

## CBI Shipping Criteria – Criteria Document

### The Shipping Criteria for the Climate Bonds Standard & Certification Scheme

September 2020



The Climate Bonds Initiative gratefully acknowledges the Technical and Industry Working Group members who supported the development of these Criteria. Members are listed in Annex 2.

Special thanks are given to Tristan Smith, and Sophie Parker from University College London, who acted as the lead specialists coordinating the development of the Criteria through the Technical Working Group, and to Adolf Ng, Mawuli Afenyo and Roozbeh Panahi from the University of Manitoba, who were instrumental to the discussion on adaptation and resilience.

Proposals were agreed by the Technical Working Group, taking into account feedback from the Industry Working Group.

## Definitions

**Approved verifiers:** Organisations approved by the Climate Bonds Initiative to provide assurance services to issuers of Certified Climate Bonds. The duties of approved verifiers include providing assurance that the requirements of the Climate Bonds Standard (including these and other sector specific Criteria) are met.

**Climate Bonds Initiative (CBI):** An investor-focused not-for-profit organisation, promoting large-scale investments that will deliver a global low carbon and climate resilient economy. The Initiative seeks to develop mechanisms to better align the interests of investors, industry and government so as to catalyse investments at a speed and scale sufficient to avoid dangerous climate change.

**Climate Bond:** A Climate Bond is a bond used to finance – or re-finance - projects needed to address climate change. They range from wind farms and hydropower plants, to rail transport and building sea walls in cities threatened by rising sea levels. Only a small portion of these bonds have been labelled as green or climate bonds by their issuers.

**Certified Climate Bond:** A Climate Bond that is certified by the Climate Bonds Standard Board as meeting the requirements of the Climate Bonds Standard, as attested through independent verification.

**Climate Bonds Standard (CBS):** A screening tool for investors and governments that allows them to identify green bonds where they can be confident that the funds are being used to deliver climate change solutions. This may be through climate mitigation impact and/ or climate adaptation or resilience. The CBS is made up of two parts: the parent standard (Climate Bonds Standard v.3) and a suite of sector specific eligibility Criteria. The parent standard covers the certification process and pre- and post-issuance requirements for all certified bonds, regardless of the nature of the capital projects. The Sector Criteria detail specific requirements for assets identified as falling under that specific sector. The latest version of the CBS is published on the Climate Bonds Initiative website

**Climate Bonds Standard Board (CBSB):** A board of independent members that collectively represents \$34 trillion of assets under management. The CBSB is responsible for approving i) Revisions to the Climate Bonds Standard, including the adoption of additional sector Criteria, ii) Approved verifiers, and iii) Applications for Certification of a bond under the Climate Bonds Standard. The CBSB is constituted, appointed and supported in line with the governance arrangements and processes as published on the Climate Bonds Initiative website.

**Climate Bond Certification:** allows the issuer to use the Climate Bond Certification Mark in relation to that bond. Climate Bond Certification is provided once the independent Climate Bonds Standard Board is satisfied the bond conforms with the Climate Bonds Standard.

**Green Bond:** A Green Bond is where proceeds are allocated to environmental projects. The term generally refers to bonds that have been marketed as “Green”. In theory, Green Bonds proceeds could be used for a wide variety of environmental projects, but in practice they have mostly been the same as Climate Bonds, with proceeds going to climate change projects.

**Technical Working Group (TWG):** A group of key experts from academia, international agencies, industry and NGOs convened by the Climate Bonds Initiative. The TWG develops the Sector Criteria - detailed technical criteria for the eligibility of projects and assets as well as guidance on the tracking of eligibility status during the term of the bond. Their draft recommendations are refined through engagement with finance industry experts in convened Industry Working Groups and through public consultation. Final approval of Sector Criteria is given by the CBSB.

**Industry Working Group (IWG):** A group of key organisations that are potential issuers, verifiers and investors convened by the Climate Bonds Initiative. The IWG provides feedback on the draft sector Criteria developed by the TWG before they are released for public consultation

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## 1. Introduction

Investor demand for Green Bonds and Climate Bonds is strong and will increase in line with the delivery of quality products into the market. However, investor concerns about the credibility of green labelling are also growing. Standards, assurance & certification are essential to improve confidence and transparency, which in turn will enable further strong growth in the market.

