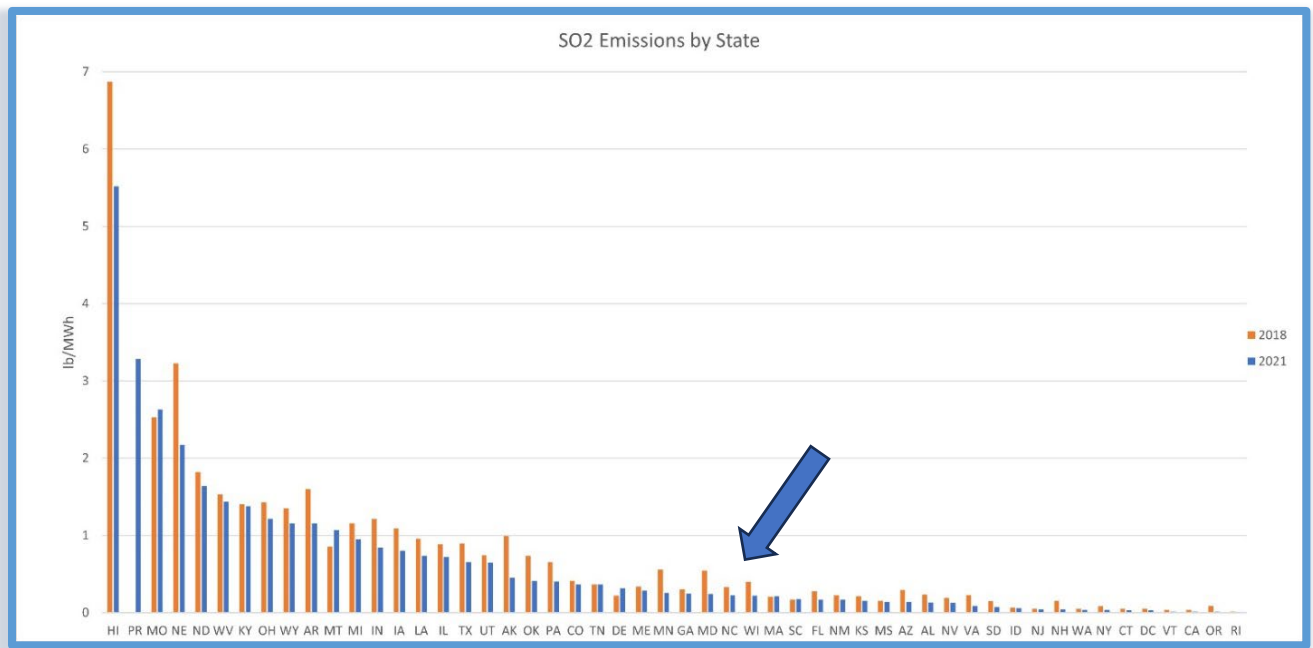


Air Quality

Power Plant Emissions

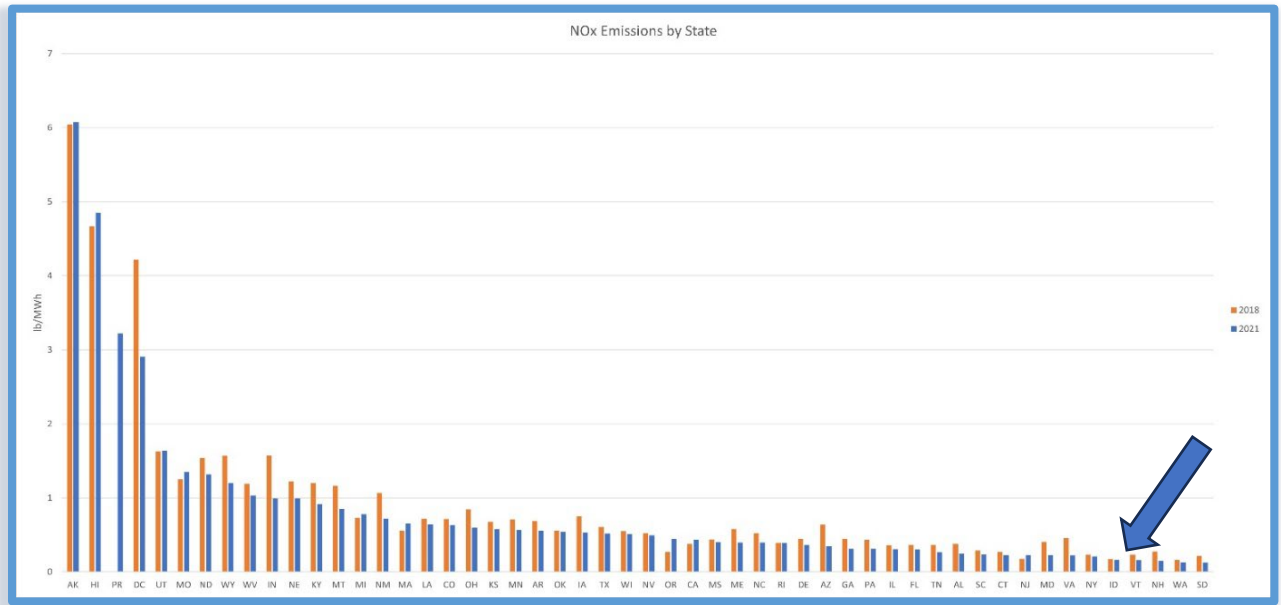
To put Maryland's power plant emissions in perspective, Figure 1 and Figure 2 present a comparison of SO₂ and NO_x emission rates from all power plants in Maryland with emission rates from power plants in other states for the years 2018 and 2021. These figures represent the emission rates (in pounds per megawatt-hour of electricity generated) from the lower 48 states as reported in EPA's eGRID Data