R1- 2015
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Metropolitan Washington Air Quality Committee

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RESOLUTION ON THE METROPOLITAN WASHINGTON AIR QUALITY COMMITTEE'S GOALS FOR REDUCING EMISSIONS IN THE METROPOLITAN WASHINGTON REGION

WHEREAS, the Metropolitan Washington Air Quality Committee (MWAQC) is charged with developing regional air quality plans for ozone, fine particulate matter and carbon monoxide as well as regulatory and non-regulatory controls and initiatives to improve regional air quality and ensure public health protection; and

WHEREAS, the Region has benefited from federal, state and local actions across sectors that, even while accommodating considerable growth, have achieved significant reductions in levels of air pollutants and has attained the National Ambient Air Quality Standard (NAAQS) for five out of six criteria pollutants; and

WHEREAS, the region has not attained the existing NAAQS for ozone and the Environmental Protection Agency has proposed to further reduce the NAAQS for ozone, with a final regulation scheduled to be published in October, 2015; and

WHEREAS, although the region has made significant progress improving air quality in recent years, monitors within the region show that citizens living in the Washington area continue to breath unhealthy air on high ozone days; and

WHEREAS, unhealthy levels of ozone pollution pose risks to all exposed populations, with sensitive groups such as children, older adults, and people with respiratory conditions being most vulnerable; and

WHEREAS, identifying and implementing additional cost-effective actions through a Regional Action Plan that could further reduce ozone levels will assist in protecting public health; and

WHEREAS, MWAQC has worked with state and local governments to develop the Gold Book containing a menu of state and local emission control measures and best practices for potential implementation as listed in the two attached documents; and

WHEREAS, MWAQC will routinely update the menu of options as new measures and best practices are identified; and

WHEREAS, MWAQC recognizes that its member agencies each have unique circumstances that require a flexible regional approach when evaluating and implementing emissions control strategies

NOW, THEREFORE, BE IT RESOLVED THAT BY THE METROPOLITAN WASHINGTON AIR QUALITY COMMITTEE THAT IT:

1. Supports implementation of an early Regional Action Plan to address the current and the future ozone NAAQS and to better protect public health; and

2. Is committed to achieving reductions in air pollutant emissions through a broad range of cost-effective control measures across multiple sectors; and

3. Requests COG staff to provide periodic updates on the status of implementation of the Regional Action Plan as well as other mobile and non-mobile air quality emission reduction strategies by state and local governments in the region and new federal emission reduction measures.

Attachments

1. Regional Action Plan – Potential state-level ozone reduction measures for the MWCOG region

2. Regional Action Plan – Potential local-level ozone reduction measures for the MWCOG region

Regional Action Plan – *State-level ozone reduction measures for the MWCOG region*

MEASURE	REDUCTION POTENTIAL	STATUS (as of 5/20/2015)
POINT SOURCE		
Power Plant Controls Updates*		
State limits can significantly reduce NOx emissions, especially from coal-burning power plants. Maryland has released new regulations that will require coal-fired power plants to operate and optimize existing pollution and combustion controls and demonstrate compliance by meeting a system-wide NOx emission rate of 0.15 lbs/MMBtu as a 30-day rolling average during the ozone season. In Virginia, emissions from the utility sector are dropping due to consent agreement requirements, coal plant retirements, fuel switching from coal to natural gas or biomass, and the increased use of new units, which are well controlled.	Large NOx Reductions	MD - Existing
http://www.dsd.state.md.us/MDRegister/4124/Assembled.htm		
NOx Reasonably Available Control Technology (RACT) Updates		
The Clean Air Act requires states to adopt Reasonably Available Control Technology (RACT) for all major stationary sources of NOx. DC and MD are developing and will soon propose updated NOx RACT regulations. VA's regulations for VOC and NOx RACT under 9VAC5-40 (Rule 4-51) are planned to be updated at the September SAPCB meeting.	Large NOx Reductions	DC - In Development MD - Proposed VA - Planning to Adopt
http://www.epa.gov/region1/airquality/noxract.html		
OTC Natural Gas Ultra Low NOx Burners (ULNBs)		
OTC has developed a model rule for reducing NOx emissions from new natural gas-fired boilers, steam generators and water heaters. The model rule can be implemented as a manufacturing restriction, a sales restriction, a use restriction, or a combination. DC and Maryland are considering this measure.	Large NOx Reductions	DC - Under Consideration MD - Under Consideration
http://www.otcair.org/upload/Documents/Model%20Rules/Tehcnical%20Revisions%20to%20Model%20Rule%20for%20New%20Small%20Boilers%20110831.doc		
Energy Efficiency and Renewable Energy Programs*		
All three states and many local jurisdictions in the region have regulatory, voluntary and/or financial incentive programs for energy efficiency and renewable energy deployment, including Renewable Portfolio Standards, tax credits, high-performance building codes and green building certifications. In 2015, Maryland established a new Climate Change Commission to evaluate the state's progress and consider setting future greenhouse gas reduction goals.	Small NOx Reductions	DC - Existing MD - Existing VA - Existing
AREA SOURCE		
Demand Response Emissions Controls		
Equipment used for demand response may be a significant source of NOx, especially on high electricity demand days. DC is developing a rule to require	Large NOx reductions	DC - In Development

