

Task force ^{on}
Climate-related
Financial
Disclosures
Report
2020

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TCFD Content Index

Governance	Strategy	Risk Management	Metrics and Targets
Disclose the organization's governance around climate-related risks and opportunities.	Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's business, strategy, and financial planning where such information is material.	Disclose how the organization identifies, assesses, and manages climate-related risks.	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.
Recommended Disclosures	Recommended Disclosures	Recommended Disclosures	Recommended Disclosures
a) Describe the board's oversight of climate-related risks and opportunities.	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	a) Describe the organization's processes for identifying and assessing climate-related risks.	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.
b) Describe management's role in assessing and managing climate-related risks and opportunities.	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	b) Describe the organization's processes for managing climate-related risks.	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.
	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.

The TCFD Recommendations

There is a growing demand for standardized, climate-related risk disclosure in the financial sector, and creditors and investors are increasingly asking for reporting that is consistent, comparable, and clear. The Task Force on Climate-Related Financial Disclosure (TCFD) developed the TCFD disclosure recommendations to enhance market transparency and stability. TCFD encourages standardized reporting of financially material climate-related risks and opportunities to provide investors, lenders, and insurers with comparability when assessing and pricing companies.

The TCFD recommendations are grouped into four areas of disclosure that represent core elements of how organizations operate: governance, strategy, risk management, and metrics and targets. Moreover, the framework separates recommended disclosures into three main categories: risks related to the transition to a lower-carbon economy, risks related to the physical impacts of climate change, and climate-related opportunities. The TCFD has also incorporated potential financial impact as an integral part of its disclosure recommendations.



Core Elements of Recommended Climate-Related Financial Disclosures



Governance

The organisation's governance around climate-related risks and opportunities

Strategy

The actual and potential impacts of climate-related risks and opportunities on the organisation's businesses, strategy and financial planning

Risk Management

The processes used by the organisation to identify, assess and manage climate-related risks

Metrics and Targets

The metrics and targets used to assess and manage relevant climate-related risks and opportunities

Figure 1: From "Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures" (June 2017)

Governance

Board of Directors' oversight of climate-related risks and opportunities

Sustainability and climate-related risks and opportunities are integral parts of KCC's overall strategy. The Board of Directors considers climate-related issues when reviewing and guiding KCC's strategy and business plans, action plans and major capital expenditures. Moreover, the Board of Directors considers climate-related issues in the monitoring, implementation, and performance of strategic objectives. One example is the five-years strategy plan for 2021-2025 that was resolved by the Board of Directors in November 2020. Some of the main building blocks in this strategy period deals with climate-related risks and opportunities, especially linked to the effect of decarbonization on cargoes carried, customers served and vessel technology and how to position the Company to benefit from the changes that are coming. In addition to the overall strategy, KCC has an Environmental Policy and Strategy for the period 2020-2050, including both long-ambitions and short-term targets. This Environmental Policy and Strategy was approved by the Board of Directors in January 2020 and can be found [here](#).

The Board of Directors monitors and oversees progress against targets through several work flows: i) Actual performance related to the main

environmental key performance indicators (KPI) (EEOI, CO₂ per vessel, % ballast, % in combi trade, number of spills to the environment) are included in every quarterly report and is reported to the Board of Directors, and ii) Implications of the strategy, which focus on climate-related risks and opportunities and more specifically decarbonization, are on the agenda at every Board meeting in 2021, and iii) Climate-related risks are from 2021 assessed as an integral part of the company's overall risk review assessment which is discussed with the Audit Committee and the Board of Directors every quarter.

Management's role in assessing and managing climate-related risks and opportunities

The top Management team of KCC consists of the CEO and the CFO and they are both assessing and managing climate-related risks and opportunities.

The management level responsibility for climate-related risks and opportunities lies with the CEO. The CEO is responsible for developing the strategy and set targets for the Company, and ensuring the strategy is anchored in the organization, including with the main

service providers, and with the Board of Directors. As an example, the Environmental Strategy and Policy published in 2020, and the five-year business strategy for 2021-2025 are both developed by and within the responsibility of the CEO. In addition, the responsibility of the CEO is to make sure that climate-related issues are considered in all decision-making processes, both when interacting with customers, suppliers, and other stakeholders. For example, the CEO together with the chartering team and the commercial operations team plan how to improve the operational efficiency of the fleet and he co-operates closely with the technical team to decide on which technical solutions and prototypes to test and install to improve the fuel efficiency of the vessels. During 2020 and 2021, the CEO of KCC has as well initiated workshops with key customers to understand how they handle climate-related issues with focus on decarbonization, which again will impact KCC's business activities. The discussions with customers also include how KCC in co-operation with customers can improve carbon efficiency of KCC's services e.g. by reducing speed, increasing cargo intake and decrease waiting time in ports.

The CFO is responsible for supporting the CEO in all strategy related work and is responsible for KCC's risk review framework and risk management policy, monitoring risks including climate-related risks and to establish potential mitigating actions for the main risks. Representatives from different parts of the organization with different responsibilities are included in the quarterly risk assessment process as well as more ad hoc evaluations of climate-related issues. The CFO is responsible for all financial and sustainability reporting, including transparency around climate-related risks based on the TCFD framework, and in general

providing all stakeholders with relevant and correct information related to sustainability and financial performance. For example, the CFO is overseeing the implementation of the GRI framework in addition to TCFD in the sustainability report for 2020. The environmental KPIs are audited by EY and KCC reports emissions data to banks in line with the Poseidon Principles.

The **Sustainability and CO₂ Performance Manager (SCPM)** is part of the Project and Business Transformation Team¹ and is responsible for developing and managing sustainability and performance improvement initiatives related to vessels and to provide insights to improve decisions on areas focusing on safer, greener and smarter ship operations. The sustainability manager is responsible for controlling, reporting, and analyzing fuel consumption and emissions and to monitor performance against targets. The SCPM works closely with the commercial team and the remaining Project and Business Transformation team to understander fuel consumption and emissions and to plan and implement initiatives to improve fuel performance as well as testing new types of fuels or fuel saving devices. The SCPM interacts on a weekly basis with the management team related to his/her responsibilities.

