the solvents acting as carriers or diluents for the ingredients are labeled as "inert". Both the active and the inert ingredients of the pesticides are considered reactive in the formation of tropospheric ozone and are included in the area source VOC emissions inventory for the Washington, DC ozone nonattainment area.

Many government agencies and school systems have switched to an integrated pest management (IPM) approach over the past several years. An IPM approach uses investigation, education, and exclusion (keeping pests out) before treatment is applied, and relies on baiting and trapping as much as possible before chemical application. These techniques substantially reduce application of pesticides with reactive VOC content.

Status

Maryland State law requires that schools use an integrated pest management program. Interview with school facility managers in Montgomery County indicated that the primary method of controlling pests utilizes baiting and trapping as well as prevention, and that chemical use is primarily restricted to stinging insects. As a result, the use of pesticide has decreased significantly. Virginia law requires that school systems notify parents when chemical pesticides are going to be or have been applied, and school policy states that an IPM approach is to be followed.

Emission Benefits

This measure would reduce VOC emissions in the Washington region.

II. EXISTING INITIATIVES AVAILABLE FOR EXPANSION

7. Expanded commuter choice programs (Commuter Connections, telework)

Commuter Connections is a regional network of transportation organizations coordinated by the Metropolitan Washington Council of Governments to provide employers and commuters in the region with information on commute options. Services provided by Commuter Connections include carpool/vanpool matching, transit route and schedule information, a regional Guaranteed Ride Home program, bicycle to work information, park-and-ride lot and HOV lane information, telecommute/telework program assistance, InfoExpress commuter information kiosks, commuter information services through the Internet, and employer services.

The regional MetroChek Program is making employer-provided transit subsidies available to increasingly large numbers of workers. The increasing use of WMATA's Smartrip cards is permitting the direct provision of MetroChek subsidies for transit riders at fare card machines, and the expansion of this technology to commuter rail and buses will provide for seamless transfers for transit riders within the next few years.

Under this measure, the program would be expanded to encompass more participants, reach more employers and commuters, and provide outreach about the benefits available to the public.

Options

Commuter Connection measures aim to reduce VMT, which leads to fewer VOC and NOx emissions. The Commuter Connection program and various measures under it receive substantial ongoing funding in the region's Transportation Improvement Program (TIP). The program is providing reductions in emissions which are being reflected in transportation conformity determinations. Expansion of current programs may attract additional participation, although notable increases may be difficult to achieve if the current programs have reached most willing participants.

8. Additional Purchase of Bus and Rail Vehicles by WMATA or local transit providers

The region's transit system is one of the best in the nation. A significant number of daily trips are made via transit, which removes vehicles that would otherwise be traveling on roads, and provides transportation for many residents that would not otherwise have the means to make most trips.

Options

Additional funding could be directed to transit agencies to provide greater capacity on the transit systems. This could result in additional rail cars and buses, additional bus routes, or both.

9. Enhanced Bicycle and Pedestrian Access to Transit Stations

This program would focus on enhancing access to transit stations and bus stops for pedestrians and bicyclists, which has the potential to reduce vehicle trips. A program would focus on items such as a network of regional trails, easily accessible bicycle facilities, permitting bikes on transit at more times of the day, a focus on access by people with disabilities, posting signs on established bicycle routes within a half-mile radius of stations and transit centers, racks and/or lockers for bicycles, facilities with adequate space for maneuvering bicycles through stations, adequate crosswalks to enable people to access bus stops on each side of a busy road, locating bus stops where there are sidewalks, providing shelters at bus stops.

Options

This program aims to increase opportunity for more people to use public transportation rather than driving, which leads to fewer VOC and NOx emissions. Enhanced access would allow more people more travel options. Bicyclists have the opportunity to make longer trips to and from transit facilities and reach more destinations. Local funding targeted towards improved access may increase participation.

10. Safe Routes to Schools Programs

Safe Routes to Schools is a popular program spreading across Canada and the U.S. designed to decrease traffic and pollution and increase the health of children and the community. The program promotes walking and biking to school through education and incentives that show how much fun it can be. The program also addresses the safety concerns of parents by encouraging greater enforcement of traffic laws, educating the public, and exploring ways to create safer streets.

Recent studies show that 20-25% of morning automobile traffic in some communities is generated from parents driving their children to school. This has caused increased traffic congestion around schools, prompting even more parents to drive their kids.

A national program has been developed and makes resources and training available to communities who want to establish a local Safe Routes to School program.

