

# Sustainability News

ESTE SHIPPING

AUGUST 2024



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# MANAGEMENT LETTER

Dear valued customers and partners,

In 2018, the global shipping industry accounted for 1,076 million tons of CO<sub>2</sub> emissions, contributing approximately 3% to the total CO<sub>2</sub> emissions worldwide. This issue is increasingly gaining significance in our daily operations.

Despite not being obligated to report our results yet, we are committed to doing so to foster improvement collectively.

ESTE has proactively addressed its emissions and contributed to reducing the overall emissions of shipping through three key approaches:

**01** We enhanced capacity utilization by collaborating closely with our customers.

We prioritized minimizing our carbon intensity indicator by optimizing voyage schedules and minimizing ballast trips.

**02**

**03** Adjusting sailing speeds according to planned operations in ports resulted in reduced fuel consumption. Our aim is to ensure efficiency across our entire fleet.

Through these measures, we achieved further improvement in our already positive results from 2022 by 2023.

We are mindful of the likely implementation of Emission Trading Systems (ETS) in our market segment.

Hence, starting from 2026, we will gradually introduce newer and more efficient ships, expected to reduce our emissions by 25%.

This reduction will be further augmented by the deployment of e-sails.

Detailed discussion on our 2023 results follows in the subsequent sections of this document.



# GREENHOUSE GAS EMISSION

It is important to highlight that ESTE SHIPPING is currently **not obliged** to measure nor report its greenhouse gas emissions.

An aerial photograph of a lush green field, possibly a rice paddy, with distinct terraced patterns. A small figure of a person is visible in the middle ground, walking across the field. The field is set against a white background, creating a high-contrast, graphic effect.

However, considering regulatory changes, the International Maritime Organization's Strategy on Reduction of GHG Emissions from Ships, the extension of the EU Emissions Trading System to maritime transport and understanding the role that the shipping industry plays in global greenhouse gas emissions, ESTE Shipping has decided to calculate and monitor its greenhouse gas emissions from operation of vessels, especially in terms of greenhouse gas intensity.

# METHODOLOGY

The calculation of greenhouse gas (GHG) emissions followed the principles of the **Greenhouse Gas Protocol Corporate Standard**.

GHG emissions were calculated for **ESTE Shipping and Trading GmbH** and followed the operational control approach for organizational boundaries. The carbon footprint of ESTE Shipping includes Scopes 1 and 2, as defined below:

**SCOPE 01.** include the direct emissions from assets that are owned or controlled by the company.  
In ESTE's carbon footprint, this includes the combustion of fuel by vessels as well as petrol and diesel used by ESTE's car fleet.

**SCOPE 02.** are indirect emissions from the production and distribution of electricity, heat and steam purchased by the reporting company for use in its own sites, electric vehicles or other owned asset requiring electricity.  
In ESTE's carbon footprint, this includes purchased electricity for own use.

**Scope 2 emissions need to be calculated according to two methods:**

*Location-based method* reflects the average emissions intensity of grids on which energy consumption occurs.

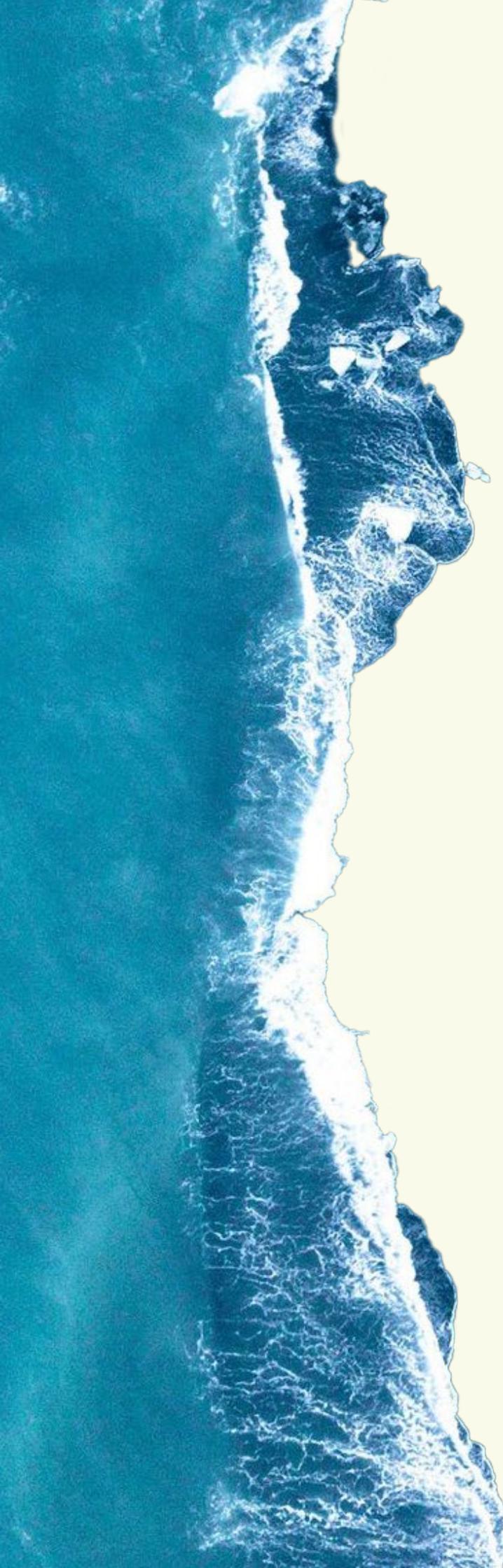
In the calculation, grid-average emission factor for Germany was applied.

