Module: Introduction

Page: Introduction

CC0.1

Introduction
Please give a general description and introduction to your organization.

Dampskibsselskabet NORDEN A/S (NORDEN) operates globally in dry cargo and product tankers with one of the most modern and competitive fleets in the industry. NORDEN's active fleet consists of a total of 228 owned and chartered vessels.

In Dry Cargo, NORDEN is in line with the new strategy Focus & Simplicity strengthening its position within vessel types where the shipping company is already a strong player in the market. This means focusing on the two vessel types Supramax and Panamax. NORDEN will, however, continue as a global operator of Handysize vessels, even though it will be without owned vessels in the long-term.

In Tankers, NORDEN’s activities comprise Handysize and MR product tankers. NORDEN’s vessels are operated commercially by Norient Product Pool, which is one of the largest product tanker pools in the world and owned 50% by NORDEN.

NORDEN’s core fleet consists of owned vessels and vessels on charter for more than 13 months. The core fleet is supplemented by vessels chartered on a short-term basis or for individual voyages, and this mix allows NORDEN to rapidly adjust the size and costs of the fleet to changing market conditions. Purchase and extension options on many chartered vessels increase flexibility of the fleet and contribute to the value creation.

With offices in Denmark, Singapore, China, India, the USA, Chile, Australia and Brazil, a network of port captains as well as site offices at shipyards in Japan and South Korea, NORDEN seeks to keep close contact with customers and business contacts. NORDEN has 977 employees in total, 288 employees on shore and 689 on board owned vessels. In addition, Norient Product Pool has 63 employees at its offices in Denmark, Cyprus, Singapore, USA and Brasil.

NORDEN was founded and listed in 1871 and is one of the oldest listed shipping companies in the world. Management focus is long-term and rooted in NORDEN’s vision, mission and values. The goal is for NORDEN to continuously develop for the benefit of its stakeholders and to achieve high, stable earnings.

(Numbers are stated at 31 December 2015).

CC0.2

Reporting Year

Please state the start and end date of the year for which you are reporting data.
The current reporting year is the latest/most recent 12-month period for which data is reported. Enter the dates of this year first.
We request data for more than one reporting period for some emission accounting questions. Please provide data for the three years prior to the current reporting year if you have not provided this information before, or if this is the first time you have answered a CDP information request. (This does not apply if you have been offered and selected the option of answering the shorter questionnaire). If you are going to provide additional years of data, please give the dates of those reporting periods here. Work backwards from the most recent reporting year.
Please enter dates in following format: day(DD)/month(MM)/year(YYYY) (i.e. 31/01/2001).

Enter Periods that will be disclosed
Thu 01 Jan 2015 - Thu 31 Dec 2015

CC0.3

Country list configuration

Please select the countries for which you will be supplying data. If you are responding to the Electric Utilities module, this selection will be carried forward to assist you in completing your response.

Select country
Denmark
Brazil
China

Select country
India
Singapore
United States of America
International Waters
Chile
Australia

CC0.4

Currency selection

Please select the currency in which you would like to submit your response. All financial information contained in the response should be in this currency.

USD($)

CC0.6

Modules

As part of the request for information on behalf of investors, electric utilities, companies with electric utility activities or assets, companies in the automobile or auto component manufacture sub-industries, companies in the oil and gas sub-industries, companies in the information technology and telecommunications sectors and companies in the food, beverage and tobacco industry group should complete supplementary questions in addition to the main questionnaire.
If you are in these sector groupings (according to the Global Industry Classification Standard (GICS)), the corresponding sector modules will not appear below but will automatically appear in the navigation bar when you save this page. If you want to query your classification, please email respond@cdp.net.
If you have not been presented with a sector module that you consider would be appropriate for your company to answer, please select the module below. If you wish to view the questions first, please see https://www.cdp.net/en-US/Programmes/Pages/More-questionnaires.aspx.

Further Information

Module: Management

Page: CC1. Governance

CC1.1

Where is the highest level of direct responsibility for climate change within your organization?

