



ENVIRONMENTAL REPORT

2017 - 2018





ENVIRONMENTAL POLICY

Together with operating safety, the averting of risks and dangers, economic efficiency, reliability and customer satisfaction, protecting the environment is also one of the main priorities of our Shipping Company's corporate strategy.

Our company has introduced an Environmental Protection Management System (EMS) in accordance with ISO14001 to implement its environmental protection strategy. This system forms an integral part of our Safety Management Systems (SMS), which is based on many years of experience as well as the following provisions and regulations:

- ISM Code (International Safety Management Code),
- ISPS Code (International Ship & Port Facility Security Code) und
- ISO 9001 (Quality Management System).

Documents originally drawn up for our SMS are likewise part of our EMS in accordance with ISO 14001. Our EMS documentation sets out procedures for:

- the safe, environmentally friendly operation of our ships,
- environmentally friendly working at our on-shore facilities, as well as
- a "Zero spill" operation, the avoidance of environmental damage, especially to the marine environment.

We guarantee that:

- our EMS is appropriate and supports our Shipping Company's strategy,
- our EMS is subjected to regular improvement and is constantly in accord with the relevant legislation and regulations in force,
- our environmental objectives are regularly and specifically reviewed with regard to their suitability and appropriateness,
- our environmental objectives are conveyed to all our staff both at sea and on shore,
- there are measures applying to emergency precautions and the averting of risks and dangers,
- the environmental policy and environmental report are accessible in the public domain.

All the staff members of our company know how important their individual performance is within the EMS. They are obliged to familiarise themselves with the system documents relevant to their areas of responsibility, implement the contents of such documentation in their daily work and cooperate creatively in the monitoring and continual improvement of the system.

The Masters of our vessels and the Heads of Department on shore have co-responsibility for the planning, monitoring, correction, improvement, maintenance and updating of our EMS. They have the duty and the authority to identify relevant problems, obtain information from staff in relation to deviations or improvements, as well as propose and implement measures and monitor the effectiveness of the same.

Our EMS is reviewed annually by way of internal management audits and evaluated with regard to its effectiveness and possible improvement.

Our EMS is binding on the company's operations in Rostock, Hamburg and Bremerhaven, as well as for all vessels under our management.

Rostock, 01.02.2016

N.H. Schües

Speaker of the Board of Directors



Energy policy of the shipping company F. Laeisz G.m.b.H.

We, the shipping company F. Laeisz G.m.b.H., are a globally operating shipping company. The economical use of marine fuels of any kind is an essential prerequisite for our economic success. Moreover, we feel obliged to preserve our natural environment and to observe the principles of sustainability.

In our energy policy, which provides the compulsory frame for our energy policy objectives, we combine economic and ecological aspects.

Our objectives

- We want to procure our marine fuels at economical and competitive prices.
- On our ships, we want to use marine fuel as efficiently and economically as possible.
- We want to continuously reduce the specific fuel consumption for cargo transportation. This equally applies to the general energy consumption in the shipping company's onshore facilities.
- We want to promote fuel-saving, energy efficient, and energy-conscious behaviour in all processes and at all levels of our entrepreneurial activity and attribute an important role to it.
- With our economical and efficient use of energy we make a major contribution to the protection of our environment at the same time.

Our way

- To meet our objectives we avail ourselves of an operational energy management system in accordance with DIN EN ISO 50001:2011.
- We will not stop trying to detect new saving measures. Identifying them requires knowledge about fuel consumption and costs. Therefore, we are going to measure them in a suitable manner and inform about them transparently which will enable us to influence them systematically.
- We shall promote the awareness of and knowledge about energy-saving behaviour among the whole crew.
- We will apply new fuel-saving technologies and make appropriate investments whenever they are economically justifiable.
- As before, we shall comply with all relevant legal provisions relating to our energy aspects.
- To comply with our objectives and implement the energy management action plans an energy efficiency team was established. The energy efficiency team includes several responsible persons from the departments NTA, (Operating, Purchasing), and Quality Assurance. It is led by the energy management representative. Regular meetings of the energy efficiency team serve for energy planning and thus the coordination to improve energy related performance.

Rostock, 01.02.2016

N.H. Schües

Speaker of the Board of Directors



High environmental standards and a conscious energy management are an integral part of our shipping activities, which are certified according to ISO 14001 and ISO 50001.

DNV-GL

MANAGEMENT SYSTEM CERTIFICATE

Certificate No:
203684-2016-AE-NOR-NA

Initial certification date:
15 May 2014

Valid:
06 July 2016 - 22 May 2021

This is to certify that the management system of

Reederei F. Laeisz GmbH

Lange Strasse 1a, 18055 Rostock, Germany

and the Branch Office as mentioned in the appendix accompanying this certificate

have been found to conform to the Environmental Management System standard:
ISO 14001:2015

This certificate is also valid for all ships that hold a valid Safety Management Certificate issued to the shipping company.

This certificate is valid for the following scope:

**Ship Management including technical management, crewing and operation.
Commercial Management including marketing, chartering and operation.
Administration.**

Place and date:
Høvik, 14 July 2017



For the issuing office:
DNV GL - Business Assurance
Veritasveien 1, 1363 Høvik, Norway

Jøran Laukholm
Management Representative

Lack of fulfillment of conditions as set out in the Certification Agreement may render this Certificate invalid.
ACCREDITED UNIT: DNV GL Business Assurance Norway AS, Veritasveien 1, 1363 Høvik, Norway. TEL: +47 07 57 99 00. <http://assurans.dnvgl.com>



DNV-GL

MANAGEMENT SYSTEM CERTIFICATE

Certificate No:
245774-2017-AE-NOR-NA

Initial certification date:
31 August 2017

Valid:
31 August 2017 - 22 May 2021

This is to certify that the management system of

Reederei F. Laeisz G.m.b.H

Lange Strasse 1a, 18055 Rostock, Germany
and the Branch Office as mentioned in the appendix accompanying this certificate

have been found to conform to the Energy Management System standard:
ISO 50001:2011

This certificate is also valid for all ships that hold a valid Safety Management Certificate issued to the shipping company.

