Environmental Sustainability and Climate Change

> “Our investment in cutting-edge technologies has not only reduced our impact on the environment but also allowed us to operate more efficiently, minimizing air and sea pollution and protecting marine life.”

Although shipping is recognised as the most efficient and economical form of international trade, being responsible for only around 3% of global greenhouse gas emissions, its impact on the environment remains considerable.

To combat climate change, the shipping industry is under increasing pressure to reduce its greenhouse gas emissions by 2050, with interim targets set for 2030 and 2040. These stringent goals are in line with the regulations established by the International Maritime Organization (IMO) and the European Commission.

In 2018, the IMO established a strategy for the reduction of GHG emissions, with a target of a 50% reduction from 2008 levels, by 2050. In 2023, the IMO adopted a revised strategy (the 2023 IMO GHG Strategy) with the aim of achieving net-zero greenhouse gas emissions from international shipping by around 2050, with interim milestones of at least 20% and 70% reductions by 2030 and 2040 respectively.

In 2021, the European Commission introduced the Green Deal, a comprehensive plan to make the European Union carbon neutral by 2050. One of its key objectives is to reduce CO_2 emissions from the transport sector by 90% compared to 1990 levels by 2050. To support the Green Deal, the EU is implementing an investment-focused sustainability taxonomy and promoting transparency of ESG data across all industries, including shipping. In 2021, the European Commission launched "Fit for 55", an update to the Green Deal, aiming for a 55% reduction in carbon emissions by 2030.

At Aegean Shipping, we always strive to minimize the environmental impact of our operations and meet industry targets. To this end, we strictly adhere to the highest environmental standards, implement targeted measures, and use cutting-edge technological solutions that actively reduce our carbon footprint, while remaining fully compliant with all applicable regulations. In this way, we underline our commitment to sustainability and highlight our contribution to a cleaner and more responsible shipping industry.

Our measures to minimize our impact to the environment

We have implemented several innovative solutions to reduce our emissions and improve the energy efficiency of our fleet, ultimately targeting at resource conservation.

- **CO_2 emissions**. New technologies have been introduced to significantly decrease CO_2 emissions on our newbuildings, surpassing the performance of previous generation ships.
- Utilization of **eco-friendly materials**, such as paints, lubricants, chemicals and spare parts.
- Effective cleaning through a system that combines **eco-friendly, biodegradable cleaning products** with precise dosing to minimize chemical consumption and reduce waste.
- M**inimization of relevant forwarding activities**.
- Adoption of **energy-saving technologies**, including energy-efficient devices and LED lighting systems to enhance energy efficiency across our fleet.
- **Elimination of single-use plastics from our vessels by 2024**.
- Use of **rechargeable batteries**.

We acknowledge that our onshore activities also contribute to our overall environmental footprint, and as such, we have taken action to attain our objectives.

- Application of **energy saving measures** in the operation of computers, information systems and their peripheral subsystems to reduce electricity consumption.
- **Energy-efficient LED lighting and motion sensors**.
- **Reduced single-use plastic** usage by replacing single-use plastic bottles with reusable water bottles in our office area.

Our Energy & Environmental Policy and Management System

We have established a comprehensive policy and management system to improve energy efficiency and promote sustainability.

Our energy and environmental guidelines, include:

- Control measures to prevent pollution.
- Integration of the Environmental Management System and Ship Energy Efficiency Management Plan (SEEMP) into our company's business processes.
- Environmental incident prevention procedures as well as emissions and waste streams controls.
- Reviews of our energy and environmental management system that ensure it achieves its targets onboard and ashore.