Board or individual/sub-set of the Board or other committee appointed by the Board

CC1.1a

Please identify the position of the individual or name of the committee with this responsibility

Dampskibsselskabet NORDEN A/S (hereafter NORDEN) has set up a Corporate Social Responsibility Executive Body (the CSR Executive Body) appointed by the Board of Directors in April 2008. The CSR Executive Body has the overall responsibility for ensuring that NORDEN has a systematic management approach to environmental and social sustainability (in which the issues of climate change are included).

The CSR Executive Body conducts frequent meetings, approx. quarterly, where climate change and related issues are discussed whenever relevant. Climate change issues are typically discussed in connection with NORDEN's strategy, annual reports, completion of the CDP Questionnaire, CSR reports, vessel performance reviews and in relation to broader industry initiatives.

The Chairman of the CSR Executive Body is NORDEN's Chief Executive Officer, Jan Rindbo, who is ultimately responsible for handling issues relating to climate change. The CEO reports directly to the Board of Directors.

Besides the Chairman, the CSR Executive Body comprise 3 other members described below:

Jens Christensen, Senior Vice President and head of the Technical Department is responsible for the Technical Department and thereby for Marine HR, health and safety, piracy, dry docking, maintenance of vessels and NORDEN's Climate Action Plan.

Steven Sandorff, Director in Asset Management is responsible for the pool distribution to the NORDEN tanker fleet, maintaining overall coordination of claims issues for tanker vessels as well as optimisation of vessels and their trading capabilities including evaluation of new tonnage both owned and chartered.

Thomas Kobbel, VP is head of dry cargo chartering and thus responsible for NORDEN’s commercial activities within the dry cargo segment.

This mix of competences ensures that all aspects of NORDEN's business, which might have an impact on climate change or might be impacted by climate change are discussed. The CSR Executive Body discusses, approves and reviews NORDEN's CSR strategy, policies, measures and new initiatives relating to CSR, hereunder Climate & Environment as one of NORDEN’s CSR focus areas. The CSR Executive Body also ensures implementation of future initiatives with regard to climate change and reports to the Board of Directors.

The Technical Department oversees the climate-related and environmental efforts regarding the ongoing operation and development of the owned fleet. In addition,

in January 2011, NORDEN established a dedicated corporate CSR Department, which is in charge of the development and implementing NORDEN's CSR strategy, policies, Code of Conduct and action plans.

The CSR Department is also in charge of CSR reporting, internal and external communication on CSR and initiating new CSR activities. The CSR Department presents their work and ideas to the CSR Executive Body, who in turn is in charge of approving, discussing and reviewing all suggestions.

The CSR Executive Body reports to the Board of Directors, and the Board of Directors discusses the main lines and essential new initiatives at least twice a year in connection with the strategy and budget process and approval of the annual CSR report.

CC1.2

Do you provide incentives for the management of climate change issues, including the attainment of targets?

Yes

CC1.2a

Please provide further details on the incentives provided for the management of climate change issues

Who is entitled to benefit from these incentives?	The type of incentives	Incentivized performance indicator	Comment
Environment/Sustainability managers	Recognition (non-monetary)	Supply chain engagement	NORDEN's purchasing department is responsible for engaging with technical suppliers on climate change issues as a part of NORDEN Responsible Supply Chain Management Programme. NORDEN's purchasers Work in close collaboration with the Sustainability (CSR) manager) on this area.
Buyers/purchasers	Recognition (non-monetary)	Supply chain engagement	NORDEN's purchasing department is responsible for engaging with technical suppliers on climate change issues as a part of NORDEN Responsible Supply Chain Management Programme. NORDEN's purchasers Work in close collaboration with the Sustainability (CSR) manager) on this area.