This certificate is valid for the following scope:

**Ship Management including technical management, crewing and operation;
Commercial Management including marketing, chartering and operation;
Administration.**

Place and date:
Høvik, 07 September 2017



For the issuing office:
DNV GL - Business Assurance
Veritasveien 1, 1363 Høvik, Norway

Jøran Laukholm
Management Representative

Lack of fulfilment of conditions as set out in the Certification Agreement may render this Certificate invalid.
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1. Principles

The operation of seagoing vessels, the cargo transportation as well as the work at the shore side facilities are involved with impairing effects on the environment. Being aware of this fact, our shipping company admits its responsibility for the protection of environment from the environmental impairments caused by the company's business activities.

The shipping company undertakes to adhere to all relevant national and international laws and regulations in the field of environmental protection. Duties resulting from such laws and regulations will be fulfilled with a high quality and, whenever practicable, implemented before they come into effect. In addition, the shipping company undertakes to deal with environmentally relevant individual problems and their implementation on a voluntary basis and in dependence on the economic feasibility and to implement the solutions for such problems. For this purpose, all activities and services are continuously inspected for their direct and indirect environmental impacts and the local, regional and global environmental aspects are included here.



2. Input-Output-Balance 2017 - 2018

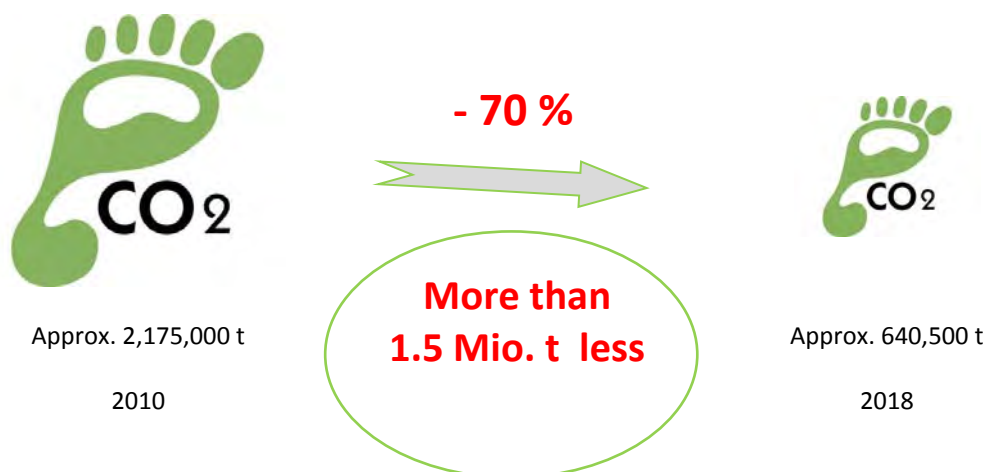
INPUT			OUTPUT	
2017	2018		2017	2018
Fuel - HFO (t) : 183,061	Fuel - HFO (t) : 176,948		AIR	AIR
Fuel - MDO (t) : 28,590	Fuel - MDO (t) : 27,883		CO ₂ (t) : 661,784	CO ₂ (t) : 640,477
Lubrication oils (t) : 1,583	Lubrication oils (t) : 1,409		NO _x (t) : 17,670	NO _x (t) : 17,106
Chemicals (t): 32	Chemicals (t): 38		SO _x (t) : 9,301	SO _x (t) : 8,251
Paper (kg): 3,158	Paper (kg): 2,567		CO (t) : 1,908	CO (t) : 1,729
Refrigerants	Refrigerants		HC (t) : 629	HC (t) : 568
Packing material for food, spare parts, equipment etc.	Packing material for food, spare parts, equipment etc.		Soot (t) : 75	Soot (t) : 68
Cargo (Container, solid bulk cargoes, liquefied gases, Ro/Ro-units)	Cargo (Container, solid bulk cargoes, liquefied gases, Ro/Ro-units)		Refrigerants (kg) : 999	Refrigerants (kg) : 1,304
			VOC (t) : 0	VOC (t) : 330
			SHORE	SHORE
		Sludge/ Slop (t) : 4,129	Sludge/ Slop (t) : 4,173	
		Garbage (m ³) : 1,317	Garbage (m ³) : 1,206	
		SEA	SEA	
		Garbage (m ³) : 124 (Food waste, Bulk cargo residues)	Garbage (m ³) : 111 (Food waste, Bulk cargo residues)	
		Bilge water via OWS (m ³) : 5,748	Bilge water via OWS (m ³) : 7,092	
		Gray water (m ³)	Gray water (m ³)	
		Ballast water (m ³)	Ballast water (m ³)	

3. Summary of essential results

In 2018, a total of 205,000 tons of **fuel** (HFO and MDO) were consumed on board the ships. Compared to 2010, this corresponds to a reduction of approximately 495,000 tonnes.



- The **fuel consumption per ship** was reduced from 14,871 t in 2010 to 8,906 t in 2018. This corresponds to a reduction of approx. 40 %.
- The **fuel consumption per nautical mile** was 120 kg in 2017 and 118 kg in 2018.
- A total of approx. 640,500 tons of the greenhouse gas **carbon dioxide (CO₂)** were released through the combustion of fuel. This is more than 1.5 million tonnes less than in 2010. The CO₂ footprint of our shipping company has thus been reduced by approx. 70%.



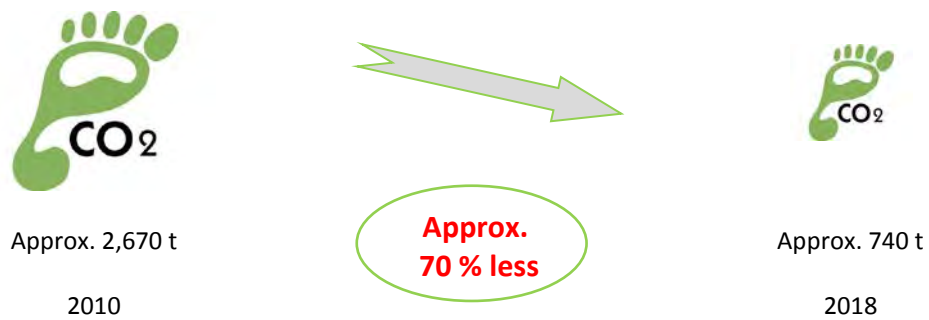
- The **emissions of sulphur oxides (SO_x), nitrogen oxides (NO_x), carbon monoxide (CO)**, unburned hydrocarbons and soot also decreased significantly compared to the previous years, e.g. 8,251 tonnes of SO_x were emitted in 2018 and 38,121 tonnes in 2010.