The **Head of Project and Business Transformation** and his/her team are engaged in research projects related to future vessel design/ technical solutions for e.g. zero-emission vessels and technical upgrades or new solutions to improve performance of existing vessels, e.g. semi-autonomous hull cleaning robots. The Head of Project Transformation interacts on a weekly basis with the management team related to his/her responsibilities.

Figure 2: Overview of governance for climate-related risks and opportunities

Governance description	
Board of Directors (BoD)	<ul style="list-style-type: none"> Reviews, discusses with management, and approves the strategy and business plans including ESG topics and management of climate-related risks and opportunities Reviews, approves, and monitors specific short-term targets and long-term goals and ambitions and monitors implementation and performance of objectives including climate-related ambitions and targets Approves and oversees major capital expenditures and major plans of action Approves and oversees the environmental policy and strategy Approves the risk management policy
Audit Committee of the BoD	<ul style="list-style-type: none"> Monitors and oversees the risk management policy and framework Discusses with management the quarterly risk review, including climate-related risks Together with the administration plans and follow-up internal audits, including audit of environmental KPIs and other climate-related reporting
Chief Executive Officer	<ul style="list-style-type: none"> Main responsible for developing and implementing the general strategy and the environmental policy and strategy Main responsible for managing climate-related risks and opportunities and reporting these to the Board of Directors Main responsible for making sure the service providers (with focus on ship management, commercial operations, and project development) adapts relevant targets and ambitions
Chief Financial Officer	<ul style="list-style-type: none"> Main responsible for risk review framework and policies, performing risk reviews and for establishing mitigation plans, including for climate-related risks Main responsible for monitoring and assessing climate-related risks and opportunities

1 Part of Klaveness Ship Management AS, but works mainly with KCC business activities and projects.

Strategy

Context and definition of time horizons

Based on the expected industry development, useful life of vessels and KCC's strategy, the short-, medium- and long-term horizons for climate-related risks and opportunities have been defined as follows: i) Short-term 0-3 years, ii) Medium-term 3-10 years, and iii) Long-term 10-30 years.

Risk type	Climate-related risks	Potential Financial Impacts	Short 0-3Y	Med 3-10Y	Long 10-30Y
Transition risks	Technology	<ul style="list-style-type: none"> Transition to lower emissions technology: Uncertainty related to future propulsion technology Substitution of existing fleet with lower-/zero-emission vessels 	<ul style="list-style-type: none"> Propulsion on existing vessels might be outdated prior to the end of the expected life of the vessel. Lower vessel values or recycling of vessels resulting in write-downs Decreased revenue due to less competitive fleet Lack of access to capital if existing fleet is out of favor Capital expenditures in relation to retrofit or new vessel investments 	High	High
	Market	<ul style="list-style-type: none"> Change in customer preferences: Reduced demand for transportation of fossil fuels as demand for the commodity deteriorates New trade flows affecting the combination pattern 	<ul style="list-style-type: none"> More vessels will compete for lower or different types of freight volumes and freight rates might deteriorate and revenue decrease Vessels might be idle or unfit and hence recycled resulting in write-downs Revenue decreases due to less efficient combitrading 	High	High
	Policy and legal	<ul style="list-style-type: none"> Introduction of new regulations: EU Taxonomy, IMO Poorly designs regulations might have perverse incentives 	<ul style="list-style-type: none"> New policies and regulations within the financial sector (e.g. Poseidon principles /EU Taxonomy) might impact pricing and availability of capital IMO's requirements to energy efficiency (EEXI) and carbon intensity (CII) might require investments in up-grading existing vessels and possibly derating main engines impacting the vessels' earnings capacity 	High	High
Physical risks	Reputation	<ul style="list-style-type: none"> Stigmatization of shipping as a sector and hence negative impact on investor sentiment/ increased stakeholder concern KCC does not deliver on targets and expectations 	<ul style="list-style-type: none"> Access to capital Access to customers/contracts and hence negative impact on revenues 	High	High
	Acute	<ul style="list-style-type: none"> Extreme weather events such as floods, storms and heavy precipitation leading to: <ul style="list-style-type: none"> Idling of vessels Damage to vessels Temporary cut in customer's production 	<ul style="list-style-type: none"> Decreased revenue through less efficient trading and waiting time Repair costs due to vessel damage 	High	High
	Chronic	<ul style="list-style-type: none"> Climate change affecting food production 	<ul style="list-style-type: none"> Decreased revenue through less efficient trading 	High	High

Potential financial impact level Low Medium High

Figure 4: Main climate-related opportunities

Opportunity type	Climate-related opportunities	Potential Financial Impacts	Short 0-3Y	Med 3-10Y	Long 10-30Y
Resource efficiency	Efficient combination trading	Higher revenue. Standard vessels in KCC's trades have a significantly higher ballast and hence have up to 40% higher emissions per transport work. By improving our trading patterns and hence improve operational and carbon efficiency, our competitive advantage improves.	High	Medium	Low
	Higher energy costs	Higher revenue. KCC benefits from higher fuel costs and hence carbon taxes as freight is priced on the basis of fuel consumption for standard vessels and taxes levied on these vessels. KCC's vessels have limited ballast and lower fuel consumption /CO ₂ emission per mt cargo transported and hence will be over-compensated for higher fuel costs and taxes through the paid freight. The cost of energy in shipping will undoubtedly increase, both due to carbon taxes and to higher production costs, which will enforce KCC's competitive edge and increase profitability through increased revenue.	High	Medium	Low
Energy source	Carbon pricing	Higher revenue. KCC benefits from higher fuel costs and hence carbon taxes as freight is priced on the basis of fuel consumption for standard vessels and taxes levied on these vessels. KCC's vessels have limited ballast and lower fuel consumption /CO ₂ emission per mt cargo transported and hence will be over-compensated for higher fuel costs and taxes through the paid freight. The cost of energy in shipping will undoubtedly increase, both due to carbon taxes and to higher production costs, which will enforce KCC's competitive edge and increase profitability through increased revenue.	High	Medium	Low
	Transportation of new types of cargo	Higher revenue. As fossil fuels are being phased out over time, there will likely be demand for transportation of new types of cargoes. However, increased demand for these cargo types must fit into a combi trade pattern to be valuable for KCC.	Low	Medium	High
Products, services, markets	Close customer co-operation	Higher revenue. KCC is less dependent on transportation of fossil fuels than standard dry bulk vessels and product tankers. We serve the alumina/aluminum, the steel and agricultural industries and we are hence positioned to work with the industries that will decarbonize first, which give us opportunities/value in terms of learning and positioning.	High	Medium	Low