Explorer. In 2021, SO₂ emission rates from Maryland's power plants (0.241 lb/MWh) were about half that for the U.S. (0.531 lb/MWh). NO_x emission rates from Maryland power plants have decreased in 2021 to one of the lowest emission rates in the nation, as shown in Figure 2.

Figure 1 *SO₂ Emission Rates from Maryland Power Plants Compared to SO₂ Emissions from Plants in Other States*



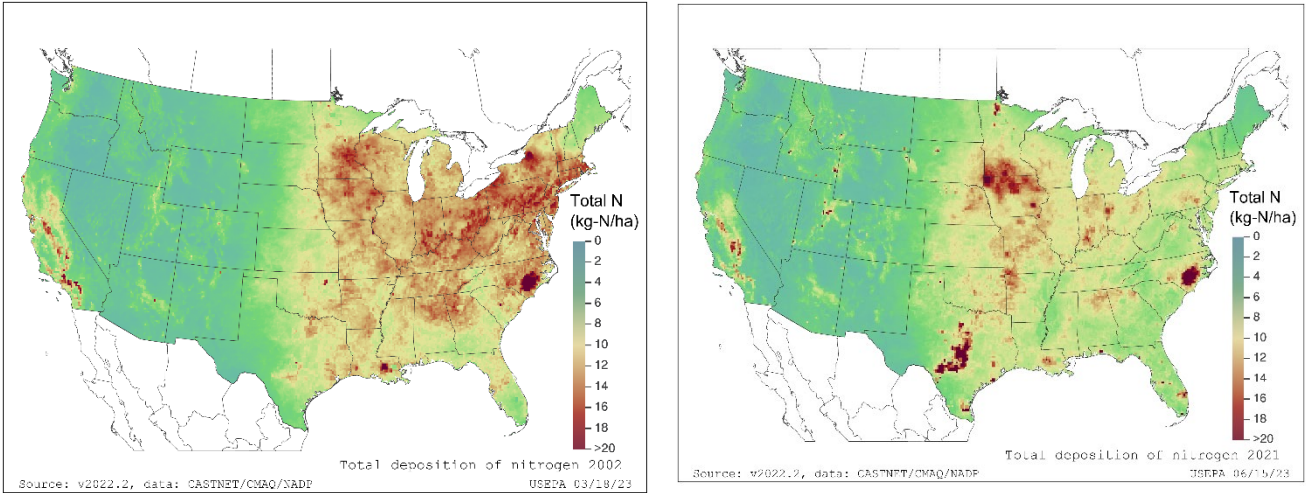
Note: Emissions reported at epa.gov/eGRID/data-explorer, last accessed September 5, 2023.