	2010	Reduction	2018	
SO_x	38,121 t	29,870 t	8,251 t	- 78 %
NO_x	58,041 t	40,935 t	17,106 t	- 70 %
CO	6,264 t	4,535 t	1,729 t	- 72 %

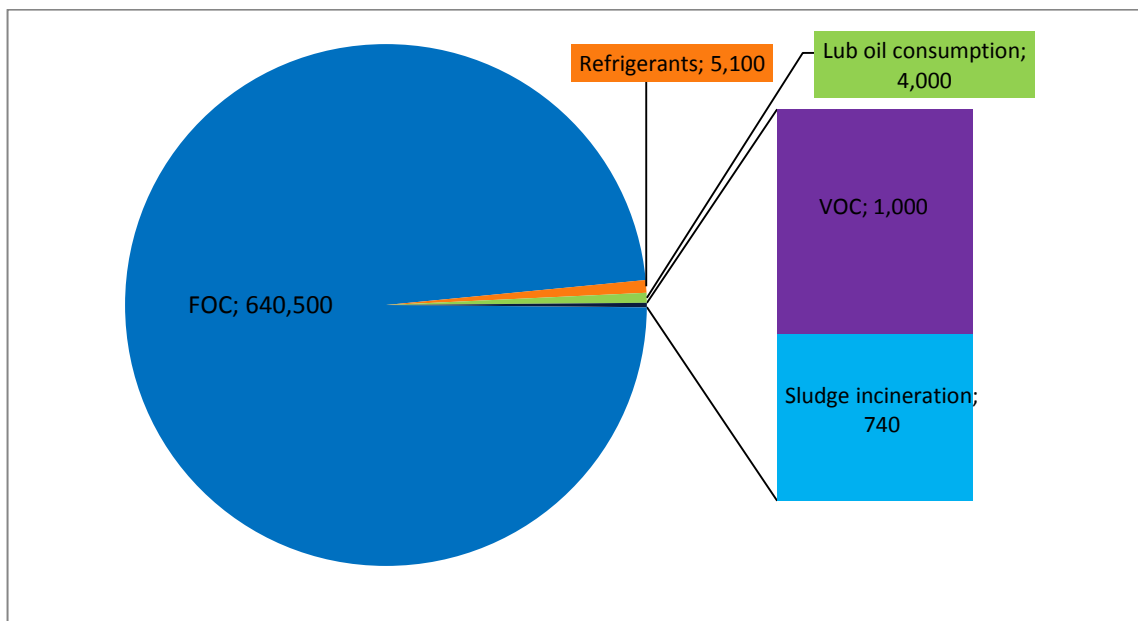
- The **annual consumption of lubricating oil** per ship was reduced by almost half compared to 2010.



- The **annual consumption of refrigerant gases** (mainly R404a) was 1.3 tonnes in 2018. In total, this quantity corresponded to a CO₂ equivalent of about 5,100 tonnes.
- Sludge incineration on board was continuously reduced from 859 tonnes in 2010 to 239 tonnes in 2018, a reduction of more than 70%. This reduced the CO₂ emissions by around 1,930 tonnes.



- In total, 651,340 tonnes of carbon dioxide (CO₂) and other gases that increase the greenhouse effect (R404a with a GWP value of 3,922 and propane and butane with a GWP value of 3) were released from ship operation.



