

# SHIPPING CRITERIA

## Climate Bonds Standard



Maritime transport accounts for approximately 80% of global trade by volume and 70% by value. In 2017, total volumes transported

reached 10.7 billion tons. The UN Conference on Trade and Development (UNCTAD) is forecasting a 3.8 per cent Compound Average Growth Rate (CAGR) for seaborne trade between 2018 and 2023.

According to the International Maritime Organisation (IMO), the shipping industry's governing body, the sector currently accounts for c2.2% of global emissions; left unchecked shipping emissions are expected to grow by 50-250% by 2050. CO2 is the largest source of greenhouse gas emissions in shipping. The multi-year average estimate for all shipping for 2007-2012 was 1,015 million tonnes CO2 and 1,036 million tonnes CO2e for GHGs combining CO2, CH4 (methane) and N2O (nitrous oxide).

Decarbonising the shipping sector is crucial. The CBI Shipping criteria are designed to

provide ship owners and operators with a science-based and easy-to-use set of technical criteria which, if met, can be used to certify a green bond under the CBI Certification scheme.

**Criteria:**

- Ships cannot be primarily dedicated to transporting fossil fuels<sup>1</sup> and,
- Ships must either be specified to be zero-carbon from the year the bond is issued or,
- Demonstrate that the expected carbon-equivalent intensity of the ship is aligned with the decarbonisation trajectory (emissions intensity threshold) of the ship's type/size category ("the ship's class") over the lifetime of the bond, reaching zero emissions by 2050.<sup>2</sup>
- Ships that are not zero-emissions must provide also a managed plan that shows how the ship can remain under the emissions intensity threshold during the operational life of the ship.<sup>3</sup>

**Metric:**

**Annual Efficiency Ratio (AER):** The ratio of a ship's carbon emissions per actual capacity-distance (e.g., dwt/nm sailed).

**Energy Efficiency Operational Index (EEOI):**

The total operational emissions to satisfy transport work demanded, this is usually quantified over a period of time which encompasses multiple voyages (e.g. a year). It measures the ratio of a ship's carbon emissions per unit of transport work (e.g., cargo x nm sailed).

**Managed Reduction Plans:**

In the case where the underlying asset is not already net-zero, the bond issuer is required to provide a managed plan that states the compatibility and plans to add retrofit technologies or a fuel switch that would enable the asset to comply and also explain how these plans are cost-effective.<sup>4</sup>

This reduction plan can rely on future technologies/fuels that are not available today but are expected to become available and cost-effective in the future, in time for the continued compliance with the decarbonisation trajectory. The list of candidate fuels for use in the reduction plan will be regularly reviewed, but initially includes:

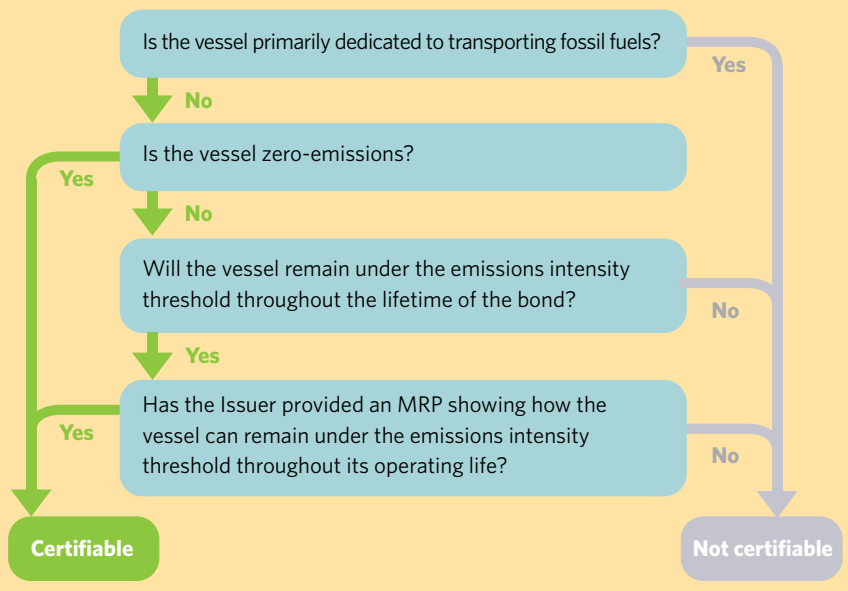
- Hydrogen, Ammonia, Advanced Bioenergy, Methanol (from bio or synthetic feedstock), Nuclear, Wind, Electric

The managed plan should include the following details:

- The time period within which a significant fuel switch will be necessary
- Any modifications required to fuel storage systems onboard (including any additional space required and how this modifies cargo carrying capacity)
- Any modifications required to fuel handling systems (including bunkering systems)
- Any modifications required to machinery
- The estimated total additional cost

**Summary of the Criteria**

Figure 1 below provides an overview of the eligibility criteria for certifying a vessel under the Climate Bonds Standard and Certification scheme.





## EEOI/AER Decarbonisation Trajectories

The fleet type and size category median values for EEOI and AER are included below, the annual thresholds start in 2020 and decline on a linear pathway to 2050.