Further Information

Page: CC2. Strategy

CC2.1

Please select the option that best describes your risk management procedures with regard to climate change risks and opportunities

Integrated into multi-disciplinary company wide risk management processes

CC2.1a

Please provide further details on your risk management procedures with regard to climate change risks and opportunities

Frequency of monitoring	To whom are results reported?	Geographical areas considered	How far into the future are risks considered?	Comment
Six-monthly or more frequently	Senior manager/officer	NORDEN operates globally and has customers all over the world. Few coastal areas worldwide have not been visited by a NORDEN vessel during the past year. Even though, we operate globally, we have chosen, on the basis of our risk and opportunity assessment, to focus our monitoring on specific geographical areas, such as the Baltic region (including the Nordics and Arctic) and the US Gulf.	> 6 years	NORDEN uses the same monitoring structure to deal with climate change risk as we use to deal with other risks to our business. We weigh climate change risk in proportion to all other risks and monitor it regularly. In terms of the time perspective for considering risks, some risks require that we look further into the future than others, for instance the risk of new global legislation on sulphur content limits require a future outlook of more than 6 years, while the other commercial risks might have a shorter time perspective. We use both a short and long-term perspective.

CC2.1b

Please describe how your risk and opportunity identification processes are applied at both company and asset level

At company level: NORDEN's Business Analytics function focuses on risk management and analysing impacts of future regulation, risks and opportunities by using data, and evaluating impact on the market. They also look at customer relations and requirements, risks and opportunities due to climate change; including extreme weather conditions, trading patterns, attracting new customers and legal requirements, which may improve or worsen NORDEN's framework conditions. Further, NORDEN has a Fuel Efficiency Team comprising qualified engineers who monitors and optimises bunker consumption and vessel performance.
At an asset level: Assessment and monitoring of risk and opportunities are integrated into the daily business operations of NORDEN's Dry Cargo, Tanker and Technical Department respectively. The Dry Cargo and Tanker Department each monitor the market and use trend reports to decide how to position vessels. For instance, when there are signs of a harsh and severe winter or other weather conditions, and thereby a possible increase in demand for our ice-class reinforced vessel, we position these near the North Atlantic region to be able to meet the expected demand. The departments make use of external weather routing companies to assist them in pinpointing the best route and managing physical risks or opportunities driven by climate change, such as harsh winters, storms, floods and droughts. The Technical Department monitors operational risk related to the management of NORDEN's vessels, such as health and safety, vetting, procurement, environmental and waste management. Executive Management reports to the Board of Directors on risks and development within the specific areas on a monthly basis. NORDEN's risk management policy is described in detail in the enclosed Annual Report 2015, pages 16-17.

CC2.1c

How do you prioritize the risks and opportunities identified?

Prioritisation of identified risks and opportunities are based on their alignment with NORDEN's business and CSR strategy, market trends and regulation. Executive Management is responsible for identifying material risks and overseeing NORDEN's risk management policy. NORDEN's risk profile and exposure is reported to the Board of Directors on a monthly basis. Operational risk is defined as the risk of loss due to insufficient or failed internal procedures, human error, faulty systems or caused by external events. In terms of value, the most material events covered by insurance are oil spills and total loss (lost value of owned vessels, purchase options and charter parties). NORDEN covers these risks by taking out insurances with recognised international insurance companies. NORDEN further minimises these risks by operating a modern fleet and by investing heavily in the maintenance of vessels and in staff awareness. In general, NORDEN sees increased operational risk due to recent years' poor market conditions, which e.g. causes many ship owners to economise on maintenance and crew quality. Therefore, NORDEN has a strong focus on the quality and competencies of our crew as well as the condition of the vessels. Safety of crew and vessel is NORDEN's number one priority. Thus, if NORDEN identifies a risk that can threaten the safety or security of our crew, it is always given top priority. Moreover, risk and opportunities, which can affect bunker consumption negatively, are given high priority, as bunker constitutes approx. 52% of total voyage costs in 2015. One of the possible risks that NORDEN's Fuel Efficiency Team monitors is how extreme weather conditions impacts a vessel's bunker consumption. The reduction of bunker consumption is proportionally linked with NORDEN's reduction in CO2 emissions. For more detail see NORDEN's enclosed Annual Report 2015 p. 16-17.

CC2.1d

Please explain why you do not have a process in place for assessing and managing risks and opportunities from climate change, and whether you plan to introduce such a process in future

Main reason for not having a process	Do you plan to introduce a process?	Comment

CC2.2

Is climate change integrated into your business strategy?