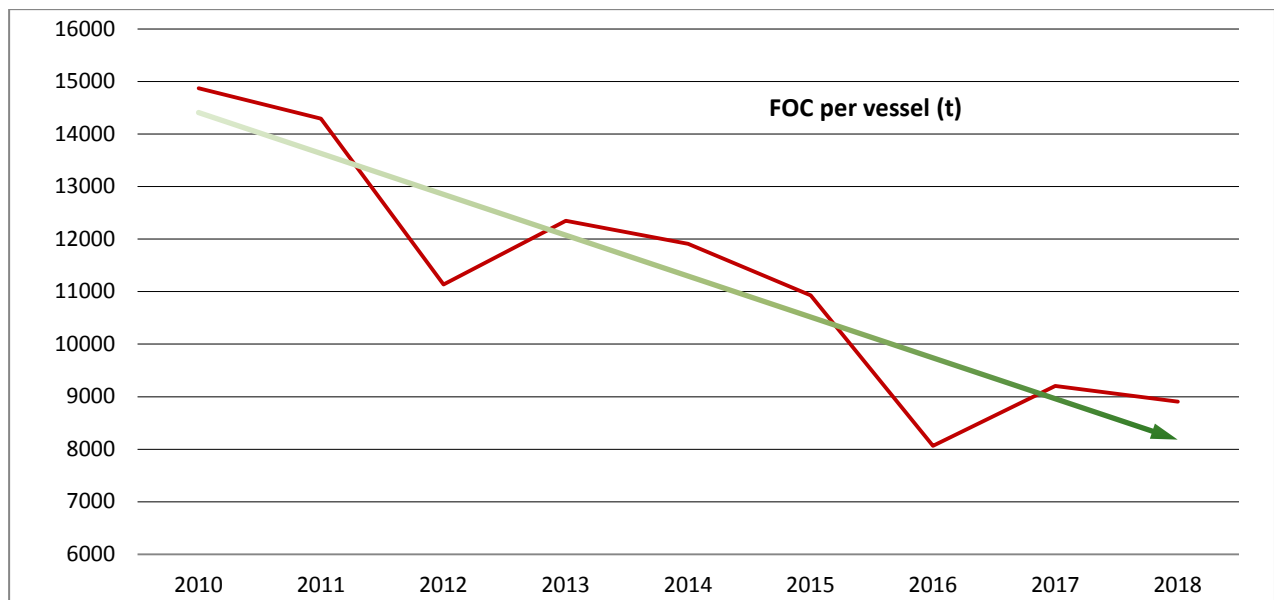


4. Environmental impacts in detail

4.1 Environmental aspects - fleet

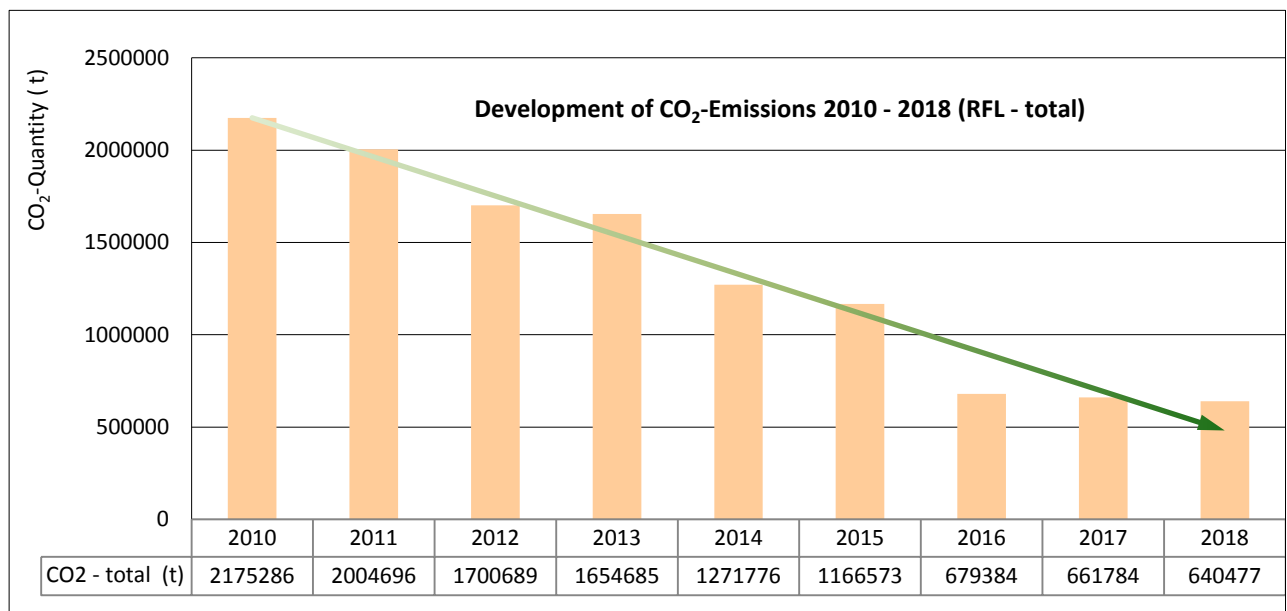
4.1.1 Fuel oil consumption

Jahr	Vessels	Fuel consumption per year (t)			
		Total	HFO	MDO	Quantity (total per vessel)
2010	47	698,933	672,176	26,757	14,871
2011	45	643,211	616,576	26,635	14,294
2012	49	545,610	519,717	25,893	11,135
2013	43	530,946	511,045	19,901	12,348
2014	35	416,922	403,210	13,712	11,912
2015	35	382,495	352,897	29,598	10,928
2016	27	217,703	193,066	24,637	8,063
2017	23	211,651	183,061	28,590	9,202
2018	23	204,831	176,948	27,883	8,906



