



March 17, 2022

Mausami Desai  
Climate Change Division  
Office of Atmospheric Programs  
U.S. Environmental Protection Agency  
1200 Pennsylvania Ave, NW  
Washington, DC 20460  
Via Email: [GHGInventory@epa.gov](mailto:GHGInventory@epa.gov)

**RE: NACWA Comments on Wastewater Treatment Emissions Estimates in EPA's Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2020, Draft for Public Review**

Dear Ms. Desai:

The National Association of Clean Water Agencies (NACWA) appreciates this opportunity to comment on the U.S. Environmental Protection Agency's (EPA) draft *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2020 (Inventory)*, and specifically Section 7.2, *Wastewater Treatment and Discharge (CRF Source Category 5D)*, as part of the public review process.

NACWA represents the interests of over 330 publicly owned wastewater treatment agencies nationwide, serving the majority of the sewered population in the US. NACWA members want to ensure that greenhouse gas (GHG) emissions from wastewater treatment facilities are characterized correctly in the *Inventory*, since the *Inventory* is a frequently cited reference for GHG information. The wastewater treatment category includes publicly owned treatment works (POTWs), septic systems and industrial wastewater treatment systems. NACWA's review focused on emissions from POTWs.

NACWA has submitted comments on the wastewater treatment section since the 2005 *Inventory*, and we appreciate the clarifications that EPA has made over the years for the emissions calculations and the factors that are used in the calculations. Since EPA uses guidelines published by the Intergovernmental Panel on Climate Change (IPCC) to calculate emissions for the *Inventory*, the basis of EPA's estimates did not change between the 2005 and 2018 *Inventories*. However, with the publication of the *2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (IPCC Refinements)*, EPA's calculations changed in the 2019 *Inventory*. NACWA provided detailed comments about the calculation changes last year.

NACWA agrees with the Planned Improvements described in the *Inventory*, many of which the Association has recommended in past comments. To

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reflect US GHG emissions from POTWs more accurately, NACWA recommends that development of US- and treatment-specific methodologies and emission factors be prioritized, particularly for nitrous oxide. Previous IPCC guidance used different emissions factors depending on whether plants use N/DN processes, with lower emissions resulting from plants without N/DN. If the IPCC calculations for nitrous oxide are not updated, EPA should use US-specific factors to account for the presence or absence of N/DN processes at different treatment plants.

Actual nitrous oxide emissions are process-specific, with factors such as consistency of dissolved oxygen levels, system upsets, and supplemental carbon addition sources potentially playing a large role in the quantity of nitrous oxide formed. Further refinements are needed with respect to treatment process type to reflect actual conditions.

NACWA also recommends that EPA focus on where wastewater discharges occur in the aquatic environment and how this affects GHG emissions. The current emissions factors apply to “estuaries,” but further details describe “slow moving” aquatic systems. A large portion of wastewater discharges go to aquatic systems that are not “slow moving,” since discharge points for POTWs are usually selected to meet water quality objectives and to target dilution and movement of the receiving water – conditions that are not conducive for producing GHG emissions. A better understanding of how emissions depend on the discharge points would produce more accurate emissions estimates.

NACWA looks forward to reviewing EPA’s analysis of additional information sources that are outlined in the Planned Improvements, such as the North East Biosolids & Residuals Association (NEBRA) biosolids data and the ICIS-NPDES BOD and N effluent discharge data. In addition, the continued success of water conservation efforts in many parts of the US means that the standard 100 gallons/capita/day wastewater generation factor should be updated in the *Inventory* as soon as possible.

Thank you for your consideration of these comments. Please contact me at 202-533-1836 or [cfinley@nacwa.org](mailto:cfinley@nacwa.org) if you have any questions.

Sincerely,

A handwritten signature in black ink, reading "Cynthia A. Finley". The signature is written in a cursive, flowing style.

Cynthia A. Finley, Ph.D.  
Director, Regulatory Affairs