

Greenhouse Gas Accounting Report 2023

Greenhouse Gas Accounting Report 2023

This is the 2023 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 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 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)

CO₂ emissions related to the steel used for building of new vessels and upgrading and repairing existing vessels during dry-docking. KCC had no new vessels delivered in 2023. Four vessels completed dry-docking in 2023, however no steel replacement performed during dry-dock (2022: 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 includes 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

Summary of KCC's emission performance 2023

Scope 1 emissions, measured in metric tons CO₂e, increased by almost 5% in 2023. This increase is mainly due to the more active fleet operation with more time spent carrying cargo, less days spent idling and thus a higher utilization of the fleet. There were no changes in the fleet or in the scope 1 emission definition from 2022 to 2023.

Scope 2 emissions related to electricity consumed in office buildings tripled in 2023 compared to 2022 due to the increased geographical scope, including the electricity consumed in KCC's Singapore office, which has a CO₂ intensity 13 times higher than in Norway. Scope 2 emissions are still negligible compared to Scope 1 emissions.

Scope 3 emissions, or indirect GHG emissions, from the five categories deemed relevant for KCC's operations increased by 7% in 2023 compared to 2022. The main source of indirect GHG emissions in 2023 were the well-to-tank (WTT) emissions of fossil fuels consumed onboard the vessels in the fleet, accounting for almost 92% of total Scope 3 emissions. The remaining emissions came mainly from purchased goods and services (7.8%), while 0.4% came from upstream transportation and distribution and 0.2% from waste generated in operation.

CO₂e emissions related to Capital goods (category 2) were much lower in 2023 than in 2022 due to no steel replacement performed during dry-docking.

There were no changes in the scope 3 categories deemed relevant for KCC from 2022 to 2023.

Greenhouse gas (GHG) emissions KCC		2021	2022	2023	Annual change
		tCO ₂ e	tCO ₂ e	tCO ₂ e	%
Scope 1	Stationary combustion in KCC Oslo Office	0.1	0.003	0	-100%
	Combustion of HFO fuels on KCC vessels	283 948	268 831	279 365	+4%
	Combustion of MGO fuels on KCC vessels	18 651	13 921	17 236	+24%
	Combustion of biofuels on KCC vessels	59	0	0.1	+3486%
	Scope 1 Total	302 657	282 752	296 601	+5%
Scope 2	Electricity Nordic mix, location based	0.6	0.8	0.7	-9%
	Electricity Nordic mix, market based	4.6	6.1	8.4	+83%
	Singaporean mix, location based	n/a	n/a	1.8	n/a
	Singaporean mix, market based	n/a	n/a	1.8	n/a
	Scope 2 Total (Location based)	0.6	0.8	2.5	+215%
Scope 3	Cat. 1 - Purchased goods and services	n/a	2 646	5 696	+115%
	Cat. 2 - Capital goods	135 213	1 323	17	-99%
	Cat. 3 - Fuel-and-energy-related activities	67 963	63 506	66 672	-5%
	Cat. 4 - Upstream transportation and distribution	n/a	204	272	+33%
	Cat. 5 - Waste generated in operations	53	95	157	+65%
	Scope 3 Total	203 229	67 773	72 813	+7%
Total	Scope 1+2+3 emissions	505 886	350 526	369 417	+5%
Average number of vessels		16.3	16.0	16.0	0%

Annex I – Carbon conversion factors and sources

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 ₂	Third IMO Greenhouse Gas Study 2014, page 253
HFO	t fuel	tCO ₂	Third IMO Greenhouse Gas Study 2014, page 253
MDO/MGO	t fuel	tCO ₂ e	Fourth IMO Greenhouse Gas Study 2020, page 83
HFO	t fuel	tCO ₂ e	Fourth IMO Greenhouse Gas Study 2020, page 83
Fossil fuels consumed in office	t fuel	kgCO ₂ e	DEFRA 2023
Conversion factors Scope 2			
	From	To	Source
Electricity, location based	gCO ₂ e	gCO ₂ e	IEA 2023, AIB 2023
Electricity, market based	gCO ₂ e	gCO ₂ e	IEA 2023, AIB 2023
Conversion factors Scope 3			
Category	From	To	Source
Purchased goods and services	USD	tCO ₂ e	US EPA (2020), EPA 2023
Capital goods	kg steel	tCO ₂ e	Ecoinvent 3.10
Fuel and energy related activities	Various	tCO ₂ e	DEFRA 2023, IEA 2023, DEFRA 2022, IEA 2022
Upstream transportation and distribution	N/A	tCO ₂ e	MarineTrans Carbon Report 2023 for KCC
Waste	kg/m ³	tCO ₂ e	Ecoinvent 3.9.1, Ecoinvent 3.8, DEFRA 2023, DEFRA 2022

Annex II – Scope 3 emissions categories

Category	Relevant?	Calculated?	Evaluation
1 Purchased goods and services	Yes	Yes	The CO ₂ 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 Capital goods	Yes	Yes	The CO ₂ 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 Fuel-and-energy-related activities (not included in Scope 1 or 2)	Yes	Yes	The CO ₂ emissions from fuel-and-energy-related activities have been calculated using well-to-tank emission factors.
4 Upstream transportation and distribution	Yes	Yes	The CO ₂ emissions from upstream transportation and distribution have been calculated and reported by KCC's transport service provider MarineTrans.
5 Waste generated in operations	Yes	Yes	The CO ₂ 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 Business travel	No	Yes	The CO ₂ emissions for business travel for KCC employees are considered immaterial and hence not relevant but have been calculated (2023: 29 mt CO ₂ e).
7 Employee commuting	No	Yes	The CO ₂ emissions related to commuting for KCC employees are considered immaterial and hence not relevant but have been calculated (2023: 1 mt CO ₂ e).
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.