Yes

CC2.2a

Please describe the process of how climate change is integrated into your business strategy and any outcomes of this process

Alignment of business and CSR strategy: NORDEN's vision, mission and values are the cornerstones of the company's management approach. NORDEN's management focus is long-term, and the goal for NORDEN is to continuously develop for the benefit of its stakeholders and to achieve high, stable earnings within the risk framework set out by the Board of Directors. NORDEN's business strategy 'Focus & Simplicity' and CSR strategy, and thus NORDEN's focus on climate change as included herein, are closely aligned and thus influence each other. Increasingly, aspects of climate change influence the direction of strategy, for instance the changes in the regulatory environment within the EU, the International Maritime Organisation, the global agreement adopted by the UN Climate Change Convention in December 2015, and not least the mandatory reporting requirements introduced for companies listed on the Danish stock exchange. Additional drivers influencing the business strategy include the commercial incentive for running an increasingly fuel efficient fleet, and the need for adaptation of the fleet to meet still harsher weather conditions.

Outcomes of the strategy process: The Danish Shipowners' Association has set a long-term and science-based target for reducing CO2 emissions from the Danish shipping industry. This target is to reduce the relative CO2 emissions from owned vessels by 25% by 2020 compared to the 2007 level, of which 15% should be a result of technical improvements and another 10% resulting from speed reductions. NORDEN has adopted these targets as part of our CSR strategy. Since 2007, NORDEN has also taken several initiatives, including the initiation of a Climate Action Plan in 2007 targeting NORDEN's owned vessels with the aim of supporting continuous CO2 reductions and to reduce SOx and NOx emissions. These initiatives benefit the climate by reducing propulsion resistance of our vessels and optimising fuel efficiency – both important factors in reducing emissions to air and water. The initiatives in the Climate Action Plan are evaluated on an ongoing basis. In 2007, the Climate Action Plan consisted of 14 fuel saving initiatives. Each year, the initiatives have been scrutinised based on impact and profitability. As a result, the amount of initiatives has been reduced from 14 to 10 initiatives, integrating 4 of the initiatives into 1. In 2013, NORDEN replaced initiative 10, focusing on funding environmental research, with the new initiative "Variable Sea Water Cooling Pump capacity". All initiatives are introduced on newbuildings and acquired vessels on an ongoing basis.

The short-term strategy (defined as up to 1 year) in 2015 is to reduce CO2 emissions from owned vessels by 4.7%, compared to the baseline of not applying any initiatives, by following the Climate Action Plan. With an actual reduction of 10.7%, NORDEN met this target in 2015.

An aspect of NORDEN's long-term strategy (defined as 1-3 years or > 3 years) is to focus on ECO vessels. NORDEN's long-term aim is to replace existing non-ECO vessels with ECO vessels, in order for the core fleet to consist only of ECO vessels. In 2015, NORDEN took delivery of in total 4 ECO tanker vessels and 1 ECO dry cargo vessel. Within the next 4 years, NORDEN plans to take delivery of a total of 8 owned ECO dry cargo vessels, 6 long term chartered ECO tanker vessels with purchase options, 1 long term chartered ECO tanker vessel and 5 ECO long term chartered dry cargo vessels with purchase options.

