

# Greenhouse Gas Accounting Report 2022

# Table of Contents

- 03 Greenhouse Gas Accounting Report
- 04 Greenhouse gas (GHG) emissions
- 04 Annex I – Carbon conversion factors and sources
- 05 Annex II – Scope 3 emissions categories
- 06 Independent assurance report from EY

# Greenhouse gas accounting report 2022

This is the 2022 Greenhouse Gas Accounting Report for Klaveness Combination Carriers ASA (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 GHG Protocol is the most widely used and recognized international standard for measuring greenhouse gas emissions and is the basis for the ISO standard 14064-1. The reporting considers the following greenhouse gases, all converted into CO<sub>2</sub>-equivalents: CO<sub>2</sub>, CH<sub>4</sub> (methane), N<sub>2</sub>O (laughing gas), SF<sub>6</sub>, HFCs, PFCs and NF<sub>3</sub>.

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 sources. 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 another two categories have been calculated, but deemed irrelevant due to the negligible contribution to the overall GHG accounting. For an overview of all emissions categories and KCC's evaluation, see Annex II.

#### **Purchased goods and services (Category 1)**

This category includes all upstream (i.e., well-to-wake) GHG emissions from the production of products purchased or acquired by the reporting company in the reporting year. Products include both goods (tangible products) and services (intangible products).

#### **Capital goods (Category 2)**

CO<sub>2</sub> emissions related to the steel used for building of new vessels and upgrading and repairing existing vessels. KCC had no new vessels delivered in 2022 (three newbuild deliveries in 2021), and two vessels completed dry-docking with steel repairs in 2022 (2021: two vessels completed dry-docking).

#### **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.

#### **Upstream transportation and distribution (Category 4)**

Category 4 include emissions from the transportation and distribution of products purchased in the reporting year.

#### **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

# Annex I – Carbon conversion factors and sources

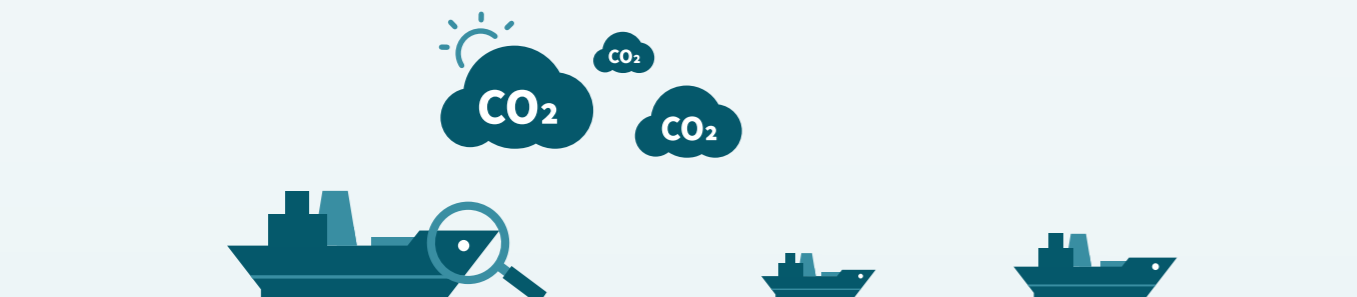
Greenhouse gas (GHG) emissions KCC		2020	2021	2022	Change
		tCO <sub>2</sub> e	tCO <sub>2</sub> e	tCO <sub>2</sub> e	%
<b>Scope 1</b>	Stationary combustion in KCC Oslo Office	0.1	0.1	0.003	-97%
	Combustion of HFO fuels on KCC vessels	244 662	283 948	268 831	-5%
	Combustion of MGO fuels on KCC vessels	17 014	18 651	13 921	-25%
	Combustion of biofuels on KCC vessels	58	59	0	-100%
	<b>Scope 1 Total</b>	<b>261 715</b>	<b>302 657</b>	<b>282 752</b>	<b>-7%</b>
<b>Scope 2</b>	Electricity, location based	0.7	0.6	0.8	+32%
	Electricity, market based	5.4	4.6	6.1	+32%
	<b>Scope 2 Total (Location based)</b>	<b>0.7</b>	<b>0.6</b>	<b>0.8</b>	<b>+32%</b>
<b>Scope 3</b>	Cat. 1 - Purchased goods and services	n/a	n/a	2 646	n/a
	Cat. 2 - Capital goods	63 515	135 213	1 323	-99%
	Cat. 3 - Fuel-and-energy-related activities	51 041	67 963	63 506	-7%
	Cat. 4 - Upstream transportation and distribution	n/a	n/a	204	n/a
	Cat. 5 - Waste generated in operations	2	53	95	+81%
	<b>Scope 3 Total</b>	<b>114 560</b>	<b>203 229</b>	<b>67 773</b>	<b>-67%</b>
<b>Total</b>	<b>Scope 1+2+3 emissions</b>	<b>376 275</b>	<b>505 886</b>	<b>350 526</b>	<b>-31%</b>

Average number of vessels                                      12.6                                      16.3                                      16.0                                      -2%

The key external sources used as a basis for the calculations in this report are delivered by CEMAsys’ Emission Factor Database (EF DB), and include the International Maritime Organization (IMO), International Energy Agency (IEA/OECD), US Environmental Protection Agency (EPA), UK

Department for Environment, Food & Rural Affairs (DEFRA) and EcoInvent Life Cycle Inventory (LCI) Database. We are not permitted to share conversion factors used, however below is a list of sources per category and fuel type.

