

Maryland's 2023 Greenhouse Gas Emissions Inventory

Updated Results



Maryland
Department of
the Environment

MCCC Mitigation Working Group
January 29, 2026

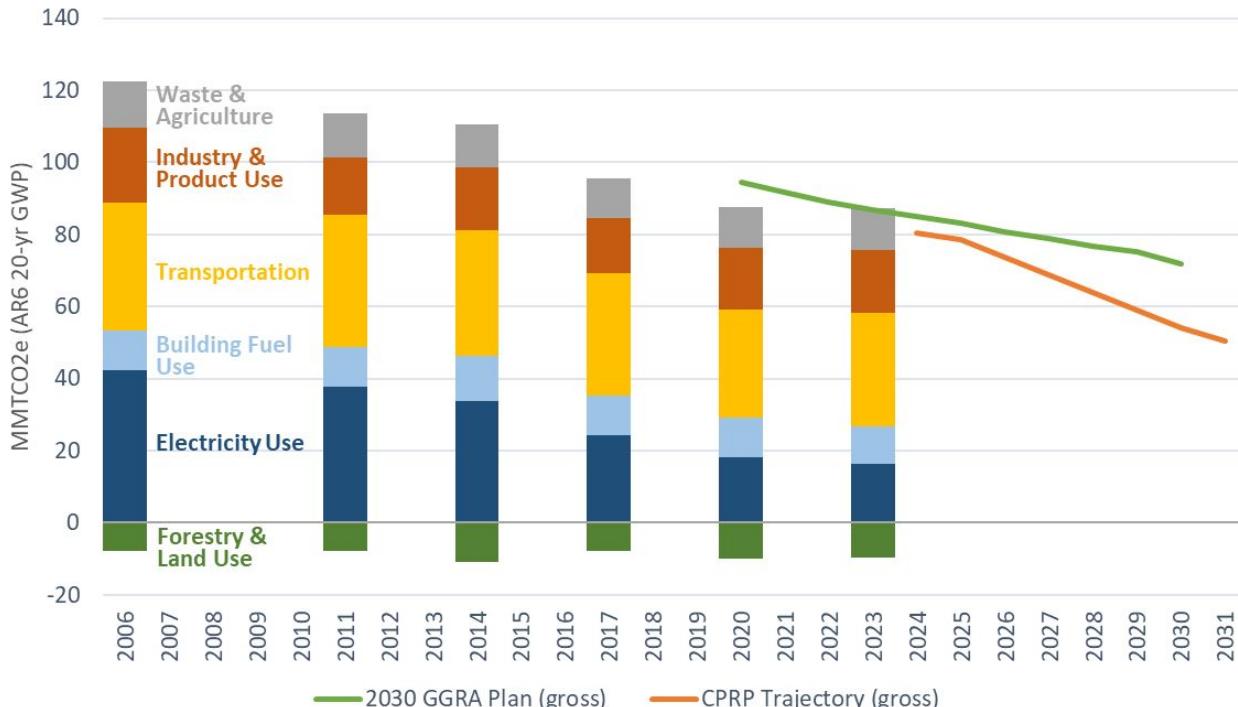


2023 Inventory Status

- Preliminary results presented April 2025
 - With placeholder data for some sectors
 - Mainly awaiting final 2023 building and industry fuel use data
 - Showed 28% reduction in gross emissions from 2006
- Updates since then
 - GWP (global warming potentials) updated from IPCC AR5 (Fifth Assessment Report) to AR6
 - Increases HFC (hydrofluorocarbon) emissions by 11%
 - Minor changes to methane and nitrous oxide
 - Forestry & Land Use sector added to the presentation
 - Residential, Commercial, and Industrial fuel use updated from 2022 placeholder data to 2023
 - Non-road equipment updated from 2020 placeholder data to 2023
- Workbooks being prepared for publication in Spring



