



Emissions Services and our CII Module



What Sets True North Marine Apart?

Emissions and the drive to decarbonization have become an industry priority. True North Marine is committed to building solutions to assist the industry in meeting ESG targets while also fulfilling or exceeding their commercial goals. Our Emissions services can be tailored to meet your needs covering IMO DCS, CII, EU MRV, UK MRV, Poseidon Principles, Sea Cargo Charter or any combination of the above.

Data is the Key. Many companies are offering emissions collection services, however they rely on automated systems with little to no validation. This leads to significant errors and an exhausting process at year end, including troubleshooting with your provider to achieve data sets which yield results that make sense and are accurate. TNM have revamped their data collection process so that complete, clean and robust ship to shore reported Data is collected and archived. We deploy an Analyst in the loop approach whereby daily checks on quality of data are performed to ensure your data is always ready and available (not just at year end). No more headaches.

Many clients have opted to combine this emissions service with other TNM services such as our PMO (Performance Monitoring Only) service ensuring they can not only track emissions, but also monitor performance of their fleet and work with TNM Analysts to meet or exceed emissions / CII targets while always ensuring profitability. Our AI based software **OptiNav** works hand in hand with the above, assisting to manage voyages and determine optimal routing depending on clients voyage specific needs.

Integration is simple. This all-in-one solution can integrate with your current business process. We can, for example, extract data from current reports you receive for other providers thereby avoiding multiple reporting requirements for the ship crew.

TNM also provides assistance in preparation of customized reports for internal or compliance purposes (CII, IMO DCS, UK/EU MRV, SCC)

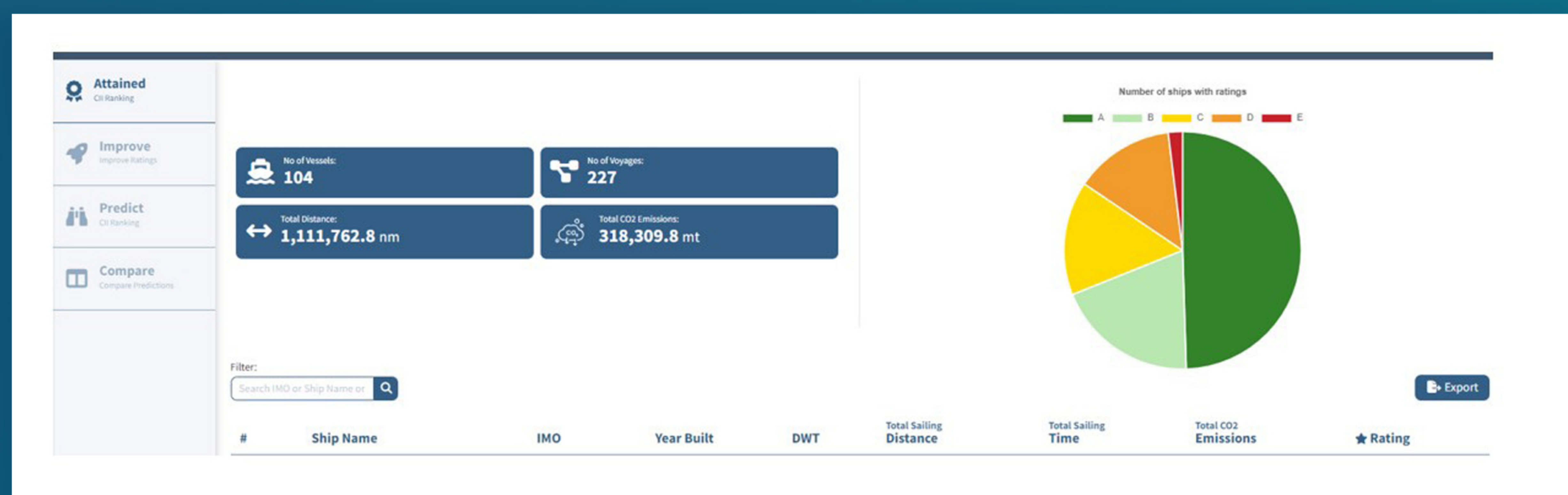


TNM's CII Module

Our **CII Module** allows you to closely monitor attained ratings and provides tools so as to allow you to evaluate various scenarios and the trade-offs of each.

