



T&E analysis of EU taxonomy criteria for shipping

Estimating the eligibility of fossil LNG ships

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Context

The European Commission is currently finalising the criteria for shipping to be included in EU taxonomy rules, a classification system establishing which investments can be environmentally sustainable. Under the draft criteria proposed by the Commission for consultation in view of a Delegated Act, ships running entirely on fossil fuels could qualify as best in class technology, and thus eligible to green finance under future EU rules. This briefing takes a look at the implications of the new criteria for shipping companies and financial institutions.

1. EU Taxonomy could greenwash fossil LNG ships via a loophole in the criteria

According to the [draft Commission proposal of Delegated Act](#), from 2026 onwards, sea and coastal freight and passenger vessels¹ will be offered three options to be eligible to a green label: either have zero-direct (tailpipe) CO₂ emission, demonstrate a low GHG intensity per unit of energy use and minimum energy efficiency performance, or overachieve by 20 percentage points the reduction rates applicable for IMO's Phase 3 EEDI targets applicable from April 1, 2022. While the first two options are similar to the [proposal issued by the Platform on Sustainable Finance](#) in October 2022, the third option was added by the Commission afterwards. According to T&E's analysis of this new criterion, the update would create a loophole in the taxonomy framework, by labelling "green" ships still running entirely on fossil fuels **for an indefinite period**.

Our assessment reveals that:

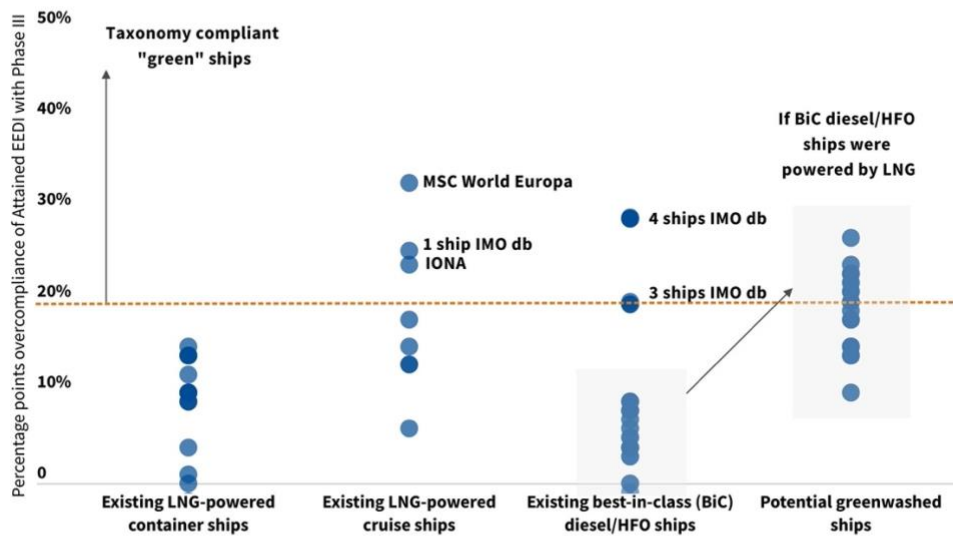
- **Some existing LNG-powered ship designs would become immediately eligible for the green taxonomy.** This is the case, for example, for the MSC World Europa, a giant cruise vessel fully powered by fossil LNG, which entered the fleet in 2022. According to [publicly available data](#), MSC World Europa's attained EEDI value over-complies with the Required EEDI value for Phase III by 47 **percent**. When we translate this into the taxonomy criterion - "an attained Energy Efficiency Design

¹ Activities 6.10 and 6.11 of the climate mitigation criteria

Index (EEDI) value equivalent to reducing the EEDI reference line by at least 20 **percentage points** below the EEDI requirements applicable on 1 April 2022”, - we get to “33 percentage points” (visible on the figure below). It is essential to point out that MSC World Europa achieved this good EEDI score thanks to the vessels being certified for dual-fuel LNG propulsion system. This, however, does not mean that the vessels will be using LNG in the real world. In fact, given the high prices of LNG, most shipping companies have been running their LNG certified vessels on fossil diesel or residual fuel oil.²

- **The Commission’s proposed energy efficiency criterion could become a powerful greenwashing tool for future LNG-powered fleets, too.** Using the official data by shipping companies we estimated that there are already many best-in-class diesel/HFO-powered new vessels in the fleet today. Diesel/HFO fuel has a higher carbon content than LNG. Therefore, very few of those ship designs comply at the moment with the taxonomy criterion in question. However, should shipbuilders install LNG propulsion systems in those best-in-class (BiC) HFO/diesel designs when building new vessels, then these new vessels could technically get a green label under Taxonomy despite being fully powered by fossil fuels (“potential greenwashed ships” on the figure below).