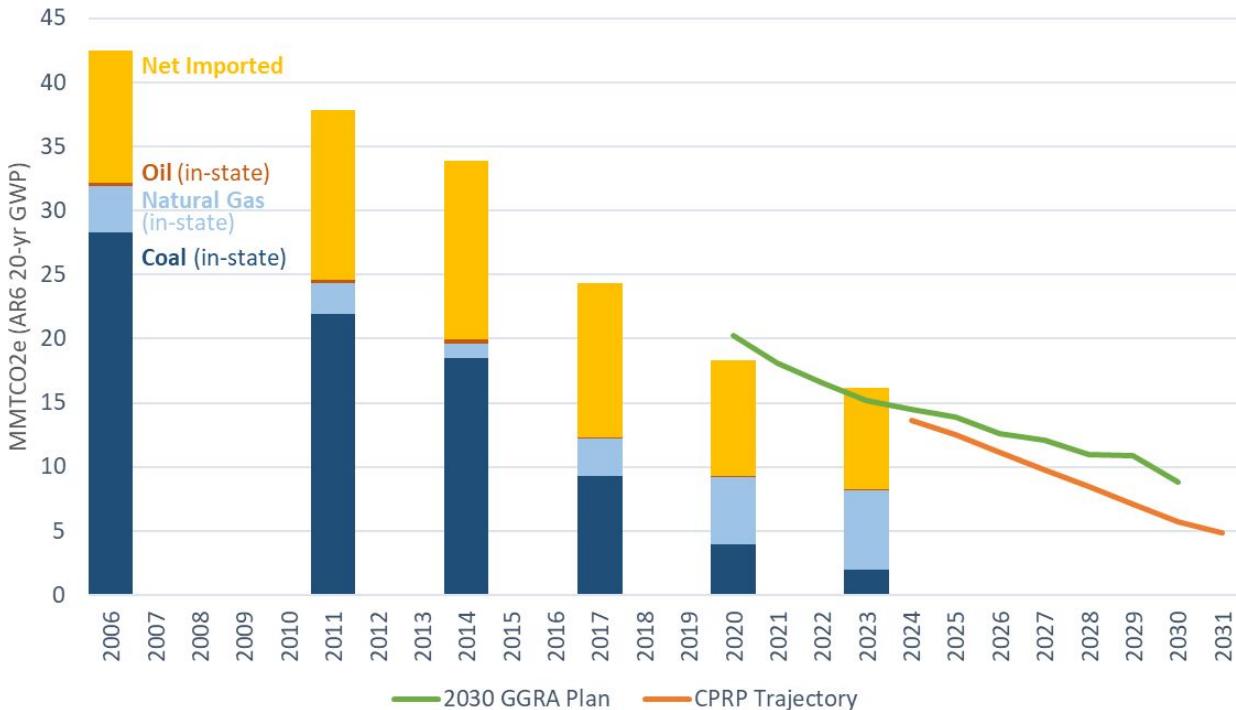
Statewide Emissions



- Gross emissions
 - 0.3% decrease from 2020 emissions
 - 29% reduction from 2006 baseline
- Net emissions
 - 0.2% increase from 2020 emissions
 - 32% reduction from 2006 baseline



