



Port-Wide Initiatives Improve Air Quality

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*GreenPort Showcase Story
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A recent report by the Maryland Port Administration (MPA) shows that the Mid-Atlantic Dray Truck Replacement Program is contributing to cleaner air in Baltimore.

The Dray Truck Replacement Program provides financial assistance for replacing older dray trucks with newer, cleaner-running models. These large

diesel trucks are used to haul freight from port facilities to local distribution points. Many are older vehicles with high emission rates.



Newer dray trucks serve the Port of Baltimore and help reduce air emissions. Photo/Bill McAllen

The MPA, Maryland Department of Transportation, and Maryland Department of the Environment provided funding to enhance the Dray Truck Replacement Program, which was developed by a grant from the U.S. Environmental Protection Agency. The program is administered by the Mid-Atlantic Regional Air Management Association and the University of Maryland Environmental Finance Center.

To date, 80 dray trucks have been replaced with models that have 2007 or newer engines. Any vehicles being replaced are scrapped so that they do not continue to create pollution.

Replacing 80 dray trucks serving the Port of Baltimore reduced emissions of pollutants that form ozone smog—nitrogen oxides were reduced by about 90 tons per year, and hydrocarbons by between 3 and 4 tons per year. Over the estimated lifetime of the trucks replaced, this means over 1000 tons of NOx and nearly 44 tons of HC.

The program also reduced diesel particulate matter emissions. MARAMA estimates that reduction is about 4 tons per year of fine particles, amounting to about 47 tons of fine particles over the lifetime of the trucks replaced. These emissions reductions will help people breathe more easily wherever these trucks are used.

On average, the trucks replaced had 1996 engines, while the average new truck was model year 2009. Replacement trucks ranged in price from approximately \$40,000 to \$70,000. Even with a \$20,000 down payment provided through the program, the replacements represented a substantial commitment on the part of the truck owners. Owners' loan commitments totaled over \$2.5 million.

Barbara McMahan, the MPA's manager of Safety, Environment, & Risk Management, said the Dray Truck Replacement Program underscores the ways in which the public and private sectors work together toward cleaner air. She stresses that work will continue.

A 2012 emission inventory was conducted for cargo handling equipment by MPA and its tenants and was compared to CHE emissions in 2006. The report analyzed and compared 2012 emissions to 2006 emissions of carbon monoxide, carbon dioxide, nitrous oxide, sulfur dioxide, particle matter, and fine particulate matter. Findings show:

- A decrease the total tons of emissions by more than 32%
- A decrease in the rate of emissions by more than 26% for each pollutant
- A decrease in the total emissions of each pollutant by an average of 56%

The most significant reduction is for sulfur dioxide, nearly 100%, which is directly related to switching from low sulfur diesel fuel to ultra-low sulfur diesel fuel. Other improvements were a result of replacing, retrofitting, and upgrading several pieces of CHE over the past several years.

The next largest reductions are in volatile organic compounds and particulate matter, by 54% and 53% respectively.

“The emission inventory shows success, and it also helps identify the pieces of equipment that can be targeted for retrofits, repowers, or replacement in the future,” McMahan said.

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