4.1.2 Emissions to the atmosphere

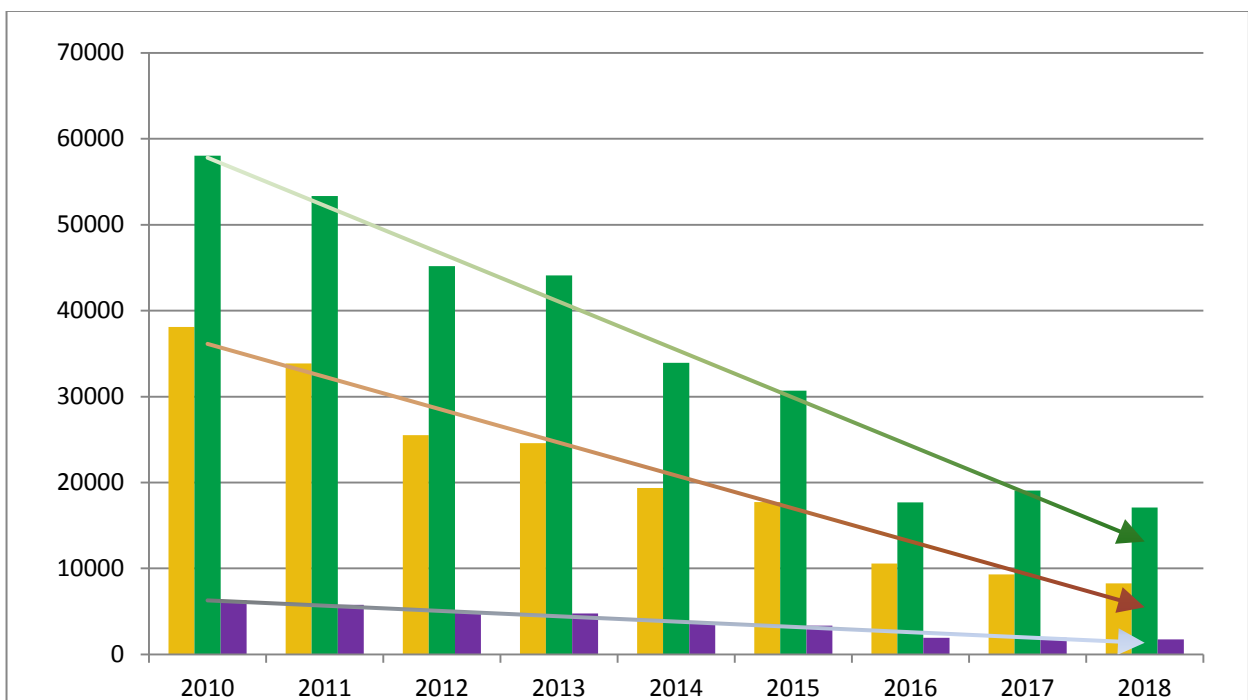
4.1.2.1 Carbon dioxide - CO₂



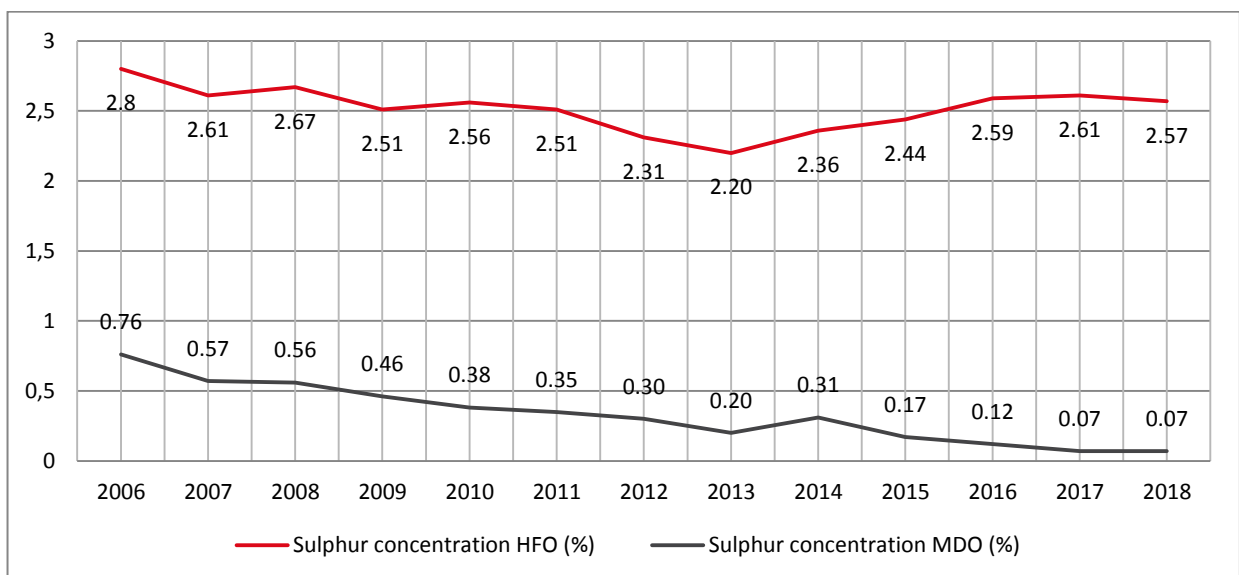


4.1.2.2 Gaseous emissions (absolute, except for CO₂ and HC)

Year	SO _x (t)	NO _x (t)	CO (t)
2010	38,121	58,041	6,264
2011	33,840	53,364	5,762
2012	25,505	45,184	4,885
2013	24,591	44,102	4,759
2014	19,347	33,938	3,659
2015	17,722	30,679	3,337
2016	10,548	17,671	1,935
2017	9,301	19,047	1,908
2018	8,251	17,106	1,729
Difference 2018 : 2010	-29,870	-40,935	-4,535
	-78 %	-70 %	-72 %



4.1.2.3 Average sulphur content in fuel oils (2006 - 2018)

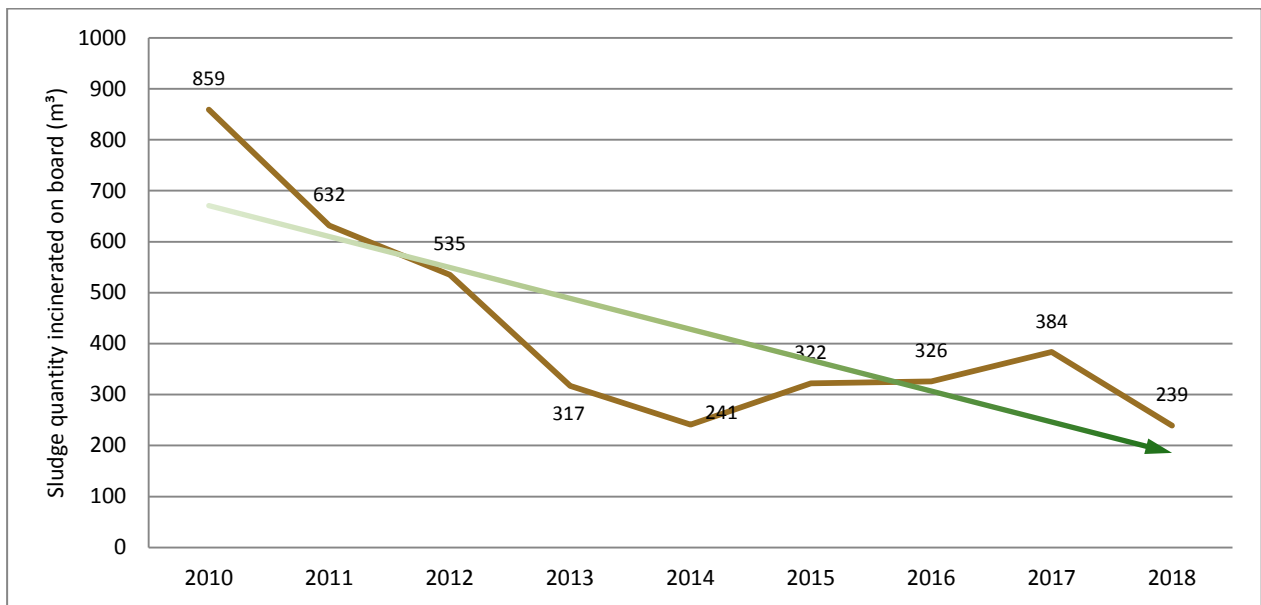




4.1.2.4 Emissions of refrigerant gases (predominant R404a)

Year	Average annual quantity in total (kg)	Annual average consumption per vessel (kg)
Ø 2006 - 2008	4,400	120
2013	3,284	77
2014	1,980	57
2015	1,413	40
2016	951	35
2017	999	42
2018	1,303	59

4.1.2.5 Incineration of sludge



The incineration of oil sludge in that period was significantly reduced. In 2018, a total of approx. 740 tons of CO₂ were released during the incineration process. In 2010 it was still approx. 2,670 tons.

4.1.3 Emissions in the sea

4.1.3.1 Oily waste water - Bilge water

The oily water separator systems installed on board (max. 15 ppm residual oil content) treated a total of approx. 5,750 m³ of oily bilge water in 2017 and approx. 7,091 m³ in 2018.