*Market-based method* reflects emissions from electricity that companies have purposefully chosen (or their lack of choice). It derives emission factors from contractual instruments.

In the calculation, the emission factor of Stadtwerke Buxtehude was applied. Stadtwerke supplies all their customers with electricity from 100% renewable sources, which results in the emission factor of 0 kg CO<sub>2</sub>e/kWh under Scope 2.

In the calculation of the GHG emissions, fuel consumption of all vessels from all voyages performed in a year was taken into account. Consequently, ESTE Shipping's own vessels, vessels on long-term time charter and voyage time charter were considered.

All fuel burned at sea and in port was accounted for, i.e., also fuel consumed during empty backhauls and repositioning, both by main and auxiliary engines.



Not only carbon dioxide emissions of consumed fuel, but also methane and nitrous oxide emissions were considered.

We decided to follow this approach as the two latter greenhouse gases are gaining more and more importance.

Already in 2024, the EU Monitoring, Reporting and Verification (MRV) regulation was extended to cover methane and nitrous oxide emissions, and the shipping EU Emissions Trading System (ETS) will cover these two greenhouse gases from 2026 onwards.

For the calculation of the greenhouse gas emissions, we applied the emission factors as provided in COMMISSION DELEGATED REGULATION (EU) 2023/2776 of 12 October 2023 and the Global Warming Potential values for carbon dioxide, methane and nitrous oxide as published in COMMISSION DELEGATED REGULATION (EU) 2020/1044 of 8 May 2020. The fuel emission factors applied are so-called tank to wheel emission factors, which consider GHG emissions from burning of fuels.

# CARBON FOOTPRINT 2022-2023

As presented in Table 1 below, the absolute Scope 1 and 2 emissions were reduced by almost 20% between 2022 and 2023. Scope 1 emissions from vessel operation were responsible for about 99.9% of ESTE's Scope 1 and Scope 2 emissions in 2023 (refer to Figure 1).

PARAMETER	UNIT	2023	2022	2023/2022 CHANGE
Scope 1 vessel operation	t CO <sub>2</sub> -eq/year	36,255.2	45,176.9	-19.7%
Scope 1 car fleet	t CO <sub>2</sub> -eq/year	20.0	20.0	-
Scope 2 market-based	t CO <sub>2</sub> -eq/year	0	0	-
Scope 2 location-based	t CO <sub>2</sub> -eq/year	28.9	26.9	+7.3%
<b>Total market-based</b>	<b>t CO<sub>2</sub>-eq/year</b>	<b>36,275.2</b>	<b>45,196.9</b>	<b>-19.7%</b>
<b>Total location-based</b>	<b>t CO<sub>2</sub>-eq/year</b>	<b>36,304.1</b>	<b>45,223.8</b>	<b>-19.7%</b>

Table 1. Scope 1 and Scope 2 greenhouse gas emissions in 2022 and 2023

ESTE Shipping and Trading GmbH: Scope 1 and 2 market-based GHG emissions, 2023



Figure 1. ESTE Shipping & Trading GmbH: Scope 1 and 2 market-based GHG emissions in 2023

# MONITORING OPERATIONAL PERFORMANCE

At ESTE Shipping, we monitor our fleet's performance using two approaches.