Potential financial impact level Low Medium High

Material climate-related risks and opportunities

Climate-related issues have been high on the agenda in KCC for several years and have been incorporated in strategy processes as well as daily operations and stakeholder dialogues over time. The climate-related risks and opportunities that we believe might have a material financial impact on the organization have been identified through several processes:

- i) Development of the Environmental Strategy and Policy 2020-2050 and the overall strategy for the period 2021-2025.
- ii) Workshop with cross-functional team of employees. In second half of 2020, a workshop with representatives from the Board of Directors, the management team, commercial operations, chartering, technical management, project and business transformation and finance identified and discussed climate-related risks and opportunities.

- iii) Day-to-day business and interaction with stakeholders such as customers, investors, employees, regulators, banks etc.
- iv) Climate-related risks are from 2021 assessed as an integral part of the company's overall risk review which is discussed with the Audit Committee and the Board of Directors every quarter.

KCC has in Figure 3 and Figure 4 included what has been assessed as the company's main climate-related risks and opportunities. The three main risk are within the risk types market, technology and policy/legal and are all transition risks and related to decarbonization. Please see tables above and below for more information.

Climate-related issues are highly integrated into the KCC strategy

Through technical and commercial innovations, we have developed a fleet of combination carriers, the world's most carbon efficient deep-sea transportation system available today. These vessels emit up to 40% less CO₂ than standard dry bulk and tanker vessels for the same transport work.

Klaveness Combination Carriers has decarbonization, and how this will affect our business concept, markets, regulations, stakeholder requirements and access to funding, as a center piece of our strategy. The Environmental Policy and Strategy includes specific targets related to reduction in emissions and waste as well as targets and ambitions on customer co-operation and development of a zero-emission vessel: "We are committed to continuously focus on perfecting our combination carrier concept through identifying, testing and applying new technology and solutions. We will test, promote, and use new fuels and new fuel saving technologies to work towards achieving carbon neutrality in our operations within 2030. All vessels contracted after 2020 will have a "bridge" to the most likely zero emission fuels through choosing main engines that can burn or can be converted to burn zero-emission fuels, as well as preparing space for or install fuel tanks for such zero emission fuels. As part of this work KCC will also develop a "Zero-Emission Combination Carrier" and target to contract such a vessel within 2030." Other elements will be to improve the efficiency of our operations, and close co-operation with customers, suppliers and other shipowners. We shall assist our customers in their transformation to a low carbon future by offering the most cost-efficient way of decarbonizing their supply chains.

We have identified upcoming regulations and their potential financial implications as one of the three main risks for KCC. Financial impact is mainly related to access to capital and pricing of capital, e.g. the final requirements of EU's Taxonomy and how banks will develop r Poseidon principle and related requirements. KCC is also closely following the development of the EU emission trading scheme (ETS) and its implications as well as potential carbon pricing schemes in other parts of the world. In the short and medium term, carbon taxes or emission trading schemes in shipping are believed to mainly be an opportunity for KCC with its solutions having 30-40% lower CO₂ emission per ton transported than standard vessels in its main trades. Over a longer time-horizon, the financial implications for KCC of such regulations are uncertain and might impact revenue, cost and assets impairment, both positively through for example carbon pricing and negatively

through for example investments in new vessels or retro-fit of existing vessels. Climate-related issues and especially CO₂-emissions are higher on the customer's agenda and here the Sea Cargo Charter is a good example, which will over time probably also strengthen our competitive advantage based on our carbon efficient operations compared to that of our competitors.

Another identified main risk is uncertainty related to future propulsion technology for deep-sea vessels. There is today no available low-/zero-emission propulsion technology available for deep-sea shipping. When the technology matures, technology on existing vessels might become outdated prior to the planned 20-25 years operational life of the vessels. Lower vessel values or recycling of vessels might result in write-downs and the need to investment in new vessels. This might as well impact revenue for existing vessels and access to funding.

The third identified main risk is related to reduced demand for transportation of fossil fuels as demand for the commodities deteriorates. This might impact revenue and vessel values and might impact trade patterns that are important for the combination carriers.

Resilience of Strategies Against Different Climate-Related Scenarios

The scenario analysis is a qualitative analysis based on the "Sustainable Development Scenario" in line with 2°C based on IEA World Energy Outlook 2020¹

Time horizon	
Short term	2020 - 2030
Medium term	2030 - 2050
Long term	2050 - 2100

As the scenario is mainly applicable from 2030 onwards, the risk level for the short term is more a subjective assessment based on current knowledge. Medium and long term are based on findings in the main sources (IEA), as well as through other reports and sources.

The three risks considered to have the highest risk level has been included in the scenario analysis (figure 5).