Figure 2 *NOx Emission Rates from Maryland Power Plants Compared to NOx Emissions from Plants in Other States*



Eutrophication and the regulatory efforts to reduce nitrogen from controllable sources in the Chesapeake Bay are briefly covered in the “Nitrogen Deposition” subsection of [Section 5.1.3. of CEIR-21](#). Furthermore, the report details how power plants, industrial sources, and mobile sources contribute to nitrogen load in the Chesapeake Bay area. The National Atmospheric Deposition Program (NADP) has developed total deposition maps for nitrogen and total sulfur for use in critical loads and other ecological assessments for the U.S. Figure 3 is a national map of total nitrogen deposition in 2002 and 2021. As shown in this figure, while total nitrogen deposition increased in some parts of the country, in the eastern U.S., levels decreased significantly from 2002 to 2021.

Figure 3 Total Nitrogen Deposition in 2002 and 2021

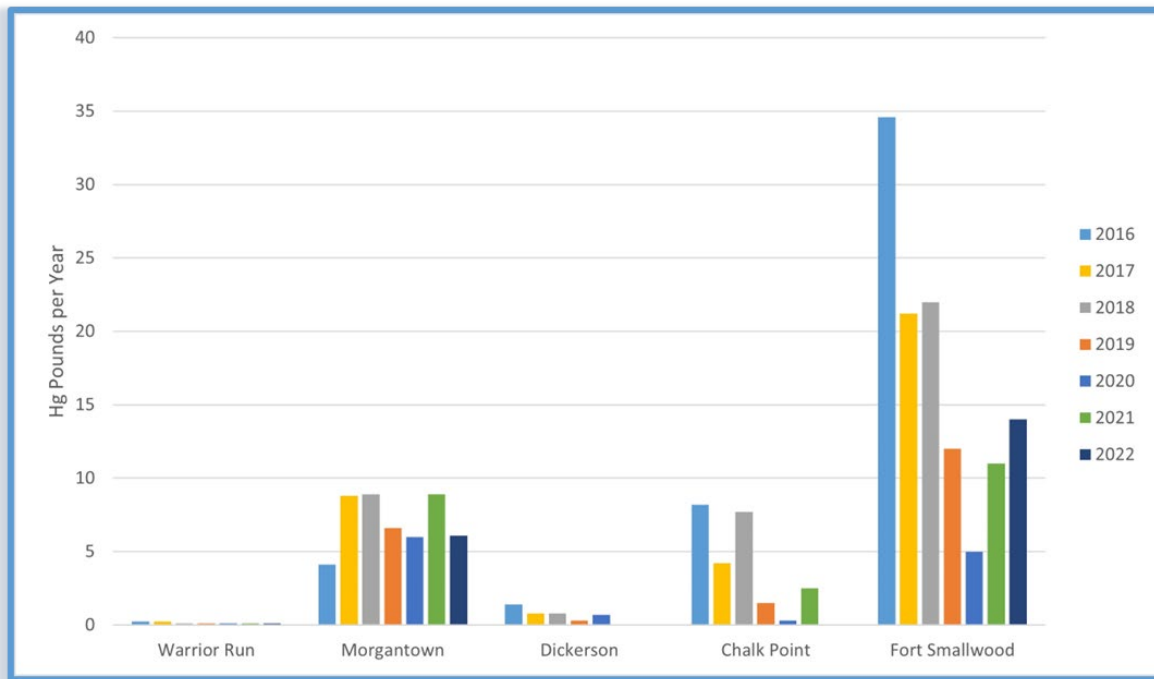


Source: National Atmospheric Deposition Program. “Total Deposition Maps.” https://gaftp.epa.gov/castnet/tdep/CURRENT_images/ Last accessed September 5, 2023.