Conversion factors Scope 1			
	From	To	Source
MDO/MGO	t fuel	tCO <sub>2</sub>	Third IMO Greenhouse Gas Study 2014, page 253
HFO	t fuel	tCO <sub>2</sub>	Third IMO Greenhouse Gas Study 2014, page 253
MDO/MGO	t fuel	tCO <sub>2</sub> e	Fourth IMO Greenhouse Gas Study 2020, page 83
HFO	t fuel	tCO <sub>2</sub> e	Fourth IMO Greenhouse Gas Study 2020, page 83
Fossil fuels consumed in office	L fuel	kgCO <sub>2</sub> e	DEFRA 2022
Conversion factors Scope 2			
	From	To	Source
Electricity, location based	gCO <sub>2</sub> e	gCO <sub>2</sub> e	Nordic Electricity Mix, IEA
Electricity, market based	gCO <sub>2</sub> e	gCO <sub>2</sub> e	Nordic Residual Mix, IEA
Conversion factors Scope 3			
Category	From	To	Source
Purchased goods and services	USD	tCO <sub>2</sub> e	US EPA (2020)
Capital goods	kg steel	tCO <sub>2</sub> e	Ecoinvent 3.8
Fuel and energy related activities	Various	tCO <sub>2</sub> e	DEFRA 2022, IEA 2022
Upstream transportation and distribution	n/a	tCO <sub>2</sub> e	Marinetrans Carbon Report 2022 for KCC
Waste	kg/m <sup>3</sup>	tCO <sub>2</sub> e	Ecoinvent 3.8, DEFRA 2022



# Annex II – Scope 3 emissions categories

Category	Relevant?	Calculated?	Evaluation
1	Yes	Yes	The CO <sub>2</sub> emissions from purchased goods and services have been calculated using the spend-based method which estimates emissions for goods and services by collecting data on the economic value of goods and services purchased and multiplying it by relevant secondary (e emission factors).
2	Yes	Yes	The CO <sub>2</sub> emissions from capital goods have been simplified to cover emissions related to steel used in new ships delivered as well as steel repairs during the vessels' dry-dockings.
3	Yes	Yes	The CO <sub>2</sub> emissions from fuel-and-energy-related activities have been calculated using well-to-tank emission factors.
4	Yes	Yes	The CO <sub>2</sub> emissions from upstream transportation and distribution have been calculated and reported by KCC's transport service provider Marine-trans.
5	Yes	Yes	The CO <sub>2</sub> emissions from waste generated in operations have been calculated using the waste-type-specific method, which involves using emission factors for specific waste types and waste treatment methods.
6	No	Yes	The CO <sub>2</sub> emissions for business travel for KCC employees are considered immaterial and hence not relevant but have been calculated (2022: 20 mt CO <sub>2</sub> e).
7	No	Yes	The CO <sub>2</sub> emissions related to commuting for KCC employees are considered immaterial and hence not relevant but have been calculated (2022:0.5 mt CO <sub>2</sub> e).
8	No	No	KCC does not operate leased assets
9	No	No	KCC does not sell products, only transportation services, and CO <sub>2</sub> emissions related to the transportation of goods are reported in scope 1
10	No	No	KCC does not sell products, only transportation services, and CO <sub>2</sub> emissions related to the transportation of goods for customers are reported in scope 1
11	No	No	KCC does not sell products, only transportation services, and CO <sub>2</sub> emissions related to the transportation of goods are reported in scope 1
12	No	No	KCC does not sell products, only transportation services, hence no emissions from "End of life treatment of sold products"
13	No	No	KCC does not operate leased assets
14	No	No	KCC does not have franchises or have operations in a franchise model
15	No	No	KCC is not a private or public financial institution and does therefore not consider this category as relevant



# Independent assurance report from EY



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## INDEPENDENT ACCOUNTANT'S ASSURANCE REPORT

To the board of directors in Klaveness Combination Carriers ASA

### 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 ESG Performance Report 2022 as of 31 December 2022 and for the period from 1 January to 31 December 2022. 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 2022
- 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 ESG Performance Report 2022, 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 (the "Criteria"). For EEOI (Energy Efficiency Operational Index), Average CO2 emissions per vessel, % in combination trade, Ballast days in % of on-hire days and Benchmark 2022, the applicable criteria is shown on page 17 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](http://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.

### Klaveness Combination Carriers ASA's responsibilities

The Board of Directors and Group Chief Executive Officer (management) are responsible for 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.



2

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 are independent of the company in accordance with the requirements of the relevant laws and regulations in Norway and the International Ethics Standards Board for Accountants' International Code of Ethics for Professional Accountants (including International Independence Standards) (IESBA Code), and we have fulfilled our other ethical responsibilities in accordance with these requirements. Our firm 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 if a reasonable assurance engagement had 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:

- Conducted interviews with personnel to understand the business and reporting process
- Conducted interviews with key personnel to understand the process for collecting, collating and reporting the Subject Matter during the reporting period
- Checked that the calculation Criteria have been correctly applied in accordance with the methodologies outlined in the Criteria
- Undertook analytical review procedures to support the reasonableness of the data
- Identified and testing assumptions supporting calculations
- Tested, on a sample basis, underlying source information to check the accuracy of the data
- Checked that the presentation requirements outlined in the Criteria have been correctly applied

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 2022 and for the period from 1 January 2022 to 31 December 2022 in order for it to be in accordance with the Criteria.

Oslo, 6 March 2023  
ERNST & YOUNG AS

*The assurance report is signed electronically*

Johan Lid Nordby  
State Authorised Public Accountant

3

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