1 International Energy Agency - World Energy Outlook 2020, (IEA WEO 2020)



Figure 5: “Sustainable Development Scenario” in line with 2°C

Climate-related Scenario Analysis								
TCFD	Risk	Potential financial impact	Risk Level			Mitigation strategy		
			Short term	Medium term	Long term			
			2°C					
			Policy and Legal	Regulations (EU Taxonomy, IMO)	<ul style="list-style-type: none"> Not classified as “Green” and hence not have access to “green funding” might impact negatively both access to capital and cost of capital 		<ul style="list-style-type: none"> KCC has the most carbon efficient deep-sea shipping solution today and has clear targets related to further decarbonization of the business, with an ambition to be carbon neutral in 2030 and zero-emitting in 2050 KCC is as well less dependent on transportation of hydrocarbons that its competitors (estimated to be around 25% after delivery of all CLEANBU newbuilds), and KCC’s ambition is to increase transportation of non-fossil cargos Our customers, through the Sea Cargo Charter (SCC) which is based on the carbon intensity measure EEOI incentivizes efficient operations and this initiative will underline KCC’s competitive advantage KCC works closely with other stakeholders to promote strong and fair regulations that incentivize the industry to decarbonize The EU Emissions Trading Scheme that will include shipping from 2022 as well underlines the competitive advantage KCC has through its efficient operations 	<p>High High Very high</p>
			Technology	Transition to lower emissions technology	<ul style="list-style-type: none"> Uncertainty related to future propulsion technology is high as there presently is now available low-/zero-emission technology available for deep sea shipping. Early investment in new propulsion technology will be risky as the chosen technology might not be the winner in the long run. When new technology matures that could lead to decreased asset value or asset useful life leading to write-offs of existing vessels and new vessels if investing in “the wrong” technology for the latter Another effect might be that older vessels have lower earnings than that of new vessels, impacting revenue negatively Waiting too long with investing in new vessels could be a disadvantage as well and KCC might not be able to uphold its competitive advantage 		<ul style="list-style-type: none"> One of KCC’s ambitions is to order a zero-emission vessel before 2030. An internal research project has been established KCC is testing out alternative fuels, such as sustainable bio-fuel, however this is not available globally and is very expensive compared to the current VLSFO KCC is testing and installing new technological solutions to improve the fuel-efficiency performance of existing vessels, e.g. ultrasonic propeller cleaning and ShipShave 	<p>Medium High High</p>
Market	Change in customer preferences: Reduced demand for transportation of fossil fuels as demand for the commodity deteriorates	<ul style="list-style-type: none"> Transportation of hydrocarbons are important for both the tanker and bulk segments and the drop in expected energy demand from fossil fuels will have an impact on the demand of transportation and could lead to decreased revenues due to reduced demand for our services Demand for transportation of new types of tanker products might increase simultaneously as fossil fuels have to be substituted, however, this might not fit the KCC combination trading patterns 	<ul style="list-style-type: none"> KCC is less dependent on transportation of hydrocarbons than its competitors and KCC’s ambition is to increase transportation of non-fossil cargos A research project has been initiated to identify future trade flows and shift in demand, however, these trends are still very uncertain and will probably be so years to come KCC continues to work closely with existing customers 	<p>Low High Very high</p>				

Potential financial impact level Low Medium High Very high

Risk level: Likelihoods * Impact

Risk Management

Process for identifying, assessing, and managing risks

KCC's process of identifying, assessing, and responding to climate-related risks and opportunities is integrated into the overall multi-disciplinary risk management process. The risk assessment is performed on a quarterly basis and the value chain is assessed both upstream and downstream in addition to direct effects on KCC's business activities. The aluminum industry is a good example of where KCC is dependent

on the entire value chain as we transport caustic soda to the alumina refineries and alumina from the refineries to the aluminum smelters. In this value chain we assess for example how sourcing of caustic soda changes and how demand for the final product aluminum develops.

All relevant risks are assessed based on impact and probability levels. When identifying and assessing climate-related risks as for other risk types, we have defined a substantive financial or strategic impact on our business using the following thresholds for impact on equity or cash and probability, over the next 12 months:

Time horizon	Probability	Impact
Low	< 3%	< USD 2 million
Medium	3-30%	USD 2-10 million
High	> 30%	> USD 10 million

In addition to the specific assessment for the rolling 12 months period, an assessment for the main risks from 12 months – 10 years is included from time to time. The risk management process includes the following:

- On a quarterly basis a cross-functional team (finance, commercial, operations, management) discuss the overall risk development with focus on main risks and new risks discovered, including assessing impact and probability for each risk and define potential mitigating actions for the main risks.
- The management discusses main risks with the Audit Committee and the Board of Directors on a quarterly basis, or more often if needed. A main risk is a risk already identified and well understood that could materially impact our financial results, reputation, business model, or strategy.
- When the combination of probability and impact is higher than what is accepted, mitigating actions are implemented either based on management decision or if relevant, after discussions with the Board of Directors.

Risk types

The climate-related risks that have been assessed include both transition risks and physical risks with a focus on transition as this risk category is considered to have a larger impact and probability for KCC. KCC's main risk categories and the risk management framework will be evaluated and updated in 2021 and the following categories related to climate-related risks will likely be included:

Figure 6: Overview of climate-related risk types

Risk type	Relevance & inclusion	Examples
Current regulation	Relevant, sometimes included	Current regulations are continuously monitored and will be included when relevant. Includes e.g. Flag, Class, IMO.
Emerging regulation	Relevant, always included	<ul style="list-style-type: none"> Carbon taxes/EU Emission Trading Scheme EU Taxonomy IMO's short term measures including new EEXI requirements and Carbon Intensity requirements (CI)
Technology	Relevant, always included	<ul style="list-style-type: none"> Propulsion technology
Legal	Relevant, sometimes included	<ul style="list-style-type: none"> Environmental claims, fines, legal proceeding
Market	Relevant, always included	<ul style="list-style-type: none"> Demand for fossil fuels Changed customer policies, e.g. focus on scope three emissions (Sea Cargo Charter)
Reputation	Relevant, sometimes included	<ul style="list-style-type: none"> Stigmatization of shipping as an industry KCC's risk of not delivering in line with emission targets and other targets
Acute physical	Relevant, sometimes included	<ul style="list-style-type: none"> Idling of vessels due to bad weather Customer close down/cut in production due to floods, storms etc.
Chronic physical	Relevant, sometimes included	<ul style="list-style-type: none"> Lower food production in some areas due to climate-changes and hence less/changed transportation of grains