The Climate Bonds Standard and Certification Scheme is an easy-to-use screening tool that provides a clear signal to investors and intermediaries on the climate integrity of Certified Climate Bonds.

A key part of the Standard is a suite of sector-specific eligibility criteria ('the Criteria'). Each set of Criteria sets climate change benchmarks for that sector that are used to screen assets and capital projects so that only those that have climate integrity, either through their contribution to climate mitigation, and/or to adaptation and resilience to climate change, will be certified. Where a bond encompasses a mixed portfolio of assets across several sectors, each sub-category of assets will be subject to the relevant Criteria for those assets.

The Criteria are determined through a multi-stakeholder engagement process, including Technical and Industry Working Groups, convened and managed by the Climate Bonds Initiative, and are subject to public consultation. Finally, they are reviewed and approved by the Climate Bonds Standard Board.

The second key part of the Climate Bonds Standard is the overarching Climate Bonds Standard document available at <https://www.climatebonds.net/standard/about>. This gives the common fund management and reporting requirements that all Certified Climate Bonds must meet, in addition to meeting the sector-specific Criteria.

This current document describes the Criteria that will be used by Climate Bonds Initiative to certify low carbon and sustainable shipping assets and programmes<sup>1</sup>. It is supported by the CBI Shipping Criteria Background Document, which provides a detailed summary of the discussions supporting the development of these Criteria. A brochure providing a brief summary of the criteria is also available online.

It is expected that the Criteria will evolve as new technologies, practices and evidence arise during the application of them, and as new or improved methodologies and data collection processes become available. This will increase the climate mitigation integrity of subsequent bond issuances. However, if changes are made to the Criteria following receipt of Certification, certifications already awarded will not be revoked retroactively.

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<sup>1</sup> A programme is a set of actions (technological or operational) that are applied to a single ship or multiple ships, e.g. retrofit technologies for an existing ship or fleet of ships or fleet/port-based initiatives such as speed management.

## 2. The Need for Shipping Criteria

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% Compound Average Growth Rate (CAGR) for seaborne trade between 2018 and 2023.

While CO<sub>2</sub> represented almost all of the industry's GHG emissions (98%), methane (CH<sub>4</sub>) emissions from ships has increased recently due to the methane slip associated with increased use and transport of liquefied gas in LNG carriers and other LNG-propelled ships. There is potential for this trend to continue in the future if there is an increased uptake of LNG-powered ships. However, there is potential for the sector to make significant GHG reductions. These can be achieved through a combination of increasing the energy efficiency of shipping and reducing the GHG intensity of the energy used by ships.

Decarbonising the shipping sector is crucial. 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. CO<sub>2</sub> 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 CO<sub>2</sub> and 1,036 million tonnes CO<sub>2</sub>e for GHGs combining CO<sub>2</sub>, CH<sub>4</sub> (methane) and N<sub>2</sub>O (nitrous oxide).

As the shipping sector seeks to decarbonise, it will need clear guidance on how to ensure that this economic sector remains aligned with the targets set out in the Paris Agreement. These Criteria are designed to suit that need by providing ship owners and operator with a science-based and easy-to-use set of technical criteria which, if met, can be used to certify a financial product that meets them. It is expected that such a labelling process will provide much-needed information and confidence for investors looking to make climate-aligned investments.

## 3. Assets and Projects that can be assessed under these Criteria

The Shipping Criteria can be used to assess the assets and projects described in Table 1 below. This table uses the following classifications for ease of use as follows:

- Green: almost certain to be compatible with a low carbon or climate-resilient economy in all circumstances and therefore are automatically eligible for certification
- Amber: potentially eligible, subject to meeting the eligibility criteria in this document.
- Red: ineligible for certification in any circumstance either because they are incompatible with a low carbon or climate-resilient economy or because determining their eligibility is outside the mandate of the Shipping Criteria.

Ships that are dedicated to the transport of fossil fuel and/ or otherwise support the fossil fuel sector are excluded. It is recognised that some ship types that carry dry bulk commodities may also be leased to transport both fossil-fuel and non-fossil fuel cargo, but the ship type itself is - unlike an oil tanker - not dedicated to fossil fuel carriage and so is not excluded.

