



PANGAEA
LOGISTICS SOLUTIONS



PANGAEA LOGISTICS SOLUTIONS LTD

ESG REPORT FOR 2019

ABOUT PANGAEA LOGISTICS SOLUTIONS LTD

Pangaea is a US publicly listed dry bulk shipping company with expertise in the operation of bulk carriers and bulk logistics services. The group includes Americas Bulk Transport, Nordic Bulk Carriers, Phoenix Bulk Carriers, and Seamar Management.

The combined group typically operates between 45 to 70 ocean vessels worldwide, of which approximately 15 to 20 vessels are owned by the Company. We are headquartered in Newport, Rhode Island, with offices in Athens, Copenhagen, New Orleans, and Singapore.

Pangaea transports a wide variety of commodities, including bauxite, cement, cement clinker, construction aggregates, fertilizers, grains, iron ore, limestone, metallics, steel scrap, and so forth.

Pangaea is member of various organizations that underline the group's commitment to operating responsibly and in support of the ESG objectives.

These organizations include:



The Trident Alliance, which aims to support the implementation and enforcement of global sulphur regulations.



Clean Ocean Access, which supports sustainable activities in and around Narragansett Bay.



The Marine Mammal Observation Network, organized by Green Marine, when operating in the Canadian Arctic (the company is a reporting member).

The vessels under the management of Seamar Management SA are active participants in the Assistance Vessel Rescue System, a worldwide voluntary reporting system sponsored by the U.S. Coast Guard. AMVER is a computer-based global ship-reporting system used worldwide by search and rescue authorities to arrange assistance to people in distress at sea.



Pangaea is a member of The Baltic and International Maritime Council, BIMCO, and of the Danish Ship-owners' Association through the Danish subsidiary Nordic Bulk Carriers, which is part of the Innovation Committee. Senior leaders at Pangaea are also members of the American Bureau of Shipping (ABS).

CEO STATEMENT

Our pioneering spirit and strong ambitions are the drivers of our business. Pangaea Logistics Solutions Ltd. aims for continuous growth, ever-stronger client relationships and to remain a reliable partner with diversified cargo and logistics interests related to the shipping industry.

At Pangaea, our top priority is the safety and well-being of our employees and our crews. Underscoring this priority are the numerous safety standards, systems and policies we have in place across the globe.

We also focus continuous effort on minimizing our environmental impact. The future will confirm Pangaea as a dynamic company that is here to stay. We take great pride in performing well – not only on financial parameters, but also with respect to our drive to meet the highest standards of corporate citizenship, which strongly support obligations concerning environmental, social, and corporate governance.

To enhance the transparency of our management of sustainability issues, we are issuing our first public Environmental, Social and Governance Report, covering our operations for the year 2019. We believe we have high standards for sustainability. But, we don't know for sure if we meet them all the time, and we won't know if we are constantly improving our performance unless and until we set some goals and create a way to measure ourselves. That is the purpose of this first report.