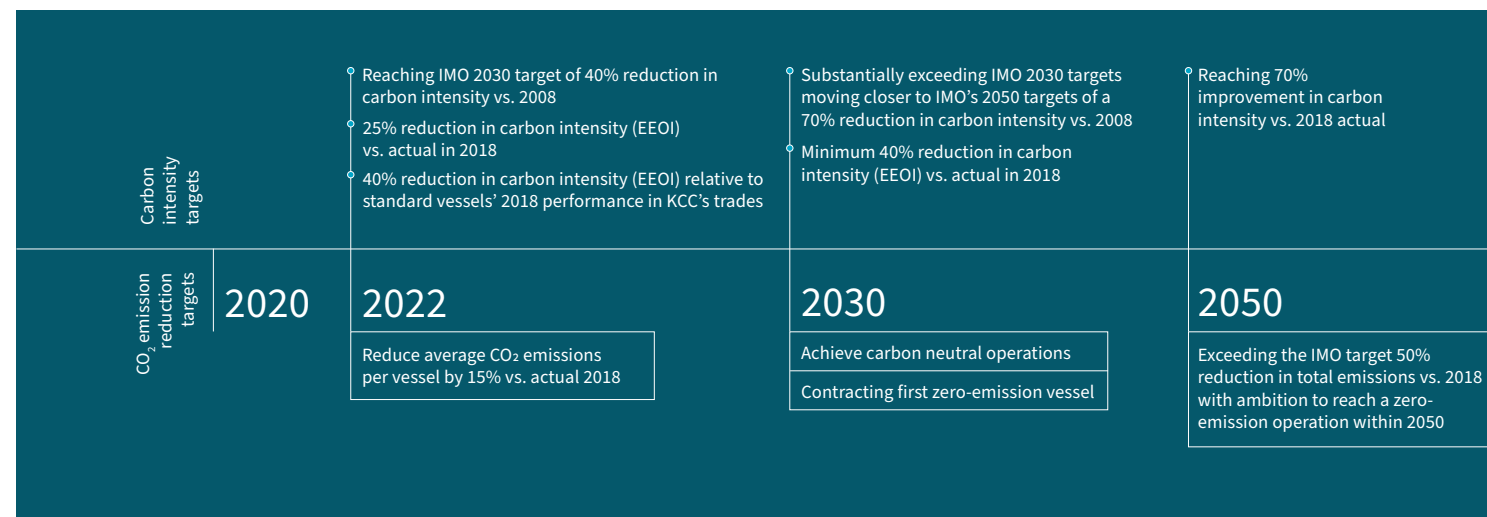
Metrics and Targets

Ambitions, targets and metrics

KCC's ambition is to provide its customers with the most cost-effective way of reducing supply chain CO₂-emissions through a highly efficient combi-trading service, an energy efficient fleet and early and "smart" application of new fuels and energy saving solutions. Our ambition is to maintain the lead as the lowest carbon-emitting shipping provider in dry bulk/ tanker shipping through employing the full fleet in efficient

combination trades, to over time build combi-trades for growth in low carbon/non-fossil cargoes and future fleet growth is to be based on future-proof solutions being resilient to changes in shipping fuels/ propulsion technology and to decarbonization of the industries it serves. Environmental targets and ambitions are duly incorporated in the overall strategy of the Company and one of the main building blocks of the strategy for the period 2021-2025.

Figure 7: Illustration of KCC's short-, medium-, and long-term emissions targets



Our ambition is to exceed IMO's 2030 and 2050 ambitions - targeting a carbon neutral operation within 2030.

Carbon intensity

KCC's ambitions:

- KCC aims at meeting IMO's 2030 target of a 40% reduction in carbon intensity per transported ton-mile already within 2022. KCC's target is for carbon intensity to improve by 25% compared to its actual 2018 performance and 40% relative to tracked performance of competing standard vessels in its trades in 2018
- KCC aims at exceeding IMO's 2030 target by continue improving its carbon intensity and move closer to the IMO 2050 target of a 70% reduction in carbon intensity relative to 2008

The underlying targets to reach this goal is among others:

- Achieve 90% of on-hire days for the fleet in combination trades¹,
- Reduce ballast days on total on-hire days to below 10%, and
- Improve absolute fuel consumption of our vessels.

The carbon intensity is measured as the CO₂-emissions per ton of transported cargo per nautical mile (EEOI)². This metric states the strong energy efficiency for KCC's combination carriers as the vessels have substantially lower ballast than standard vessels. However, as the fleet is relatively small, the reported EEOI is sensitive to periods with non-optimal trading, e.g. trading the vessels as standard vessels with ballast in line with that of standard vessels or when including one or two longer ballast voyages, e.g. when positioning CABU vessels to/from the Americas. These variations are evident in historic numbers but will most likely be more stable when all CLEANBU newbuilds have been delivered.

1 % of days in main combination trades = number of days in main combination trades (being CABU trade Far East/Middle East-Australia and US Gulf-Brazil and the CLEANBU trade Middle East/India-South America) as a percentage of total on-hire days.
 2 EEOI (Energy Efficiency Operational Index) is defined by IMO and represents CO₂ emitted per transported cargo per nautical mile for a period of time (both fuel consumption at sea and in port included). Prior to 2020, end date of a voyage is decisive for which period EEOI for a voyage is included. From 2020 and onwards, reporting system provider was changed so that we are able to calculate EEOI on a per day basis, allocated to the corresponding quarter.
 3 Average CO₂ emissions per vessel = total emissions/vessel years. Vessel years = days available – offhire days at yard. When new vessels are delivered to the fleet, the vessel years are calculated from the date the vessel is delivered. Prior to 2020, end date for a voyage was decisive for which period emission was included. From 2020 and onwards, reporting system provider was changed so that we are able to calculate emissions on a per day basis, allocated to the corresponding quarter.