Options

This program aims to increase opportunity for more people to walk to schools rather than drive, which leads to fewer VOC and NOx emissions. State and local governments could apply additional resources in their communities to enhance routes to schools.

11. U.S. Green Building Council Guidelines for Energy and Design Standards

The U.S. Green Building Council (USGBC) is a coalition of leaders from across the building industry that promote buildings that are environmentally responsible, profitable and healthy places to live and work. It is a national consensus for producing buildings that deliver high performance inside and out. Members work together to develop design guidelines and resources, the Greenbuild annual conference, policy guidance, and educational and marketing tools that support the adoption of sustainable building. Members also forge alliances with industry and research organizations and federal, state and local government agencies.

USGBC developed the Leadership in Energy and Environmental Design (LEED) Green Building Rating System, which is designed to accelerate the development and implementation of green building practices. LEED is a system for designing, constructing and certifying green buildings. The program offers training workshops, professional accreditation, resource support and third-party certification of building performance. A LEED for New Construction and Major Renovations (LEED-NC) program is designed for rating new and existing commercial and institutional buildings.

Options

Under this program, local and state governments would adopt the guidelines when building new buildings or renovating older buildings. Buildings built or renovated under the guidelines use fewer resources and are constructed with products that have fewer emissions than standard products.

12. Wind Energy Purchase and EPA Green Power Partners

Under this measure, local governments in the nonattainment area would commit to purchasing a specific number of megawatt-hours of power per ozone season day from wind turbines instead of from the power plants that would normally supply power to the Metropolitan Washington region. This will decrease power generation from coal, oil, and/or gas-fired sources, reducing NOx emissions from those sources.

The U.S. EPA created a Green Power Partnership program that encourages organizations to use green power as a part of best-practice environmental management. EPA resources are available to describe green power and its benefits, identify green power leaders, and present ways to participate in the Partnership, including how to buy green power.

Several government agencies and organizations have become Green Power Partners in the regions. They are listed in the table below. The combined green power "commitments" to the EPA Green Power Partnership from these organizations add up to 121,000 MWh of power.

Green Power Partners in The Metropolitan Washington. DC Region

American Council for Renewable Energy	Rivanna Natural Design
American Wind Energy Association	Solar Electric Power Association
Arlington County	State of Maryland
Aurum Sustainability	Technology Transition Corporation
Austin Grill	The Nature Conservancy
Bonny Marlin	The Tower Companies
Catholic University of America	Think Energy Deal
District of Columbia / Reeves Center	Thorpe Wood
Earth Policy Institute	U.S. Dept. of Agriculture / HQ Complex
Ecoprint	U.S. Dept. of Energy / Forrestal HQ
Environmental Resources Trust	U.S. Dept. of Energy/Germantown/ MD HQ Facility
Fairmont Hotel / Washington/ DC	U.S. Environmental Protection Agency
GreenWave Radio	World Bank
Montgomery County/ MD	
National Geographic Society	
National Hydrogen Association	

Options

Governments would commit to participation by signing an MOU with the appropriate state air agency sign long-term commitments with wind power distributors for the purchase of a fixed quantity of power. Additionally, more agencies can sign up to become Green Power Partners.

13. Alternative Fuel Vehicle Purchases

Most recently, some localities have purchased hybrid vehicles that run on gasoline but also use an electric motor. Currently, Toyota and Honda produce small, 4-door passenger hybrid vehicles. These hybrid vehicles have significantly lower tailpipe emissions than a conventional gasoline-powered car, as well as higher fuel economy. In the near future, more hybrid vehicles are expected to be manufactured, including light-duty trucks, which are available for more applications.

Options

Several local and state governments in the region have purchased alternative fuel vehicles for routine operations. The current SIP and conformity analyses include hybrid vehicle purchases for some local governments through the year 2005, including Montgomery, Fairfax, and Prince George's counties. Additional purchases beyond 2005 have been committed to by some local governments.

III. POTENTIAL FUTURE INITIATIVES

14. Cetane Enhanced Diesel Fuel

This measure would require the use of cetane-enhanced diesel fuel in on-road and off-road vehicles and equipment, including heavy duty construction equipment, garbage trucks, bus fleets, and similar vehicles.

Heavy-duty diesel vehicles contribute a significant amount of NO_x emissions in the Washington region. Diesel engines are also very durable - engines have a long useful lifetime and remain a significant source of NO_x until they are retired. Cleaner fuel may achieve immediate emission reductions from the existing fleet.

One way to achieve cleaner diesel is to raise fuel cetane levels; this is an emissions control strategy that could be done without significant capital expense to refineries or distributors.

