

**Response to Comments
State of Maine
CHAPTER 167:
TRACKING AND REPORTING GROSS
AND NET ANNUAL GREENHOUSE GAS EMISSIONS**

June 3, 2021

As stated in 38 M.R.S. § 576-A, “By July 1, 2021, the Department shall adopt rules to track and report to the Legislature on gross annual greenhouse gas emissions and net annual greenhouse gas emissions.” The proposed Chapter 167 establishes methods for the calculation of annual greenhouse gas emissions as required, outlining the methods, data sources, and assumptions used to compile and report these inventories.

These emissions estimates will be used to assess Maine’s progress toward meeting the gross greenhouse gas reductions set out in 38 M.R.S. § 576-A (1) and (3). The Department will use these methods to measure progress toward these reductions and toward the goals of the climate action plan described in 38 M.R.S. § 577. The net emissions estimate will be used to gauge Maine’s progress toward the 2045 carbon neutrality goal as described in Governor Mills’s executive order dated September 23, 2019.

On May 20, 2021, the Department held a public hearing on the proposed Chapter 167.¹ The Department received comments on the proposal from three interested parties during the public comment period and has summarized these comments and provided its responses below.

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2) [Joint comments by multiple authors]
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3) Ken Capron
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Summary of Comments

¹ Public notice of the hearing was published on the Department’s Opportunity for Comments website and sent to all persons on the Department’s mailing list on April 23, 2021. The public comment period closed on June 1, 2021.

1) Comment: One commentor asked for clarification on how the proposed Chapter 167 is different than the U.S. Environmental Protection Agency's (EPA) electronic Greenhouse Gas Reporting Tool (e-GGRT) that is already used for GHG reporting by certain sites and how the proposed Chapter 167 would incorporate data from e-GGRT. (Commenter 1)

Response: EPA's e-GGRT is a federal-level greenhouse gas (GHG) reporting tool used by large U.S. sources of emissions. The proposed Chapter 167 does not use data directly from e-GGRT. Perhaps more importantly, the proposed Chapter 167 does not require any additional reporting or change current GHG reporting by Maine facilities. Those facilities currently required by Chapter 137 to report GHG emissions will continue to do so through the Maine Air Inventory Reporting Information System (MAIRIS) as they have done in the past. Those facilities currently required to report GHG through federal programs, such as e-GGRT, will continue reporting in the same way. No changes to the proposed rule were made in response to this comment.

2) Comment: The subject of consistency in reporting of numbers was raised by one commentor, specifically mentioning national versus Maine sources of GHG data. (Commenter 3)

Response: The Department follows national and international guidelines for estimating GHG emissions in order to ensure consistency and comparability and to prevent double counting of emissions between states. There may be differences in the numbers reported by national agencies, such as EPA, due to availability of data and ability to refine estimates. While EPA currently produces a national GHG Report, which is not disaggregated to the state level, they are actively working on a disaggregated data set to produce state-level GHG emissions estimates. The purpose of this project is primarily to supply data for states who do not currently report state-specific GHG emissions. There will be a strong caveat to these EPA-produced reports clearly stating that the state report is more accurate than the EPA disaggregated reporting and that the state report contains the official GHG estimates. Although the same methods are used, Maine is able to spend more time and resources to improve the input data to best represent emissions in Maine, while EPA is not able to do so for each individual state and relies on national databases for default inputs. Interested states are currently engaged with the EPA GHG group to ensure these estimates match state data as best as possible. No changes to the proposed rule were made in response to this comment.

3.) Comment: A clarification was requested on the use of the gross GHG estimates for comparison with the GHG reduction goals. (Commenter 2)

Response: Although the proposed Chapter summary states, "These emissions estimates will be used to assess attainment of the reductions set out in 38 M.R.S. § 576-A (1), (2) and (3)," a similar statement has been added to section 4.B.(1) for further clarity.

4.) Comment: One commentor noted emissions of methane leaks from natural gas distribution and transmission are not currently included in the gross estimates. (Commenter 2)

Response: As the commentor stated, the natural gas infrastructure in Maine is relatively new, so leaks from the system are not as prevalent as they are in other areas of the country. Nevertheless, the Department recognizes that these leaks do occur. The SIT tool utilized in the proposed Chapter 167 includes a way to estimate emissions from natural gas systems; however, there is no default data available in the SIT for Maine. In the past, given the expected minor emissions from leaks from the natural gas system, resources have not been available to investigate possible sources of data for entry into this module. As the commentor pointed out, the proposed rule states that this model will be used as efforts are being made to locate accurate data for Maine's natural gas distribution network to use in these estimates. The Department has also been exploring the Massachusetts tool for estimating emissions from natural gas

distribution systems. Although resources are currently dedicated to other improvements for the 2021 report, the Department is assessing the Massachusetts tool for inclusion in the 2023 report. Chapter 167 will be updated every two years as new tools are available and improvements are made to the methodology. No changes to the proposed rule were made in response to this comment.