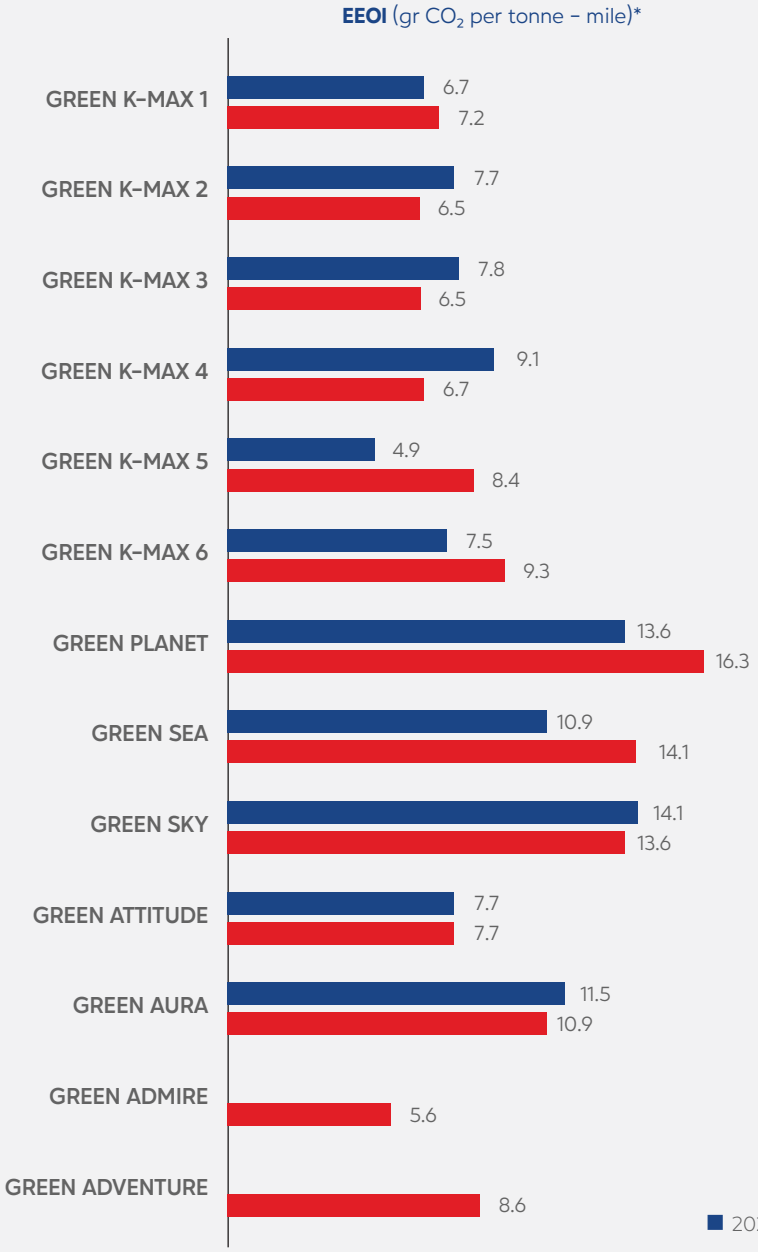
Optimizing energy efficiency

Energy Efficiency Operational Indicator (EEOI)

To assess the impact of technical measures and operational improvements implemented on board, we closely monitor the Energy Efficiency Operational Indicator (EEOI), as defined by the IMO in Guideline MEPC.1/circ.684.

This indicator measures the energy efficiency of our fleet by calculating the ratio of CO_2 mass emissions per unit of transport work (gr CO_2/tonnes* miles travelled). In 2022, we recorded an average EEOI of 9.35 g/CO_2/nm across our fleet, showing a slight increase of 1.5% compared to 2021, when our average EEOI was 9.21 g/CO_2/nm. This change is mainly related to trading patterns and idle days of our two vessels, Green Planet and Green Sea.

It is worth noting that our fleet's EEOI for 2022 is 20% lower than the industry average, which is 11.67 g/CO_2/nm[4].



9.35
gr CO_2/tonne – mile
average EEOI of our fleet for 2022

↑1.5%
average EEOI of our fleet compared to 2021

↓20%
lower EEOI
compared to industry average

** EEOI is calculated based on actual voyages within the reporting year.*
4. Based on the IMO's 2020 GHG Study, published in July 2020.