best available control technology (BACT) for demand response equipment. Virginia has implemented a general permit for large demand response units requiring Tier 4 equivalent controls.	On Peak Days	VA - Existing
http://lims.dccouncil.us/Download/29524/B20-0368-SignedAct.pdf http://www.deq.virginia.gov/Portals/0/DEQ/Air/Forms/VDR_Generator_GP_Form-530.doc		
Distributed Generator Limits*		
Generators used for emergency power, peak shaving and/or demand response may be a significant source of NOx, especially on high electricity demand days. Maryland is developing a rule to require generator owners to submit hourly usage data.	Large NOx Reductions On Peak Days	MD - In Development
http://www.mwcog.org/uploads/committee-documents/ZV1aVl1Y20131209141112.pdf		
OTC Architectural and Industrial Maintenance Coatings (AIM)*		
OTC has developed a model rule for setting a limit on VOC emissions from architectural coatings, such as paint, lacquer, enamel and asphalt. DC and Maryland are planning to adopt regulations. Credit in VA may be available without a regulation due to the regional nature of market response.	Large VOC Reductions	DC - Planning to Adopt MD - Planning to Adopt
http://www.otcair.org/upload/Documents/Model%20Rules/OTC_model%20rule_AIM_2010_v15.pdf		
OTC Consumer Products Update*		
OTC has developed a model rule for setting a limit on VOC emissions from consumer products and requiring VOC content reductions over time. DC and Maryland are planning to adopt regulations. Credit in Virginia may be available without a regulation due to the regional nature of market response.	Large VOC Reductions	DC - Planning to Adopt MD - Planning to Adopt
http://www.otcair.org/upload/Documents/Model%20Rules/OTC%20CP%20Model%20Rule%202012%20CLEAN_vs2010.2012%2005%2010.pdf		
OTC Mobile Equipment Repair/Auto Body Refinishing (MMVER)*		
OTC has developed a model rule for limiting VOC emissions from automotive coatings and cleaning solvents associated with auto body and equipment refinishing. DC and Maryland are planning to adopt regulations. Credit in Virginia may be available without a regulation due to regional market response.	Large VOC Reductions	DC - Planning to Adopt MD - Planning to Adopt
http://www.otcair.org/upload/Documents/Model%20Rules/OTC%202009%20MVMERR%20Model%20Rule%20approved%20November%202009.doc		
OTC Solvent Degreasing		
OTC has developed a model rule for reducing VOC emissions from cleaning and degreasing operations, by using solvents with low VOC content, air-tight cleaning systems and/or an approved VOC capture and control device.	Small VOC Reductions	DC - Planning to Adopt
http://www.otcair.org/upload/Documents/Model%20Rules/2011%20OTC%20Model%20Rule%20for%20Solvent%20Degreasing.pdf		
Ultra Low Sulfur Fuel Oil		
Combustion of fuels containing sulfur emits pollutants such as fine particulate matter and sulfur dioxide. Ultra-low sulfur (ULS) fuel, containing no more than 15 parts per million of sulfur, is federally required for motor vehicles. DC has proposed regulations to phase-in sulfur limits for home and water-heating fuel oil.	Small NOx Reductions	DC - Proposed MD - Under Consideration
http://ddoe.dc.gov/page/notice-air-quality-comment-period-and-hearing-sulfur-content-requirements-fuel-oil		

