



WHAT WE CAN DO TO IMPROVE AIR QUALITY IN THE COG REGION

December 4, 2018

1:00pm – 2:15pm

Webinar Highlights

Attendees:

Doug Estrada, Sr. Director (Supply Chain), Walmart Private Fleet (Guest Speaker)
Alexandra Catena, District Department of Energy & Environment
Joseph Jakuta, District Department of Energy & Environment
Doris McLeod, Virginia Department of Environmental Quality
Alexandra Brun, Maryland Department of the Environment
Michael Sticker, Maryland Department of the Environment
Regina Moore, Virginia Department of Transportation
Scott Fincham, Loudoun County
Dawn Hawkins-Nixon, Prince George's County
Malcolm Watson, Fairfax County

Staff:

Sunil Kumar, COG/DEP
Erin Morrow, COG/DTP
Dusan Vuksan, COG/DTP
Jane Posey, COG/DTP

“What We Can Do” Project

Background

The *What We Can Do* project came from a priority set by MWAQC to identify actions that could be taken in our region, particularly by local governments, to reduce ozone pollution to a level that would result in no unhealthy air days and the attainment of the 2015 ozone standard by the deadline (August 2021). MWAQC asked COG staff to work with the Air & Climate Public Advisory Committee (ACPAC) to develop a report that would include a set of NO_x emission control measures that will help achieve the region the above stated goals. A draft report containing such measures with cost/benefit analysis was presented to MWAQC on May 23, 2018. In this meeting, MWAQC directed COG staff to work with state and local governments on the implementation of these measures with a focus on local governments. Following this, a workshop of local governments was held on June 21, 2018, which provided a number of suggestions regarding these measures, which are listed below.

- A. Transportation programs and planning to reduce emissions from light-duty vehicles by encouraging increased reliance on alternative modes, for example, improving bicycle and pedestrian infrastructure, rideshare and telework programs,
- B. Reducing emissions from heavy duty on-road vehicles and construction equipment, especially anti-idling,
- C. Peak shaving with battery storage and reducing peak emissions from back-up generators
- D. Education, outreach, and advocacy
- E. Tree and forest cover and green infrastructure for air quality, water quality, and community benefits

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Subsequently, MWAQC was briefed on the outcomes of the above workshop on July 25, 2018. MWAQC decided and directed COG staff to further follow up with local governments on the measures suggested in the above workshop.

Summary of Webinar

A webinar was held on December 4, 2018 to discuss one of the anti-idling measures suggested in the June 21st workshop. The measure suggested was to reduce idling and the associated NOx emission from the refrigerated food trucks delivering food at grocery stores in the Washington region. A Walmart representative was invited to talk about the company's initiatives on employing different technologies to reduce NOx emission at the company's distribution centers and grocery stores while loading and unloading refrigerated food.

The guest speaker, Mr. Doug Estrada talked in detail about the technologies that Walmart utilizes to eliminate the use of engines in refrigerated trucks. There are two different engines (mostly using diesel as fuel) used in refrigerated trucks. While the main engine is used to move the truck and provide heating, air conditioning, and other energy needs of the driver, a second engine is used for cooling the tractor that has food items stored in it. Walmart uses an Auxiliary Power Unit (APU) that uses diesel as fuel and has a very clean engine (according to the speaker air coming out of the unit is cleaner than the air going in). This unit provides all air conditioning, heating, and other power needs in the driver cabin allowing the main engine to be turned off thus saving fuel and NOx emission. Walmart also uses electricity supplied from stores through specialized power outlets to cool the tractor while unloading food. This allows the second engine, which cools the tractor, to be turned off. This again saves fuel and NOx emission. An APU costs \$10,000 to \$15,000 and consumes only about one tenth of the fuel consumed by a normal main engine and thus reduces NOx emission.

The guest speaker also spoke about the new Tesla battery-operated trucks expected to be used by the end of the year 2019 for loading, carrying, and unloading refrigerated food at the distribution centers and stores. A Tesla truck costs \$250,000 compared to a diesel truck, which costs \$135,000. These trucks save the entire fuel consumed by the main and tractor engines and in the process 100 percent NOx emission coming out of the two engines. Batteries in these trucks can be charged up to 80 percent within 30 minutes by high voltage chargers. Once these batteries are charged 100 percent, these trucks using the can be driven up to 300 to 350 miles.

The speaker suggested that a regulation requiring the implementation of these anti-idling technologies by other grocers such as, Giant, Safeway, etc. will be the most effective way to implement these technologies, communicating the fuel and NOx emission savings and providing financial incentives to purchase APUs and install power outlets at stores can also be effective in motivating other grocers to adopt them.

The speaker agreed to provide more specific NOx emission benefit estimates from these technologies soon, which will be communicated to local jurisdictions to better inform their decisions to develop regulations and financial incentives for the implementation of these technologies.