Energy Efficiency Design Index (EEDI)

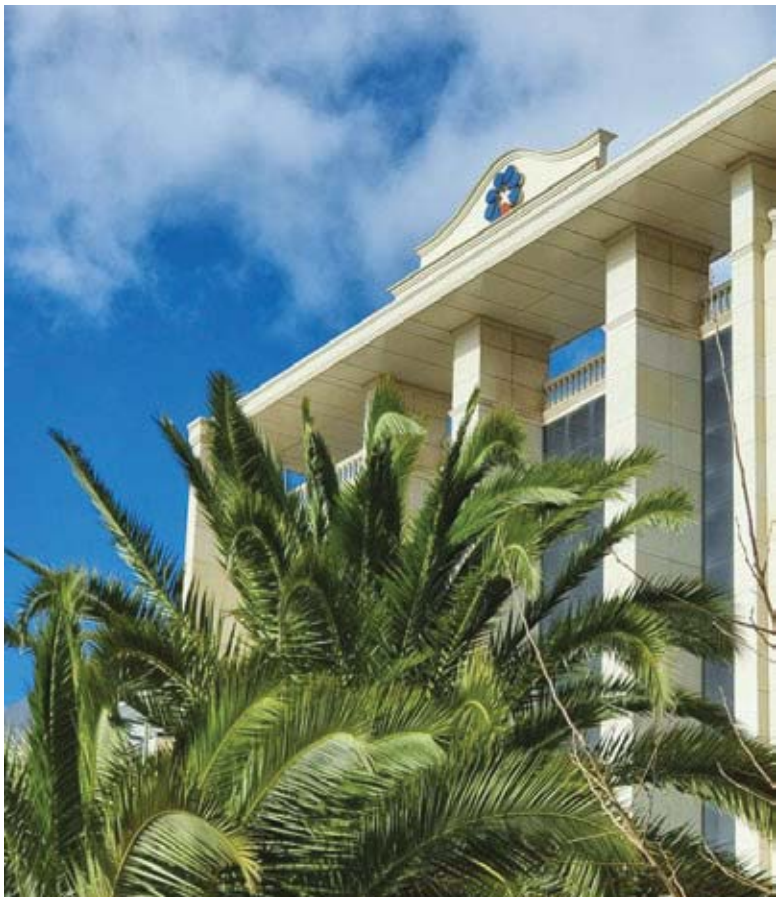
The Energy Efficiency Design Index (EEDI) per vessel, a requirement for new ships under MEPC.263(68), is a technical metric that evaluates the energy efficiency of a vessel based on its design, including equipment and engines. The EEDI is expressed in grams of carbon dioxide (CO_2) per ship's capacity-mile and is determined using a formula that considers the technical design parameters of the ship. With the addition of two new eco-type vessels to our fleet, the average fleet EEDI for 2022 decreased to 3.67 gr CO_2/tonne - mile from 3.79 in 2021.

All our vessels consistently achieve EEDI levels that surpass the minimum requirements.

3.67
gr CO_2/tonne - mile
Average fleet EEDI

Energy consumption ashore

In addition to our efforts to improve the energy efficiency of our fleet, we are also actively working to implement energy-saving measures that reduce the amount of electricity we use ashore. In 2022, the energy consumption of our offices has been reduced from 52,937 to 52,846 kWh.



Achieving emission reductions

We diligently comply with the reporting requirements of the European Union's Monitoring, Reporting and Verification (MRV) system, and the IMO's Data Collection System (DCS) for fuel consumption, enabling us to enhance our emissions monitoring capabilities and gain valuable insights into our environmental footprint. Moreover, we strictly adhere to regulations prohibiting emissions of ozone-depleting substances and no such emissions have occurred. Through these systems, we contribute to the transparent and responsible management of our environmental impact, and further align our efforts with global sustainability goals.

IMO 2020 – reduction of sulphur limit

As of January 1st, 2020, the IMO enforced a reduction in the sulphur limit outside designated emission control areas, lowering it from 3.50 m/m (mass by mass) to 0.50%. In compliance with the IMO 2020 regulation, we insist on the use of marine fuel oil that meets the prescribed sulphur content standards.

