

2020 GHG Emissions, Progress Toward Future Goals, and the Inflation Reduction Act

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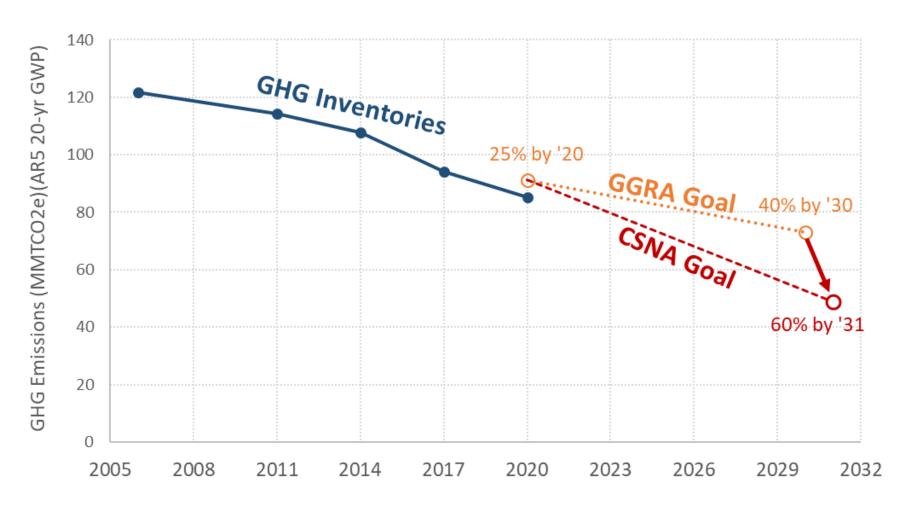
September 27, 2022



Part 1: 2020 Goal Achieved



- Inclusion of 20-year global warming potential (GWP)
- Use of world-first High-Resolution Forest Carbon Inventory from University of Maryland's collaborative project with the National Aeronautics and Space Administration
- Available on Maryland's Open Data Portal in addition to MDE website
- Full list of updates to be detailed in forthcoming documentation