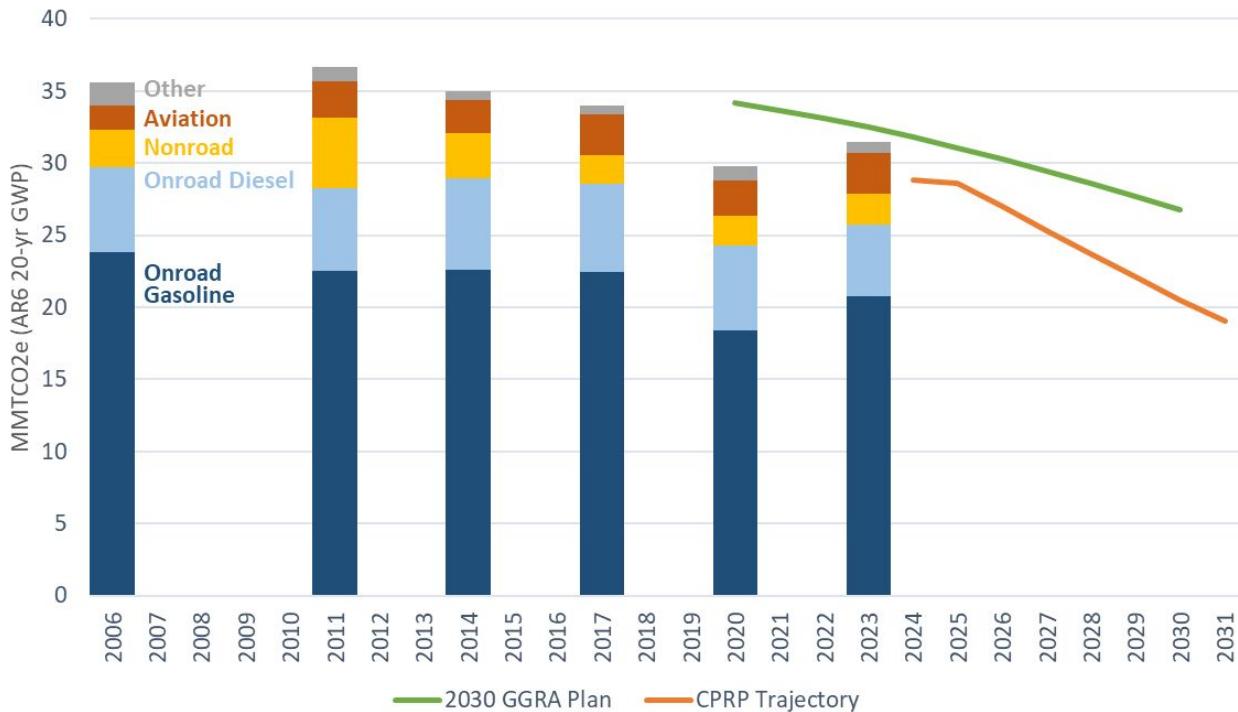
Electricity Use Emissions



- 12% overall reduction from 2020
 - 12% reduction in in-state generation emissions
 - 12% reduction in emissions attributable to imported electricity
- Historic rate of sector reductions appears to be leveling off
- Weather: 2023 summer and winter were mild
 - Emissions would have been higher under average weather conditions