Attained CII

Check your attained CII rating for any period. Data is uploaded on the completion of each voyage. You can drill down and view details for each passage in IMO DCS format or EU MRV.



Improving CII

Investigate options to improve CII rating by running various scenarios. Based on inputs the module will suggest actionable solutions and same can work in tandem with True North Marine's proprietary optimization software OptiNav.

The screenshot shows the 'Improving CII' form. It includes a 'Select Ship Name' dropdown, a 'Rating' dropdown set to 'A' for the period '01 Jan - 31 Dec'. Input fields are provided for 'Distance Sailed (nm)', 'Hours at Sea (hours)', 'Main Engine Daily Consumption (mpd)', 'Auxiliary Engine Daily Consumption (mpd)', 'Main Engine Fuel Type' (set to 'VLSFO (Very Low Sulphur Fuel Oil)'), 'Auxiliary Engine Fuel Type' (set to 'LSMGO (Low Sulphur Marine Gas Oil)'), 'Optional Avg. Hire Rate (USD \$/day)' (set to 15000), and 'Avg. M/E Fuel Rate (USD \$/mt)' (set to 900). An 'Improve Now' button is located at the bottom right.

Predict CII

Simple to use tool to **predict** CII rating and total CO2 emissions for a voyage. A valuable pre-fixture tool.

The screenshot shows the 'Predict CII' tool interface. At the top, there are navigation tabs: 'Vessel Details', 'Ports & Speed', 'Consumption', and 'Results'. The main content is divided into two sections: 'Input Summary' and 'Result'.

Input Summary:

- Ship Type: **Bulk Carrier**
- DWT: **95000**
- Voyage Speed (Kts): **12**
- Distance (nm): **9200**
- Daily Allowable M/E Consumption Rate: **36** (with a dropdown menu set to 'VLSFO (max 0.5%)')
- Any Additional (total) Consumption: **10** (with a dropdown menu set to 'LSMGO (max 0.1%)')

Result:

- CII Rating: **D**
- Total Fuel Consumed (mts): **1,160**
- Total Voyage Time (days): **31.94**
- Total CO2 Emission (mts): **3,480**

A 'Reset' button is located at the bottom right of the results section.

Compare CII

Easy to use feature which allows you to directly **compare** three vessels and determine which best meets your commercial needs and decarbonization goals.

The screenshot shows the 'Compare CII' tool interface, displaying three vessel profiles side-by-side, labeled 'Ship 1', 'Ship 2', and 'Ship 3'. Each profile includes input fields and a 'Results' summary box.

Ship 1	Ship 2	Ship 3
Ship Type: Bulk Carrier	Ship Type: Bulk Carrier	Ship Type: Bulk Carrier
Deadweight (DWT): 78000	Deadweight (DWT): 75000	Deadweight (DWT): 77500
Distance (nm): 9250	Distance (nm): 9250	Distance (nm): 9250
Voyage Speed (Kts): 14.00	Voyage Speed (Kts): 13.15	Voyage Speed (Kts): 12.00
Daily M/E Consumption Rate (mpd): 38.00 (VLSFO max 0.5%)	Daily M/E Consumption Rate (mpd): 33.50 (VLSFO max 0.5%)	Daily M/E Consumption Rate (mpd): 25.0 (VLSFO max 0.5%)
Additional total Consumption (mts): 12 (LSMGO max 0.1%)	Additional total Consumption (mts): 8.5 (LSMGO max 0.1%)	Additional total Consumption (mts): 6.7 (LSMGO max 0.1%)
Reference Year: 2023	Reference Year: 2023	Reference Year: 2023
Results	Results	Results
Total CO2 Emission: 3,176.541	Total CO2 Emission: 2,972.6	Total CO2 Emission: 2,430.153
Attained CII: 4.403	Attained CII: 4.285	Attained CII: 3.39
Required CII: 4.084	Required CII: 4.18	Required CII: 4.1
CII Rating: D	CII Rating: C	CII Rating: A

Now Owners and Charterers can easily simulate best case scenarios for optimizing their voyages based on a Required Emissions Rating for compliance purposes. A flexible and actionable tool to project your CII compliance status in the future with optional on demand consulting to help you take prescriptive actions for your goals towards sustainability.

Our solutions are always designed keeping your commercial needs in mind. If you are interested in collaborating with a company that is agile and solution based, please reach out to us and we will be glad to have a conversation and discuss how we can assist.



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