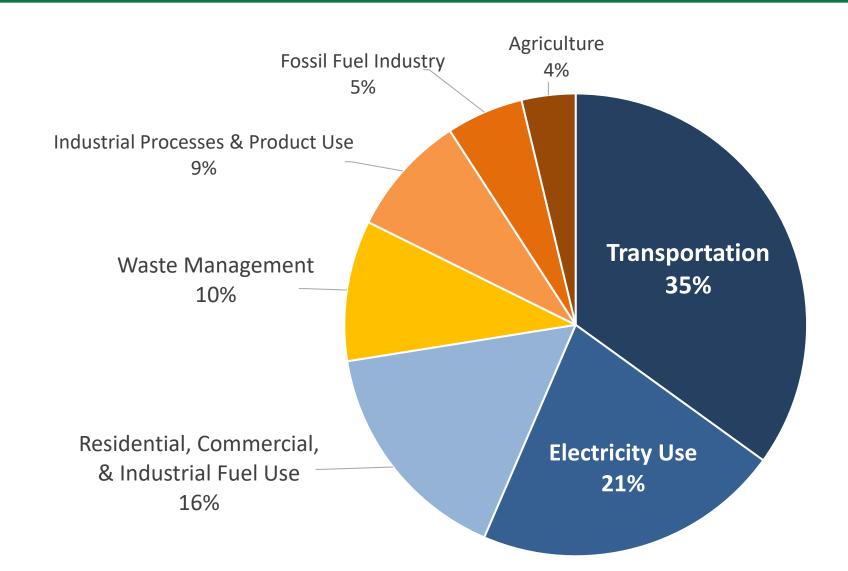
Goal

25% below 2006 levels by 2020

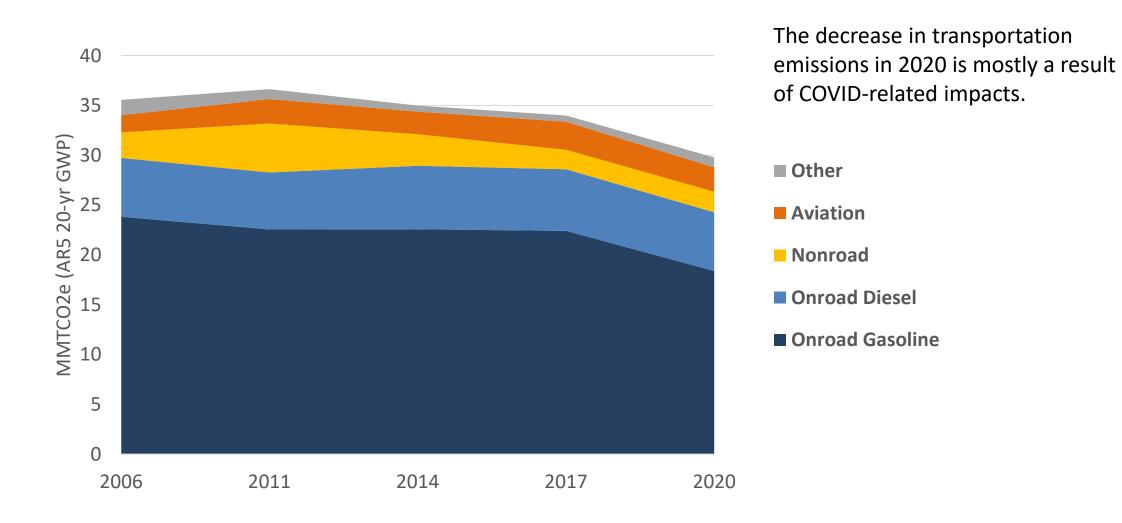
Actual

30% below 2006 levels in 2020 (33% below 2006 levels using the 100-year GWP for GHGs)

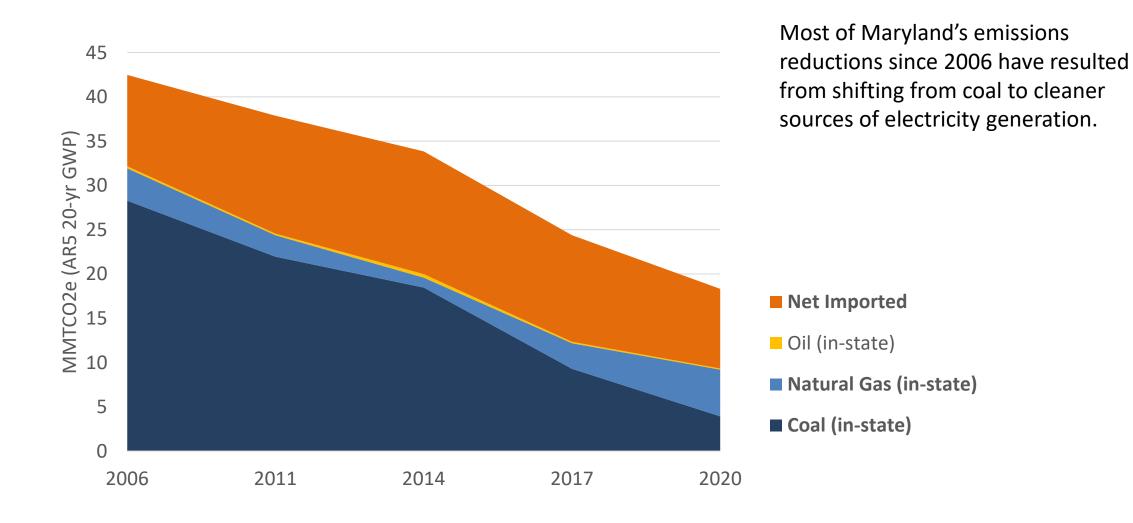
Roughly 26% below 2006 levels in 2020 (using the 20-year GWP) if Maryland had not experienced COVID-related travel impacts.