Performance Monitoring: Besides the Climate Action Plan, NORDEN has taken other initiatives to reduce CO2 emissions, e.g. by establishing a Fuel Efficiency Team. The Fuel Efficiency Team comprise qualified engineers who, in cooperation with other departments (e.g. Operations and Technical dept.), monitor the vessel's bunker consumption and analyse development in bunker consumption over time. Using mathematical models impact of weather conditions are addressed such that performance can be evaluated without considering weather impact. As bunker constitutes approximately 52% of total voyage costs in 2015, minimising bunker consumption through concrete initiatives (e.g. propeller polish and hull cleanings), monitoring, is given high priority. For instance, the Fuel Efficiency Team looks at the weather conditions and how rough/bad weather conditions can influence the optimal speed. Reduction of bunker consumption is directly proportional to reduction in CO2 emissions.
Sulphur content: In January 2015, the new sulphur (SOx) content regulation came into effect and consequently all areas defined as Emission Control Areas (ECAs) introduced a sulphur control limit of 0.1%. There has been no shortage of availability of low sulphur oil since the introduction of the new requirement limit. The majority of bunkers bought by NORDEN for use in ECAs has been gasoil, which has a sulphur limit of 0.1%. In 2015, around 15% of our total bunkers purchased was gasoil of which approx. 7% was Ultra Low Sulphur Oil (ULSFO). In 2020, even stricter global sulphur limits will come into effect and these lower the current limits of 3.5% to 0.5%. However, the ECAs will still preserve a sulphur limit of 0.1%. If in 2018 it is not deemed possible to reach this goal and thereby implement the regulation, the International Maritime Organisation (IMO) will postpone it until 2025. In order to be ready for the new regulation, in 2015 NORDEN has created an ECA taskforce, whose role and objective it is to monitor the impact of the SOx regulations both in terms of risk and opportunities for NORDEN in 2015 and going forward. Additionally, the ECA taskforce monitors which technologies, if any, would be the most relevant and viable to invest in.

Focus on reducing climate impacts has proven a competitive and strategic advantage when negotiating contracts in NORDEN. The decision to implement fuel efficient measures on existing vessels as well as focusing on energy efficiency when contracting new vessels or entering into agreements on long-term chartered tonnage, reduces our bunker consumption and costs as these vessels consume less bunker oil and thereby emit less CO2. NORDEN's operational costs decrease, which enables the company to be more competitive and thereby be an attractive business partner.

CC2.2b

Please explain why climate change is not integrated into your business strategy

CC2.2c

Does your company use an internal price of carbon?

No, and we currently don't anticipate doing so in the next 2 years

CC2.2d

Please provide details and examples of how your company uses an internal price of carbon

CC2.3

Do you engage in activities that could either directly or indirectly influence public policy on climate change through any of the following? (tick all that apply)

Trade associations
Funding research organizations

CC2.3a

On what issues have you been engaging directly with policy makers?

Focus of legislation	Corporate Position	Details of engagement	Proposed legislative solution

CC2.3b

Are you on the Board of any trade associations or provide funding beyond membership?

Yes

CC2.3c

Please enter the details of those trade associations that are likely to take a position on climate change legislation

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
Danish Shipowners' Association	Consistent	The Danish Shipowners' Association, of which NORDEN is an active member, is the only association, which since 2008 has proactively published its members' fleets' fuel consumption data on an annual basis. Instead of waiting for a political compromise to combat climate change, the Association and NORDEN want the complete shipping industry to be more proactive in reducing CO2-emissions. One way is to promote transparency by registering fuel consumption and CO2 emissions, as NORDEN already does. The Association has set a long-term general target for reducing CO2 emissions from the Danish shipping industry. The target is to reduce the relative CO2 emissions from owned vessels by 25% by 2020 compared to the 2007 level, of which 15% should be a result of technical improvements and another 10% as a result of speed reductions. The Danish Shipowners' Association supports a global agreement on emissions reductions, and works towards the inclusion of shipping in the global agreement on CO2 reductions adopted by the UN Climate Change Convention at COP21 in Paris in December 2015.	Climate change and CO2 emissions are global challenges requiring global solutions, and NORDEN considers it important to find international solutions to these global problems as such solutions will result in the best environmental improvements and ensure equal competition for all shipping companies worldwide. NORDEN engages with policy makers through its active engagement in the Danish Shipowners' Association, the International Association of Independent Tanker Owners (Intertanko) and International Chamber of Shipping (ICS). Through these organisations, NORDEN supports that the International Maritime Organization (IMO) is given the mandate to enforce global climate and environmental requirements and regulations for all shipping companies worldwide. NORDEN believes that a coherent and comprehensive future IMO framework should be: •effective in contributing to the reduction of total GHG emissions •binding and equally applicable to all Flag States in order to avoid evasion •cost efficient to limit or effectively minimise distortion of competition, •environmentally sustainable without penalising global trade and growth , •science and target-based and not prescribing specific method, •promoting and facilitating technical innovation and R&D in the shipping industry, •accommodating to front runners in the field of energy efficient technologies, •practical, transparent, fraud free and easy to administer. These principles have been laid down by IMO's Marine Environment Protection Committee. In addition, when appropriate, NORDEN provides input to relevant policies and discussions regarding the shipping industry's contribution to climate change and how to best minimise the adverse impact of climate change. For instance during 2016, the Association will commence a process for developing a science-based target for CO2 reduction on behalf of the shipowners, where NORDEN participates actively in the working group. Finally, NORDEN is a partner in "Green Ship of the Future", a partnership established in 2008 between the Danish government and companies from the Danish maritime industry. The partners work to develop