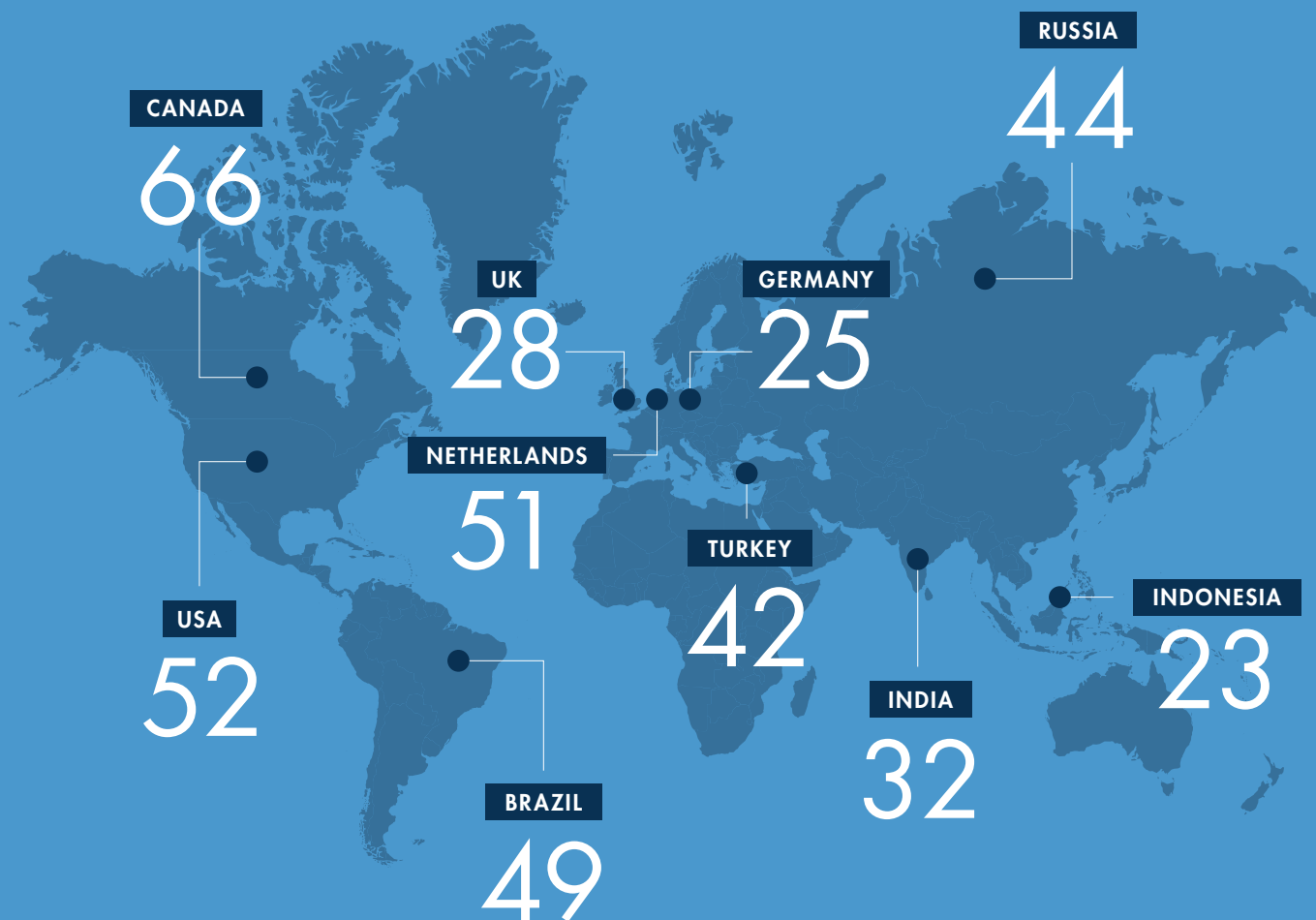
Further, we believe an important step toward sustainability in our industry is to increase transparency for our stakeholders. Thus, we present a concise and to-the-point reporting framework – the Marine Transportation framework developed by the Sustainability Accounting Standards Board (SASB). The framework is based on material indicators specific to our industry, making it possible to compare and benchmark peers against one another.



Ed Coll
Chief Executive Officer
Pangaea Logistics Solutions Ltd.

KEY FIGURES

Number of port calls
in our most visited
countries in 2019



Owned Fleet Bulk carriers

TOTAL FLEET
DWT CAPACITY

1,017,551

PANAMAX

9

VESSELS

APPROX. DWT
CAPACITY

73,000



LENGTH: 225 M

BULK PANGAEA
BULK PODS
BULK PATRIOT
NORDIC ODYSSEY
NORDIC ORION
NORDIC OSHIMA
NORDIC ODIN
NORDIC OLYMPIC
NORDIC OASIS

ULTRAMAX

2

VESSELS

APPROX. DWT
CAPACITY

60,000



LENGTH: 200 M

BULK DESTINY
BULK ENDURANCE

SUPRAMAX

9

VESSELS

APPROX. DWT
CAPACITY

54,000



LENGTH: 199 M

BULK BEOTHUK
BULK FREEDOM
BULK FRIENDSHIP
BULK INDEPENDENCE
BULK NEWPORT
BULK PRIDE
BULK SPIRIT
BULK TRIDENT
BULK JULIANA

HANDYMAX

2

VESSELS

APPROX. DWT
CAPACITY

43,000



LENGTH: 180 M

NORDIC BARENTS (SOLD)
NORDIC BOTHNIA (SOLD)

GOVERNANCE AT PANGAEA

Our team consists of highly experienced and motivated people who are as engaged in understanding our clients' businesses as we are in growing our own. The people who drive the entire value chain, from chartering to operations and accounting, work side by side to ensure collaboration and keep information flowing between all employees so we can optimize our platform. Pangaea currently employs a staff of 75 across our offices in Newport, Athens, Copenhagen, New Orleans and Singapore.

