

Greenhouse Gas Accounting Report 2021

This is the 2021 Greenhouse Gas Accounting Report for Klaveness Combination Carriers (KCC) on a consolidated basis. The report includes Scope 1, Scope 2 and Scope 3 emissions and is reported in line with the Greenhouse Gas Protocol initiative (GHG Protocol), Corporate Accounting and Reporting Standard Revised edition. The reporting considers the following greenhouse gases, all converted into CO₂-equivalents: CO₂, CH₄ (methane), N₂O (laughing gas), SF₆, HFCs, PFCs and NF₃.

For corporate reporting, two distinct approaches can be used to consolidate GHG emissions: The equity share approach and the control approach. The most common consolidation approach is the control approach, which can be defined in either financial or operational terms. KCC has used the financial control approach, which includes emissions from KCC's owned fleet of vessels. The report includes consolidated data from the parent Company, Klaveness Combination Carriers ASA, and subsidiaries controlled by KCC. Data is collected per legal entity per activity and the figures are consolidated line-by-line.

GHG emissions are calculated using CEMAsys Carbon Footprint module, see Annex I for emission factors used. Data is retrieved from own sources and suppliers. The three scopes of direct and indirect emissions include the following:

Scope 1 includes all direct GHG emission sources. Nearly 100 % of Scope 1 emissions come from the combustion of fossil fuels on KCC's vessels.

Scope 2 emissions are indirect GHG emissions associated with the purchase of electricity, steam, heat, or cooling. For KCC, only electricity purchased in leased office building where KCC has organizational control is relevant. Although scope 2 emissions physically occur at the facility where the electricity is generated, they are accounted for in KCC's GHG accounting inventory because they are a result of KCC's energy use. Scope 2 emissions are immaterial when comparing with Scope 1 emissions. Both location-based and market-based scope 2 emissions are presented in the table. The location-based method reflects the average emission intensity of the grids on which energy consumption occurs, while the market-based method reflects emissions from electricity that companies have purposefully chosen (or not chosen).

Scope 3 includes indirect emissions resulting from emissions created in the value chain both upstream and downstream as a result of KCC's activities, but that are not controlled by the company. The GHG Protocol has divided scope 3 emissions into 15 categories. Five categories have been evaluated as relevant to KCC, all of which are related to upstream activities, and three have been calculated and reported as described below. For an overview of all emissions categories and KCC's evaluation, see Annex II.

- **Capital Goods (Category 2):** CO₂ emissions related to the steel used for building of new vessels and upgrading existing vessels. KCC had three newbuilding deliveries in 2021 (two newbuild deliveries in 2020) and two vessels completed dry docking with steel repairs. 2020 did not include upgrading of existing vessels. The emissions are calculated based on the assumption that the weight of the newbuilds is made entirely up of steel.
- **Fuel-and-energy-related activities (Category 3):** The calculation is based on reported fuel consumption in scope 1 and electricity consumption in scope 2 and includes emissions related to the production, refining and transportation of fuels that are consumed by the vessels (well to tank) and emissions associated with grid loss where relevant.
- **Waste generated in operations (Category 5):** GHG emissions related to the disposal, recycling and incineration of various types of garbage onboard vessels and in the Oslo office. The activity data is provided by the KCC fleet through the Garbage Record Book onboard every vessel and by the waste management supplier in Oslo. All waste has been reported in different garbage categories with different conversion factors, see Annex I.

Greenhouse gas (GHG) emissions

Greenhouse gas (GHG) emissions		tCO ₂	tCO ₂ e		Change
		2021	2021	2020	
Scope 1	Stationary combustion in KCC Office		0,1	0,1	0 %
	Combustion of fossil fuels on KCC vessels:				
	Marine MDO/MGO*	18 336	18 651	17 014	10 %
	Marine HFO*	279 029	283 948	244 662	16 %
	Biodiesel	58	59	39	52 %
	Scope 1 Total	297 423	302 657	261 715	16 %
Scope 2	Electricity Nordic mix, location based		0,6	0,7	-14 %
	Electricity Nordic mix, market based		4,6	5,4	-14 %
	Scope 2 Total (Location based)		0,6	0,7	-14 %
Scope 3	Capital Goods		135 213	63 515	113 %
	Waste		53	2	3188 %
	Fuel-and-energy-related activities		67 963	51 041	33 %
	Business travel		n.a.	2	
	Scope 3 total		203 229	114 560	77 %
Total GHG emissions			505 886	376 275	34 %
	<i>Average number of vessels</i>		16,3	12,6	29 %

*Conversion factor used to calculate MDO/MGO tCO₂ to CO₂e = 1,01716 and HFO tCO₂ to tCO₂e = 1,01763.
Other conversion factors used for calculation of scope 1, scope 2 and scope 3 emissions are described in Annex I.