Absolute carbon emissions

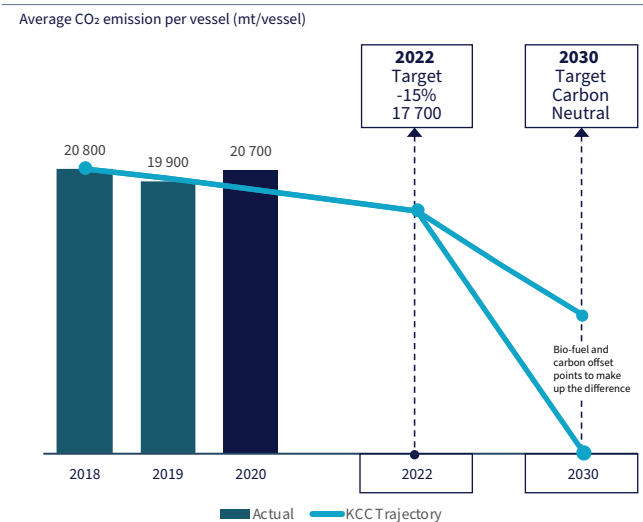
KCC's ambitions:

- KCC aims at reducing average CO₂ emissions per vessel³ by 15% in 2022 to 17,700 mt vs actual 2018
- KCC aims at achieving carbon neutral operations and contracting the first zero-emission vessel within 2030
- KCC aims at exceeding the IMO target of 50% reduction in total emissions in 2050 vs 2018, with an ambition to reach zero-emission operations within 2050

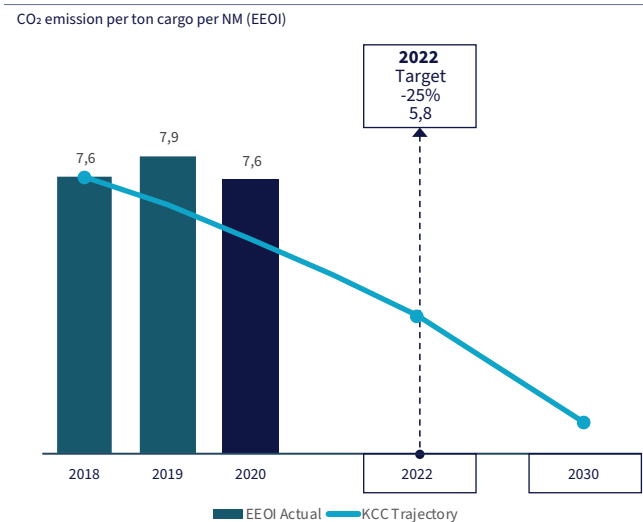
The targeted reduction in CO₂ emissions may be achieved partly by improving the energy efficiency of the fleet, partly through improving the operational efficiency and partly through burning fuels with lower carbon footprint. KCC has, in co-operation with Torvald Klaveness, initiated a case study to conceptualize a future zero-emission vessel and identified/selected the most promising technology and fuels available. KCC's next generation combination carrier newbuilds will be "zero-emission fuel ready" meaning the vessels will be prepared for later installation of tanks for zero-emission fuels and later conversion of engines to burning zero-emission fuels. KCC's ambition is to make the first conversion of such vessels to zero emission fuels or/and develop and contract the first fully zero-emission combination carrier within 2030.

Figure 8: KCC's trajectory and actual emissions per vessel and carbon intensity

CO₂ emission targets



Carbon intensity targets



Performance 2020

KCC's EEOI for 2020 improved from 7.9 in 2019 to 7.4 in 2020 which is still well above the trajectory to reach our 2022 EEOI targets. The EEOI for 2020 was negatively impacted by the time charter out of three CLEANBU vessels, which were traded as standard tankers by our time charter customers. The CLEANBU trading patterns are still under development and have not yet reached the targeted efficiency, resulting in higher than targeted ballast of 18%. The CABU vessels had another year of strong trading efficiency with an average ballast of 13% and EEOI of 7.4 despite more vessels positioning from the Atlantic to docking in China and lower dry bulk cargo availability in combination trades from Brazil. The around six CABU vessels employed in trades to/from Australia, however, reached a ballast of 9% and a 95% utilization in combination trades reflecting the long-term trading efficiency target level for the overall fleet.

Average CO₂ emission per vessel increased from 19,900 mt in 2019 to 20,700 mt in 2020. Absolute emissions per vessel were negatively impacted by amongst others poor energy efficiency of some vessels coming close to docking. These vessels have been docked during second half of 2020 or will be docked in 2021. The 2020 performance shows yet limited positive effects from ongoing energy efficiency initiatives under testing or in early phase of implementation. We expect to see results from these initiatives in 2021.

Waste

KCC's ambitions:

- Reduce main type of waste and residues from the fleet by 50% within 2022. By reducing plastic and food waste, improve disposal of sludge from fuel and lubrication oils and further reduce risks of oil spills and oily water.

All KCC vessels have a Garbage Management Plan onboard, in accordance with the IMO guidelines published in resolution MEPC.201(62). Onboard waste is sorted into 11 different garbage categories and recorded in an onboard garbage record book before being incinerated onboard or disposed at a waste reception facility in port, except for food waste which may be disposed at open sea. Ash from incineration is also delivered to the appropriate reception facility. Both ANNEX I and ANNEX II slops, including wash water, are discharged in accordance with relevant MARPOL regulations.

Efforts have been made to reduce waste from plastic bottles onboard by installing freshwater makers using reverse osmosis to produce fresh drinking water from sea water. The average number of plastic bottles per ship-year was reduced from 2,868 in 2018 to 666 in 2020, well exceeding our 2022 goal of 50% reduction.