4.1.3.2 Ballast water

The environmental aspects of ballast water lie in the saving of fuel oil required to generate the energy for the operation of BW pumps or ballast water treatment plants and, directly linked to this, in the reduction of CO₂ emissions as well as in the reduction of the risk of spreading invasive species through the exchanged ballast water.

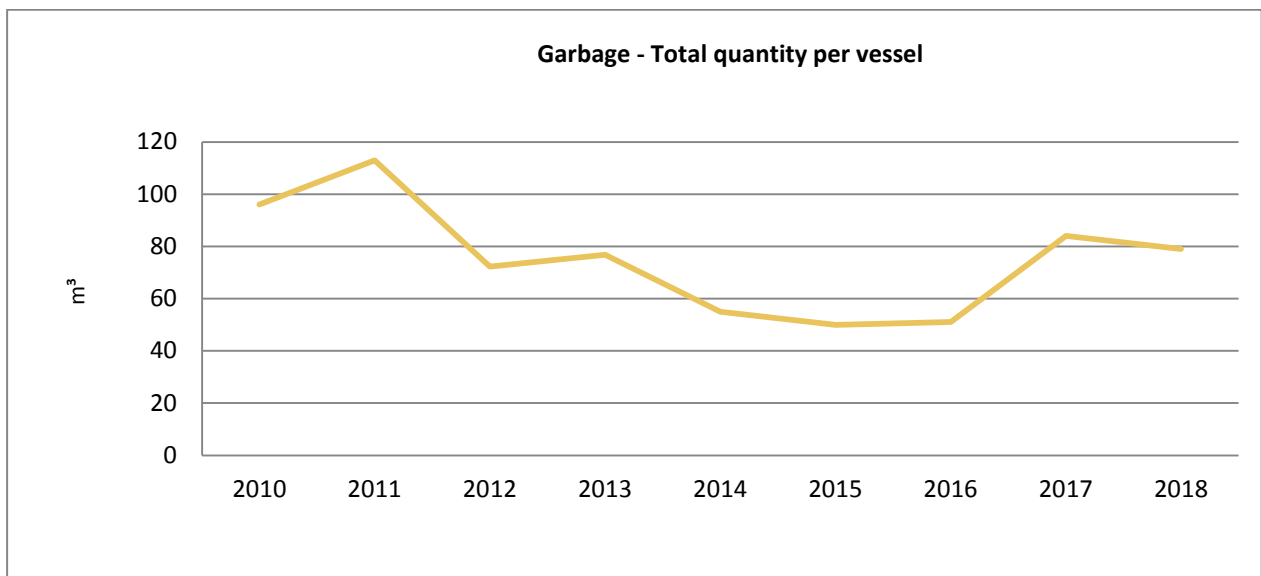
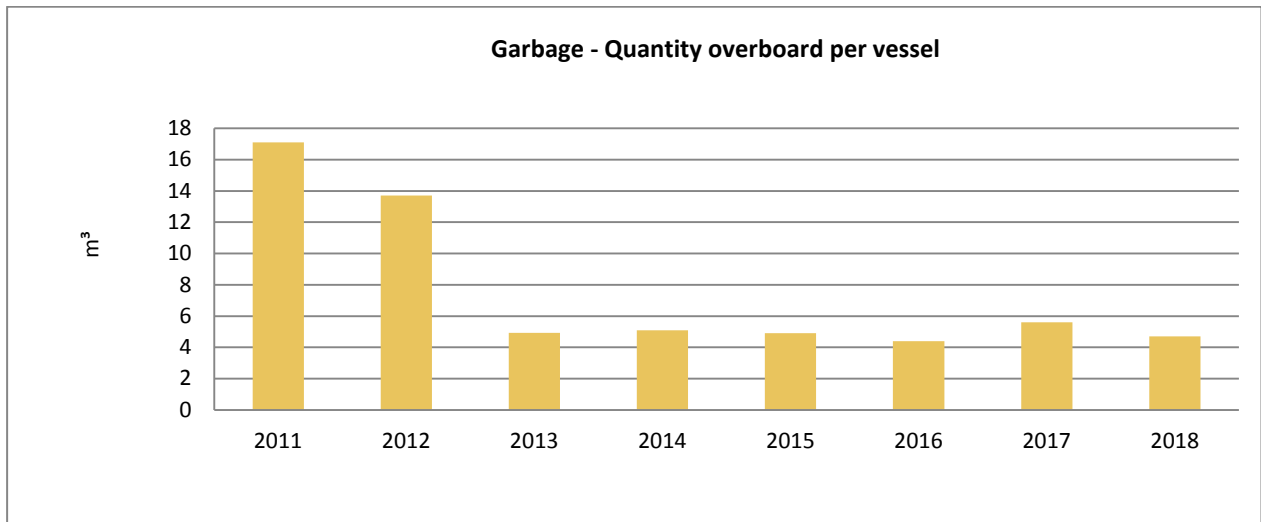
4.1.3.3 Gray- and Black water

The black water produced on board is treated by the sewage treatment plants on board before it is discharged into the sea. Gray water is only discharged in compliance with the applicable regulations.