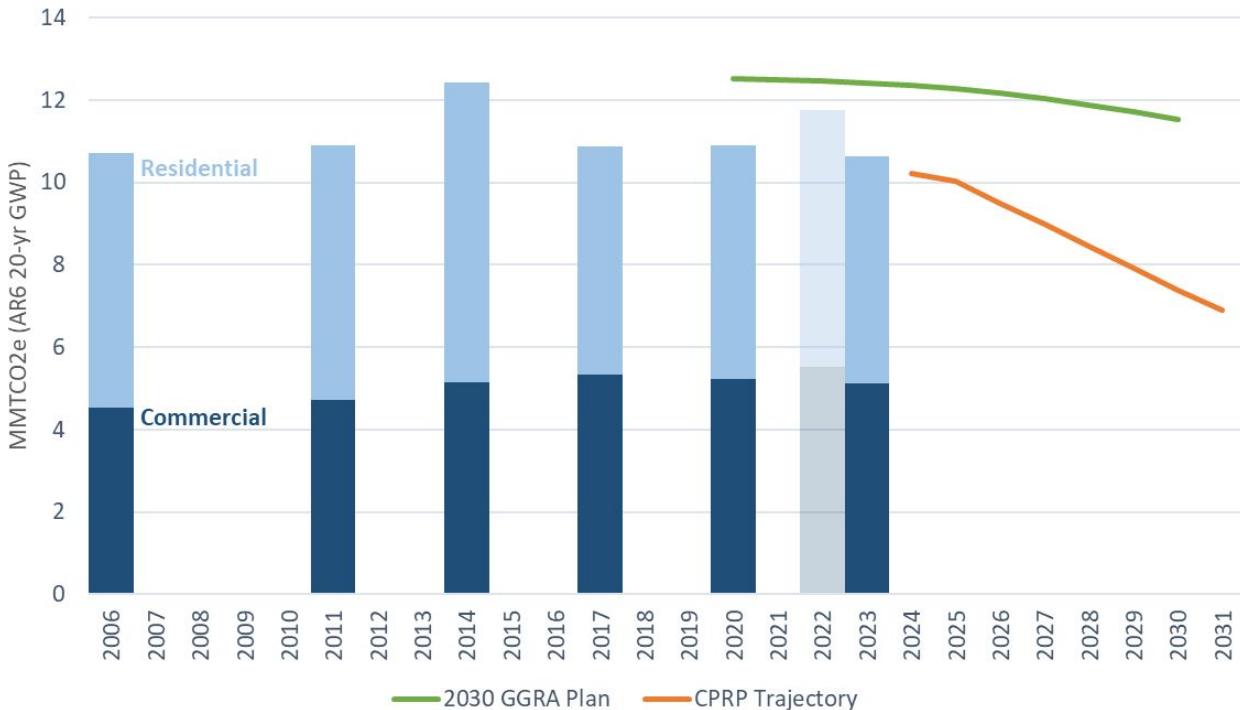
Transportation Emissions



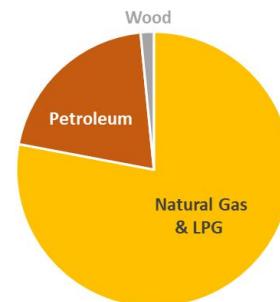
- 2020 road and air travel were depressed by COVID pandemic
 - Emissions have not bounced back to pre-pandemic levels
- 6% overall increase from 2020
 - 13% increase in **on-road gasoline** emissions
 - 15% reduction in **on-road diesel** emissions
 - 14% increase in **aviation** emissions
 - 3% increase in **nonroad equipment** emissions