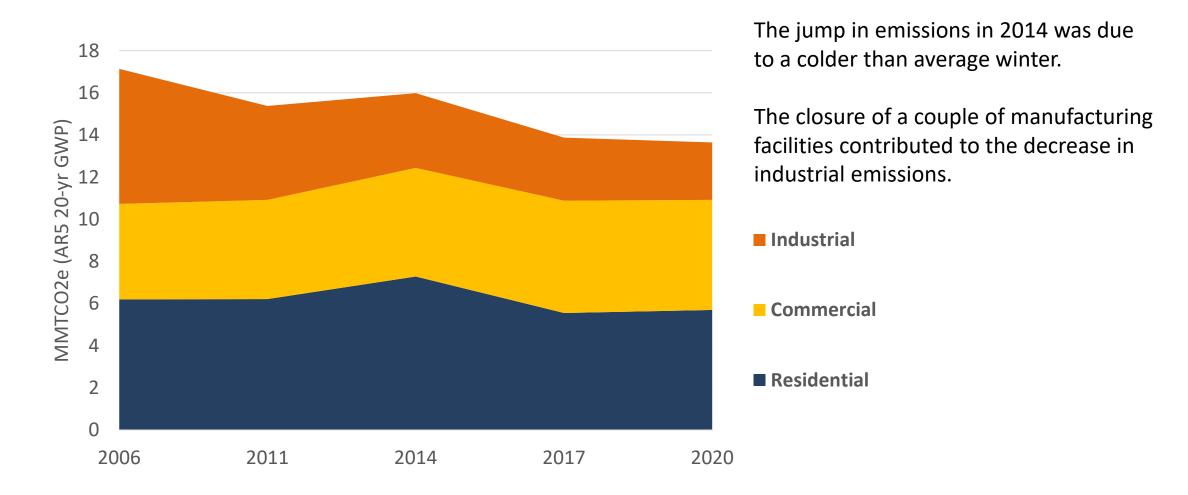


Electricity Use Emissions



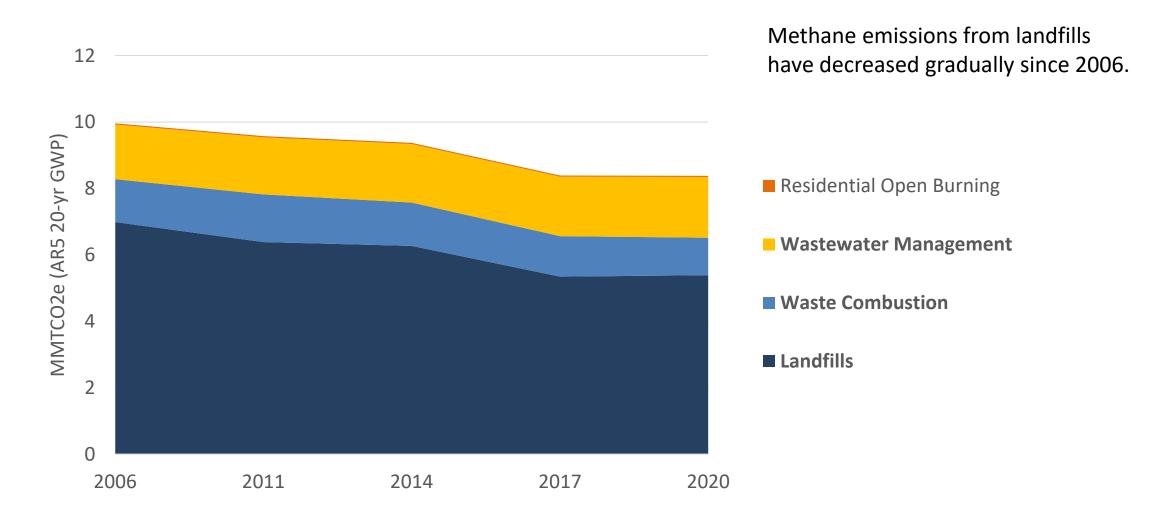


Building Fuel Use by End-Use Sector



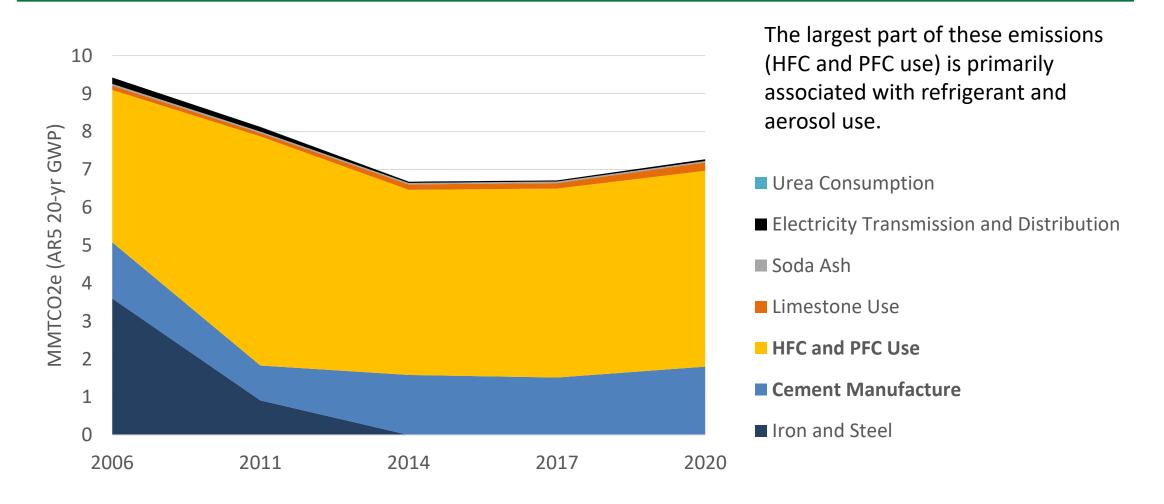


Waste Management Emissions



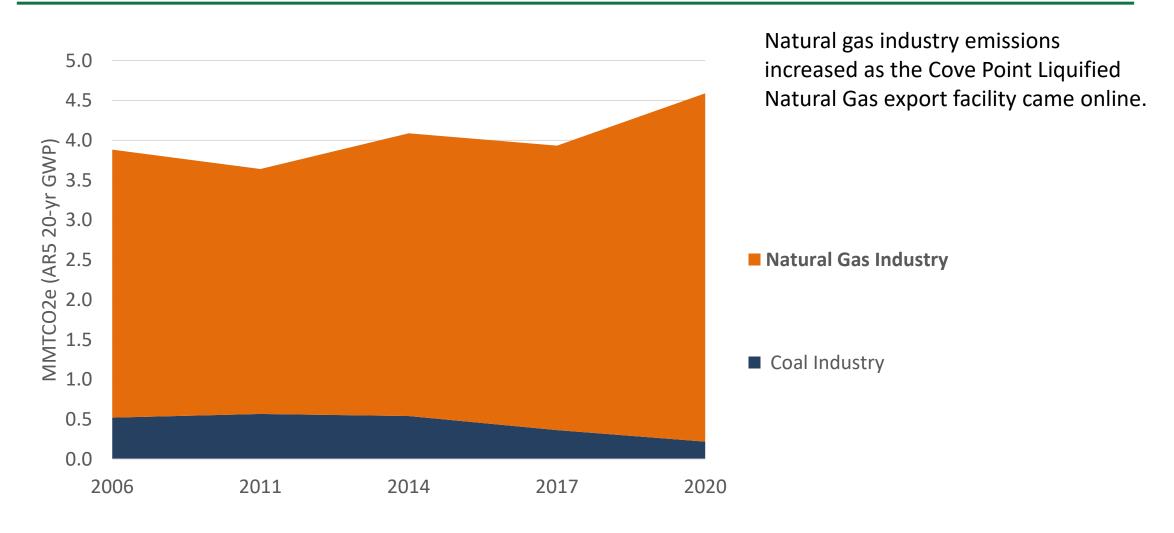