Mercury

Figure 4 presents annual emissions of mercury from Maryland’s coal-fired power plants from 2016 through 2022 as reported in EPA’s Toxics Release Inventory (TRI) for each facility.

Figure 4 Annual Mercury Emissions from Coal-Fired Power Plants in Maryland

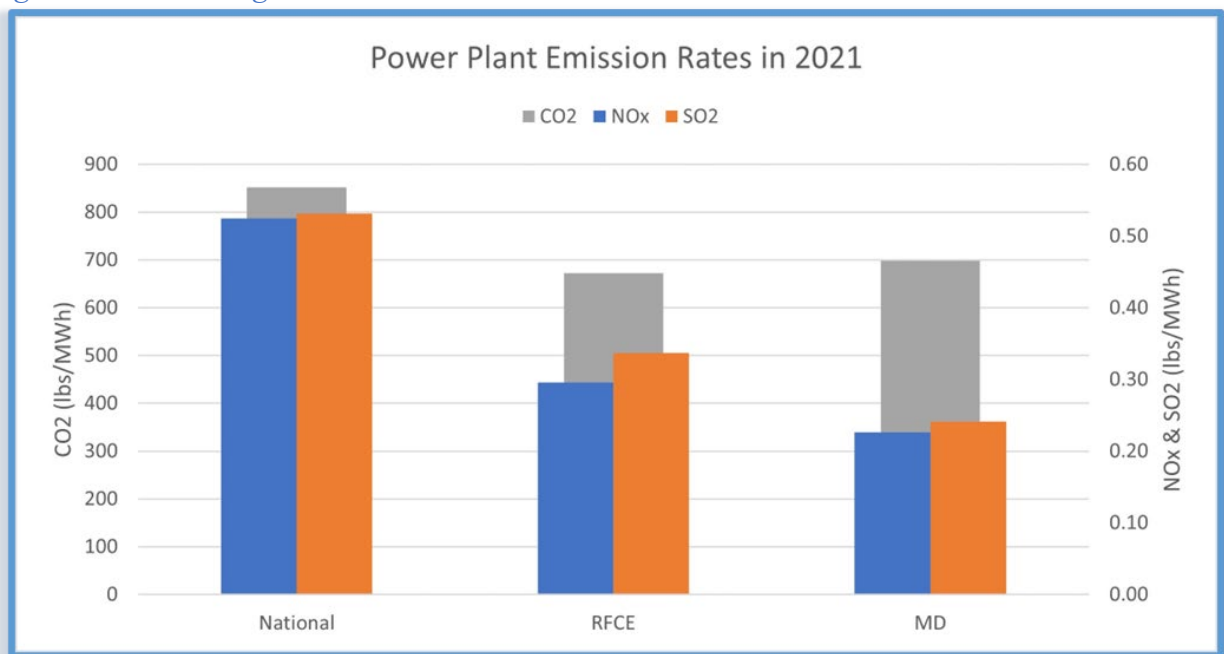


Source: EPA TRI Toxics Tracker, <https://edap.epa.gov/public/extensions/TRIToxicsTracker/TRIToxicsTracker.html>, last accessed November 21, 2023.

Carbon Dioxide

[Section 5.1.3 of CEIR-21](#) discusses the impacts of out-of-state emissions on Maryland air pollution and details how the EPA addressed the issue of interstate pollution with Section 126 of the Clean Air Act. An online EPA tool provides a comparison of average emission rates in 2021 for the Reliability First Corporation East (RFCE) eGRID region, which covers most of the PJM domain, with the national average emission rates in 2021. These emission rates are compared with the average emission rates from power plants in Maryland in 2021 in Figure 5. Because Maryland's emission rates are lower for SO₂ and NO_x and higher for CO₂, compared to the RFCE region, energy imported into Maryland is likely associated with relatively greater NO_x and SO₂ emissions and lower CO₂ emissions compared to energy generated in-state.

Figure 5 Average Power Plant Emission Rates



Source: Emissions reported at epa.gov/egrid/data-explorer, last accessed September 5, 2023.