Type	Size (GT)	2020 EEOI/AER	2030 EEOI/AER	2040 EEOI/AER	2050
Bulk carrier	0-9999	35.1 / 24.6	23.4 / 16.4	11.7 / 8.2	0
	10000-34999	12.2 / 6.6	8.1 / 4.4	4.1 / 2.2	0
	35000-59999	9.2 / 4.6	6.2 / 3.1	3.1 / 1.5	0
	60000-99999	8.4 / 3.6	5.6 / 2.4	2.8 / 1.2	0
	100000-199999	4.6 / 2.4	3.1 / 1.6	1.5 / 0.8	0
	200000+	4.1 / 2.3	2.7 / 1.5	1.4 / 0.8	0
Chemical tanker	0-4999	40.3 / 35.4	26.8 / 23.6	13.4 / 11.8	0
	5000-9999	26.6 / 19	17.7 / 12.7	8.9 / 6.3	0
	10000-19999	18.7 / 11.9	12.5 / 7.9	6.2 / 4	0
	20000+	12.3 / 6.5	8.2 / 4.3	4.1 / 2.2	0
Container	0-999	27.3 / 16.9	18.2 / 11.3	9.1 / 5.6	0
	1000-1999	24.9 / 14.8	16.6 / 9.9	8.3 / 4.9	0
	2000-2999	19.5 / 10	13 / 6.7	6.5 / 3.3	0
	3000-4999	16.8 / 8.3	11.2 / 5.5	5.6 / 2.8	0
	5000-7999	16.2 / 7.8	10.8 / 5.2	5.4 / 2.6	0
	8000-11999	14.1 / 6.7	9.4 / 4.5	4.7 / 2.2	0
	12000-14500	10.4 / 4.6	6.9 / 3.1	3.5 / 1.5	0
	14500+	10.4 / 4.6	6.9 / 3.1	3.5 / 1.5	0
General cargo	0-4999	30.2 / 24.2	20.1 / 16.1	10.1 / 8.1	0
	5000-9999	27.2 / 16.7	18.2 / 11.1	9.1 / 5.6	0
	10000+	24.2 / 13.1	16.2 / 8.8	8.1 / 4.4	0
Other liquid tanker	0+	106.6 / 97.6	71.1 / 65.1	35.5 / 32.5	0
Ferry-pax only*	0-1999	1272135.8	848090.5	424045.3	0
	2000+	1740606.6	1160404.4	580202.2	0
Cruise*	0-1999	2044403.4	1362935.6	681467.8	0
	2000-9999	1286641.3	857760.8	428880.4	0
	10000-59999	1495064.7	996709.8	498354.9	0
	60000-99999	1738613.6	1159075.7	579537.9	0
Ferry-RoPax*	0-1999	822123.9	548082.6	274041.3	0
	2000+	1137003.8	758002.5	379001.3	0
Refrigerated bulk	0-1999	72.8 / 48.7	48.5 / 32.5	24.3 / 16.2	0
Ro-Ro	0-4999	258.2 / 212.4	172.1 / 141.6	86.1 / 70.8	0
	5000+	63.9 / 45.9	42.6 / 30.6	21.3 / 15.3	0
Vehicle	0-3999	124.7 / 46	83.2 / 30.7	41.6 / 15.3	0
	4000+	58.1 / 13.8	38.7 / 9.2	19.4 / 4.6	0

\*For Ferry-pax only, Cruise, and Ferry RoPax, the denominator is GT instead of tnm.

### Other eligible assets:

In addition to ships, the CBI Shipping Criteria can be used to Certify any infrastructure that is fully dedicated to recharging and refuelling zero emissions ships. For example, charging stations, refuelling assets and zero-emissions fuel bunkering which is consistent with the eligible fuels under the Managed Reduction Plan.

Wind turbine installation vessels and jack-up rigs that are wholly dedicated to the installation of offshore renewable energy assets are within scope of the offshore renewable energy criteria.

For more information: <https://www.climatebonds.net/standard/marine>

### Further information sources

Want to Certify, or just know more? Take a look at these documents:

- [1. The Shipping Criteria Document](#) full requirements of the Criteria
- [2. The Shipping Criteria Background Document](#) a detailed summary of the Criteria
- [3. Climate Bonds Standard V3.0](#) full requirements of the Climate Bonds Standard

For more information:

Go to [www.climatebonds.net](http://www.climatebonds.net)

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### Endnotes

- Bonds used to certify dry bulk carriers must show that coal was <25% of dry bulk carried in tons by firm over the previous 3 years AND coal does not exceed the declining threshold for allowable coal carried in tons. This threshold declines geometrically from 25% in 2020, by 5.3% annually.
- In the case of a newbuild, the year of bond issuance may not be the same year the ship is operating. In this case, the ship must meet the alignment criteria from the first year the ship is expected to be in operation.
- Table 1 provides the emissions intensity thresholds for different ships with respect to size and class. The threshold declines to zero by 2050 and will be subject to review as new evidence emerges.
- The Managed Reduction Plans must show that the technology options are cost-effective, meaning that if the planned means to achieve compliance with carbon-equivalent intensity trajectories include some future retrofit or switch in energy source, this can be achieved without significant additional costs (whether capital or operating costs) relative to foreseeable future assets, such that the asset should remain competitive.

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