MOBILE SOURCE		
Diesel Vehicle Inspection Programs*		
Inspection and maintenance (I/M) programs help reduce NOx emissions and improve fuel economy. DC, MD, and VA all operate on-road I/M programs. Current federal policy and models do not provide credit for testing diesel engines or equipment in either traditional I/M programs or in smoke opacity programs. OTC and NESCAUM are working with EPA to obtain SIP credit for these programs. DC currently does not test diesel vehicles. MD has a roadside diesel opacity test for heavy duty vehicles. VA currently tests light duty diesel vehicles and will be expanding its I/M program in summer 2015.	Medium NOx and VOC Reductions	DC - Under Consideration MD - Existing VA - Existing
http://www.otcair.org/upload/Documents/Formal%20Actions/Mobile%20charge%20_Final.pdf		
OTC Off-Road Vehicle Idling Reduction*		
OTC has developed a model rule for reducing NOx emissions from unnecessary idling of diesel engines, which also improves fuel efficiency. DC and Maryland are working on off-road idling limits. This measure could also be accomplished through a regional program coordinated by COG.	Medium to Large NOx Reductions	DC - In Development MD - Under Consideration
http://www.otcair.org/upload/Documents/Model%20Rules/OTC_Model_Rule_Anti_Idling_Final.pdf		
OTC Aftermarket Catalyst Program*		
OTC has developed a model rule to ensure greater NOx reductions from motor vehicles by requiring aftermarket catalyst sold or installed to be certified by the California Air Resources Board. This measure can be implemented through state regulations or at the federal level.	Large NOx reductions	DC - Under Consideration MD - In Development
http://www.otcair.org/upload/Documents/Meeting%20Materials/Model_Rule_for_Sale_of_Aftermarket_Catalytic_Converters_Draft_%20140401.docx		
EPA SmartWay Partnership*		
SmartWay is a voluntary EPA program that reduces transportation-related emissions by creating incentives to improve supply chain fuel efficiency. DDOE is an EPA SmartWay Affiliate. COG could assist in scaling up and expanding participation in the program regionally.	Medium to Large NOx Reductions	DC - Existing MD - Planning to Adopt
http://www.epa.gov/smartway/		
California Low Emission Vehicle (CAL LEV) Standards		
California Low Emission Vehicle (CAL LEV) standards were updated in 2012 to achieve an additional 75% reduction in NOx emissions by model year 2025. Maryland has adopted CAL LEV and its Zero Emissions Vehicle (ZEV) Mandate sets a goal of having 60,000 ZEVs on the road by 2020. The Clean Cars Act of 2008 requires DC to adopt CAL LEV standards, but regulations were not developed due to lack of resources for timely adoption and the federal Tier 3 program.	Small NOx Reductions	MD - Existing
http://mde.maryland.gov/programs/Air/MobileSources/CleanCars/Pages/index.aspx		
Electric and Alternative Fuel Vehicles		
Electric and hydrogen-powered vehicles produce no direct tailpipe emissions and can greatly reduce ground level ozone from the mobile sector. Alternative	Small NOx Reductions	DC - Existing

fuel vehicles can reduce tailpipe emissions by up to 80%. AFV and fueling infrastructure programs or incentives are available in all three states. EVs and AFVs could also be deployed through a regional program coordinated by COG and the Clean Cities Coalition.		MD - Existing VA - Existing
http://www1.eere.energy.gov/cleancities/; http://www.virginiaev.org/		
On and Off-Road Fleet Retrofits and Repowers		
Diesel engines can be retrofitted with emission control devices, repowered to be cleaner burning, rebuilt, or upgraded to run on cleaner fuel. DC has ongoing locomotive and boat engine replacements. Virginia has ongoing programs for trucks, locomotives, and school and transit buses.	Small to Medium NOx Reductions	DC - Existing VA - Existing
http://www.epa.gov/cleandiesel/technologies/engines.htm		
** Denotes measure on MDE's proposed "Top 10 Regional Actions" list*		