Our experienced and dedicated Board of Directors consists of nine members who oversee the operations of the Company and its adherence to written policies, e.g.:

- Code of Ethics
- Anti-Corruption Compliance Policy
- Insider Trading Policy
- Related Person Transactions Policy
- Whistleblowing Policy
- IT Acceptable Use Policy
- Human Rights

In addition, our Board has established three committees to ensure that Pangaea fulfils its responsibilities to shareholders, employees, and various stakeholders.

1 Audit Committee

The audit committee assists the Board in fulfilling its responsibilities to shareholders and oversees the Company's financial reporting processes. It also assesses risk monitoring and management processes.

2 Compensation Committee

The compensation committee assists the Board in ensuring retention and succession plans for key executives, as well as the periodic review of the Company's compensation strategy and its alignment with the long-term goals of the Company.

3 Nominating Committee

The Nominating Committee assists the Board in ensuring the appropriate size, functioning, and needs of the Board including, but not limited to, recruitment of high-quality Board members and committee composition and structure.

We are continually working to implement these policies and adjusting them to the company-specific needs of Pangaea.

WHISTLEBLOWING

Pangaea encourages reporting of any wrongdoing and relies on the good faith of its employees to report justified complaints of wrongdoing and/or inappropriate behavior at any level. The whistleblowing policy outlines the complaint and investigation procedures for alleged misconduct, accounting, internal accounting controls, fraud or auditing matters for all employees within the company. Complaints and concerns from employees are treated in strict confidence and as anonymously possible in the required investigations. External stakeholders are also given the opportunity to submit complaints or concerns under the group's Whistleblowing Policy.

BUSINESS ETHICS AND ANTI-CORRUPTION



Pangaea adheres to a published a Code of Ethics. The code outlines honest, ethical, and fair behavior expected from all employees and company representatives; disclosure; compliance; reporting and accountability, as well as waivers and amendments.

Corruption impedes access to global markets and undermines economic and social development. For businesses in the shipping industry, corruption is also associated with increased costs and poses legal and reputational risks while also potentially threatening crew safety.

Our policy strives to ensure compliance with applicable laws, the prevention of inappropriate payments and transfers, as well as actions to address any non-compliance with the policy.

Our Human Resource departments highlights communication with staff with regard to adherence to our anti-corruption compliance policy. Communication and training are adapted and focused to specific job responsibilities and tasks within the company and related activities. When questionable situations arise, staff and/or team members are to direct questions to our Board or legal advisors. In 2019, we experienced no monetary loss as a result of legal proceedings associated with bribery or corruption.

Pangaea Logistics Solutions Ltd. enforces strict policies on insider trading and related person transactions which are supplemented by securities laws applicable to Pangaea and its employees.

ENVIRONMENT

EMISSIONS

In 2019, international shipping accounted for three-quarters of total freight transport activity and about two percent of energy-related CO₂ emissions globally.¹ Greenhouse gas emissions and other emissions to air from the shipping sector can potentially be harmful to health, contribute to acid rain, and lead to increased global warming. We recognize the need to find a way toward zero emissions and we support the International Maritime Organization's strategy on the reduction of GHG emissions from ships.

The solution for truly carbon-free ocean transport does not currently exist, but we are committed to managing our existing fleet as efficiently as possible. We are implementing real-time tracking of fuel and power consumption across our owned fleet. That will enable us, through immediate actionable data, to operate and maintain our fleet more efficiently. Additionally, this real time tracking will allow us to manage weather routing to ensure that we are operating ships safely and efficiently in challenging weather conditions.

Part of the Pangaea fleet is ice classed, designed for operations in harsh weather and ice. These ships have more engine power than conventional ships, and efficient fuel consumption is most important for these vessels. As we expect that more ships will have similar systems installed, we aim to work closely with tonnage suppliers for these ships through collaboration when practically possible both commercially and operationally.

The real-time tracking system will enable us to develop targets and goals related to fuel efficiency moving forward. The target for 2020/2021 is to

establish a baseline, grounded in data from the system implemented on our younger vessels.

We have established Ship Energy Efficiency Management Plans (SEEMP) to improve the efficiency of our vessels. Through the SEEMP, we ensure that all our ships are operated efficiently by

- optimizing the speed of the vessel,
- making course changes to avoid higher fuel consumption caused by rough weather,
- hull cleaning in dry dock to improve speed and reduce fuel consumption.

These measures help increase our ships' efficiency and generate operational improvement. As the SEEMP is specific to each ship and must be tailored to the ship, cargo type, routing, and other factors, a SEEMP cannot be established on a group or fleet level.

