



Climate change and the current shipping fleet

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Climate change and the current shipping fleet

There is a rapidly-depleting “carbon budget” of CO₂ emissions the shipping sector can emit in future, if it is to do its part in keeping global temperature rise below 1.5 °C. Because ships have very long lifetimes, with slow fleet turn-over, it is possible that emissions from the operations of the existing fleet alone could exceed this carbon budget, irrespective of progress made on introducing low-carbon fuels in new ships. This note summarises analysis of the future emissions of ships covered by the EUMRV regulation, and the implications for International Maritime Organisation (IMO) policy.

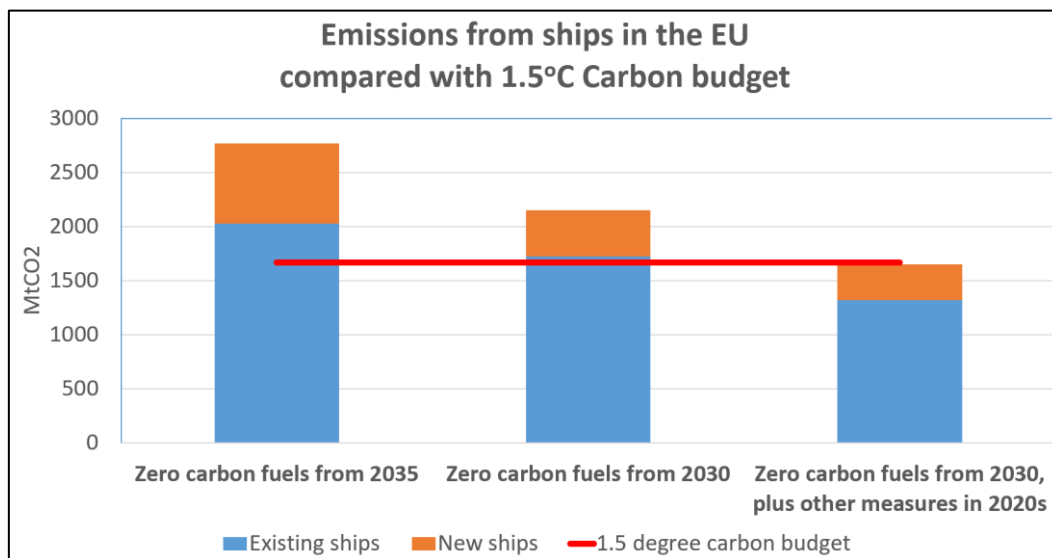


Figure: Reducing shipping committed emissions in line with Paris 1.5 °C carbon budgets

The research calculates the CO₂ emissions from ships sailing to and from EU ports in their remaining lifetimes, adds future emissions from new ships, and compares this total with a 1.5 °C carbon budget. It then looks at the effect on emissions of introducing new low carbon fuels to new and existing ships, and then the effect of adding in operational improvements to the existing fleet. It concludes that:

- Without action, emissions from existing ships would breach a 1.5 °C carbon budget.
- Rapid deployment of low-carbon fuels in new and existing ships is essential but not sufficient.
- To stay within carbon budgets, low-carbon fuel deployment must be combined with other measures to cut the emissions from the existing fleet in the 2020s. Measures include:
 - Wind-assist technologies
 - Slow steaming
 - Shore power
 - Operational efficiencies (such as an end to the practice of “[sail fast then wait](#)”)
 - Short-term blending of sustainable biofuels.

It is essential that the IMO’s critical MEPC80 meeting in July 2023 prioritises strengthening Carbon Intensity Indicator targets, and introducing market-based measures, to deliver deep emissions reductions from the operations of the existing fleet this decade.

This briefing note is based on Bullock, S., Mason, J., Broderick, J. and Larkin, A., 2020. Shipping and the Paris climate agreement: a focus on committed emissions. *BMC Energy*, 2(1), pp.1-16. <https://tinyurl.com/CommittedShips>.