5.) Comment: The subject of emissions from hydropower impoundments was raised due to concern about underreported emissions of GHGs, particularly methane, from these systems. (Commenter 2)

Response: Maine does not include biogenic emissions from hydropower impoundment facilities in its emissions inventory. At this point, the Department is not aware of any states that include these emissions in their emissions inventory, although at least one state is exploring whether to do so at a later date. A study completed in Washington State suggests biogenic emissions from hydropower impoundment facilities are very low in temperate environments such as Maine's.² These emissions are likely more of an issue in tropical environments. While there are known emissions of methane from the environment, both naturally occurring and due to anthropogenic landscape changes, currently the data is not strong enough to make accurate estimates.³ No changes to the proposed rule were made in response to this comment.

6.) Comment: A suggestion was made that the Department should adopt a hybrid approach for estimating GHG emissions from electricity, one that would include electricity generated both inside and outside the state. (Commenter 2)

Response: Although it is not part of the official gross or net emissions estimates, the Department has committed to reporting the emissions from electricity consumed in Maine regardless of where it is generated. The Department will report this as a standalone table and figure in the 2021 GHG Report for full transparency regarding Maine's electricity use and the associated emissions. The SIT module specific to this estimate will be used to generate this time series and the results will be reported as a separate data set in order to avoid double counting. Following national and international guidelines, only emissions occurring within state boundaries are included in the gross and net emissions estimate. This methodology provides an estimate of emissions from all electricity generated within the state, whether or not it is consumed in the state (i.e., those emissions are counted even if that electricity is exported). For further transparency related to electricity emissions and estimates, the Department has and will continue to include data quantifying electricity imports and exports into and from the state in the GHG Report.⁴ No changes to the proposed rule were made in response to this comment.

7.) Comment: The subject of net GHG emissions and possibly carbon offsets was raised in support of any proposed rules establishing carbon offset program. (Commenter 2)

² Arntzen, E.V., et al. (2013) Evaluating greenhouse gas emissions from hydropower complexes on large rivers in Eastern Washington. Pacific Northwest Laboratory. Available at https://www.pnnl.gov/main/publications/external/technical_reports/PNNL-22297.pdf

³ EPA is currently looking into adding some additional data on this topic to the SIT for the 2022 version using the methods to estimate methane and carbon dioxide from flooded lands (reservoirs, ponds, etc.) developed as part of the 2019 Intergovernmental Panel on Climate Change (IPCC) Refinement. EPA is working with colleagues at EPA Office of Research and Development to apply these methods and provide state level estimates. The estimates provided in the 2022 SIT will use the IPCC default emission factors, but EPA is conducting measurements at reservoirs across the US over the next few years and as that data becomes available, EPA will use the US-specific emission factors to update the estimates.

⁴ For example, see page 22 in Appendix D of the Eighth Report on Progress toward Greenhouse Gas Reduction Goals.

Response: The Governor’s Forest Carbon Task Force⁵ ⁶ is currently exploring possibilities related to carbon offset programs. Their report is due to be presented to the Governor on September 1, 2021. Although it is not part of the gross or net GHG emissions estimates, the Department will report carbon credits in Maine and will report a secondary net emissions assessment including these carbon credits claimed outside of the state in the GHG Report. Ultimately, the Department will include net emissions both with and without carbon credits considered in the GHG Report to be fully transparent and ensure both data sets are available should they be useful for policy or strategy development. No changes to the proposed rule were made in response to this comment.

8.) Comment: One commentor mentioned the use of 40 C.F.R. Part 98 emission factors used to calculate biogenic emissions, requested clarification on which emission factors would be used, and noted that the January 2020 update of Maine’s GHG Report did not include biogenic emissions. (Commenter 2)

Response: Maine has historically not included emissions from biogenic sources in its GHG estimates. The report to be completed at the end of 2021 will be the first GHG report to include biogenic GHG emissions. 40 C.F.R. Part 98 contains a series of tables that specify emissions factors based on fuel types. Of particular note are emission factors for wood, solid waste, and black liquor solids. Some of these emission factors must also be adjusted for moisture content, e.g., for wood of different moisture content, and are dependent on the units of fuel used. As part of its emission estimates pursuant to Chapter 167, the Department will choose the emission factors from the Part 98 tables that best represent the fuels (both biogenic and others) being combusted to produce GHG emissions. No changes to the proposed rule were made in response to this comment.

⁵ Forest Carbon Task Force website: <https://www.maine.gov/future/initiatives/climate/climate-council/forest-carbon-taskforce>

⁶ Created by executive order (<https://www.maine.gov/governor/mills/sites/maine.gov/governor.mills/files/inline-files/EO%2081%2024.pdf>)