In addition to the initiatives mentioned above for our owned ships, the company operates a fleet of chartered-in vessels. The number of chartered-in vessels depends on market conditions and the transportation needs of our clients at any given time but, historically, the number has been between 30 and 50 across the group companies. On these vessels, we do typically seek to employ the most fuel-efficient designs available.

Furthermore, we always implement performance monitoring and weather routing services on both our owned and our chartered fleet. Using sophisticated forecasting algorithms and machine learning, we optimize the speed of our vessels by considering commercial and environmental concerns while reducing the amount of fuel consumed when the ships encounter adverse weather and/or current.

¹ [The International Energy Agency's International Shipping Tracking report 2020](#)

ECOLOGICAL IMPACTS

Marine vessels discharge fluid on a routine basis. This discharge has potential environmental impact such as pollution of water and damage to marine life. We comply with international regulations intended to manage these environmental impacts.

Our technical management policies and staff put heavy emphasis on treating ballast water to avoid and eliminate negative environmental impact and we also have strict system processes in place to avoid spills. The ships in our owned fleet will all be equipped with modern ballast water treatment systems in accordance with international regulations. At present, 64 percent of the fleet is equipped with ballast water treatment systems with more systems being installed during the ordinary dry docking cycle of the vessels in the fleet. In case of an accidental spill, we have routines in place to limit negative impacts to the environment and ensure diligent reporting.

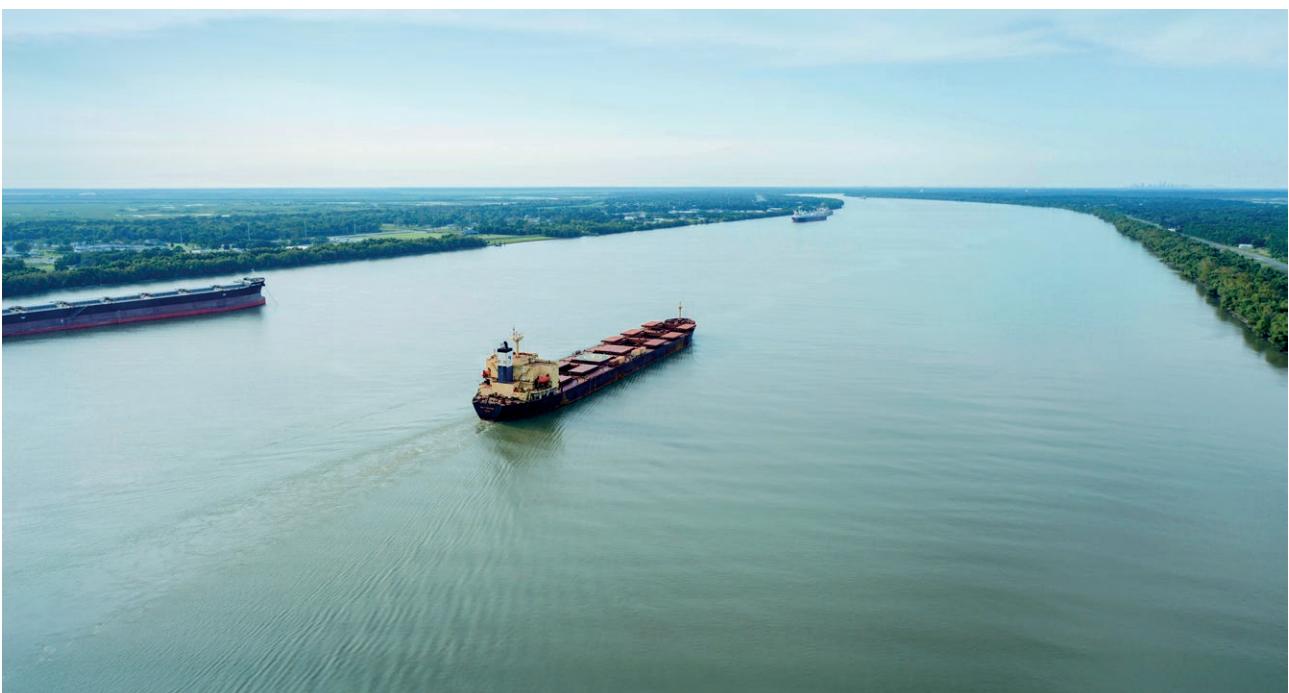
In 2019, we had no oil spill incidents.