Dodging the iceberg | EU Taxonomy labels LNG ships "green"



Sources: T&E analysis, EU THETIS MRV (2021), Clarksons (2022), IMO EEDI db and IMO EEDI regulation
Note: Potential greenwashed ships applies the LNG carbon factor (Cf) and calorific values to the best-in-class (BiC) diesel/HFO ships while accounting for the difference in engine efficiency between LNG dual-fuel and HFO mono-fuel engines, ceteris paribus. BiC diesel/HFO ships do not use innovative wind-assist technologies. The comparison uses taxonomy definition of "percentage points" over-compliance with EEDI Phase III.

Figure 1

² <https://www.cleanenergywire.org/news/cruise-ships-europe-switch-diesel-lng-due-high-costs>

Such loose criterion would likely lead to "criteria shopping": even though three different options are available for taxonomy-alignment, one can expect ships would rather use the EEDI standard to obtain a green taxonomy label, as opposed to investing in zero-tailpipe emission ships or use sustainable but expensive fuels in real operations to comply with the GHG intensity pathway - two of the 3 alternative criteria. This provides no incentive for shipping giants such as CMA-CGM, MSC³ or Carnival Cruises to invest in green shipping fuels as they will continue to benefit from green financing with fully fossil ships. And given that shipowners have the possibility to run LNG-certified new vessels on diesel/VLSFO, then Taxonomy would technically label as "green" existing residual oil-based fossil fuels.

Moreover, no specific sunset clause is proposed, which suggests the activity is not transitional. This sends a very poor and confusing signal to investors seeking to finance green shipping. On paper, LNG-powered ships emit less CO₂ than traditional shipping fuels (marine diesel or heavy fuel oil). However, the EU's EEDI criterion ignores [methane slips](#) and downstream emissions from LNG production and transportation, which often make them worse for the climate than the traditional fuels they replace. The problematic use of LNG as a marine fuel is widely documented in existing literature, including by the [World Bank](#), whose 2021 report specifically warned regulators and investors against the high risk of stranded assets.

INFO BOX: Why is the IMO's EEDI criterion flawed?

EEDI (energy efficiency design index) - is a ship design CO₂ standard developed by the International Maritime Organisation more than ten years ago. It covers only tailpipe CO₂ emissions and estimates only the theoretical efficiency/carbon intensity of ships in ideal operating conditions (no waves, no wind, most optimal engine efficiency assumption, etc.). Transport & Environment has published [studies](#) over the past few years demonstrating that the IMO's regulatory targets lag behind the normal market forces. More recently, the [ICCT](#) demonstrated that any LNG ship is compliant with the new EEDI criteria applying from 2022, regardless of the methane slip and emissions from fossil fuel production (figure 1 of the ICCT report). In addition, ships may in practice improve their EEDI performance without the need to install innovative technologies (such as wind assist) or use sustainable fuels. For example, a well-known technique to improve the attained EEDI score of a ship is to install smaller engines, which has a direct impact on the metric.

NB: the IMO regulation defines "attained EEDI" and "required EEDI" values in absolute terms (i.e. gCO₂/t-nm), and ships report their EEDI scores as absolute values under the EU MRV as well as IMO EEDI database. Although the IMO's EEDI apply in percentage reduction of attained EEDI over the required EEDI values, the draft taxonomy criterion the 20% overachievement is expressed in percentage points. "Percentage" change refers to the difference between two absolute values, e.g. an Attained EEDI of 9gCo₂/t-nm and 6gCO₂/t-nm. "Percentage points" change refers to the difference between two percentage values, e.g. 30% improvement below EEDI reference line and 50% improvement below EEDI reference line.

³ Although MSC did not operate LNG ships in EU waters in 2021, its current order book suggests many of their ships

2. Recommendation: instead of a standalone energy efficiency criterion, adopt a ambitious GHG intensity pathway

2.1. What did the Platform on Sustainable Finance propose and why should the final Delegated Act follow its recommendations?

Following harsh criticism from industry stakeholders on the first version of climate mitigation criteria for shipping, the Platform on Sustainable Finance was tasked by the Commission in 2022 to advise on revising the mitigation criteria applying after 2025 in order to facilitate the uptake of a broader range of alternative sustainable marine fuels. The main issue was the limitation of green taxonomy to “vessels that have zero-direct (tailpipe) CO₂ emissions” from 2025 onwards, which meant that seagoing vessels could get a green label only if fully powered by electricity, hydrogen and potentially ammonia. However, green-hydrogen-based fuels that contain carbon, such as e-methanol, would de facto be excluded.