Building Fuel Use Emissions

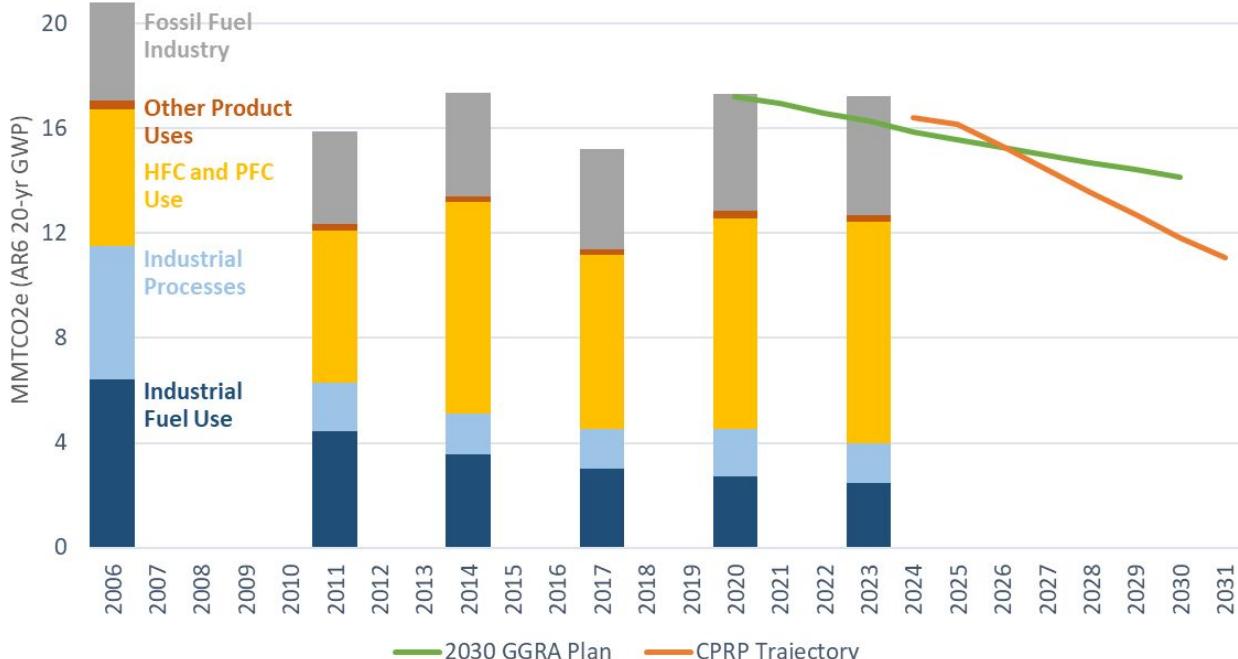


- Updated with 2023 data
- 3% overall reduction from 2020
- Year-to-year fluctuations influenced by weather ([heating demand](#))
- Flat trend historically (considering weather variations)
- 2023 by fuel:





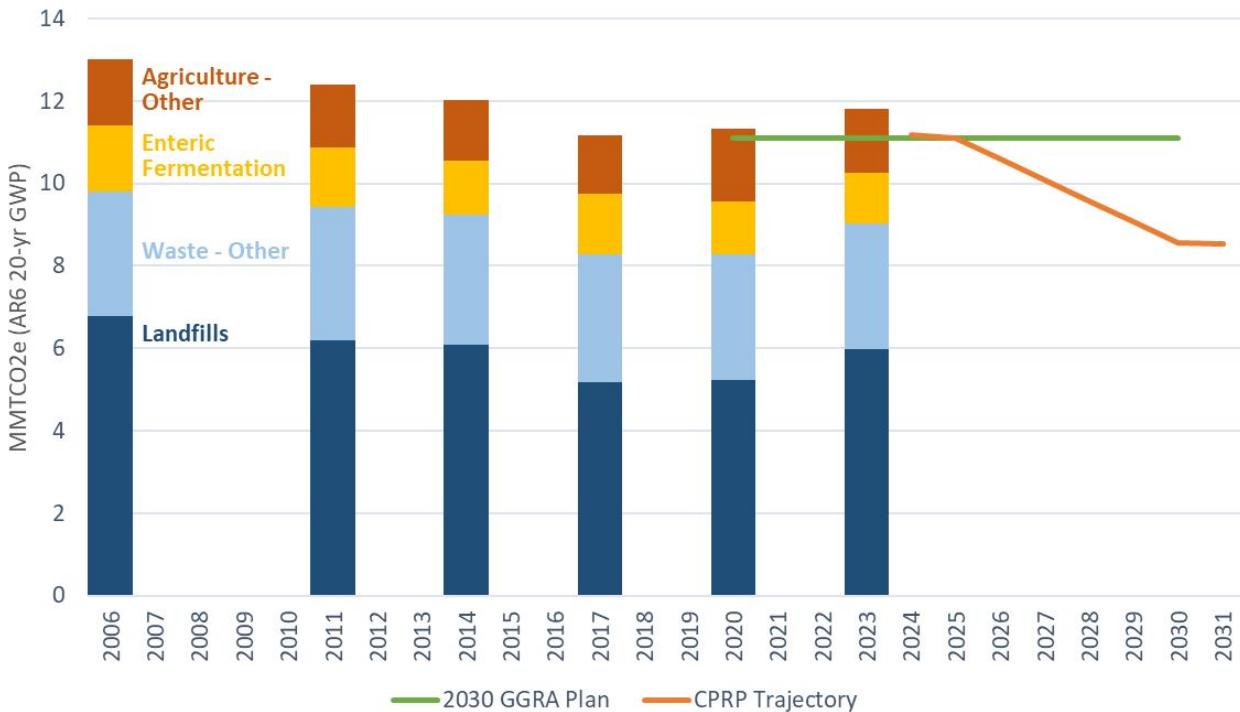
Industry & Product Use Emissions



- 12% overall reduction in **industrial fuel use** and **process** emissions from 2020
- Improvements by EPA to their state disaggregation methods for **ODS substitutes (HFC and PFC use)** in the graph
 - Impacts 2014-2020 estimates. 2 MMTCO2e average increase over prior estimates.
 - Shaves off 1% from statewide reduction from 2006
 - Additional 0.8 MMTCO2e increase due to GWP update
 - Aside from accounting changes, emissions continue to increase over time. 6% increase from revised 2020 to 2023.
- 2% increase in **fossil fuel industry** emissions from 2020



