Open letter to marine engine manufacturers for transparency on N₂O & NH₃ emissions from ammonia engines

The shipping sector must accelerate its decarbonization efforts to meet the goals of the Paris Climate Agreement, and new regulations and private initiatives are requiring accurate well-to-wake (WtW) greenhouse gas (GHG) emissions accounting. To ensure a level playing field, shipping companies, policymakers, and civil society must have access to reliable and complete information on the GHG emissions associated with different fuels and technologies. This isn't the case at the moment.

The lack of transparent and complete information on nitrous oxide (N₂O) and ammonia (NH₃) emissions from the forthcoming ammonia-powered engines complicates regulatory design and investment decisions by shipowners. This is especially worrying because N₂O is 273 times more potent of a greenhouse gas than CO₂, and NH₃ emissions contribute to air pollution and indirect N₂O emissions.¹ ²

To address this, we call on marine engine manufacturers to publicly release granular data on N₂O and NH₃ emissions from ammonia-powered marine engines.

For these ammonia-powered engines (including dual-fuel engines), we request preliminary N₂O and NH₃ emissions data from laboratory tests. Manufacturers should provide N₂O and NH₃ emission rates in g/kWh or as a percentage of fuel consumption for the following load points: 5%, 10%, 15%, 20%, 30%, 40%, 50%, 60%, 70%, 75%, 80%, and 90% of maximum continuous rating (MCR). The wide range of load points accounts for the strong impact of load on emission rates.³ ⁴ ⁵ ⁶ ⁷ ⁸ We are aware of the sensitivities associated with new technologies under development, and we stand ready to work with manufacturers to help collect this data in an independent, secure, and credible fashion.

The shipping industry has been a latecomer in taking responsibility for climate change, and transparency will go a long way to help industry and policymakers make informed decisions about deploying alternative marine fuels. It will also increase the trust of civil society and policymakers in the alternative fuels offered as a solution to global warming, and stimulate much-needed investments for their large-scale deployment.

² NABU, Öko-Institut (2021). Ammonia as Marine Fuel
We thank you in advance.

**On behalf of:**

Transport & Environment
Solutions for Our Climate
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Pacific Environment
Ocean Conservancy
Environmental Defense Fund
Friends of the Earth - United States
NABU (The Nature And Biodiversity Conservation Union)
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