Industrial Processes & Product Use Emissions

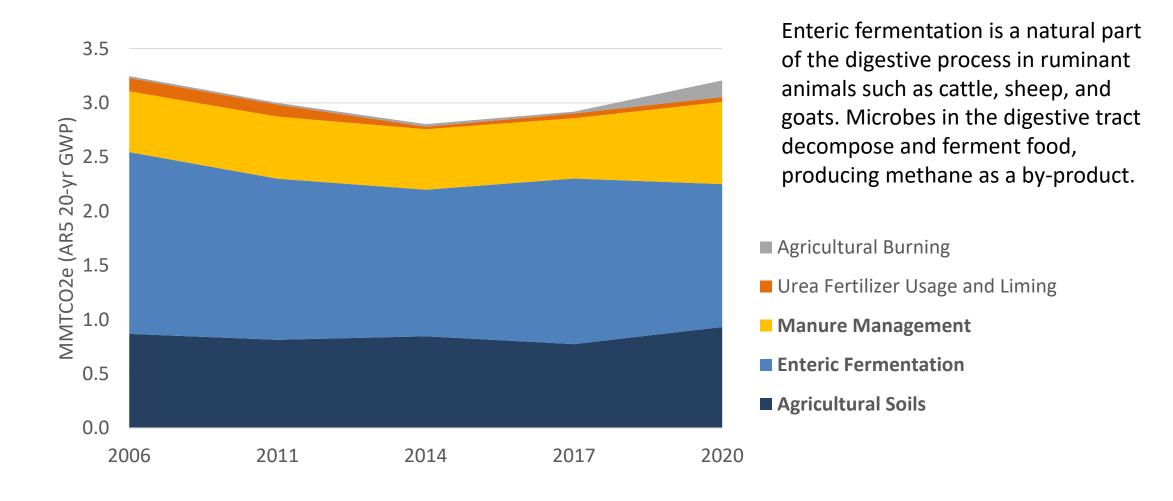




Fossil Fuel Industry Emissions

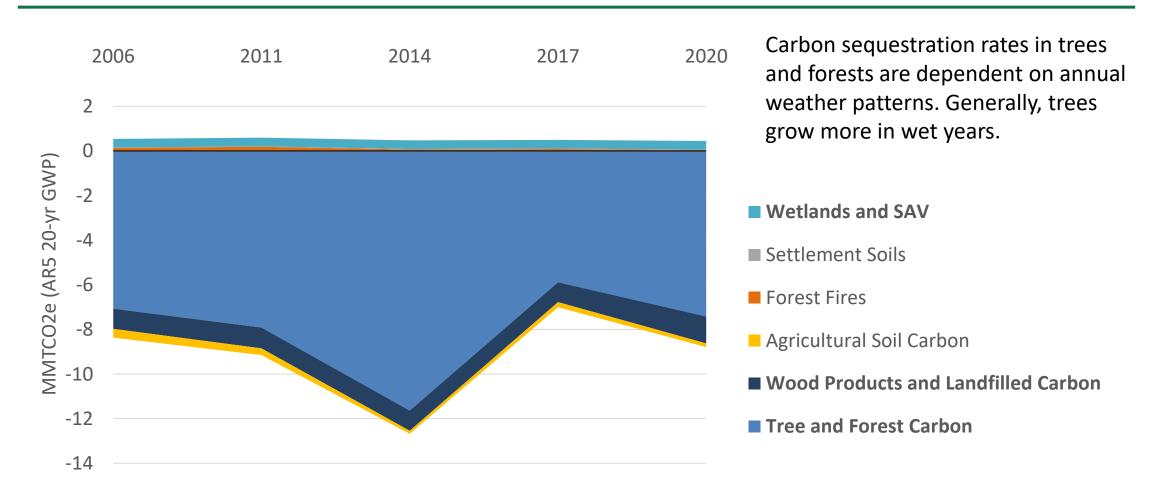


Agriculture Emissions





Forestry & Land Use Emissions and Sinks