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
			strategies to reduce air emissions from vessels by 30% in CO2, 90% in SOx and NOx. NORDEN continuously assesses, if technologies included in "Green Ship of the Future" are viable in NORDEN's fleet.

CC2.3d

Do you publicly disclose a list of all the research organizations that you fund?

No

CC2.3e

Please provide details of the other engagement activities that you undertake

CC2.3f

What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

NORDEN has in place a Corporate Social Responsibility (CSR) strategy, which transparently describes NORDEN's CSR focus areas and future targets. Climate & Environment is one of the focus areas in the CSR strategy. The strategy guides NORDEN's work within Climate & Environment and thereby ensure that NORDEN's input to relevant policies and discussions in the Danish Shipowners' Association are are consistent and in line with NORDEN's ambitions, position and targets.

For instance, NORDEN's target to reduce CO2 emissions from owned vessels, exclusive of vessels on contract to third parties, by 25% by 2020 compared to the 2007 level, is aligned with the target set by the Danish Shipowners' Association. To support this target, NORDEN actively engages in a working group that has as its purpose to define how Danish shipowners, who have committed to reaching the target set forth by the Danish Shipowner's Association, can transparently communicate their results and ensure common methods of calculation based on IMO's standard EEOI (Energy Efficiency Operational Indicator).

In 2016, NORDEN will also be part of a newly established working group in the Danish Shipowner's Association that will develop a study, a methodology and as an outcome a science-based CO2 reduction target for the Danish shipping industry. The aim is that NORDEN and the other shipowners adopt this science-based target and methodology by the end of 2016.

For instance, NORDEN's target to reduce CO2 emissions from owned vessels, exclusive of vessels on contract to third parties, by 25% by 2020 compared to the 2007 level, is aligned with the target set by the Danish Shipowners' Association.

To support this target, NORDEN actively engages in a working group that has as its purpose to define how Danish shipowners, who have committed to reaching the target set forth by the Danish Shipowner's Association, can transparently communicate their results and ensure common methods of calculation based on IMO's standard EEOI (Energy Efficiency Operational Indicator).

Going forward, NORDEN will in 2016 actively participate in a newly established working group that will work towards determining new, science-based CO2-reduction targets for the Danish shipping industry.

CC2.3g

Please explain why you do not engage with policy makers

Further Information

Attachments

https://www.cdp.net/sites/2016/69/22369/Climate Change 2016/Shared Documents/Attachments/ClimateChange2016/CC2.Strategy/NORDEN_Annual Report 2015.pdf

Page: CC3. Targets and Initiatives

CC3.1

Did you have an emissions reduction or renewable energy consumption or production target that was active (ongoing or reached completion) in the reporting year?