Independent assurance report from EY



Statsautoriserede revisorer
Ernst & Young AS
Stortorvet 7, 0155 Oslo
Postboks 1156 Sentrum, Oslo Norway

Foretaksregisteret: NO 076 389 387 MVA
TF: +47 24 00 24 00
www.ey.no
Medlemmer av Den norske Revisorforening

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, to report on Klaveness Combination Carriers ASA's selected indicators as defined and specified in table "Emission Performance" on page 17 and "ESG Performance Data" on page 33 in Klaveness Combination Carriers ASA's ESG Performance Report 2023, as of 31 December 2023 and for the period from 1 January to 31 December 2023 (the "Subject Matter") as for the year then ended. 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 2023
- 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 2023, 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 2023, 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 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 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.

A member firm of Ernst & Young Global Limited

Per memo document key: EUMCS-U333N-H0BE-DS24F-GL87Y-56PWI



We conducted our engagement in accordance with the *International Standard for Assurance Engagements on Greenhouse Gas Statements* (ISAE 3410). 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 conclusion.

Our Independence and Quality Control

We are independent of the Company and the Group 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.

EY also applies International Standard on Quality Management 1, *Quality Management for Firms that Perform Audits or Reviews of Financial Statements, or Other Assurance or Related Services engagements*, which requires that we design, implement and operate a system of quality management including policies or procedures regarding compliance with ethical requirements, professional standards and applicable law 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.

The Green House Gas quantification process is subject to scientific uncertainty, which arises because of incomplete scientific knowledge about the measurement of GHGs. Additionally, quantification of GHG's is subject to estimation (or measurement) uncertainty resulting from the measurement and calculation processes used to quantify emissions within the bounds of existing scientific knowledge.

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:

- Interviews with key personnel to understand the business and the reporting process.
- Interviews with key personnel to understand the process for collecting, collating and reporting the Subject Matter during the reporting period.
- Test on a sample basis the calculation Criteria against the methodologies outlined in the Criteria.
- Analytical review procedures of the data
- Test of assumptions supporting the calculations
- Comparison, on a sample basis, the underlying source information


Independent accountant's attestation report - Klaveness Combination Carriers ASA 2023

A member firm of Ernst & Young Global Limited

Per memo document key: EUMCS-U333N-H0BE-DS24F-GL87Y-56PWI

Independent assurance report from EY

3



EY
Building a better working world

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 2023 and for the year then ended in order for it to be in accordance with the Criteria.


Oslo, 7 March 2024
ERNST & YOUNG AS

The attestation report is signed electronically

Johan Lid Nordby
State Authorised Public Accountant

Penneo document key: EUKCS-U333N-M0BIE-D524F-GL8FY-56PM


Independent accountant's attestation report - Klaveness Combination Carriers ASA 2023
A member firm of Ernst & Young Global Limited



Signaturen i dette dokumentet er juridisk bindende. Dokument signert med "Penneo™ - sikker digital signatur". De signerende parter sin identitet er registrert, og er listet nedenfor.

Med min signatur bekrefter jeg alle datoer og innholdet i dette dokument.

Johan Lid Nordby
Statsautorisert revisor
På vegne av: Ernst & Young AS
Serienummer: UNNO-9578-5997-4-729076
IP: 147.161.xxx.xxx
2024-03-07 20:33:12 UTC



Penneo Dokumentmøkket: EUKCS-U333N-M0BIE-D524F-GL8FY-56PM

Dokumentet er signert digitalt, med Penneo.com. Alle digitale signatur-data i dokumentet er sikret og validert av den datamaskin-utregnede hash-verdien av det opprinnelige dokument. Dokumentet er låst og tids-stemplet med et sertifikat fra en betrodd tredjepart. All kryptografisk bevis er integrert i denne PDF, for fremtidig validering (hvis nødvendig).

Adobe Reader, skal du kunne se at dokumentet er sertifisert av Penneo e-signature service «penneo@penneo.com». Dette garanterer at innholdet i dokumentet ikke har blitt endret.

Det er lett å kontrollere de kryptografiske beviser som er lokalisert inne i dokumentet, med Penneo validator - <https://penneo.com/validator>

Hvordan bekrefter at dette dokumentet er originalen?
Dokumentet er beskyttet av ett Adobe CDS sertifikat. Når du åpner dokumentet i