LEGEND			
STATUS		**REDUCTION POTENTIAL**	
Existing	State has an existing rule or program.	**Small**	<1 tons per day
Proposed	Rule has appeared in State Register, or program has been announced.	**Medium**	1-5 tons per day
In Development	Rule or program is in draft stages.	**Large**	>5 tons per day
Planning to Adopt	Agency plans to or is required to pursue this measure.	**NOx**	Nitrogen Oxides
Under Consideration	Being considered. Agency has not made decision whether to pursue yet.	**VOC**	Volatile Organic Compounds
OTC	Ozone Transport Commission - multi-state organization created under the Clean Air Act responsible for advising EPA on transport issues and developing and implementing regional air quality solutions.		
NESCAUM	Northeast States for Coordinated Air Use Management - association of air quality agencies in the Northeast U.S. that assists member states in implementing national air quality standards.		

Regional Action Plan: *Local-level ozone reduction measures for the MWCOG region*

MEASURE	OPPORTUNITIES
POINT SOURCE	
Green Power Purchasing	
Purchasing green or renewable power reduces NOx emissions from upwind power plants by shifting demand to low or zero-emissions generation sources. Local governments, private residents, and businesses can purchase green power from their electricity provider or in the form of Renewable Energy Credits (RECs). Maryland included local government wind energy purchases in the 2004 Ozone SIP. Almost half of COG member jurisdictions are EPA Green Power Communities, and over 300 businesses in the region participate as Green Power Partners. The District purchases 100 percent renewable energy; Montgomery County will purchase 100 percent renewable energy by 2016.	Local governments that do not currently purchase green power can begin to do so, and/or can install on-site renewable energy generation.
http://sustainable.dc.gov/sites/default/files/dc/sites/sustainable/page_content/attachments/SDC%20Final%20Plan.pdf http://origin.library.constantcontact.com/download/get/file/1102603838255-387/Earth+Day+Legislation+Summary+--+FINAL.pdf	
High Performance Buildings	
Building energy performance can be improved through building codes, disclosure of energy consumption (energy benchmarking), other local regulation, or through voluntary programs. DC and Maryland have adopted the energy performance standards of the 2012 International Green Construction Code. 64 percent pf COG member jurisdictions have, or are in the process of developing, a green building policy, and 95 percent track energy use of public facilities. Arlington's Green Building Incentive Program is a successful model of a voluntary approach to improve commercial building energy performance. The Sustainable DC plan aims for new construction in the District to be net-zero energy use by 2032.	Jurisdictions can adopt more rigorous energy codes or establish voluntary programs to improve building efficiency and encourage on-site renewable energy generation.
http://www.mwcog.org/uploads/pub-documents/ol5cW1o20131101154514.pdf	
District Energy Systems and Microgrids	
District energy systems produce steam, hot water or chilled water at a central plant for use by a network of buildings, which creates energy and fuel use efficiencies. Microgrids are small-scale electricity distribution systems that link generation resources to one or more users and can "island" from the main grid. District energy systems and microgrids can be combined to provide heat, cooling, hot water and electricity to users on the system. Combined heat and power (CHP) or co-generation systems produce both electricity and usable thermal energy captured from electricity generation. CHP is often used in district energy and microgrid systems, and can increase fuel efficiencies from 45 percent to 80 percent while increasing reliability and resilience.	Local governments can encourage high-efficiency district energy and microgrid systems in public and commercial facilities to reduce building energy use at a significant scale.
http://www.districtenergy.org/blog/2014/10/29/think-microgrid-the-local-energy-revolution/	
Urban Heat Island Mitigation	
In urban areas, pavement, buildings and rooftops absorb the sun's energy and re-radiate heat, while appliances, engines and equipment also produce excess heat. This urban heat island (UHI) effect causes air temperatures to be 9-16 °F warmer in urban areas, especially during the summer. UHI contributes to poor air quality directly, because ozone forms in the presence of sunlight and heat, and indirectly, due to increased emissions from energy demand for cooling. UHI can be mitigated using "cool" roofs and pavement, and by expanding tree cover. Cool roofs and pavement reflect sunlight and heat, staying 50-60 °F cooler than conventional materials. Trees provide shade, helping to keep urban areas cool, and directly remove pollutants from the air through deposition and absorption.	Local governments can expand programs to incentivize or encourage cool or green roofs, cool pavements, and urban tree cover.
http://www.epa.gov/heatislands/impacts/index.htm	