For this reason, product and chemical tankers are also not excluded (as these ship types may also carry non-fossil fuel cargos).<sup>2</sup>

Assets used for the manufacture of ships are not within scope of the criteria. Other types of port infrastructure (e.g. those not directly related to the direct supply of zero emissions energy/fuel to a ship, such as warehousing or cranes), are also out of scope. See Table 2 below for these exclusions.

**Table 1. Assets and projects included in the scope of the Shipping Criteria**

Assets	Example Use of Proceeds	Mit.	Adapt.
Ships above 5,000 GT for which data is collected under the EU MRV <sup>3</sup> and/or IMO DCS data collection regimes. <sup>4</sup>	Ships classified as Bulk Carriers, Chemical Tankers, Containers, General Cargo, Ferry-pax only, Cruise, Ferry-RoPax, Refrigerated Bulk, Ro-Ro and Vehicle, and are not in the list of excluded assets in Table 2 below.	■	●
Ships below 5,000 GT <b>if zero emissions.</b>	Zero emissions ships which are propelled and powered by batteries, or zero-emissions fuels and are not in the list of excluded assets in Table 2 below. <sup>5</sup>	●	●
Infrastructure that is dedicated to refueling or recharging zero emissions ships	Charging stations and refuelling assets that are dedicated for storing and delivering chemical or electric energy to power and propel ships, consistent with the definition of zero-emissions fuels.	●	●

- Automatically fulfil requirements for Certification
- Must meet CBI Shipping Criteria for Certification

**Table 2. Types of assets and projects which are excluded from the Criteria**

Assets	Explanation
Crude Oil Tankers and Liquefied Gas Tankers	Assets which are dedicated to transporting fossil fuels are not eligible under the criteria. This is applicable to ships which are classified as LNG Carriers or Crude Oil Tankers.
Dry Bulk Carriers IF transporting more than the maximum threshold of coal	Assets where more than 25% of tonnage transported annually is coal <b>or other fossil fuels</b> . This threshold declines geometrically at 5.3% from the year 2020 onwards.
Assets dedicated to supporting the fossil fuel sector	Assets used for the exploration or production of fossil fuels are not eligible under the criteria. This includes but is not limited to: Floating Production, Supply and Offloading (FPSO) Vessels; Subsea, Umbilicals, Risers, Flowlines (SURF) Vessels; Drilling Units; Platform Supply Vessels; Well Intervention Vessels.
Assets dedicated to manufacture of ships	All manufacturing facilities and associated assets and projects.
Other port infrastructure	Port infrastructure not directly related to the direct supply of zero emissions energy/fuel to a ship, (such as warehousing, cranes or terminal buildings).

<sup>2</sup> As carriage of synthetic/bio equivalents to fossil fuels increases and as data and transparency on cargo activity improves, exemption based on ship type alone will be reviewed, with the possibility of introducing additional criteria on cargo types.

