

MARYLAND INTER-AGENCY WORKGROUP AIR QUALITY VOLUNTARY AGREEMENT 2023 ACCOMPLISHMENTS



Maryland
Department of
the Environment



Maryland
Energy
Administration

“The purpose of this Voluntary Agreement is to document and confirm the Parties’ ongoing commitment to pursue mutually agreeable and cooperative efforts that will sustain and advance the economic health of the Port of Baltimore and protect the environment of the State of Maryland.”

Executive Summary

In 2023 the signatory Agencies strengthened their relationships with environmental justice communities around the Port of Baltimore (POB) as called for in the Voluntary Agreement. The Workgroup members redoubled their efforts to partner with communities on projects, support tours of POB terminals, participate in virtual and in-person meetings, and otherwise keep them updated on the actions taken to improve air quality and ensure the signatories fully understand the environmental justice community members’ issues.

The Workgroup helped secure approximately **\$20.5 million** for emissions reduction projects since 2008. The funds helped to upgrade or purchase cleaner equipment and vehicles servicing the POB. As a result of these investments, air quality has improved. The workgroup discussed new federal and state grant opportunities and identified which ones to pursue.

The Port’s “Dollars for Drays” program provided up to \$30,000 per vehicle to replace older, diesel-powered drayage trucks with newer, less polluting ones. To date, this program has replaced 304 trucks.



Figure 1-Keen Transport’s new BEV Dray Truck - Photo Credit Keen Transport.



Figure 2-Group Photo from BPA’s November 2023 Port Tour – Photo Credit Dan Spack, EcoLogix Group

Stakeholder Engagement and Support

The Workgroup continues to prioritize increasing stakeholder engagement, especially focusing its efforts on underserved communities. There were significant activities, both in-person and virtual.

- MPA provided a letter of support for the Nature Conservancy’s grant application, on behalf of the Turner Station Conservation Team, to fund staff to enable the community to address environmental concerns.
- MPA was invited by the Friends of the Earth to participate in a webinar with representatives from other Ports and community groups to discuss priorities and needs, including opportunities to collaborate on projects in response to the EPA Clean Ports Program grant announcement.
- Baltimore Port Alliance (BPA) held two stakeholder tours. There were many community leaders in attendance from a variety of organizations that included Turner Station, Dundalk Renaissance Corporation, Carnegie Plat, Greater Baybrook Alliance, Old Goucher, New Broadway East and South Clifton Park. The Baltimore Climate Resilience Coalition was also represented.
- MDE released or contributed to state annual reports, all showing improved air quality:
 - 2030 Greenhouse Gas Emissions Reduction Plan
 - 2023 Clean Air Progress Report
 - 2023 Commission on Climate Change Annual Report
- MDE coordinated meetings with BGE, Ports America Chesapeake, MEA, MPA and CSX to identify grant opportunities for establishing microgrids at Port related facilities.
- Ongoing community support includes:
 - Attending community group meetings to provide presentations on air quality and the agencies’ efforts to reduce air emissions, as well as learn of community concerns and focus areas.
 - Enhancing relationships with underserved communities and strengthening Environmental Justice policies.

- Developing closer relationships with representatives of faith-based and other organizations in West Baltimore, Brooklyn, Dundalk and additional areas near the Port.
- Teaming with the Maryland Motor Truck Association to promote the Idle Free MD campaign, which discourages unnecessary engine idling that contributes to harmful air emissions.
- Including private Port tenants in the workgroup’s meetings to exchange information and ideas.
- Publishing accomplishments and events in the Port’s EcoPort newsletter, MDE Heron, Port of Baltimore magazine, MEA Newsletter, and in social media.
- Developing approaches to implement Environmental Justice policies for future projects, and consulting with EDF.

Community-Based Air Monitoring

As ambient air pollution concentrations continue to decrease across the State, recent efforts have focused on the local impacts. Several local or community-based air quality monitoring projects are currently underway.