4.1.3.4 Garbage

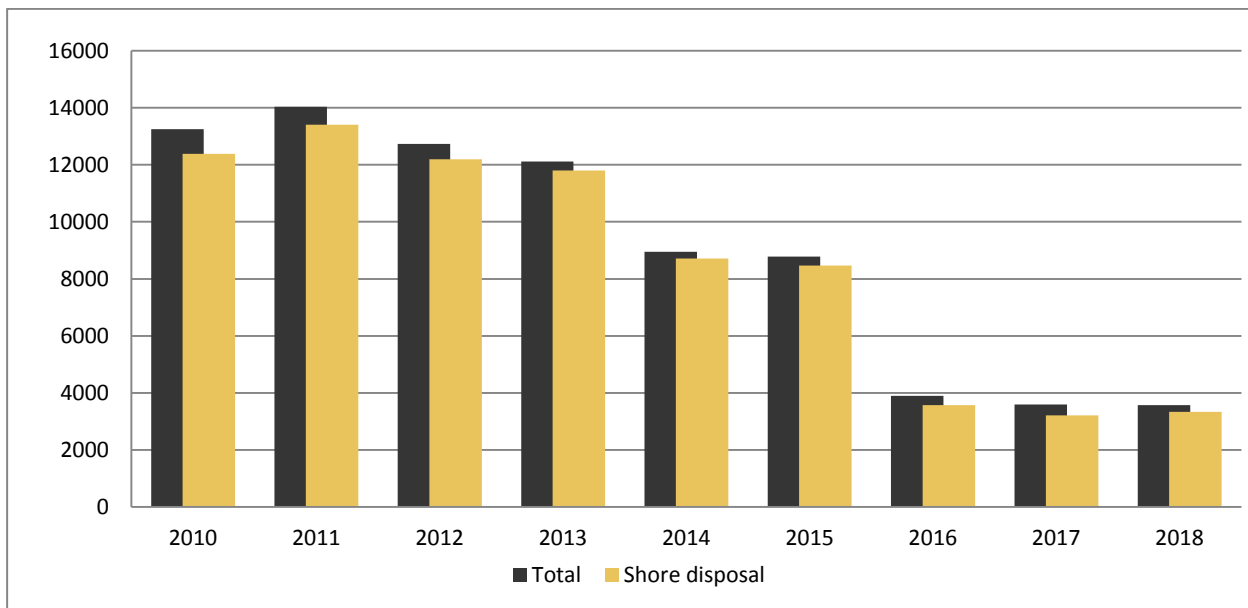
Categories of garbage according to MARPOL Annex V	Garbage quantity disposed into the sea (m ³) 2017	Garbage quantity disposed into the sea (m ³) 2018
all other Categories	0	0
Category B (Food waste)	124	111
Category G (Bulk cargo residues)	0	7





4.1.4 Disposals to shore

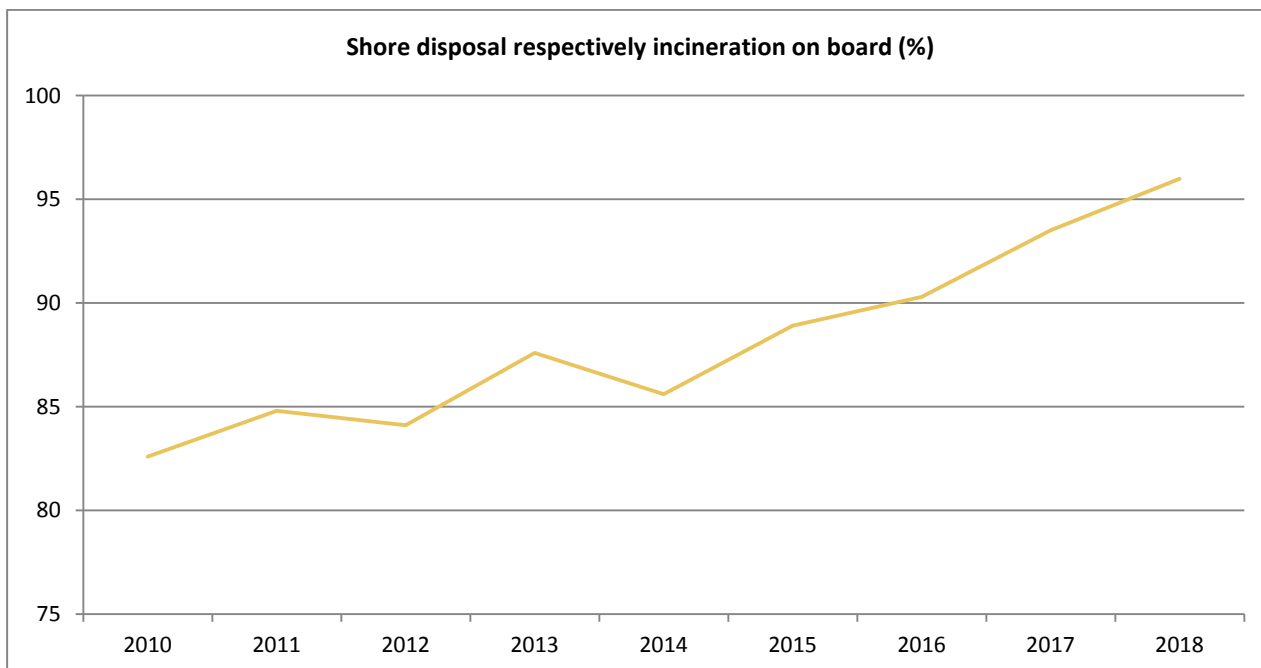
4.1.4.1 Sludge (m³)



In 2018, a total of 3,575 m³ of oil sludge was generated in on-board operation on our ships. Thereof 93.3% (3,336 m³) were disposed ashore.