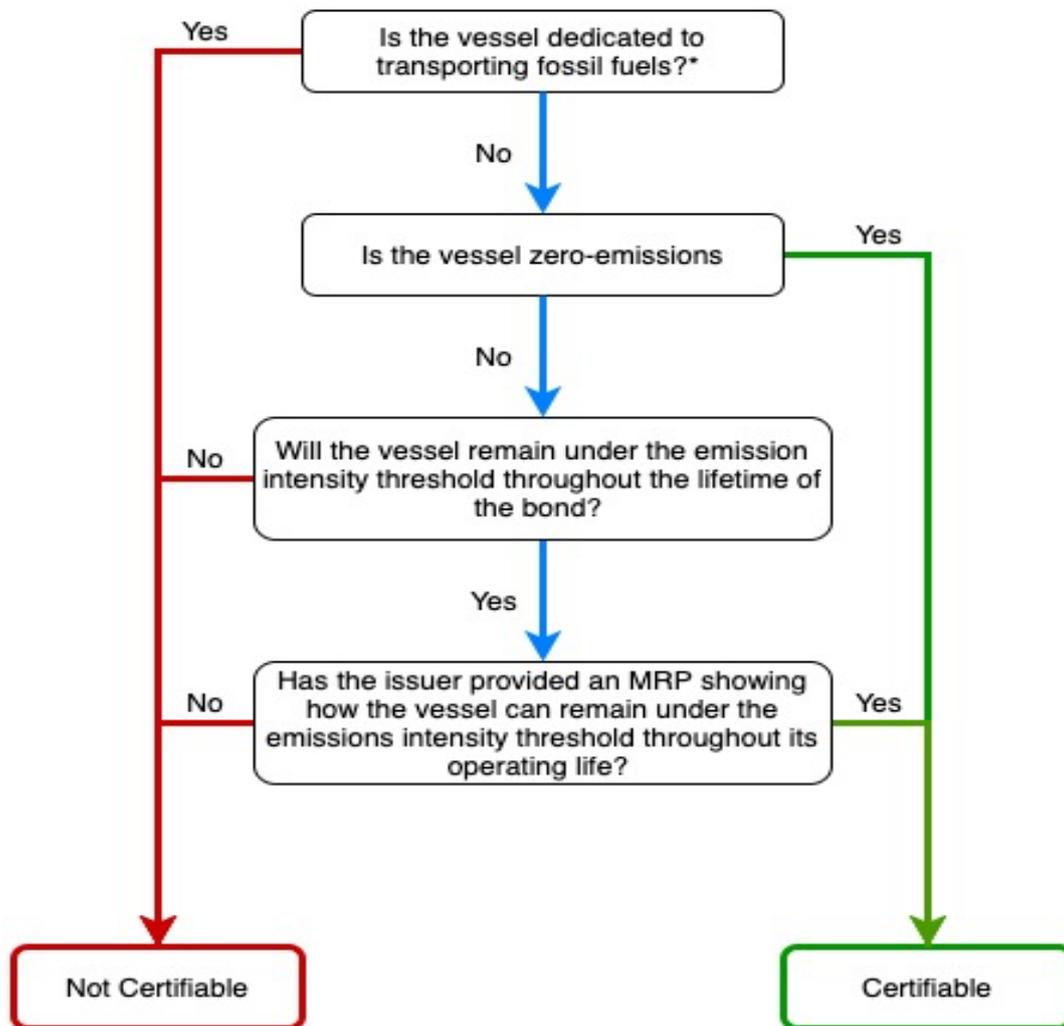
<sup>3</sup> The EU MRV data regime is available for voyages that include ports within EU member states.

<sup>4</sup> The IMO DCS data regime for ships performing international voyages.

<sup>5</sup> These fuels are listed in “Managed Reduction Plan” guidance on page 9.

## 4. Mitigation Criteria for Vessels

In essence, issuers must 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>6,7</sup> Issuers are required to show that each asset targeted for the Use of Proceeds from a Certified bond, is operating below the emissions intensity threshold in each respective year that the bond is outstanding. Ships that are not zero-emissions must provide a managed reduction plan (MRP) that shows how the ship can remain under the emissions intensity threshold during the operational life of the ship. The figure below provides an overview of the eligibility criteria for certifying a vessel under the Climate Bonds Standard and Certification scheme.



\* For bonds where proceeds will be used for dry bulk carriers, issuers must show to verifiers that (a) coal did not constitute more than 25% of dry bulk by tons carried by the firm over the previous 3 years, based on the bills of lading, and (b) the volume of coal transported by the vessel does not exceed the declining threshold for allowable coal carried. This threshold follows a geometric decay model starting at 25% in 2020, decreasing at 5.3% per year as consistent with the IEA SDS and is based on the bills of lading.

<sup>6</sup> 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.

<sup>7</sup> Refer to Annex 1. to identify the respective, initial emissions intensity for a certain size and class of ship. The threshold declines to zero by 2050.

## Methodological notes:

Performing under the appropriate emission intensity metric requires:

- The carbon intensity of the ship (as measured by AER or EEOI) must be on or below the decarbonisation trajectory for that ship's type and size category **for each respective year that the bond is outstanding**. These decarbonisation trajectories are summarised in Annex 1. A linear trajectory should be assumed for time periods between the dates and thresholds provided.