Scope 1 and 2 emissions

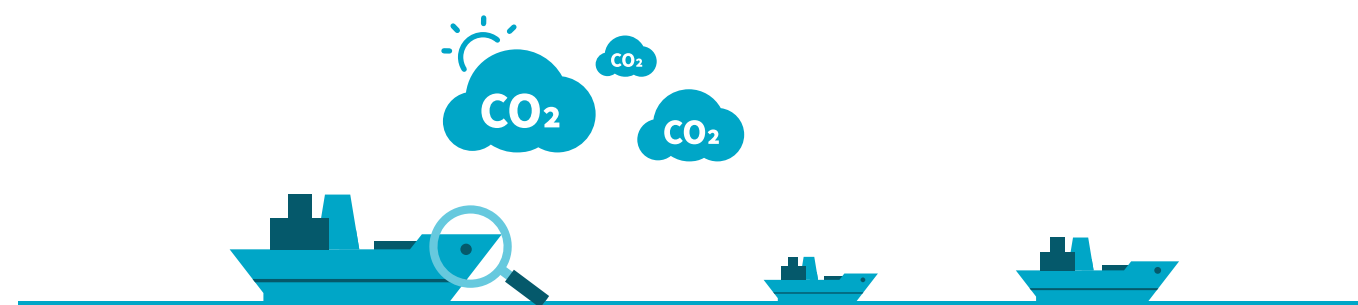
In addition to direct emissions (scope 1) from the vessels, KCC has scope 2 emissions related to electricity, heating and cooling of office buildings. Scope 3 emissions have not been defined for 2020. Emissions from the office building in Oslo where the six KCC employees are situated include electricity, oil for boiler and some gasoil and LPG. Scope 2 emissions are calculated based on an estimate based on KCC's number of employees relative to Torvald Klavness number of employees that share the same office space.

Accounting metric	Unit of measure	Data			
Scope 1 emissions from fleet⁷		CABU I	CABU II	CLEANBU	KCC Total
Fossil FO	mt consumed		36,916	22,554	23,116
41 MJ/kg ⁵	GJ		1,513,545	924,700	947,745
3,1144 g CO ₂ /g fuel	mt CO ₂ e		114,970	70,241	71,992
					257,203
Fossil MGO/MDO	mt consumed		2,491	175	1,898
44 MJ/kg ⁵	GJ		109,621	7,691	83,529
3,206 g CO ₂ /g fuel	mt CO ₂ e		7,987	560	6,086
					14,634
Biogenic fuels ⁴	mt consumed		0	0	207
~40 MJ/kg	GJ		0	0	8,000
3,206 g CO ₂ /g fuel	mt CO ₂ e		0	0	662
					662
Total Scope 1 emissions³					272,499 mt CO₂e
Total Scope 1 energy consumption					3,594,831 MJ
Scope 2 emissions from office building		Heating oil	Diesel for machinery	Propane gas²	KCC Total
Fossil fuels consumed in office building	L	12.15	187.53	4.11	
	MJ ⁶	453.2	7,238.7	104.0	
	mt CO ₂ e	32.3	498.8	6.1	537.2
Electricity¹	kWh / MJ		18,243 / 65,676		
	mt CO ₂ e		0.310		0.310
Total Scope 2 emissions³					537.5 mt CO₂e
Total Scope 2 energy consumption					73,472 MJ

1234567

Footnotes

- Electricity provider Hydro Energi only brings hydropower and some wind power into the power grid, excluding fossil fueled power plants and nuclear power plants in the electricity mix. No numbers for exact CO₂ emissions given by power company, so using average emissions for Norwegian electricity gathered from The Norwegian Water Resources and Energy Directorate (NVE).
- Gas used in fireplaces in the office building was not refilled in 2020, so we assume consumption was 50% of what was filled in 2019.
- Scope 1 emissions reported for vessels under financial control of KCC, while Scope 2 emissions reported for operational control according to GHG Protocol - A Corporate Accounting and Reporting Standard.
- Using approximate energy content rounded to nearest 10 due to confidentiality agreement with fuel provider
- Conversion from mt to MJ done using net calorific value taken from DNV GL, except for biofuel which was tested, and results are confidential.
- Energy density factors for heating oil, diesel and propane gas collected from IOR Energy's list of common conversion factors
- CO₂ emissions have been calculated using fuel mass to CO₂ mass conversion factors from IMO MEPC.1/Circ.684. Only CO₂ has been included in calculation, as the emission of any other GHG are negligible. Fuel consumption are collected from noon reports from service providers Meteo and StormGeo for 2020.



Reporting and transparency

KCC on a quarterly basis report on the following four emission related KPIs. The KPIs are subject to limited assurance by the auditor on an annual basis.

Figure 9: Historic performance related to KCC's four emission related KPIs

2020 Actual	2018	2019	2020	Benchmark 2020 ⁵	Reduction from 2018	Target 2022
EEOI¹	7.64	7.92	7.44	10	-2.6 %	5.8
Average CO₂ emissions per vessel²	20 800	19 900	20 700	n.a.	-0.5 %	17 700
% in combination trade³	81%	73%	77%	n.a.	-4.9 %	90%
Ballast days in % of on-hire days⁴	9%	13%	15%	30%	66.7 %	7.5%

2020 Actual	CABU Mark I	CABU Mark II	CABU Total	CLEANBU	KCC Total
EEOI¹	8.17	6.40	7.44	7.44	7.44
Average CO₂ emissions per vessel²	21,100	22 100	21 400	18 900	20 700
% in combination trade³	83%	94%	87%	50%	77%
Ballast days in % of on-hire days⁴	15%	10%	13%	18%	15%