Cetane is a measure of diesel fuel quality. Increases in the cetane number have been shown to reduce NO_x and hydrocarbons. California and Texas adopted rules that increase cetane, control aromatics, and require a 500 parts per million sulfur standard for on- and off-road diesel fuel.

Options

Under this program, Refineries and distributors would have to either produce diesel with a higher cetane level or enhance the fuel with an additive at the refinery, at the terminal, or at bulk plants.

Some agencies in the region have expressed concern about a cetane program. For example, because Maryland does not permit splash blending, any cetane additive would need to be blended at the terminal. IN addition, cetane additives are not yet verified by EPA, but approval is in the final stages and is expected shortly. Some studies show NO_x benefits of increased cetane decline significantly or disappear with new EGR-equipped HDD engines, and representatives of the trucking industry claim boutique fuels will lead to regional shortages that will cause price spikes, create competitive disadvantage for truck companies in area where cetane required. Many issues need to be researched before a program can be implemented.

Preliminary calculations show that a cetane program for on-road diesel engines in the Washington region would reduce NOx emissions by approximately 4.7 tons per day in 2005.

15. Environmental Performance Contracting – Diesel Engines

This practice results in emission reductions from diesel powered vehicles operating on-road and off-road, including heavy duty construction equipment, garbage trucks, bus fleets, and similar vehicles.

Options

There are three primary ways to reduce pollution from diesel-powered vehicles and construction equipment already in use:

- 1) Install pollution control equipment;
- 2) Convert diesel engines to natural gas engines or other alternative fuels; or
- 3) Use cleaner diesel fuel.

An Environmental Performance Contracting - Diesel Retrofit Program would focus on the installation of pollution control equipment primarily for heavy-duty diesel vehicles such as heavy duty construction equipment, garbage trucks, and bus fleets when contracting with outside vendors for services that utilize these vehicles. As an alternative to a contracting requirement, vendors that meet these specifications can be awarded extra points in the bidding process as an incentive.

An Environmental Performance Contracting - Diesel Retrofit Program requires that contracts issued by state and local governments include a provision that vendors would meet a performance standard for diesel equipment through one of several ways.

Sample contract language has been developed for other areas of the country. Currently, no jurisdictions in the region have implemented this program. There are concerns that the increased costs to agencies and the costs imposed on contractors to meet these requirements might be high. This program is best implemented on a regional basis so that costs are not fully borne by one or a small handful of jurisdictions. The state air agencies are looking into this program.

16. Diesel Retrofits (Tax Credit)

This measure would provide a tax incentive to owners of diesel vehicles or equipment who retrofit engines with EPA-approved equipment.

Options

States or localities could provide tax credits through many means, including annual tax reporting or reductions on personal property or business property assessments.

17. Parking Management

Several parking-related strategies could be implemented regionally or in select jurisdictions that aim to reduce the incidence of driving passenger vehicles and truck to employment locations. These are market-based measures that provide an economic incentive for vehicle drivers to consider other modes of travel such as walking, bicycling, car-pooling, or riding transit.

Options

- a. Parking Impact fee – Under this option, a jurisdiction would impose a fee on every commuter parking space located within the jurisdiction.
- b. Employer parking cash-out – This option would implement a voluntary program encouraging employers to provide the value of subsidized parking to employees. Employees would receive money equal to the value of a parking space. They could then make the choice on how to spend those funds. Options may include paying the money back to continue parking, or opting for another mode with different costs. Employees would realize the monetary savings that other modes would provide.
- c. Commuter parking tax – Under this option, a jurisdiction would impose a tax on commuters that park within that jurisdiction, thereby providing an economic penalty that would make other commute options more economically favorable.

These strategies would reduce demand for commuter parking and increase use of alternative transportation, decreasing vehicle trips and mobile emissions.

18. MOUs with Local Power Plants

Several power plants operating in the region burn by coal to produce electricity. The NO_x SIP call sets an emissions cap for each state in the eastern U.S., but plants are allowed to meet the cap through purchase of emission credits from other plants that may be operating outside that nonattainment area. Under this measure, MWAQC or local air agencies will negotiate Memoranda of Understanding (MOUs) with the operators of power plants located in the Metropolitan Washington nonattainment area to reduce emissions.