Greenhouse Gas emissions from the exhausts of ships in operation must be provided (see below). Emissions associated with supply chains of energy used by ships in operation, for example those associated with the production, transport, distribution of energy/fuel are not counted, neither are the emissions associated with the construction and disposal of ships.

The metric used for emissions from the exhausts of ships is the carbon-equivalent intensity (gCO<sub>2</sub>-e/tonne-nm)<sup>8</sup> that represents its performance in real operating conditions. More information on the accepted metrics are given below in Table 3.

**Table 3. Accepted reporting metrics for Shipping Criteria**

Metric	Application
Annual Efficiency Ratio	<p>The Annual Efficiency Ratio (AER) measures carbon emissions associated with transport work, but it uses a ship's size (deadweight) as a proxy for cargo carried and assumes that the ship is fully loaded on all journeys.</p> <p>Any vessel 5,000 GT and above must report using IMO DCS data that enables AER measurement, unless it operates 100% of the time on voyages that include the EU (in which case it must the EEOI).</p>
Energy Efficiency Operational Index	<p>If the vessel operates 100% of the time on voyages that include the EU<sup>9</sup>, then it must report using EEOI. Vessels which are not operating 100% of the time on voyages that include the EU can opt to report EEOI but are required to verify this data independently.</p> <p>EEOI represents the CO<sub>2</sub> emitted per tonne-nautical mile for a voyage or specific time period. It can either be calculated from fuel consumption measurements and information on cargo carried and distance travelled or estimated using satellite tracking data and fleet technical specifications. EEOI therefore accounts for the real operating conditions of the vessel and their impact on fuel consumption (e.g., speed, weather, draught).</p>

<sup>8</sup> In the case of passenger ships (i.e., cruise and ferry), gCO<sub>2</sub>-e/GT is used. GT is the gross tonnage of the ship, a proxy for number of passengers.

<sup>9</sup> Applies to voyages which have a last port of call to a port of call under the jurisdiction of an EU Member State and from a port of call under the jurisdiction of a EU Member State to their next port of call, as well as within ports of call under the jurisdiction of an EU Member State.

## 5. Managed Reduction Plans

For any vessel that will not reach zero-emissions before the bond matures and is expected to have an economic life beyond the period of the bond, the issuer is required to submit a Managed Reduction Plan (MRP) that outlines the retrofit technologies or a fuel switch option that the vessel will be able to take in order to remain compliant with the trajectory, and explains how these plans are cost-effective.<sup>10</sup>

The technology options that are described by the issuer will be competitive solutions that take into account costs and technical feasibility. While there is no requirement to assess and prove this feasibility, there is a minimum requirement for the plan to include specific costing information. For example, a fossil-fuelled ship built in 2025, may plan to undertake a refit after 5 years of operation at which additional fuel storage (for non-fossil fuel) is installed and an engine conversion undertaken. Efforts taken at design/build can ensure that space for the tanks and access to machinery can minimise the cost of that refit, such that the ship can be competitive against newbuild ships entering the fleet in 2030 and operating on non-fossil fuel.

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 MRP will be regularly reviewed, but initially includes: Electric, Hydrogen, Methanol (from bio or synthetic feedstock), Nuclear, Wind or Advanced Biofuels.**<sup>11</sup>

**The costed reduction plan should include as a minimum the following details:**

- The time period (e.g. range of years) at which a significant fuel switch is expected to be necessary
- Any modifications required to fuel storage systems onboard (including any additional space required and how this modified cargo carrying capacity)
- Any modifications required to fuel handling systems (including bunkering systems)
- Any modifications required to machinery
- The estimated total additional cost (including both estimated operating costs and capital costs)

At present, there is no evidence that synthetic hydrocarbons will become economically competitive and available at sufficient volumes, so they are not considered eligible for use in a reduction plan. In an exceptional circumstance, a project may be specified where the particular geography of operation (e.g. a ship limited to operate in a given sea area where there is a local supply of a sustainable waste product that has value as a fuel) make a fuel outside of this list competitive in terms of sustainable supply (over the period of the ship's economic life). In this circumstance, the bond issuer can propose justifying an exception to the listed fuels. Issuers citing Advanced Bioenergy in an MRP are encouraged to provide certification of origin for the fuel procured.