- EPA awarded just under \$500,000 to MDE as part of the American Rescue Plan (ARP) to expand Community Air Monitoring in Cheverly, Turner Station, and Curtis Bay. The project involves placement of local multi-pollutant monitors and will last for two years.
- MDE continued to work with the Cheverly, Turner Station and Curtis Bay Steering Committee members including communities, academia, government agencies and environmental advocacy groups to plan and set up the community air monitoring projects, deciding which monitoring equipment would be best suited to each community. Cheverly’s main concerns are diesel emissions and particulates; Turner Station’s are diesel truck traffic, black carbon, particulates and noise; Curtis Bay’s are coal dust and general fugitive dust. A report on results of the South

Baltimore air quality monitoring progress was issued

- The original Purple Air Sensor networks in Cheverly and Curtis Bay were set up by the University of Maryland, JHU Bloomberg School of Public Health, and others. The Cheverly community monitoring network has about 30 sites, and Curtis Bay is installing 10-15 site monitors which could expand to 30 locations.
- During the Turner Station “National Night Out” annual community-building campaign Secretary McIlwain and other MDE personnel provided information on that area’s planned monitoring. Attendees suggested potential monitoring locations. The University of Maryland School of Public Health will do the data analysis.
- MDE compares its air monitor results to Johns Hopkins University SEARCH project’s portable and stationary monitors, located at the same spots.
- MPA officials participated in a tour coordinated by the Greater Baybrook Alliance to view truck traffic patterns with the goal of potentially re-routing trucks to improve pedestrian safety, decrease noise levels, and improve air quality.

Environmental Justice

Development of Environmental Justice (EJ) tools continued both in Maryland and nationally. The workgroup was briefed on the use of various EJ screening tools and their further development.

- EPA launched Justice40 which mandates that at least 40% of the benefits of certain federal investments must flow to disadvantaged communities that are marginalized, underserved, and overburdened by pollution.
- MDE released its own EJ Screening Tool which aids MDE’s decisions related to permitting and enforcement.
- For tracking and reporting the benefits going toward these communities, federal agencies use the Climate and Economic Justice Screening Tool (CEJST) for their Justice40 initiatives. Other tools include:
 - EPA’s EJScreen Tool 2.1
 - DOT’s Electric Vehicle Charging Justice40 Map

- Maryland EJScreen Mapper
- DOT’s Transportation Disadvantaged Census Tracts
- DOT’s Equitable Transportation Community Explorer (ETCE)
- CDC’s Environmental Justice Index (EJI) Explorer
- MDE EJ Screening Tool
- MDE implemented Maryland House Bill 1200, which requires certain permit applications to include an EJ score.
- Mid-Atlantic Electrification Partnership is working with the National Society of Black Engineers and the International Brotherhood of Electrical Workers to define an equitable transition to transportation electrification. Argonne National Laboratory has developed the Energy Zones Mapping Tool (EZMT) to help equity and environmental justice concerns by analyzing EV charging locations.
- Workgroup members attended a DOT webinar on the Equitable Transportation Community (ETC) Explorer tool, which complements the Council on Environmental Quality’s Climate & Economic Justice Screening Tool (CEJST).



*Figure 3-Mid-Atlantic Terminals new Tier 4 Forklift
Photo Credit Mid-Atlantic Terminal*

Emissions Reduction and Energy Conservation Projects

Since the Port launched its Diesel Equipment Upgrade Program in 2008 the Port has leveraged approximately \$20.5 million in DERA and VW Mitigation grant funds to upgrade and purchase equipment and vehicles. Electrification of vehicles, vessels, and equipment is a major tool to aid in

reducing greenhouse gas emissions and enhance sustainability.

In addition to continuing to research activities, technologies, and equipment that might potentially reduce harmful air emissions and/or conserve energy, the workgroup prioritized opportunities that could result in improved air quality for communities near Port operations. Using air emissions inventories developed by MPA, the workgroup continued to identify the technologies and activities to best address Port-related sources of air emissions.

The workgroup focused on the following in 2023:

- ConnectedDMV briefed the workgroup on the National Capital Hydrogen Center and the potential use of hydrogen in the maritime sector.
- MEA/MDOT promoted the Maryland Zero Emission Vehicle Infrastructure Plan (ZEVIP) Infrastructure Investment and Jobs Act's new National Electric Vehicle Charging Program. Maryland will receive approximately \$60M over five years and will focus primarily on on-road, non-fleet EVs.
- MDE and MES worked towards an inter-agency Agreement to use funds from the VW Settlement Mitigation Fund to provide an additional \$1.5M for the ongoing dray truck replacement program.
- MDE coordinated with the Baltimore Metropolitan Council (BMC) to identify project concepts. The BMC is a recipient of a CPRG planning grant as a Metropolitan Statistical Area involved in regional planning.
- MEA's EVSE Rebate Program reached its limit early based on high demand. MEA's Medium and Heavy Duty Zero Emission Vehicle Grant Program is under development.
- Work is continuing using CRISI program funds to modernize rail capacity by readying for double stack container transport when the Howard Street Tunnel Project is completed in 2025.
- Maryland Clean Energy Center (MCEC) gave an overview of the EPA Greenhouse Gas Reduction Fund Solar for All program. The Maryland Solar for All Program (MSFAP) application includes over 200 partners, and focuses on providing \$100M capital, facilitating workforce preparedness and building