The company has also chosen not to install exhaust gas cleaning technology (scrubbers) on our fleet of owned vessels because we firmly believe that the best path forward in protecting both the marine and atmospheric environment is to use established low-sulphur

fuels that meet current regulations covering sulphur emissions. Although the cost of such fuel is greater, the reduced atmospheric emissions (on combustion) not only meet regulatory requirements but also eliminate any need for additional fluid discharge into the marine environment caused by open loop scrubbing or, in the case of closed-loop scrubbing, the necessary periodic removal of toxic waste to shore which again introduces the need for disposal. We believe these actions are not only more efficient but also more eco friendly.

From time to time, the Company retires its oldest vessels through industry recycling methods, including scrapping in ship breaking yards on the Indian sub-continent. These recycling methods are being closely reviewed by various official and unofficial worldwide entities who are attempting to designate new international standards for work safety and environmental concerns in the recycling processes.

When these standards go into effect, Pangaea will comply with them. In the meantime, Pangaea will use its best efforts to comply with the standards developed under the International Maritime Organization's Hong Kong Convention for the Safe and Environmentally Sound Recycling of Ships.



SAFETY, LABOR CONDITIONS, AND HUMAN RIGHTS

EMPLOYEE SAFETY

Pangaea considers its human resources as fundamental to the organization and, accordingly, considers employee health and safety of paramount importance. Therefore, we continuously seek to minimize the risks associated with injuries in the industry. The greatest safety risk is associated with the loading and unloading of cargo at ports, as well as extreme weather during sea passages.

In our quarterly board meetings, we present the latest HSE statistics and discuss incidents, if any. Our lost time incident rate (LTIR) was 1.0 in 2019. We experienced no serious injuries to people, but there were two incidents that caused material damage to two of our ships.

Incident investigations were performed by our safety teams and reviewed by an independent consultant; root causes were identified and changes in procedure implemented. We aim to promote a culture of sharing insights and lessons learned throughout the organization to ensure we are constantly working to improve our operations.



THSE targets:

- 1 Cases of oil spills not entering the water (contained onboard) no more than one (1) barrel across the fleet.
- 2 Improvement of vessel performance when undergoing external inspections/audits.
- 3 Zero (0) PSC detentions.
- 4 Zero complaints related to MLC 2006: Promote health awareness of seagoing personnel. Improvement of applicable health, safety and quality standards. Continuous reduction of occupational health hazards.
- 5 Zero (0) fatalities.
- 6 Promote staff continuity with an emphasis on retaining and developing people in key roles. Improvement of retention of masters and chief engineers rotating on the fleet vessels.
- 7 Zero (0) incidents. Employees to proactively and routinely identify and eliminate their unsafe behaviors and those of their co-workers. Behaviors, unsafe conditions and other precursors that can lead to incidents to be recorded, analyzed, and addressed.



HUMAN RIGHTS

Pangaea has implemented a policy on human rights that outlines the Company's support and respect for internationally recognized human rights, with special attention paid to human trafficking and child labor.

We will not knowingly be complicit in any human rights violations, and we demand that our vendors and agents to respect this same standard.

PROHIBITION ON HUMAN TRAFFICKING

We prohibit the use of human trafficking or other prohibited activities by our personnel, and we expect these same prohibitions to be applied by suppliers of products we purchase and whose services we employ.

PROHIBITION ON CHILD LABOR

We do not employ any person under the applicable lawful age at any of our workplaces. The Company prohibits the use of child labor and forced or obligatory labor anywhere in

the organization. No employee is made to work against his/her will or work as bonded/forced labor or is subjected to corporal punishment or coercion of any type related to employment.

ACCESS TO REMEDY

We maintain an open line of communication and we have established a hotline for reporting concerns (whistleblowing), and will not retaliate against persons who act in good faith to report a concern, provide information, or otherwise assist in an investigation or proceeding.