In order to fill this gap, in 2022, NGOs, shipping industry representatives and finance industry experts, working together through the Platform, proposed a new criterion for sustainable shipping for the period after 2025. This new standard would work as an alternative option to the zero tail-pipe CO₂ criterion. It requires GHG intensity reductions every five years based on the Well-to-Wake CO₂e methodology of the FuelEU Maritime Regulation (figure 2). It provides a clear green fuels uptake pathway for shipping companies seeking to benefit from green finance, in line with the EU’s 2030 and 2050 climate goals. Specifically, companies are given a linear reduction pathway to fully decarbonise by 2050, providing space for best in class technologies and fuels that overachieve the EU’s GHG intensity standard defined by the forthcoming FuelEU Maritime Regulation.

The 2030 target requires as much as 30% GHG intensity improvements by 2030 for ships seeking to benefit from green finance. In plain terms, this means ships should use sustainable green fuels for at least one-third of their energy demand. This compares to the modest 6% to apply to all ships calling in European ports in 2030 under the FuelEU Maritime. T&E demonstrated in earlier [studies](#) that the Regulation’s too low targets give a free ride to fossil LNG ships for decades. In this context, the Taxonomy was the EU’s last chance to create a real best in class standard for green ship financing.

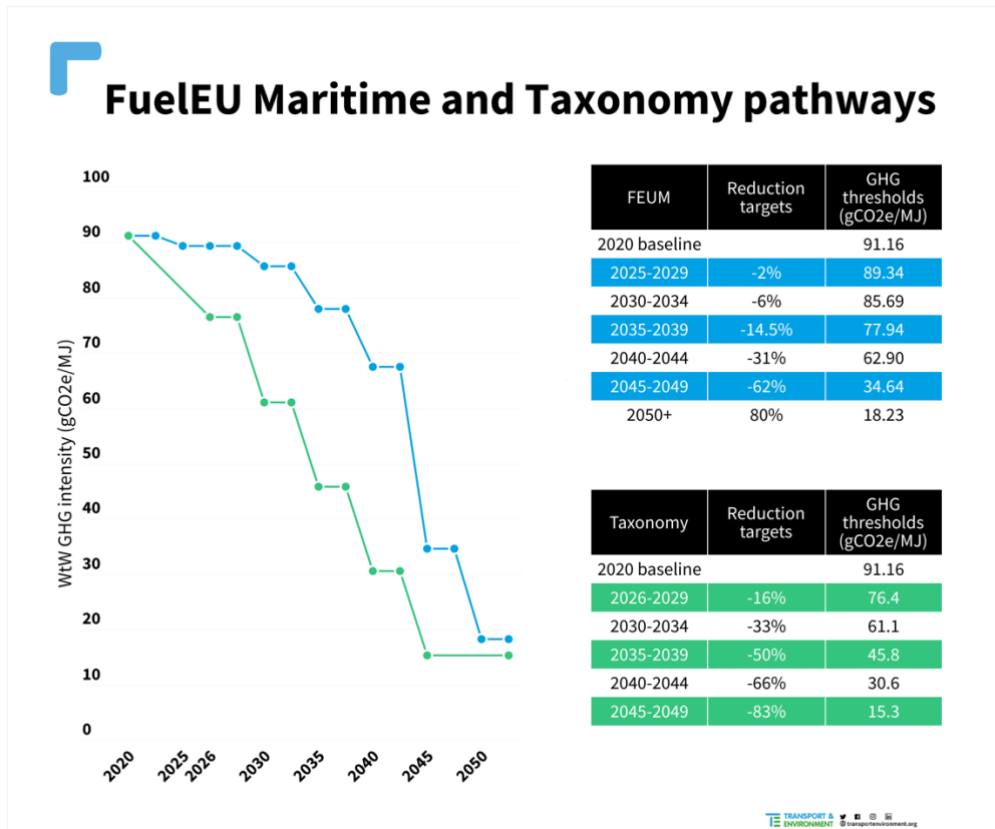


Figure 2

2.2. Recommendations in view of the final Delegated Act

We strongly recommend removing the EEDI standard from the operational criteria for sea and coastal vessels. Instead, there are several options to account for the energy efficiency improvements of vessels in the taxonomy:

1. Move the EEDI standard to the taxonomy’s criteria applicable to manufacturing of sea vessels, as initially proposed by the Platform. This would be more appropriate given the nature of the EEDI, which was designed by IMO as a minimum technical efficiency standard for new ships to be built from 2013 onwards; **AND/OR**
2. Merge EEDI (and/or EEXI) and fuel GHG intensity criteria in a single complementary (as opposed to “either-or”) option for seagoing cargo and passenger vessels for the period after 2025.

In the worst-case scenario, clear safeguards must be set if the EEDI standard were to be retained as a standalone criterion for sea and coastal vessels:

- Increase the overcompliance threshold from 20 to >35 percentage points to ensure room for innovation as opposed to business as usual; **AND**
- Time-limit the applicability of the criterion until 31 December 2029 latest, so that from 2030 onwards, only the GHG intensity pathway and the zero tail-pipe criteria remain active.

Further information

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