## 01 *Carbon Intensity Index (CII)*

The first approach follows the Carbon Intensity Index (CII) methodology. Even though under the current CII regulation, effective since the beginning of 2023, we are not obliged to monitor nor report the CII as our vessels do not exceed 5,000 GT, we take advantage of the methodology to monitor our vessels' performance.

We use the following equation:

$$\text{CII} = \frac{\text{Annual fuel consumption} \times \text{Fuel's emission factor}}{\text{Distance sailed} \times \text{Vessel's deadweight}}$$

The CII helps us measure how efficiently our fleet transports goods in a year.

PARAMETER	UNIT	2023	2022	2023/2022 CHANGE
Fleet's GHG emission intensity per distance sailed and deadweight	g CO <sub>2</sub> -eq/t-nm	19.78	20.21	-2.1%

Table 2: ESTE Shipping fleet's GHG emission intensity per distance sailed and deadweight 2022 and 2023

# 02

## Energy Efficiency Operational Indicator (EEOI)

The second monitoring approach follows the Energy Efficiency Operational Indicator (EEOI) methodology, which evaluates a ship’s fuel efficiency during operations and is calculated according to the following formula:

$$\text{EEOI} = \frac{\text{Annual fuel consumption} \times \text{Fuel's emission factor}}{\text{Distance sailed} \times \text{Cargo transported}}$$

PARAMETER	UNIT	2023	2022	2023/2022 CHANGE
Fleet’s GHG emission intensity per distance sailed and cargo transported	g CO <sub>2</sub> -eq/t-nm	22.06	22.37	-1.4%

Table 3: ESTE Shipping fleet’s GHG emission intensity per distance sailed and cargo transported 2022 and 2023

The CII and EEOI are expressed in grams of CO<sub>2</sub> equivalent emitted per cargo-carrying capacity and nautical mile.

While the CII determines the GHG emission efficiency of a vessel in relation to its cargo-carrying capacity and distance sailed, the EEOI gives us an insight into a vessels’ fuel efficiency per transport work.

In 2023, we managed to reduce both parameters by -2.1% and -1.4%, respectively (refer to Table 2 and Table 3 above). Two parameters that we looked at while analyzing the results, include: **the load factor**, which in 2023, for 81% of voyages was at 80% or higher, and **empty running**, where the whole fleet’s average in 2023 was 18%.

ESTE is optimizing voyage schedules, avoiding long ballast trips, efficiently using vessel’s capacities, and adjusting sailing speed to save fuel.

All these efforts are reflected in the positive result for 2023.

Further, we will discuss more in detail current measures that enabled us to decrease the GHG emission intensity of our fleet and our further plans.