12345

Footnotes

- EEOI (Energy Efficiency Operational Index) is defined by IMO and represents CO₂ emitted per transported cargo per nautical mile for a period of time (both fuel consumption at sea and in port included). Prior to 2020, end date of a voyage is decisive for which period EEOI for a voyage is included. From 2020 and onwards, reporting system provider was changed so that we are able to calculate EEOI on a per day basis, allocated to the corresponding quarter.
- Average CO₂ emissions per vessel = total emissions/vessel years. Vessel years = days available – offhire days at yard. When new vessels are delivered to the fleet, the vessel years are calculated from the date the vessel is delivered. Prior to 2020, end date for a voyage was decisive for which period emission was included. From 2020 and onwards, reporting system provider was changed so that we are able to calculate emissions on a per day basis, allocated to the corresponding quarter.
- % of days in main combination trades = number of days in main combination trades (being CABU trade Far East/Middle East- Australia and US Gulf-Brazil and the CLEANBU trade Middle East/India-South America) as a percentage of total on-hire days. On-hire days from positioning voyages between Atlantic and Pacific are not considered as main combination trades. In Atlantic, a voyage from US Gulf to Brazil with ballast back to US Gulf, is considered as main combination trade although there currently are more ballast voyages due to lack of dry cargo possibilities on the return voyage. Time charter (TC) contracts for three CLEANBU vessels during 2020, two with 3 months duration and one with 9 months duration are not considered as main combination trade.
- Ballast in % of onhire days = Number of days in ballast /number of onhire days. Ballast days when the vessel is offhire is not included. Prior to 2020, end date of a voyage is decisive for which period ballast is included. From 2020 and onwards, reporting system provider was changed so that we are able to track ballast on a per day basis, allocated to the corresponding quarter.
- Benchmark: The EEOI and % ballast for “Benchmark standard vessels” are calculated based on standard vessels (Panamax/Kamsarmax dry, MR-tankers and LRI-tankers) making the same transportation work in the same trades as performed by KCC's CABU and CLEANBU vessels. The EEOI for “Benchmark standard vessels” is calculated as the weighted average of EEOI for the individual trades performed. There is a degree of uncertainty related to the benchmark values as these are estimated using data from Baltic Exchange and AXS Marine.

In addition to the above emission-KPIs as well as reporting Scope 1 and 2 emissions on an annual basis, KCC reports oil spills on a quarterly basis. Over the last three years 2018-2020, KCC has experienced one oil spill to the environment (Q2 2020). During a discharge operation, one of the vessels experienced a leakage onto the deck. The leakage was limited, and discharging was stopped immediately, however, due to heavy rain it was not possible to stop it from reaching the water. The incident has been investigated and procedures have been evaluated.

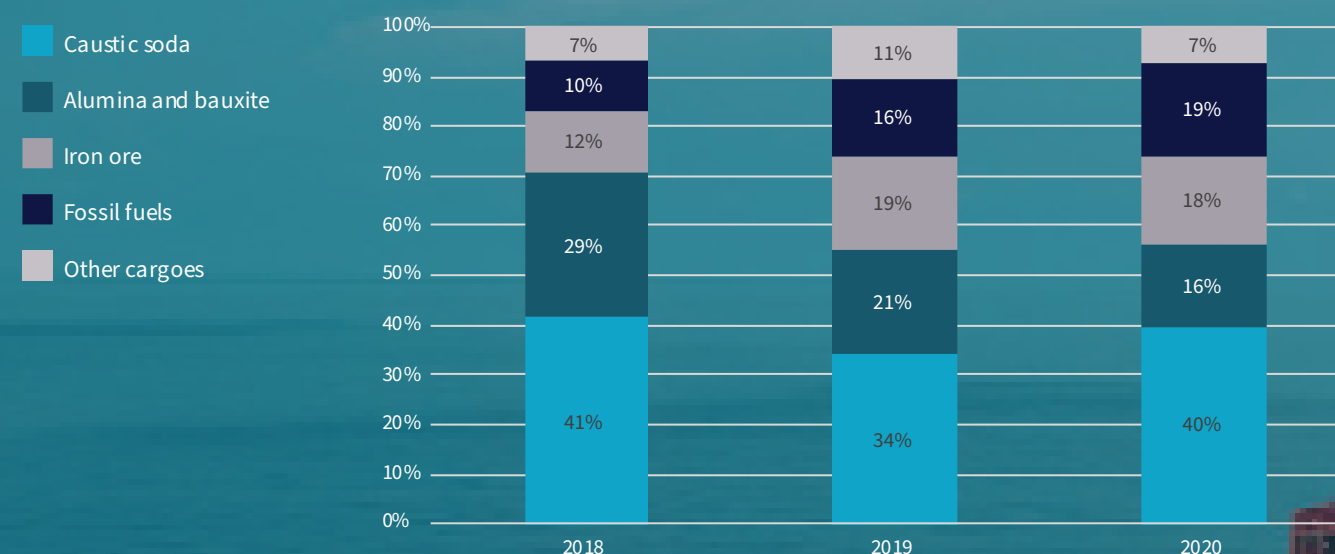
Cargos carried – KCC partly depends on transportation of fossil fuels

KCC considers its three main climate-related risks as outlined in the Strategy chapter to be:

- Transition to lower emissions technology: Uncertainty related to future propulsion technology. It will be a competitive advantage to be a low-emission provider of transportation services and over time the industry has to develop zero-emission solutions.
- Introduction of new regulations such as EU Taxonomy, updated IMO regulations and carbon taxes will both impact who will get access to and the price of funding and will impact revenue and cost for shipping companies.
- Change in customer preferences: Reduced demand for transportation of fossil fuels as demand for the commodity deteriorates.

Targets and metrics related to i) and ii) are covered above in this chapter. One way we monitor issue iii) is through assessing our dependence on transportation of fossil fuels. In 2020, KCC transported two coal cargos (2% of transported cargoes), while coal constitute as much as around 30% of cargoes carried for standard panamax/kamsarmax dry bulk vessels. Of total volume transported in 2020, KCC transported 19% fossil fuels, up from 16% in 2019 and 10% in 2018. Percentage carried fossil fuels of total volume is estimated to be around 25% in 2022 after delivery of all newbuild. In comparison, fossil fuels account for a much larger part of transported volumes for standard product tankers. KCC targets to reduce the dependence on high intensive CO₂ -industries over time and to focus on low CO₂ intensive industries and industries that are in the transition to becoming low CO₂ intensive, such as the aluminum/alumina industry, the steel industry and the petrochemical industry.

Figure 10: Historic overview of cargoes carried by the KCC fleet¹



Footnotes

- Fossil fuels include gasoil, coal, gasoline and jet fuel and other CPP. Naphtha and condensate to the petrochemical industry included in Other.

Notes



Klaveness
Combination Carriers