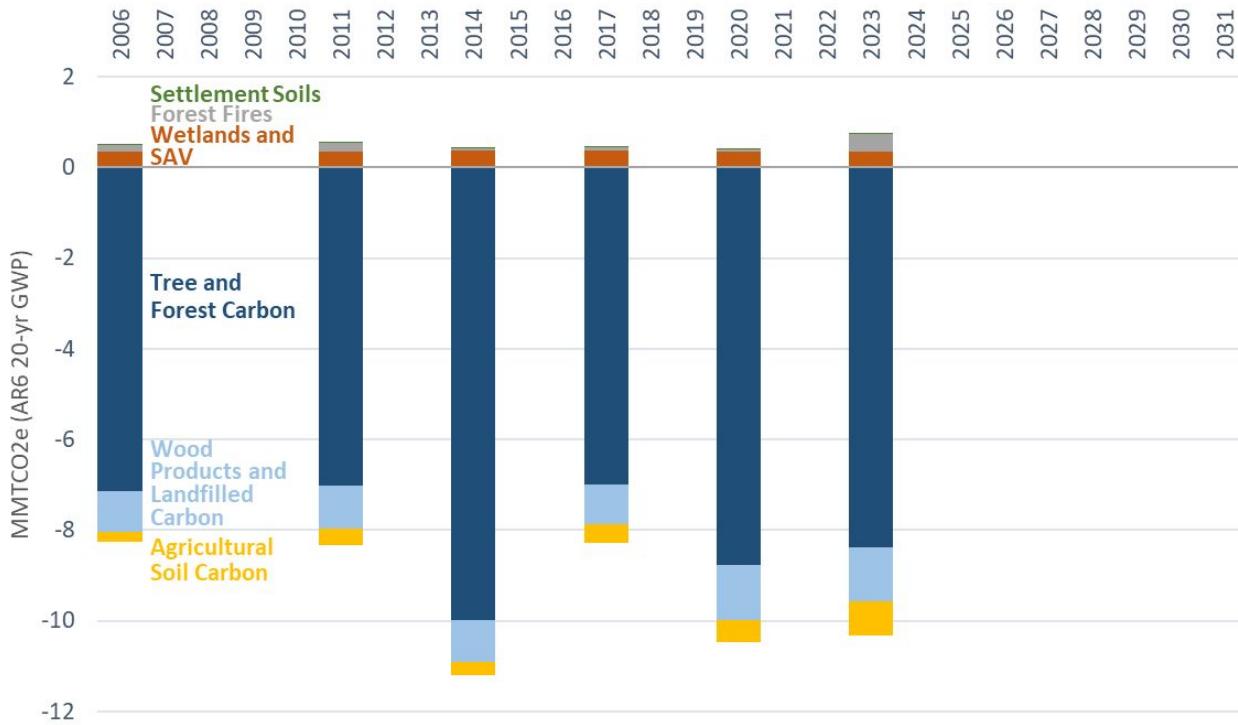
Waste Management & Agriculture Emissions



- 15% increase in landfill emissions from 2020
 - More methane being generated in the landfills combined with less landfill gas collected
- Wastewater updated to include previously unreported industrial wastewater emissions



Forestry and Land Use



- Not included in gross emissions accounting
 - CPRP modeling evaluated potential sequestration opportunity rather than policy commitment
 - Therefore no goal lines shown
- Forest carbon flux can vary due to factors such as precipitation and disturbance
- Forest fire emissions are up due to a significant increase in prescribed burns, which has been fairly consistent from 2022-2024