MOBILE SOURCE	
Eco-Driving	
Eco-driving uses a number of methods to increase fuel efficiency, such as accelerating smoothly and braking softly, eliminating excess weight, reducing heating and cooling use, checking tires often, and performing regular maintenance. Road tests demonstrate that eco-driving improves fuel economy by about 24 percent. COG participated in the I-95 Corridor Coalition's Eco-driving Campaign and provides resources on eco-driving. COG's 2011 *What Would It Take* report found that eco-driving had the largest emissions reduction potential of all the measures analyzed, and one of the lowest costs per ton.	Eco-driving could be expanded through public awareness campaigns, incentive programs, incorporation into driver's education, and/or requirements for public fleets and contractors.
http://www.mwcog.org/uploads/pub-documents/qF5eXVw20110617114503.pdf	
Idling and Emissions Enforcement	
Most harmful NOx and particulate matter emissions occur when operating at low speeds, such as when idling. Idling also uses unnecessary fuel and can lead to engine damage, so reducing idling saves drivers money on fuel and maintenance. Routine maintenance is also important to ensure that engines and pollution controls are functioning properly. Local jurisdictions are covered by state inspection and maintenance (I/M) programs, which help reduce NOx emissions and improve fuel economy. Many localities in the region have also adopted rules or ordinances to limit vehicle idling, but these standards are difficult to enforce.	Targeted anti-idling and maintenance awareness programs may be an effective way to improve idling and maintenance compliance.
http://ddoe.dc.gov/service/engine-anti-idling-law	
Bicycle and Pedestrian Programs	
The TPB Vision, Region Forward, and Regional Transportation Priorities plans call for increased walking and bicycling, and more convenient and safer bicycle and pedestrian access around the region. Non-motorized transportation options like walking and cycling help reduce congestion and VMT. Educational, awareness and commuter benefit programs can improve road safety while encouraging non-motorized travel options. Local governments and transit agencies are making significant progress toward these goals, with walking and cycling comprising a growing share of trips in the region, but still only comprising nine percent of all trips.	Local governments can implement the 2015 Bicycle and Pedestrian Plan recommendations, especially the short list of unfunded priority projects.
http://www.mwcog.org/uploads/committee-documents/bV1XWl1f20150115095731.pdf	
Electric and Alternative Fuel Vehicles	
Electric and hydrogen-powered vehicles produce no direct tailpipe emissions and can greatly reduce ground level ozone from the mobile sector. Alternative fuel vehicles can reduce tailpipe emissions by up to 80%. AFV and fueling infrastructure programs or incentives are available in all three states. DC and Maryland have zero-emission vehicle goals, and 73 percent of COG member governments have or are planning to implement a green fleet policy. Numerous incentives and financing opportunities exist, including business models that enable localities to convert light-duty fleets to EVs at little to no cost, such as through an energy savings performance contract.	EVs, AFVs and fueling infrastructure could be deployed at scale through a regional program or cooperative purchase coordinated by COG and the Clean Cities Coalition.
http://www1.eere.energy.gov/cleancities/; http://www.virginiaev.org/ http://mde.maryland.gov/programs/Air/MobileSources/CleanCars/Pages/index.aspx	
Parking Management	
Free or inexpensive street parking encourages people to drive, and to occupy spots for long periods of time. Both these factors reduce the number of free spots for those looking to park, increasing the number of people searching for a spot and the amount of time it	Feasibility and cost-benefit studies of various parking management

takes to park. Studies show that circling for a parking spot is responsible for 30-50 percent of inner-city traffic congestion, contributing to poor air quality and using a significant amount of fuel. Increasing parking enforcement or raising street parking fees may encourage the use of alternate transport options, disincentivize long-term street parking, and reduce congestion due to circling vehicles.	options for urban areas can help inform decision making and may reduce both congestion and motorized trips.
http://www.vtpi.org/tdm/tdm28.htm	

LEGEND	
NOx	Nitrogen Oxides
VOC	Volatile Organic Compounds