Annex I – Carbon conversion factors and sources

The key external sources used as a basis for the calculations in this report are: International Maritime Organization (IMO), World Resource Institute (WRI/US), International Energy Agency (IEA/OECD), Association of Issuing Bodies (AIB), Intergovernmental Panel on Climate Change (IPCC), Department of Energy and Climate Change (DECC/UK), Ecoinvent LCI Database.

Conversion factors Scope 1			
From	To	Factor	Source
t MDO/MGO	tCO ₂	3.2060	Third IMO Greenhouse Gas Study 2014, page 253
t HFO	tCO ₂	3.1144	Third IMO Greenhouse Gas Study 2014, page 253
t MDO/MGO	tCO ₂ e	3.2609	Fourth IMO Greenhouse Gas Study 2020, page 83
t HFO	tCO ₂ e	3.1689	Fourth IMO Greenhouse Gas Study 2020, page 83
L Biodiesel 100%	kgCO ₂ e	0.1675	DEFRA 2021
Conversion factors Scope 2			
From	To	Factor	Source
kWh electricity, location based	gCO ₂ e	31.002	Nordic Electricity Mix, IEA
kWh electricity, market based	gCO ₂ e	248.00	Nordic Residual Mix, IEA
Conversion factors Scope 3			
From	To	Factor	Source
Kg waste	tCO ₂ e	0.2-2.3	DEFRA 2021 and Ecoinvent 3.8
t Steel, hot rolled	tCO ₂ e	2.2784	Ecoinvent 3.8
t MDO/MGO (WWT)	tCO ₂ e	0.7407	DEFRA 2021
t MDO/MGO (WWT)	tCO ₂ e	0.7091	DEFRA 2021
L biodiesel 100% (WWT)	kgCO ₂ e	0.4193	DEFRA 2021

Disclaimer: Emission factors delivered from CEMAsys Emission Factor Data Base (EFDB) are provided “as is” without any expressed or implied warranty of any kind through the CEMAsys Carbon Footprint. CEMAsys is either the sole owner of intellectual property rights in the EFDB, or itself a licensed user of a third-party data provider. CEMAsys does not take responsibility for any miscalculation or inaccuracies in the EFDB.

Annex II – Scope 3 emissions categories

Category	Relevant?	Calculated?	Evaluation
1 Purchased goods and services	Yes	No	Data related to purchased goods and services has not been validated
2 Capital goods	Yes	Yes	
3 Fuel-and-energy-related activities (not included in Scope 1 or 2)	Yes	Yes	
4 Upstream transportation and distribution	Yes	No	The scope is wide ranging from spare parts, new equipment and maintenance to food, clothes and personal protective equipment (PPE) for the ships' crew and KCC is working to get better data related to the purchases ref comment related to category 1
5 Waste generated in operations	Yes	Yes	
6 Business travel	No	No	The CO ₂ emissions for business travel for the 10 KCC employees are considered immaterial and hence not relevant
7 Employee commuting	No	No	The CO ₂ emissions related to commuting for the 10 KCC employees are considered immaterial and hence not relevant
8 Upstream leased assets	No	No	KCC does not operate leased assets
9 Downstream transportation and distribution	No	No	KCC does not sell products, only transportation services, and CO ₂ emissions related to the transportation of goods are reported in scope 1
10 Processing of sold products	No	No	KCC does not sell products, only transportation services, and CO ₂ emissions related to the transportation of goods for customers are reported in scope 1
11 Use of sold products	No	No	KCC does not sell products, only transportation services, and CO ₂ emissions related to the transportation of goods are reported in scope 1
12 End of life treatment of sold products	No	No	KCC does not sell products, only transportation services, hence no emissions from "End of life treatment of sold products"
13 Downstream leased assets	No	No	KCC does not operate leased assets
14 Franchises	No	No	KCC does not have franchises or have operations in a franchise model
15 Investments	No	No	KCC is not a private or public financial institution and does therefore not consider this category as relevant

To the Board of Directors of Klaveness Combination Carriers ASA

Independent accountant's assurance report

Scope

We have been engaged by Klaveness Combination Carriers ASA to perform a limited assurance engagement, as defined by International Standards on Assurance Engagements, here after referred to as the engagement, to report on selected indicators in Klaveness Combination Carriers ASA's sustainability reporting as of 31 December 2021 for the period from 01 January 2021 to 31 December 2021. The selected indicators included in the "Subject Matter" are:

- EEOI (Energy Efficiency Operational Index)
- Average CO2 emissions per vessel
- % in combination trade
- Ballast days in % of on-hire days
- Benchmark 2021
- Total greenhouse gas emission (scope 1, scope 2 and scope 3)

Other than as described in the preceding paragraph, which sets out the scope of our engagement, we did not perform assurance procedures on the remaining information included in the sustainability reporting, and accordingly, we do not express a conclusion on this information.

