

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.

According to the International Maritime Organisation (IMO), the shipping industry's governing body, the sector currently accounts for c.2.2% 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.

Decarbonising the shipping sector is crucial. CBI convened a Shipping Technical Working Group (TWG) and Industry Working Group (IWG) to develop the CBI Shipping Criteria. 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 dedicated to transporting fossil fuels (Crude Oil or LNG Carriers).
- Ships that are specified to be zero-emissions ships at bond issuance are automatically eligible for Certification.
- Otherwise, ships must demonstrate (on an annual basis) that their operational emissions intensity is below the emissions intensity threshold for its respective size and class.¹
 - This applies throughout the tenor of the bond.²
 - Ships that are not zero-emissions, and expected to operate after the bond matures, must also submit a Managed Reduction Plan.

Managed Reduction Plans:

In the case where the underlying asset is not specified as zero emissions at the time of bond issuance, the issuer is required to

provide a Managed Reduction Plan (MRP). The MRP must state the compatibility and plans to add retrofit technologies or a fuel switch that would enable the asset to comply with the emissions intensity threshold throughout its operating life, and justify how these plans are cost-effective.³

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 Bioenergy⁴, Methanol (from bio or synthetic feedstock), Nuclear, Wind, Electric.

The managed plan must 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

Accepted Metrics:

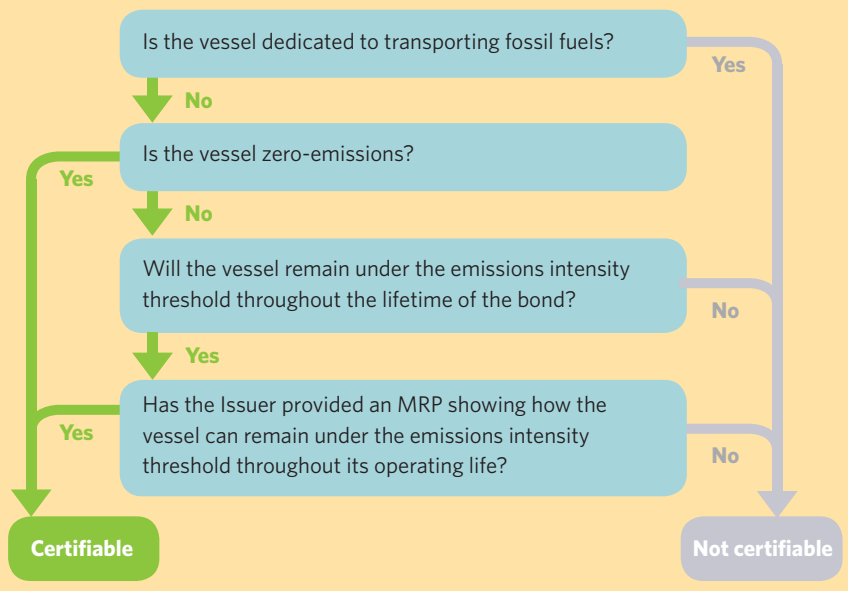
Annual Efficiency Ratio (AER): The ratio of a ship's carbon emissions per actual capacity-distance (e.g., dwt/nm sailed). The AER uses the parameters of fuel consumption, distance travelled, and design deadweight tonnage.

Energy Efficiency Operational Index (EEOI):

EEOI is the amount of CO2 emitted by the ship per ton-mile of work. It is the ratio of the CO2 emitted to the ton-mile (amount of cargo x nm sailed). The total operational emissions to satisfy transport work demanded, this is usually quantified over a period of time which encompasses multiple voyages. It measures the ratio of a ship's carbon emissions per unit of transport work.

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
	100000+	1337274.9	891516.6	445758.3	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:

- Infrastructure that is fully dedicated to the recharging and refuelling of zero-emissions ships.
- Wind Turbine Installation Vessels (WTIVs) that are themselves zero-operational emissions

WE WANT TO HEAR FROM YOU!

We are seeking stakeholder feedback from now until June 26th 2020.

Here's how you can get involved:

- Learn more on how to participate in this public consultation at: <https://www.climatebonds.net/shipping>
- Submit your feedback in the Stakeholder Feedback Form by email to: public.consultation@climatebonds.net.

Further information sources

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

- Shipping Criteria Document:** Summary of the Criteria for issuers and verifiers
- Shipping Criteria Background Document:** Technical Background and summary of Criteria development process
- Climate Bonds Standard V3.0:** CBI's Certification process, Pre- and Post-issuance requirements and a suite of sector eligibility and guidance documents

Endnotes

- 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.
- 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.
- 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.
- As defined in Part A of Annex IX in EU Renewable Energy Directive II (RED II), (2018/2001).

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