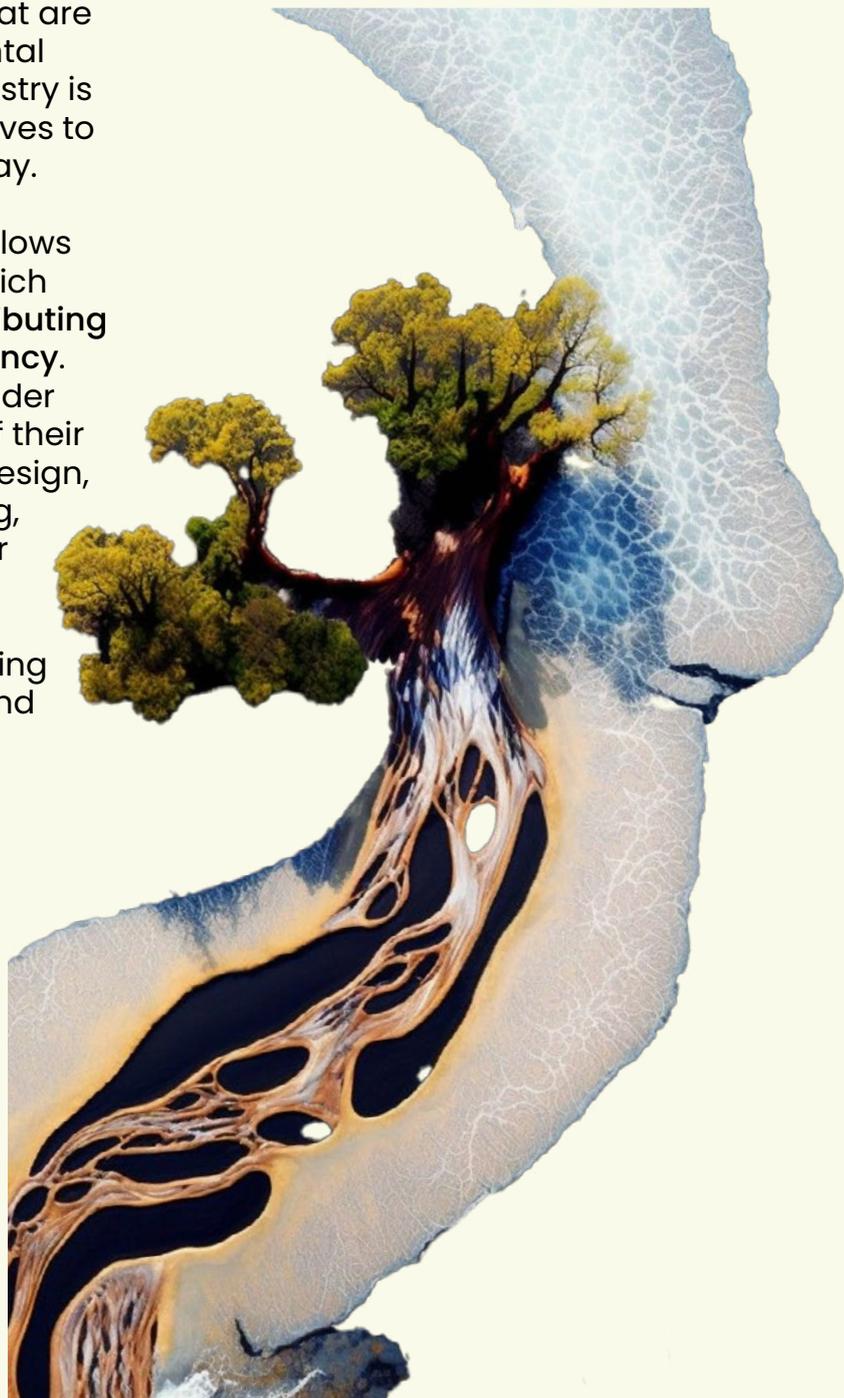
# OUR APPROACH TO SUSTAINABILITY

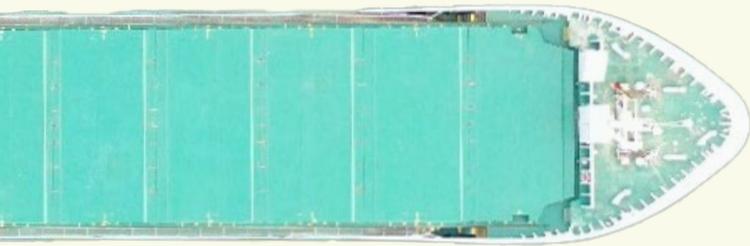
## *RELIABLE PARTNERS*

We cooperate with companies that are not only aware of the environmental challenges that the shipping industry is facing, but also implement initiatives to deal with them in a systematic way.

Our partner – Pot Scheepvaart follows a clear sustainability strategy, which revolves around two pillars: **contributing to cleaner oceans and fuel efficiency**. In daily operations of the ships under our control, we take advantage of their initiatives in the field of efficient design, such as advanced fuel monitoring, partnering with manufacturers for engine maintenance for optimal performance, transitioning to LED lighting across fleet, weather routing to sail the most efficient routes, and frequent hull cleaning.

Our customers also play a crucial role in the efficiency performance of our operations. We follow customer-assisted capacity optimization, where our clients cooperate to optimize the intake of vessels. Additionally, we synchronize loading operations with shippers to ensure our vessels are loaded and set sail at the most efficient speed.





## **EFFICIENT FLEET**

In 2024, we ordered new fuel-efficient vessels. The first two vessels will be delivered in 2026. The newly constructed vessels are anticipated to achieve a 25% improvement in fuel efficiency compared to the existing fleet. The fuel efficiency can be enhanced even more through the implementation of wind-propelled systems, capable of generating up to 40% of the power required for these vessels.

On the monitoring side, we are implementing a new system that will collect pre- and post- voyage information, i.e., expected vs. real fuel consumption.

We will open a digital customer area, which will be fed with Navision data, where information on voyage performance will be retrieved.

In this way, our customers, will be able to monitor and analyze the operational performance of their voyages.

## **COMPLIANCE**

Our management diligently considers the implications for human rights, climate, and the environment when making decisions.

Moreover, our company takes on the responsibility of reporting any practices that could potentially violate human rights and harm the environment to the relevant authorities.



# Let's keep in touch

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