

To: Scientific and Technical Working Group of the Maryland Commission on Climate Change

From: Climate Change Program of the Maryland Department of the Environment

Date: January 26, 2023

Re: Greenhouse Gas Emissions Accounting of Biofuels and Biogenic Emissions

The Maryland Department of the Environment's (MDE) Climate Change Program requests guidance from the Scientific and Technical Working Group (STWG) of the Maryland Commission on Climate Change (MCCC) regarding the accounting of biogenic emissions in the state's greenhouse gas (GHG) emissions inventory. The Climate Solutions Now Act of 2022 requires the state to achieve net-zero statewide GHG emissions by 2045. If biofuels (e.g., renewable natural gas, biodiesel, ethanol, biomass/wood) are to play a role in achieving the state's GHG reduction goals, clarity is needed on how emissions from the use of such fuels should be accounted for in the state's GHG inventory.

State Definition

The Greenhouse Gas Emissions Reduction Act (GGRA) requires the Department of the Environment to publish an inventory of statewide greenhouse gas emissions. Per Environment Article §2-1202, greenhouse gas emissions in Maryland are defined as follows:

“Statewide greenhouse gas emissions” means the total annual emissions of greenhouse gases in the State, measured in metric tons of carbon dioxide equivalents, including all emissions of greenhouse gases from the generation of electricity delivered to and consumed in the State, and line losses from the transmission and distribution of electricity, whether the electricity is generated in-State or imported.

Of note in this definition are: 1) the absence of distinctions between anthropogenic and natural emissions sources and between fossil and biogenic origins of emissions; and 2) the absence of specification of sequestration and net emissions.

Current Approach

The state definition of GHG emissions does not make distinction between anthropogenic or biogenic emissions. As such, all emissions are to be counted regardless of fossil or atmospheric origin and the current inventory generally follows this approach. For example, emissions from landfill gas, waste incineration, biodiesel/ethanol transportation fuels, and renewable natural gas are counted in their entirety, at the point of combustion, and without adjustment for the biogenic portion of waste or feedstock.

Biofuels Accounting Questions

There are differences among states in accounting approaches with some treating carbon dioxide emissions from biogenic sources as carbon neutral. This raises a number of questions including, but not limited to:

- The scope of Maryland's GHG emissions accounting is defined by the state boundary (with the exception of imported electricity use emissions). What consideration should be given as to the location of feedstock production (i.e., the carbon within the biofuel has been cycled from the atmosphere outside of Maryland)? Should biofuel accounting be treated differently if the fuel is produced in-state?
- What consideration, if any, should be given to the lifecycle impacts of biofuels including GHG emissions and land use impacts (e.g., increased competition for land with implications on deforestation and food insecurity) associated with feedstock production?
- Is there risk of double-counting the biogenic or environmental attributes of biofuels if those attributes have been decoupled for use in other compliance programs?

In short, MDE seeks STWG's recommendations on whether biofuels should be treated differently than fossil fuels in MD's GHG inventory accounting. And if so, how might this be done while aligning with the current definitions that guide the state's inventory.