



NATIONAL COUNCIL FOR AIR AND STREAM IMPROVEMENT, INC.
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Via email to GHG Inventory
United States Environmental Protection Agency
Climate Change Division, Office of Atmospheric Programs

RE: Comments on Public Review Draft US Inventory of Greenhouse Gas Emissions and Sinks:
1990-2015

Dear Ms. Desai and Ms. Weitz:

Thank you for the opportunity to provide input on the Public Review Draft Inventory of US Greenhouse Gas Emissions and Sinks: 1990-2015. We submit the following technical comments.

Waste

On page 7-31, lines 32-38 of the draft, EPA notes that the agency is considering updates to parameters used in estimating industrial wastewater treatment GHG emissions:

“For industrial wastewater emissions, we are working with the National Council [for] Air and Stream Improvement (NCASI) to determine if there are sufficient data available to update the estimates of organic loading in pulp and paper wastewaters treated on site. These data include the estimates of wastewater generated per unit of production, the BOD and/or COD concentration of these wastewaters, and the industry-level production basis used in the Inventory. Data on the industry-level production basis to date has been received and will be incorporated, but in order to incorporate that data, the production basis in relation to the wastewater generation rate and the organic content of the wastewater needs to be evaluated to ensure it is incorporated correctly into the inventory.”

EPA calculates CH₄ emissions from industrial wastewater by multiplying annual production by the average outflow (wastewater generation per ton production), the organics loading in the outflow, the maximum CH₄ producing potential of wastewater (B₀), and the percentage of organic loading assumed to degrade anaerobically. As we have conveyed in comments on prior

year draft inventories^{1,2}, NCASI has reviewed the first three of these parameters and offers the following input.

Production. EPA characterizes production of the pulp and paper sector as the sum of woodpulp production plus paper and paperboard production, based on data from the Food and Agriculture Organization of the United Nations (FAO). Summing woodpulp, paper, and paperboard production results in double counting, because the majority of woodpulp production is used to produce paper and paperboard at integrated mills (an integrated mill includes both pulping and papermaking at the same facility, with a single wastewater treatment system). Therefore, production statistics used by EPA to represent the pulp and paper sector are too high.

As we have suggested before, a more appropriate method for characterizing total pulp and paper sector production would be to sum paper production, paperboard production, and market pulp production. The American Forest and Paper Association (AF&PA) publishes this information annually in its Statistical Summary reports, which are submitted each year to the US Library of Congress.

Average Outflow. EPA characterizes wastewater generation per ton of production based on water discharge statistics from AF&PA Sustainability Reports. These are the most current and relevant data for this characterization, and NCASI submits no comments on this use other than to emphasize that the agency should ensure it is using the most current version of the report.

Organic Loading in the Outflow. EPA characterizes the organic load in untreated wastewater using a legacy value of 0.4 gram BOD per liter of untreated effluent and a multiplier of 2 to convert from BOD to COD. NCASI has very limited data on untreated effluent organic load. Therefore, until additional data are available, we cannot suggest an alternative value.

In summary, use of FAO statistics overstates the pulp and paper industrial sector's production by double counting pulp used to produce paper and board at integrated mills, which in turn results in estimates of pulp and paper sector industrial wastewater treatment methane emissions being far too high. EPA should use production data from AF&PA's Statistical Summary reports to avoid this double counting. This will result in more accurate characterization of industrial wastewater treatment methane emissions from this sector.

Land Use, Land Use Change, and Forestry

The methodology and estimates of carbon stocks and fluxes from land use, land use change, and forestry in the draft vary only slightly from those in the previous inventory. We note the substantial year-over-year increase in net CO₂ flux from harvested wood products in use (Table 6-10) and support the explanation given on p. 6-32 attributing this change to recovery of the market for solid wood and paper products. We support the planned improvements in the estimates of forest carbon stocks and changes that are underway.

¹ Comments on Public Review Draft US Inventory of Greenhouse Gas Emissions and Sinks: 1990-2013. Memo from Brad Upton, NCASI, to Leif Hockstad and Melissa Weitz, EPA. March 19, 2015.

² Comments on Public Review Draft US Inventory of Greenhouse Gas Emissions and Sinks: 1990-2014. Memo from Brad Upton, NCASI, to Leif Hockstad, EPA. March 23, 2016.

March 17, 2017

A new component of this draft inventory is the inclusion of drained organic soils on forest land. The approach identifies planted forests on mesic or xeric sites (based on forest inventory plot data) that coincide with organic soils (according to spatial soil datasets). The result (70.85 k ha) is multiplied by a simple emissions factor to obtain the annual flux. However, this approach does not distinguish between permanent “deep drainage” and shallow, temporary alteration to surface hydrology (such as bedding), which is widely implemented in the US South to establish forest regeneration. Nor does it use forest age to accommodate changing emissions rates with time since drainage. We encourage EPA and USDA Forest Service to work towards continual refinement and improvement of this estimation approach, perhaps moving to a Tier II estimate, although the flux remains small relative to other components of the inventory.

Please feel free to contact me for clarifications or with questions.

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Best Regards,



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