capacity with and for low income, underserved and disadvantaged communities to enable access to solar energy. Disadvantaged communities have been identified by using the Climate and Economic Justice Screening Tool. The estimated CO₂ emissions reduction is over 150,000 tons.

- EPA's Clean Ports Program announced \$3B in funds for furthering zero emission programs and projects at ports. The Notice of Funding Opportunity was issued February 28, 2024.
- MPA submitted an application for the 2022-2023 Diesel Emissions Reduction Act National Grants opportunity. MDE conferred with the Maryland Motor Truck Association to gauge interest in potential projects.
- The Advanced Clean Cars II regulation was adopted in September.
- The workgroup had a conference call with EPA and stated their DERA program prefers replacement of diesel vehicles with electric ones, however diesel to diesel projects will likely remain as qualified projects. DERA can also fund diesel to hydrogen fueled replacement projects if the project is viable. There is a strong focus on projects resulting in air quality benefits.
- Ports America Chesapeake (PAC) replaced all 15 rubber-tired gantry cranes (RTGs) at the Seagirt Marine Terminal with electric RTGs. The diesel fueled cranes being replaced were scrapped. The electric RTGs initially operated in hybrid mode and will be switched over to full electric mode in 2024. The POB will be one of the first Ports with electric RTG cranes. Six of these cranes were funded by the VW Mitigation Settlement Fund.
- MDOT applied for a USDOT grant under the Charging and Fueling Infrastructure Grant Program. The proposal focuses on a feasibility study focusing on the use of alternative fuels such as hydrogen, liquid propane and electric charging along the I-95 corridor.
- CSX was awarded \$11,584,317 by the USDOT's Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program to replace three diesel switcher locomotives with electric switcher locomotives and install a battery charging system.
- Port Infrastructure Development Program Grants were awarded to Baltimore City and Annapolis for electric and hybrid ferries.

- The new Clean Trucks Act of 2023 requires MDE to adopt regulations related to the sale of new medium and heavy-duty Zero-Emission Vehicles (ZEV) in Maryland starting in 2027. Depending on truck class, the maximum amount of ZEV truck sales will be between 40 and 75%. The Clean Trucks Act requires that MDE prepare a Needs Assessment Study by December 2024 to assess available infrastructure, electric grid reliability and market trends.
- ConnectedDMV provided an update on the Mid-Atlantic Hydrogen Hub and the submittal of a proposal to the DOE Regional Clean Hydrogen Hubs opportunity. Major components of the hub would include production, infrastructure, end-use applications, and market operations. It is anticipated that 8,000 jobs could be created by 2030 with the creation of a hydrogen hub that would displace 420,000 metric tons of CO₂ annually.
- The Baltimore Compost Collective received a grant from the Volkswagen Mitigation Trust Fund to purchase an electric-powered vehicle for collection of food scraps from local businesses and residents to be used in its composting facility in Curtis Bay. The new vehicle is expected to be delivered in 2024 once final specifications on the purchase are approved.
- The Environmental Defense Fund presented projects that would improve air quality and address the needs of environmental justice communities. EDF has worked with MPA and MDE for many years in advancing air quality initiatives and has experience working with other ports including Houston, Oakland, Norfolk and NY/NJ.

Climate Change

Maryland has reduced climate pollution faster than almost any other state, achieving a 30% reduction in statewide GHG emissions from 2006 levels by 2020.

- EPA's Climate Pollution Reduction Grants (CPRG) program provides \$5 billion in grants to states, local governments, tribes, and territories to develop and implement ambitious plans for reducing greenhouse gas emissions and other harmful air pollution. MDE is working closely with

the Governor's office to coordinate Maryland's response to this opportunity, as well as other federal funding opportunities.