100%
of our fleet complies with IMO 2020

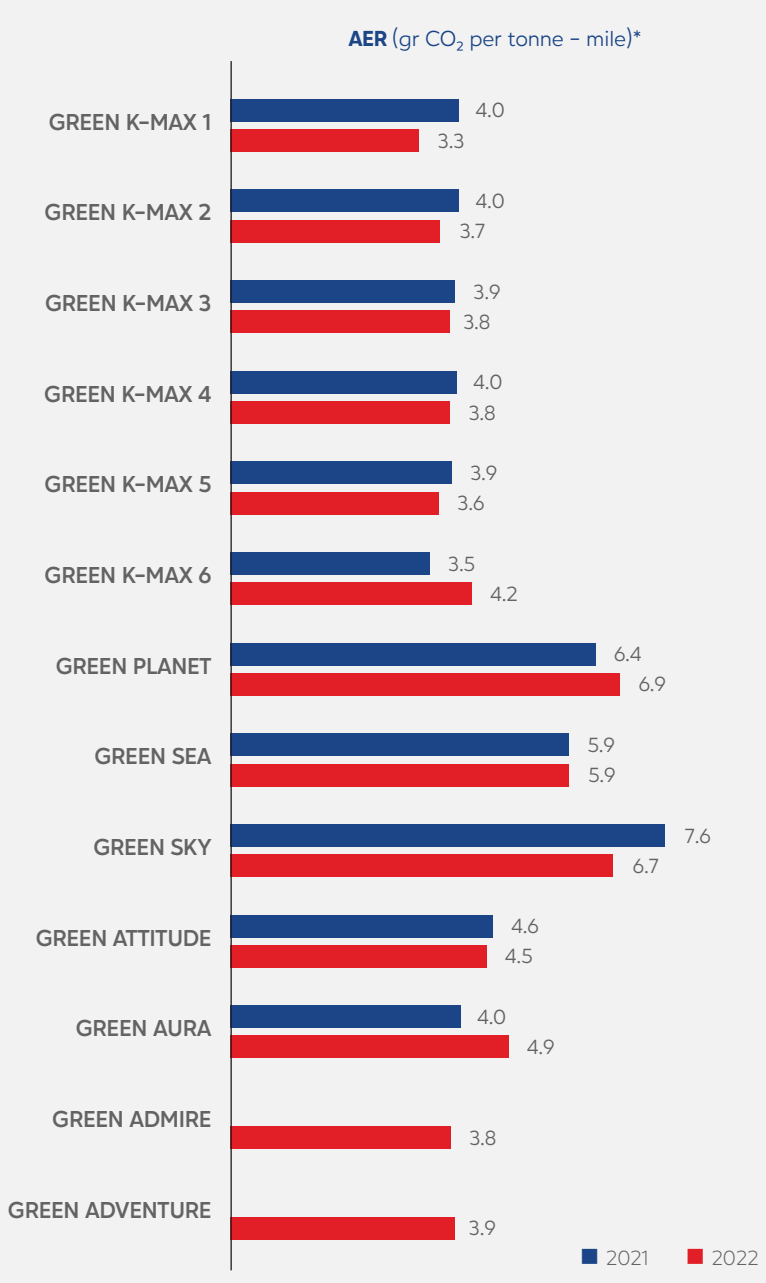
Installation of Exhaust Gas Cleaning Systems

We have taken a further step towards cleaner maritime operations by equipping four of our Aframax vessels with Exhaust Gas Cleaning Systems (EGCS) to facilitate a smoother transition from HFO to VLSFO.

Annual Efficiency Ratio (AER)

The Annual Efficiency Ratio (AER) is a crucial carbon intensity metric that is aligned with the Poseidon Principles. It plays a pivotal role in assessing the operational carbon intensity performance of vessels and is reported in grams of CO_2 per deadweight tonnage (DWT) – mile.