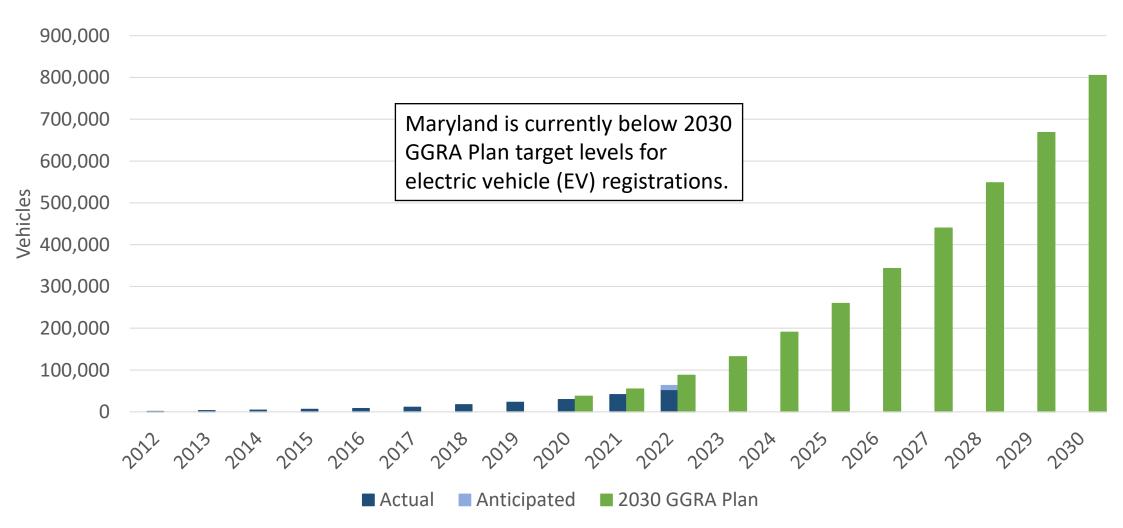


Part 2: Progress Toward Future Goals



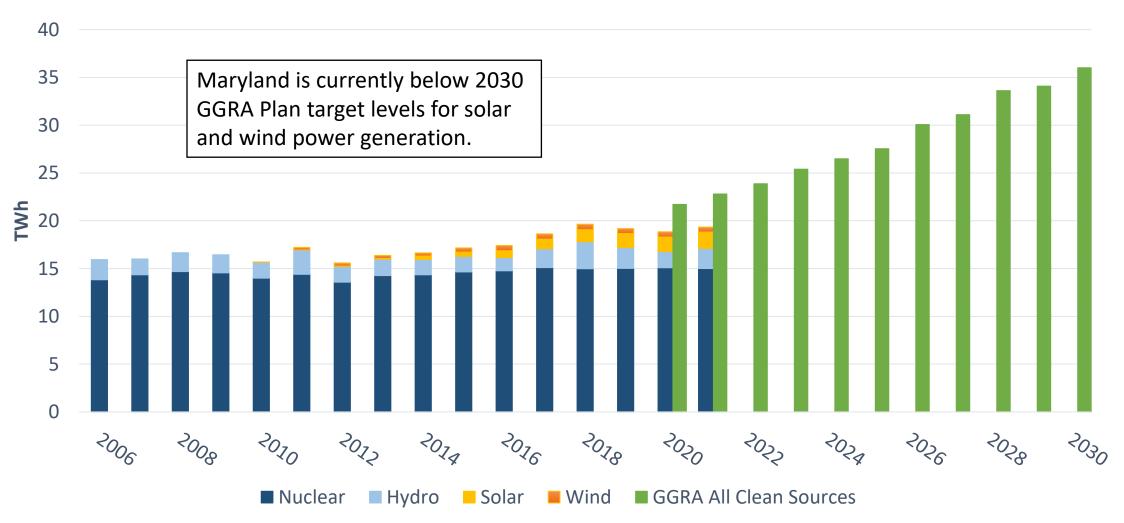
- GHG reduction goal changed from a 40% reduction by 2030 to a 60% reduction by 2031 (from 2006 levels).
- Requires MDE to use a new GHG accounting methodology, switching from the "standard" 100-year GWP to the 20-year GWP.
- Using the new methodology, the State's 2030 GGRA Plan would achieve a 44% reduction in 2031 if the plan is fully implemented.
- The following graphs show progress toward 2030 GGRA Plan targets.