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<sup>10</sup> Cost-effective, in this case, means 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.

<sup>11</sup> As listed in Part A, Annex IX of the EU Renewable Energy Directive (2018/2001/EU).

## 6. Disclosure

All issuers of certified bonds must report to the Climate Bonds Initiative annually to confirm that assets remain in compliance. Specifically, issuers are required to submit information reported on an annual basis of their achieved EEOI or AER, alongside documentation that the data has been submitted and verified for EU/IMO purposes through the EU MRV or IMO DCS systems.

The use of such pre-existing systems also ensures that no additional data collection burden should be required. However, if issuers decide to use EEOI, but do not meet the 100% operating EU operating condition, an independent verification of their data is required. The EU MRV Regulation requires mandatory third-party verification in order to ensure the accuracy of the data submitted. It uses a specific verification system based on internationally agreed ISO standards and EU specific verification rules.

In the IMO DCS there is no specific verification system for this data collection. Instead, Flag Administrations shall verify the data according to national rules, taking into account IMO guidelines. Flag States can outsource those tasks to “Recognised Organizations” (RO), subject to verifications and audits under the RO Code. However, ROs do not need to be accredited by National Accreditation Bodies. Note that, in accordance with the EU legislation, EU MS can only use EU recognised organisations in order to comply with their reporting obligations under IMO DCS.

## 7. Adaptation and Resilience

The Shipping Criteria currently do not require bond issuers to provide evidence that assets are resilient to the impacts and risks associated with climate change and will not create harm to or compromise the wider system’s adaptive capacity and resilience to climate change. More information on this decision is available in the accompanying Background Document to the Shipping Criteria.<sup>12</sup> Infrastructure that is dedicated to refuelling or recharging zero-emissions vessels is derogated from the adaptation and resilience criteria.

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<sup>12</sup> This will be reviewed periodically and may be subject to change. Certifications will not be removed retroactively.

## Annex 1. EEOI/AER Decarbonisation Trajectories

The fleet type and size category median values in EEOI and AER for each decade starting from 2020 to 2050 are included in Table 1 below.

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
Bulk carrier	10000-34999	12.2 / 6.6	8.1 / 4.4	4.1 / 2.2	0
Bulk carrier	35000-59999	9.2 / 4.6	6.2 / 3.1	3.1 / 1.5	0
Bulk carrier	60000-99999	8.4 / 3.6	5.6 / 2.4	2.8 / 1.2	0
Bulk carrier	100000-199999	4.6 / 2.4	3.1 / 1.6	1.5 / 0.8	0
Bulk carrier	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
Chemical tanker	5000-9999	26.6 / 19	17.7 / 12.7	8.9 / 6.3	0
Chemical tanker	10000-19999	18.7 / 11.9	12.5 / 7.9	6.2 / 4	0
Chemical tanker	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
Container	1000-1999	24.9 / 14.8	16.6 / 9.9	8.3 / 4.9	0
Container	2000-2999	19.5 / 10	13 / 6.7	6.5 / 3.3	0
Container	3000-4999	16.8 / 8.3	11.2 / 5.5	5.6 / 2.8	0
Container	5000-7999	16.2 / 7.8	10.8 / 5.2	5.4 / 2.6	0
Container	8000-11999	14.1 / 6.7	9.4 / 4.5	4.7 / 2.2	0
Container	12000-14500	10.4 / 4.6	6.9 / 3.1	3.5 / 1.5	0
Container	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
General cargo	5000-9999	27.2 / 16.7	18.2 / 11.1	9.1 / 5.6	0
General cargo	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
Ferry-pax only*	2000-+	1740606.6	1160404.4	580202.2	0
Cruise*	0-1999	2044403.4	1362935.6	681467.8	0
Cruise*	2000-9999	1286641.3	857760.8	428880.4	0
Cruise*	10000-59999	1495064.7	996709.8	498354.9	0
Cruise*	60000-99999	1738613.6	1159075.7	579537.9	0
Cruise*	100000-+	1337274.9	891516.6	445758.3	0
Ferry-RoPax*	0-1999	822123.9	548082.6	274041.3	0
Ferry-RoPax*	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
Ro-Ro	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
Vehicle	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\*nm instead of tnm.

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