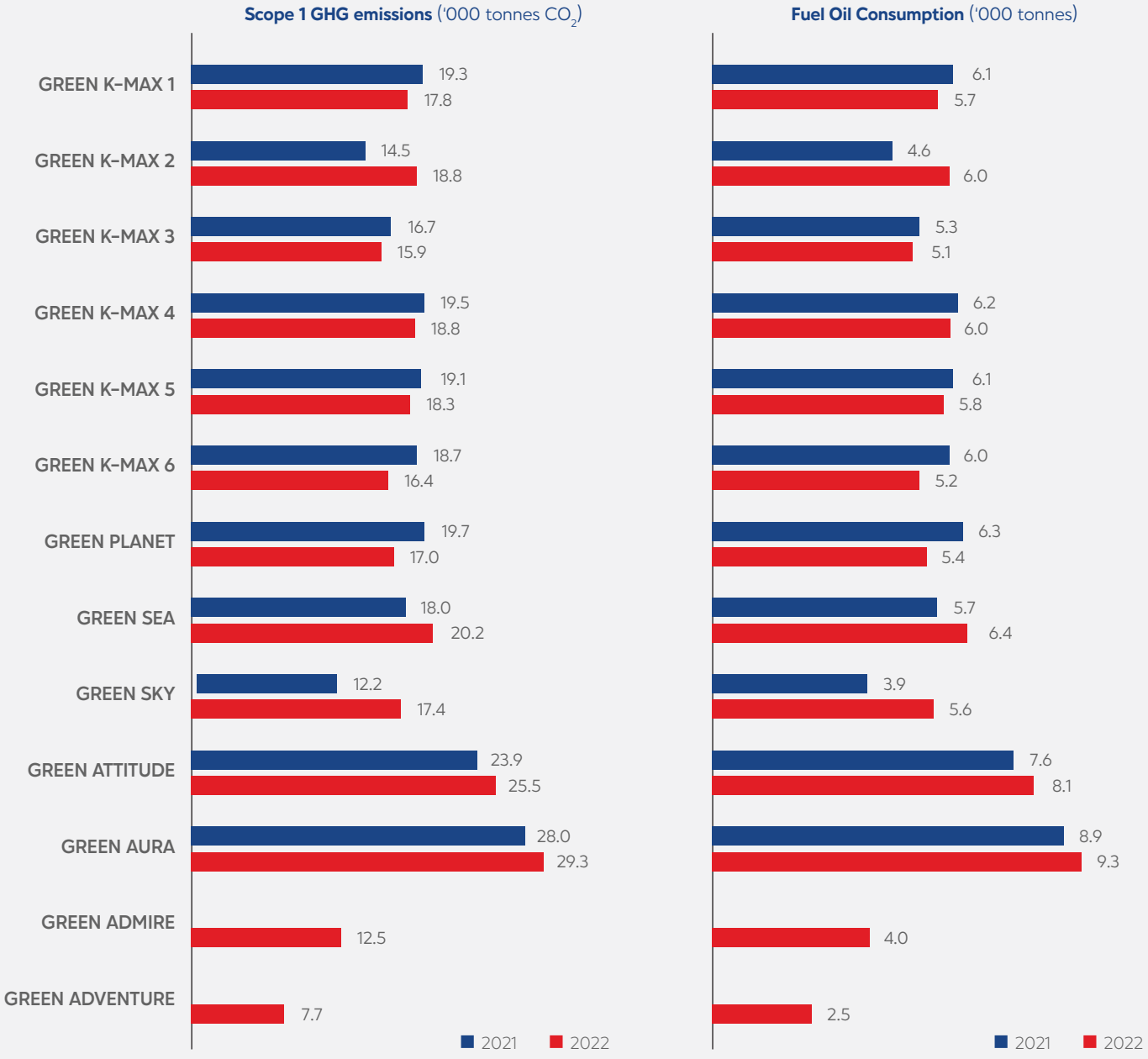
The average AER for our fleet in 2022 was 4.54 grams of CO_2 / DWT – mile, reflecting a decrease of 3.6% compared to 2021, despite the expansion of our fleet and the growth of our operations.



Scope 1 emissions

In 2022, our Scope 1 emissions, which encompass emissions from sources under our direct ownership or control, were associated with the consumption of 75,056 tonnes of fuels such as HFO, LFO and MGO. These Scope 1 emissions amounted to a total of 235,570 tonnes of CO_2, representing an increase of 12.5% due to our fleet's expansion with the addition of two new vessels. The average direct GHG emissions per vessel in our fleet were measured at 18,121 tonnes, showcasing a notable decrease compared to the 2021 average of 19,046 tonnes.

↓4.9%
average Scope 1 emissions of our fleet compared to 2021



75,056 tonnes
total fuel consumed in 2022

HFO (tonnes)	45,011
LFO (tonnes)	16,697
MDO/MGO (tonnes)	13,348

Scope 2 emissions

Scope 2 emissions refer to the greenhouse gas emissions that are not directly produced but are associated with the electricity purchased for our office facilities. Over the past two years, our Scope 2 emissions have remained relatively stable, decreasing only slightly from 21.56 to 21.36 tonnes.