Absolute target

CC3.1a

Please provide details of your absolute target

ID	Scope	% of emissions in scope	% reduction from base year	Base year	Base year emissions covered by target (metric tonnes CO2e)	Target year	Is this a science-based target?	Comment
Abs1	Scope 1	99%	25%	2007	362000	2020	No, but we anticipate setting one in the next 2 years	NORDEN aims to reduce the relative CO2 emissions from dry cargo and tanker vessels by 25% by 2020 compared to 2007 level (out of the 25% reduction, 15 % must be from technical improvements and 10% a result of right steaming.) The targets are in line with the target set by the Danish Shipowners' Association. To assess progress, the Energy Efficiency Operational Indicator (EEOI) is used. EEOI enables NORDEN to compare annual CO2 reduction regardless of changes in the fleet size, as EEOI is defined as CO2 emitted per metric of cargo transported per nautical mile sailed. In 2015, NORDEN reduced CO2 emissions by 14,5% for owned tanker vessels and 2,7% for owned dry cargo vessels. The reduction of CO2 emissions is a result of a combination of activities i.e.; the initiatives of the Climate Action Plan (technical improvements), right steaming, speed optimisation and investments in fuel efficient vessels (maintaining a young and modern fleet).

CC3.1b

Please provide details of your intensity target

ID	Scope	% of emissions in scope	% reduction from base year	Metric	Base year	Normalized base year emissions covered by target	Target year	Is this a science-based target?	Comment

CC3.1c

Please also indicate what change in absolute emissions this intensity target reflects

ID	Direction of change anticipated in absolute Scope 1+2 emissions at target completion?	% change anticipated in absolute Scope 1+2 emissions	Direction of change anticipated in absolute Scope 3 emissions at target completion?	% change anticipated in absolute Scope 3 emissions	Comment

CC3.1d

Please provide details of your renewable energy consumption and/or production target

ID	Energy types covered by target	Base year	Base year energy for energy type covered (MWh)	% renewable energy in base year	Target year	% renewable energy in target year	Comment

CC3.1e

For all of your targets, please provide details on the progress made in the reporting year

ID	% complete (time)	% complete (emissions or renewable energy)	Comment
Abs1	61.5%	25.16%	NORDEN aims to reduce the relative CO2 emissions from dry cargo and tanker vessels by 25% by 2020 compared to 2007 level. The targets are in line with the target set by the Danish Shipowners' Association. To assess progress the IMO's Energy Efficiency Operational Indicator (EEOI) is used. EEOI enables NORDEN to compare annual CO2 reductions regardless of changes in the fleet size, as EEOI is defined as CO2 emitted per metric of cargo transported per nautical mile sailed. From 2007 to end of 2015, NORDEN reduced CO2 emissions by 14,5% for owned tankers and 2,7% for owned dry cargo vessels. Completion of target is calculated in respect of Tankers and Dry cargo's share of total transport work in 2015. The reduction of CO2 emissions is a result of a combination of activities i.e.; the initiatives of the Climate Action Plan (technical improvements), right steaming, speed optimisation and investments in fuel efficient vessels (maintaining a young and modern fleet).

CC3.1f

Please explain (i) why you do not have a target; and (ii) forecast how your emissions will change over the next five years

CC3.2

Do you classify any of your existing goods and/or services as low carbon products or do they enable a third party to avoid GHG emissions?

Yes

CC3.2a

Please provide details of your products and/or services that you classify as low carbon products or that enable a third party to avoid GHG emissions

Level of aggregation	Description of product/Group of products	Are you reporting low carbon product/s or avoided emissions?	Taxonomy, project or methodology used to classify product/s as low carbon or to calculate avoided emissions	% revenue from low carbon product/s in the reporting year	% R&D in low carbon product/s in the reporting year	Comment
Product	NORDEN offers our customers a flexible service, where NORDEN can calculate the CO2 footprint of the service, we deliver, if required. Based on our customers' wishes, we can reduce and thus avoid CO2 emissions by decreasing speed, thereby reducing the fuel consumption and total CO2 emissions.	Avoided emissions				Seaborne transportation is the most environmentally friendly means of cargo transport available. If the same amount of cargo was to be transported by airfreight instead of by ship today, the CO2 emissions would be 100 times greater. If required by customers, NORDEN's Fuel Efficiency Team can calculate the CO2 footprint of the specific transportation service that is delivered. This can in turn be used as a basis for the customers' decision making.