SASB DISCLOSURES

Accounting metric ▼

Unit of measure ▼

Data ▼

Code ▼

GREENHOUSE GAS EMISSIONS

CO₂ emissions ¹

Gross global Scope 1 emissions: Financial control approach	Metric tons CO ₂ -e	333,748	TR-MT-110a.1
Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Qualitative description	Page 8	TR-MT-110a.2

Energy consumed ²

(1) Total energy consumed	Gigajoules (GJ)	4,465,737	TR-MT-110a.3
	Percentage (%)	100	
(2) Percentage heavy fuel oil	Gigajoules (GJ)	3,736,702	
	Percentage (%)	84	

EEDI

Average Energy Efficiency Design Index (EEDI) for new ships	Grams of CO ₂ per ton-nautical mile	3.75	TR-MT-110a.4
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AER ³

Average Efficiency Ratio (AER): simple average, weighted average	Grams of CO ₂ per ton-nautical mile	5.39, 5.61	Additional
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AIR QUALITY

Other emissions to air ⁴			
(1) NO _x (excluding N ₂ O)	Metric tons	9,635	TR-MT-120a.1
(2) SO _x	Metric tons	3,639	
(3) Particulate matter	Metric tons	466	

ECOLOGICAL IMPACTS

Marine protected areas			
Shipping duration in marine protected areas or areas of protected conservation status	Number of travel days	Not available	TR-MT-160a.1

Implemented ballast water			
(1) Exchange	Percentage (%)	68	TR-MT-160a.2
(2) Treatment	Percentage (%)	32	

Spills and releases to the environment			
(1) Number	Number	0	TR-MT-160a.3
(2) Aggregate volume	Cubic metres (m ³)	0	

BUSINESS ETHICS

Corruption index			
Number of calls at ports in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index	Number	15	TR-MT-510a.1

Corruption			
Total amount of monetary losses as a result of legal proceedings associated with bribery or corruption	Reporting currency	0	TR-MT-510a.2

EMPLOYEE HEALTH & SAFETY

Lost time incident rate ⁵

Lost time incident rate (LTIR)	Rate	1.0	TR-MT-320a.1
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ACCIDENT & SAFETY MANAGEMENT

Marine casualties ⁶

Incidents	Number	2	TR-MT-540a.1
Very serious marine casualties	Percentage (%)	0	

Conditions of class ⁷

Number of Conditions of Class or Recommendations	Number	17	TR-MT-540a.2
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Port state control ⁸

(1) Deficiencies	Rate	0.93	TR-MT-540a.3
(2) Detentions	Number	0	

OUR OPERATIONS IN NUMBERS

Number of shipboard personnel	Number	318 ^A	TR-MT-000.A
Total distance traveled by vessels	Nautical miles (nm)	1,038,126	TR-MT-000.B
Operating days	Days	7,380	TR-MT-000.C
Deadweight tonnage	Thousand deadweight tons	1,275,616 ^A	TR-MT-000.D
Number of vessels in fleet	Number	20 ^A	TR-MT-000.E
Number of vessel port calls	Number	605	TR-MT-000.F
Twenty-foot equivalent unit (TEU) capacity	TEU	N/A	TR-MT-000.G

^{A)} as per Dec 31 2019

DISCLAIMER AND ASSUMPTIONS

Figures provided in this report are based on the estimates outlined below:

Figures provided as per the end of the financial year (December 31).

- 1 **CO₂ emissions:** Calculations are based on IMO emission factors and fuel consumed. The financial control approach has been applied for Scope 1.
- 2 **Energy consumption:** Calculations are based on tonnes of oil equivalents (toe) using DEFRA conversion factors to calculate energy consumed in gigajoules (GJ).
- 3 **Average efficiency ratio (AER):** carbon intensity metric estimated based on fuel consumed, distance travelled (nm), and deadweight tonnage (DWT).
- 4 **Other emissions to air (NO_x, excluding N₂O, SO_x and particulate matter):** Estimated based on distance travelled (nm) and a tool developed by Danish Shipping for calculating emissions from bulk carrier vessels.
- 5 **Lost time incident rate (LTIR):** The rate is calculated based on (lost time incidents) / (1,000,000 hours worked), and includes incidents resulting in absence from work beyond the date or shift when they occurred.
- 6 **Marine casualties:** The definition of a marine casualty is based on the United Nations International Maritime Organization's (IMO) Code of International Standards and Recommended Practices for a Safety Investigation into a Marine Casualty or Marine Incident Resolution MSC 255(84), paragraph 2.9, chapter 2 of the general provisions.
- 7 **Conditions of class:** The data provided represents the number of Conditions of Class or Recommendations Nordic Bulk Carriers has received from a Flag Administration or a Recognized Organization (RO) that has been delegated the authority to issue such findings. The scope of disclosure includes all Conditions of Class regardless of whether they resulted in withdrawal, suspension, or invalidation of a vessel's Class certificate.
- 8 **Port state control:** Deficiency rate is calculated using the number of deficiencies vessels received from regional port state control (PSC) divided by total number of port state control inspections.



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