21.36
total Scope 2 emissions in 2022

SOx and NOx emissions

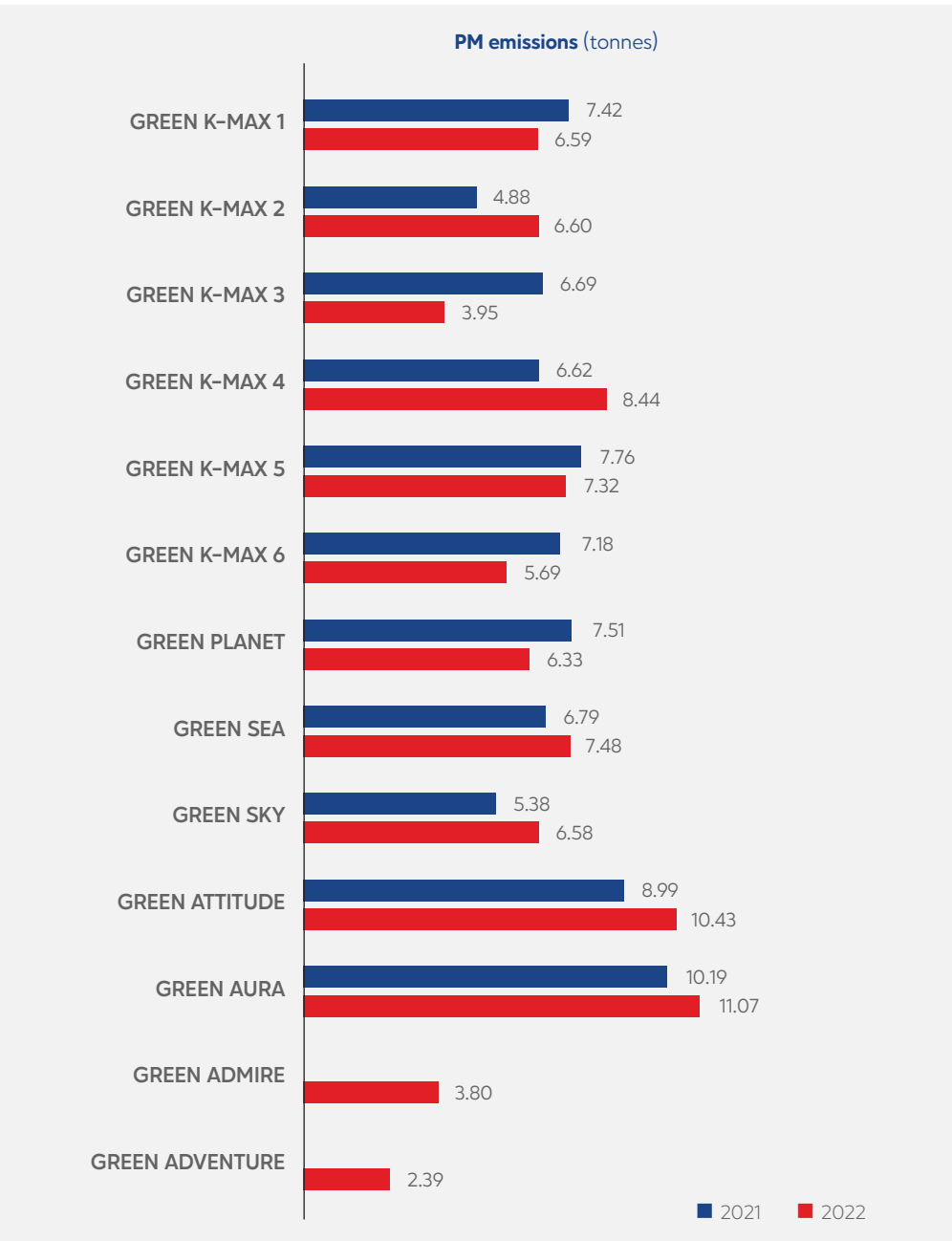
In the year 2022, our fleet released 294 tonnes of sulfur oxides (SOx) and 1,665 tonnes of nitrogen oxides (NOx). This represents a 10.5% rise in SOx emissions due to the increased size of our fleet and a significant 71.8% reduction in NOx emissions compared to previous records.