- The Maryland Commission on Climate Change's [2023 Annual Report](#) included recommendations to the executive branch and the General Assembly on how to meet Maryland's Greenhouse Gas Admission goals, the most progressive in the nation. The report includes the state's spending in 2023 on Greenhouse Gas (GHG) reduction mitigation.
- The 2022 Maryland General Assembly enacted the Climate Solutions Now Act (CSNA) which makes broad changes to the State's approach to reducing statewide greenhouse gas emissions and addressing climate change. It requires the State to reduce emissions by sixty percent from 2006 levels by 2031, and to achieve net-zero emissions by 2045. The Act beefs up energy conservation requirements for buildings and requires the state government to purchase zero-emission vehicles (ZEVs).
- MDE published Maryland's [Climate Pollution Reduction Plan](#) in December and will continue to hold public outreach sessions on How to Reach Maryland's Climate Goals as required by the CSNA.
- MDOT is developing a carbon reduction strategy which identifies how the agency will fulfill the CSNA's policy goals. MPA has a list of qualifying projects and will assist in reaching out to Port area communities.
- PAC is upgrading its facilities as part of the implementation of its Climate Change Strategic Plan. In addition to the fifteen new electric rubber-tired gantry (eRTG) cranes now operating, PAC is implementing a terminal-wide densification and electrification plan and includes a conductor bar electrification system for the yard cranes. PAC is also focused on reducing the idling time for trucks.

Potential Funding Sources

The workgroup continued to identify potential funding sources for projects.

EPA

- Climate Pollution Reduction Grants

- Clean Ports Program
- Clean Heavy-Duty Vehicle Program
- Diesel Emission Reduction Act (DERA) Program
- Environmental Education Local Grants Program
- Environmental Justice Small Grants Program
- Environmental Justice Collaborative Problem-Solving Cooperative Agreement Program
- Greenhouse Gas Reduction Fund
- Children’s Healthy Learning Environments in Low Income and/or Minority Communities
- American Rescue Plan grants with community partners

MEA

- Electric Vehicle Infrastructure Grant
- MEA’s Resilient Maryland Program
- Electric Vehicle Supply Equipment Rebate Program
- Medium-Duty and Heavy-Duty Zero-Emission Vehicle Grant Program
- Clean Fuels Incentive Program
- Low to Moderate Income Energy Efficiency Grant program

US Department of Transportation

- Better Utilizing Investments to Leverage Development Discretionary Grant Program
- RAISE Discretionary Grants
- Federal Highway Administration’s Congestion Mitigation and Air Quality Improvement Program
- US Maritime Administration’s Grant and Assistance Programs
- Port Infrastructure Development Program
- Infrastructure for Rebuilding America Grant Program
- Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program

Other

- MCEC’s Climate Catalytic Capital Fund
- DOE Regional Clean Hydrogen Hub
- BGE’s Green Grants Program

- Chesapeake Bay Trust’s grant opportunity of \$5 million in Maryland including \$500 thousand in urban areas
- Maryland Association for Environmental and Outdoor Education (MAEOE) grant partnerships
- US Climate Alliance’s grants



Figure 4-Ports America Chesapeake's new Hybrid Rubber-Tired Gantry Cranes at Seagirt Marine Terminal - Photo Credit Ports America Chesapeake

Maryland’s Air Quality

Over the past 30 years, Maryland’s air quality has continuously improved. Air quality policies and regulations have lowered levels of six criteria air pollutants - fine particles, ozone, lead, carbon monoxide, nitrogen dioxide, and sulfur dioxides - as well as numerous other toxic pollutants.

Maryland air quality is at levels below all standards for all EPA’s Clean Air Act and National Ambient Air Quality Standard (NAAQS) criteria pollutants.

The state has also been meeting all other standards for several years, except the 2015 ozone limit. The 2023 monitoring data shows all nonattainment areas in the state are attaining the 2015 ozone NAAQS as well. The 2006 Maryland Healthy Air Act and 2007 Maryland Clean Cars Act have played a major role in reaching attainment for ozone.

Particle levels throughout the state of Maryland have continued to trend downward each year since 2010, with current levels being the lowest ever recorded. These results have largely been attributed to reductions in sulfur dioxide (SO₂) and nitrogen oxides (NO_x) from power plants and other industrial sources. Overall, reductions of these harmful air pollutants have brought dramatic improvements in

the quality of the air that we breathe and provided better public health protection.

Conclusion

Through its ongoing efforts, the Workgroup is meeting its goal of pursuing cooperative efforts to sustain and advance the economic health of the Port of Baltimore while protecting the environment and the public.