4.1.4.2 Garbage

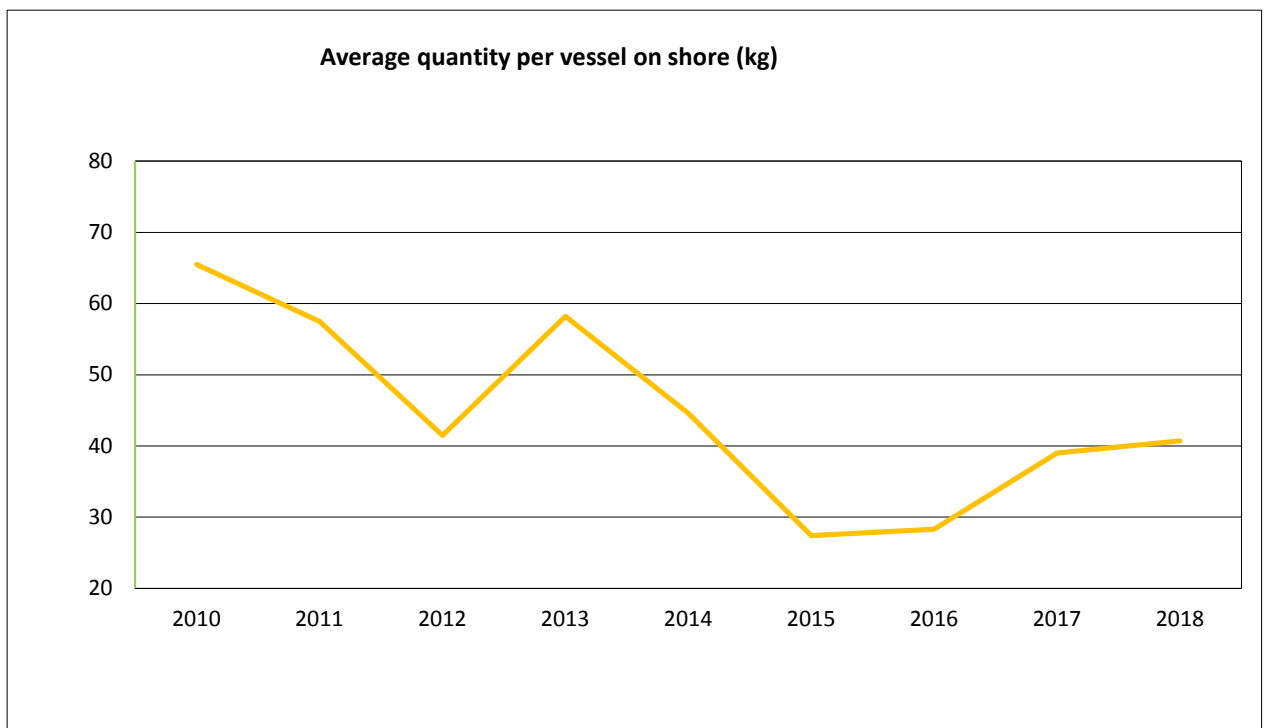
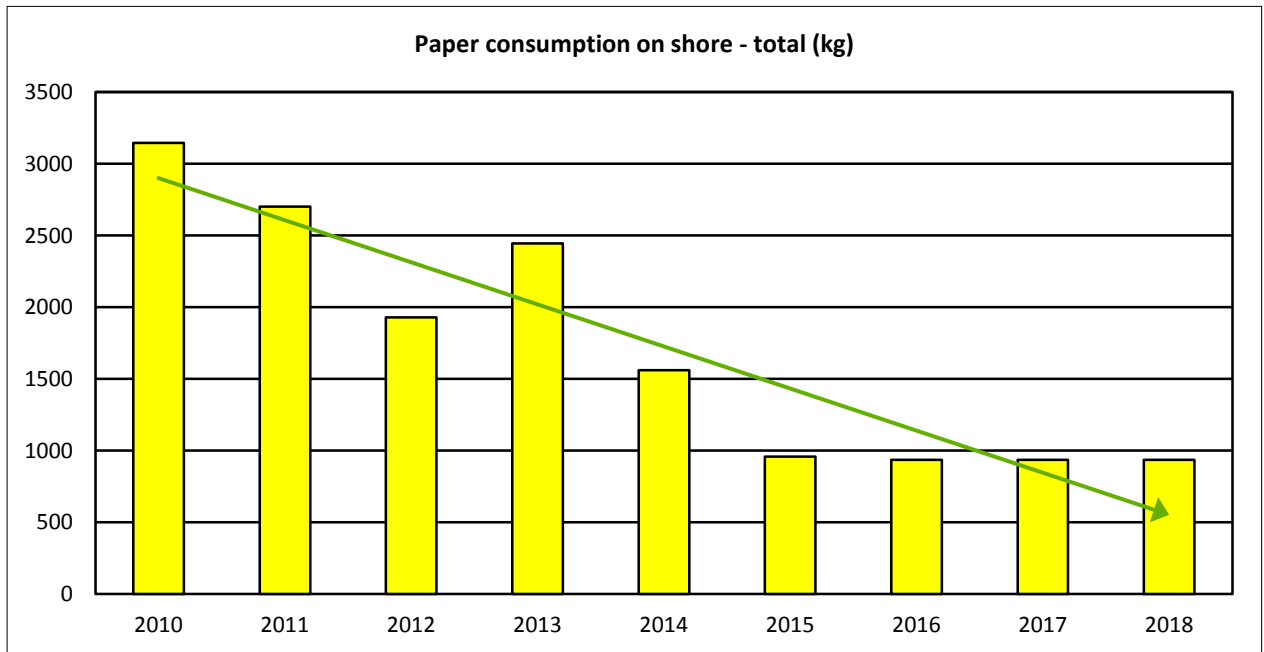
In 2018, the amount of ship-generated waste that was disposed of ashore or incinerated on board was 1,692 m³. This is equivalent to approx. 96% of the total amount of waste.





4.2 Environmental aspects - Shore

4.2.1 Paper consumption





4.2.2 Company cars

In 2017 - 2018 the following fuel types and quantities were required for the operation of the company cars:

Sum	Gasoline (l)		Diesel (l)	Total (l)
	total	thereof E10		
Consumption per fuel type (2017)	18,154	2,215	24,529	42,683
Consumption per fuel type (2018)	22,297	2,186	19,449	41,746
Total consumption (2017 – 2018)	40,451	4,401	43,978	84,429

This results in the following pollutant emissions:

Year	Fuel		Mileage (km)	Emissions	
	type	Average consumption l / 100 km		CO ₂ (kg) ³⁾	NO _x (kg)
2017	Gasoline	9	202,000	42,298	12 ¹⁾
	Diesel	8	305,000	64,512	123 ²⁾
2018	Gasoline	9	248,000	51,951	15 ¹⁾
	Diesel	8	245,000	51,151	97 ¹⁾
Total (2017 – 2018)			1,000,000	209,912	247

¹⁾ - per km emissions of approximately 0.06 g NO_x

²⁾ - per km emissions of approximately 0.39 g NO_x

³⁾ - CO₂-Emission per litre: Gasoline = 2.33 kg / Diesel = 2.63 kg

4.2.3 CO₂-emissions caused by air travel (Business trips/ Crew change)

A total of approx. 3,729 and 3,847 tonnes of CO₂ were released in 2017 and 2018 respectively as a result of air travel in connection with business trips and crew changes.

4.2.4 Energy consumption (KWh) of office building in 2017 and 2018 (electrical energy, thermal energy)

year	Rostock		Bremerhaven		Hamburg		Grabow	
	Electrical energy	Heat energy	Electrical energy	Heat energy	Electrical energy	Heat energy	Electrical energy	Heat energy
2017	63,140	378,637	9,403	n.a.	30,875	n.a.	2,717	46,734
2018	Invoicing still open		9,801	n.a.	41,895	n.a.	802	39,968