Options

These memoranda would commit to reducing emissions from the power plants through installation of additional emissions reduction technology, fuel switching or other

19. Airport Emission Reductions

Two large airports operate in the Washington, DC ozone nonattainment area – Dulles International Airport and Washington Reagan National Airport. The ability of the region to implement regulations that reduce emissions from airport activity is severely limited because of the interstate and international nature of operations and property ownership. There are, however, opportunities for emission reductions from certain airport activities such as ground service equipment (GSE) that provides service to the aircraft and associated equipment and the use of auxiliary power units that would power aircraft while located at terminal gates in lieu of operating aircraft engines.

Options

The Metropolitan Washington Airports Authority (MWAA) which oversees operations at these airports is a participant in the regional planning process. MWAQC has met with and written to MWAA requesting that action be taken to reduce emissions. In the future this could be formalized through development of a memorandum of understanding with GSE operators at the airports that would utilize improved equipment technology, alternative fuels, or retrofits.

MWAQC has also written to MWAA asking them to encourage airlines to take advantage of the Pre-Conditioned Air Units at the airport gates which would reduce emissions caused by aircraft idling at gates. MWAQC staff learned that pre-conditioned air units are available but are underutilized by the airlines.

In other parts of the country, electrified GSE have been put in place in some airports as part of a program funded by the Federal Aviation Administration. The capital cost for these GSE is quite high.

20. Marine Idling Restrictions

This measure involves restricting idling of marine engines operating within the nonattainment area while those craft are docked or stationary for more than a certain length of time. Marine engines are a notable contributor to the region's emission inventory. Federal regulations affecting marine engines have been implemented in recent years. However, the standards are phased in over time. Furthermore, the lifetime of marine engines is long which results in slow turnover of the marine engine fleet to newer, cleaner engines.

Options

Agencies in the region could restrict idling through signing Memoranda of Understanding (MOU) between the state air agencies and local marina operators in the Metropolitan Washington region, and/or through regulations affecting boaters in the region.

21. Truck Stop Electrification

This measure would require or provide incentives for Auxiliary Power Units (APUs) at public and/or private truck stops in the region. The APUs would eliminate the need for truck idling that takes place at the truck stops.

Options

Agencies in the region could implement this measure through several means including public/private partnerships, regulations, or Memoranda of Understanding (MOU) between state agencies and/or truck stop operators.

22. Cleaner Burning Fuels During Ozone Season

This measure would require the use of cleaner burning fuel for diesel powered engines during the ozone season. The fuel is expected to cost more than conventional fuel, so limiting use to the ozone season reduces total cost borne by operators of affected vehicles.

Options

Cleaner burning fuel could be required for several categories of equipment including construction, marine, and agricultural equipment. Options for cleaner fuel include reduced sulfur content, cetane additive, or alternative fuels.

There are many unresolved issues with this measure. The region would need to obtain an EPA Fuel Waiver to implement this measure. Maryland does not permit splash blending of fuel additives on site, which would require blending at fuel terminals. MWAQC staff has investigated the measure and has received extensive comments from the industry regarding the costs and benefits of this measure. Much more research would be required.

23. Value Pricing for Traffic Lanes

Under this option, pricing would be implemented for existing or newly-developed traffic lanes in the region. Pricing would allow vehicles that use the lanes to pay a fee for their use during either certain hours or around the clock. The fee would provide revenue

needed to repay construction costs for those lanes or cover operating costs for existing lanes that have been converted.

Because there is a cost to enter the traffic lanes they would not be used by many drivers, thus resulting in free flow traffic conditions rather than congestions. Drivers would pay to use the lanes in order to reduce travel time. The price could be variable depending on congestion levels. When the lanes approach congestion levels that would impede free flow of vehicles the price would rise, which would result in fewer vehicles entering the priced lanes. Conversely, when overall congestion is low, the price to enter is low in order to induce more drivers out of the non-priced lanes before congestion levels in those lanes become high.

Options

Air quality benefits would accrue when car-poolers and transit vehicles are allowed into the lanes without being charged. This would result in increased car-pooling and transit ridership if travel times in those modes are improved significantly over driving alone.

24. Urban Reforestation

The U.S. Environmental Protection Agency has a program that promotes ideas such as urban forestation and rooftop gardens to reduce the “heat island” effect that takes place in urbanized areas with significant dark-colored surfaces such as parking lots and rooftops of large buildings. There are several such facilities in the region, including parking lots at the Pentagon, the airports, and several shopping malls. The heat generated by these sources increases ambient air temperatures. Reducing these temperatures has the effect of reducing ozone formation across a region.

Options

Localities with major heat island sources could work with EPA staff to implement aspects of their program, this reducing the ambient temperature in that part of the region.