Zero Emission Vehicles

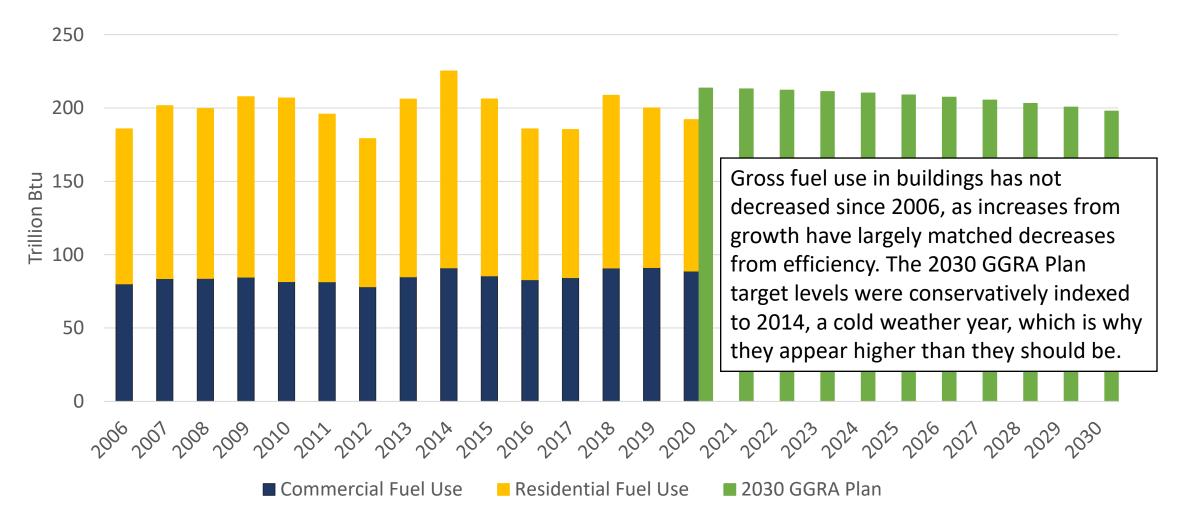




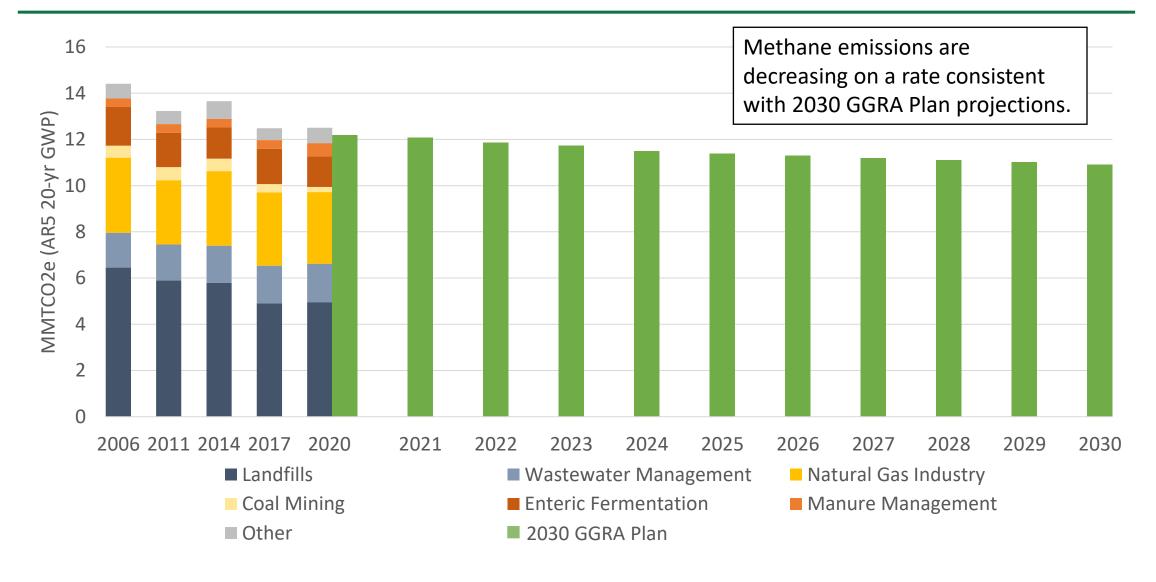
In-State Clean Electricity Generation



Fuel Use in Buildings

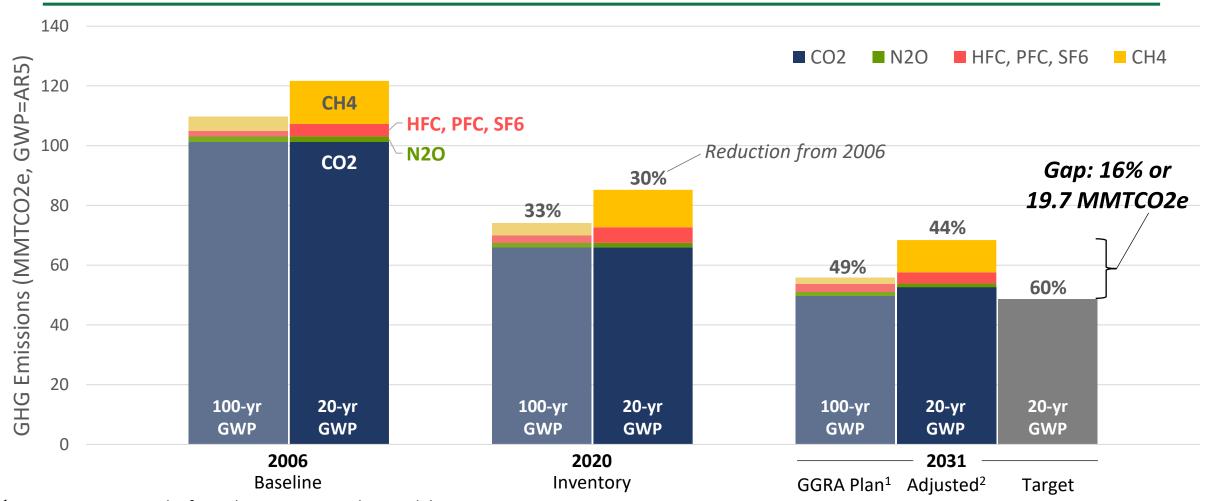








Projected Emissions Gap in 2031



¹ 2031 emissions results from the 2030 GGRA Plan modeling

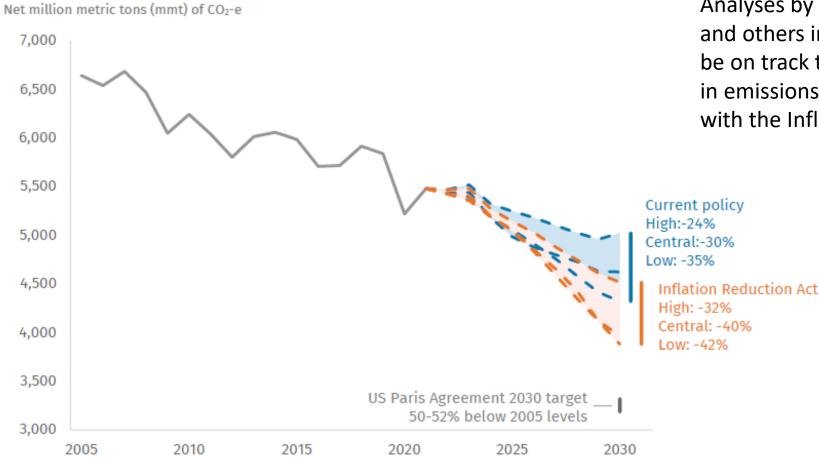
² Reflects 20-yr GWP and updated estimates for landfills, jet fuel, and ODS substitutes



Part 3: Inflation Reduction Act



FIGURE 1 US greenhouse gas emissions



Analyses by the Rhodium Group (left) and others indicate that the U.S. may be on track to achieve a 40% reduction in emissions (from 2005 levels) by 2030 with the Inflation Reduction Act (IRA).

MDE examined national-level data from several sources to estimate how the IRA might help Maryland achieve its GHG reduction goals.



Comparing IRA with 2030 GGRA Plan Impacts

	IRA National-level impacts	2030 GGRA Plan State-level impacts
Electric Vehicle Sales in 2030	19-57%	46%
Clean Electricity Generation in 2030	60-80%	75%
Homes Retrofit with Heat Pumps by 2030	8%	13%
IRA Methane Reduction Program	Reduces emissions from the fossil fuel industry	Little impact in Maryland
IRA HFC Reduction Program	Funding for AIM Act	Little impact in Maryland



- IRA helps but will not get us to a 60% reduction by 2031 without new state policies
- A supplemental analysis to the 2030 GGRA Plan showed that Maryland could reduce emissions 49% by 2031 if planned state actions were coupled with federal policies under consideration last year, which were more robust than IRA policies
- Ambitious state actions will be needed to achieve the 60x31 goal



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