Criteria applied by Klaveness Combination Carriers ASA

In preparing the Subject Matter, Klaveness Combination Carriers ASA applied two set of criteria ("Criteria"). For EEOI (Energy Efficiency Operational Index), Average CO2 emissions per vessel, % in combination trade, Ballast days in % of on-hire days, and Benchmark 2021 the applicable criteria is shown on page 12 of the report. For Total greenhouse gas emission reporting (scope 1, scope 2 and scope 3) the relevant criteria applied is the Greenhouse Gas Protocol that can be accessed at www.ghgprotocol.org and are available to the public. Such Criteria were specifically designed for companies and other organizations that want to report their sustainability impacts in a consistent and credible way. As a result, the Subject Matter information may not be suitable for another purpose. We consider these reporting criteria to be relevant and appropriate to review the sustainability reporting.

Klaveness Combination Carriers ASA's responsibilities

The Board of Directors and Chief Executive Officer (management) are responsible for the selecting the Criteria, and for presenting the Subject Matter in accordance with that Criteria, in all material respects. This responsibility includes establishing and maintaining internal controls, maintaining adequate records and making estimates that are relevant to the preparation of the Subject Matter, such that it is free from material misstatement, whether due to fraud or error.

EY's responsibilities

Our responsibility is to express a conclusion on the presentation of the Subject Matter based on the evidence we have obtained.

We conducted our engagement in accordance with the International Standard for Assurance Engagements Other Than Audits or Reviews of Historical Financial Information ('ISAE 3000'). This standard requires that we plan and perform our engagement to obtain limited assurance about whether, in all material respects, the Subject Matter is presented in accordance with the Criteria, and to issue a report. The nature, timing, and extent of the procedures selected depend on our judgment, including an assessment of the risk of material misstatement, whether due to fraud or error.

We believe that the evidence obtained is sufficient and appropriate to provide a basis for our limited assurance conclusions.

Our Independence and Quality Control

We have maintained our independence and confirm that we have met the requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants. EY also applies *International Standard on Quality Control 1, Quality Control for Firms that Perform Audits and Reviews of Financial Statements, and Other Assurance and Related Services Engagements*, and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Description of procedures performed

Procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. Our procedures were designed to obtain a limited level of assurance on which to base our conclusion and do not provide all the evidence that would be required to provide a reasonable level of assurance.

Although we considered the effectiveness of management's internal controls when determining the nature and extent of our procedures, our assurance engagement was not designed to provide assurance on internal controls. Our procedures did not include testing controls or performing procedures relating to checking aggregation or calculation of data within IT systems.

A limited assurance engagement consists of making enquiries, primarily of persons responsible for preparing the Subject Matter and related information and applying analytical and other appropriate procedures.

Our procedures included:

- ▶ Review of Klaveness Combination Carriers ASA's process for preparation and presentation of the sustainability report to develop an understanding of how the reporting is conducted within the business
- ▶ Interviewed those in charge of sustainability reporting to develop an understanding of the process for the preparation of the sustainability reporting
- ▶ Verified on a sample basis the information in the sustainability reporting against source data and other information prepared those in charge

- ▶ Assessed the overall presentation of sustainability reporting against the criteria in the Greenhouse Gas Protocol
- ▶ Assessed the overall presentation of KCC's own sustainability key performance indicators

We believe that our procedures provide us with an adequate basis for our conclusion. We also performed such other procedures as we considered necessary in the circumstances.

Conclusion

Based on our procedures and the evidence obtained, we are not aware of any material modifications that should be made to the Subject Matter as of 31 December 2021 and for the period from 1 January 2021 to 31 December 2021 in order for it to be in accordance with the Criteria.

Oslo, 28 March 2022
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The assurance report is signed electronically

Johan Lid Nordby
State Authorised Public Accountant

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Johan Nordby

Statsautorisert revisor

På vegne av: EY

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