294 tonnes
SOx emitted by our fleet in 2022

1,665 tonnes
NOx emitted by our fleet in 2022

PM emissions

Particulate matter emissions are primarily released into the atmosphere from the combustion of fossil fuels in engines and boilers onboard vessels. Throughout 2022, our fleet emitted a total of 86.67 tonnes of particulate matter from 79.41 in 2021.



86.67 tonnes PM

emitted by our fleet in 2022

Protecting the marine environment

Ballast Water Treatment

In September 2017, the International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM Convention) was established to set standards for the responsible management of ballast water and sediments and to prevent the spread of harmful marine species.

In compliance with this regulation and as a testament to our firm commitment towards sustainable shipping practices, in 2021, we took the strategic decision to invest in the retrofitting of our entire fleet with approved Ballast Water Treatment Systems (BWTS).

As part of our efforts to continually elevate our environmental performance, we place great emphasis on the ongoing training and education of our seafarers to ensure they are competent to properly operate the Ballast Water Treatment Systems installed onboard. These systems effectively remove dormant biological organisms such as zooplankton, algae, and bacteria from our ballast water, allowing us to dispose of the water in an environmentally responsible manner.

Eco-friendly lubricants

Since 2014, we have consistently maintained our commitment to using entirely eco-friendly lubricants across all our ships.

Spills and releases to the environment

The marine environment is exposed to ever-increasing environmental risks, including accidental fuel spills into the water, which can cause serious harm to ocean life and the delicate marine ecosystem. Through our Health, Safety and Environmental Management System, we implement strict operating protocols in place and conduct frequent risk assessments to meet safety standards in accordance with applicable legislation that safeguards the marine environment. Over the past few years, our operations have been without incident in terms of spills or releases.

Ship recycling and Inventory of Hazardous Materials (IHM)

Our vessels are fully compliant with the International Maritime Organization's Hong Kong (HK) Convention for the Safe and Environmentally Sound Recycling of Ships and the EU Ship Recycling Regulation (EU SRR).

Each of our vessels has a class-approved Inventory of Hazardous Materials (IHM), which ensures that when our vessels are eventually decommissioned and sent to a certified ship recycling facility, the recycling process is carried out efficiently and with the utmost safety.

100%
of our fleet equipped with Ballast Water Treatment Systems (BWTS)

100%
of our fleet uses environmentally friendly lubricants

Zero
spills or releases to the marine environment

Efficiently managing our resources

An essential component of environmental stewardship is the effective control, management, and responsible disposal of the various types of waste generated by our operations. We utilize an advanced waste management system that monitors three main waste categories: garbage, sludge, and bilge. This system also ensures proper handling and complete collection and recycling of various materials, including plastics, glass, dunnage, paper, metal, bulbs, hazardous substances, and batteries.

Compliance with national and international regulations is a fundamental aspect of our approach. We go further by installing garbage compactors on all our vessels to significantly reduce the volume of waste stored onboard. We have set an annual target of reducing waste generation by approximately 1%, to continuously improve our waste management practices and minimize our environmental impact.

Reducing plastic waste onboard – Aegean Shipping waves goodbye to plastic

Aegean Shipping is taking decisive steps to combat plastic waste onboard its vessels, in line with global efforts to address this critical issue. The IMO has set a target of eliminating marine plastic litter from ships by 2050, while the European Union is actively working to reduce plastic waste. The Philippines has set a target of "zero waste in Philippine waters" by 2040, and countries such as India and Kuwait have already implemented bans on single-use plastics in the maritime sector.

In response to these global initiatives, we are proactively working towards an ambitious goal: **an 80% reduction in the use of single-use plastics by the end of 2024**. Our approach includes replacing plastic items with reusable or biodegradable alternatives, and choosing food and beverages packaged in materials such as glass, paper or cans that are more environmentally friendly and easier to recycle.

As part of our plan, we have started to phase out plastic water bottles. Instead, we have installed decentralized water purifiers onboard, which are rigorously maintained through our vessels' Planned Maintenance System (PMS) and Shipboard Occupational Health and Safety program. Regular external laboratory tests are carried out to ensure the quality of the water at the source and in the tanks.