CC3.3

Did you have emissions reduction initiatives that were active within the reporting year (this can include those in the planning and/or implementation phases)

Yes

CC3.3a

Please identify the total number of projects at each stage of development, and for those in the implementation stages, the estimated CO2e savings

Stage of development	Number of projects	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation		
To be implemented*		
Implementation commenced*		
Implemented*	10	145734
Not to be implemented		

CC3.3b

For those initiatives implemented in the reporting year, please provide details in the table below

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
Transportation: fleet	Propeller cleaning: Adoption of propeller cleaning on an average 6 months basis. This activity was implemented on 53 vessels. All figures stated (annual CO2 savings, annual monetary savings, investment required and	45291	Scope 1	Voluntary	2014115	636000	<1 year	1-2 years	

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
	payback period) cover all 53 vessels.								
Transportation: fleet	Advanced hull coating: This reduces the marine growth on the underwater hull. This activity was implemented on 53 vessels. All figures stated (annual CO2 savings, annual monetary savings, investment required and payback period) cover all 53 vessels.	35452	Scope 1	Voluntary	1576573	5300000	1-3 years	3-5 years	
Transportation: fleet	Shaft torque monitoring system: This ensures an online real-time monitoring of the propulsion power delivered to the propeller. This activity was implemented on 53 vessels. All figures stated (annual CO2 savings, annual monetary savings, investment required and payback period) cover all 53 vessels.	19609	Scope 1	Voluntary	872024	1325000	<1 year	21-30 years	
Transportation: fleet	M/E Perform Check/Service: This ensures an effective dosage of cylinder lubrication oil via the Alpha Lubrication System and a reduction of the cylinder oil consumption can therefore be obtained. This activity was implemented on 53 vessels and all figures states (annual CO2 savings, annual monetary	13112	Scope 1	Voluntary	583103	1590000	1-3 years	3-5 years	Per 5 year cycle.

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
	savings, investment required and payback period) cover all 53 vessels.								
Transportation: fleet	Slide fuel valves for main engines: Improve the combustion of the main engine and ensures a cleaner engine. This activity was implemented on 53 vessels. All figures stated (annual CO2 savings, annual monetary savings, investment required and payback period) cover all 53 vessels.	10958	Scope 1	Voluntary	487308	3975000	1-3 years	21-30 years	
Transportation: fleet	Electrical steam generator: Instead of using a large capacity oil fired boiler to “top up” steam at low engine loads and/or in cold weather, a small electrical heating system can be installed and will efficiently generate the required top up steam. This activity was implemented on 10 vessels, and all figures states (annual CO2 savings, annual monetary savings, investment required and payback period) cover 10 vessels.	8775	Scope 1	Voluntary	390224	850000	1-3 years	3-5 years	
Transportation: fleet	Propulsion module: Vessel performance monitoring ensures an overview of the development of fuel efficiency for each individual vessel in the fleet. This activity	5767	Scope 1	Voluntary	256478	152800	<1 year	1-2 years	The approximate cost of having the NORDEN´Fuel Efficiency Team.

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
	was implemented on 53 vessels, and all figures states (annual CO2 savings, annual monetary savings, investment required and payback period) cover all 53 vessels.								
Transportation: fleet	Variable Sea Water Cooling Pump capacity: This adjusts the cooling capacity to the actual cooling demand, electrical power drawn from the main switch board can be reduced and thereby auxiliary engine fuel oil consumption will be reduced. This activity was implemented on 25 vessels, and all figures states (annual CO2 savings, annual monetary savings, investment required and payback period) cover all 25 vessels.	2575	Scope 1	Voluntary	114488	750000	1-3 years	21-30 years	
Transportation: fleet	Scrape down analysis for main engines: This ensures more frequent check and service intervals of the turbo charger, fuel oil pump and air cooler. This activity was implemented on 52 vessels, and all figures states (annual CO2 savings, annual monetary savings, investment required and payback period) cover all 52 vessels.	2185	Scope 1	Voluntary	97153	624000	1-3 years	<1 year	

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
Transportation: fleet	Alpha Lubricator system for the main engines: This ensures an effective dosage of cylinder oil and a reduction of the cylinder oil consumption can be obtained. This activity was implemented on 51 vessels, and all figures states (annual CO2 savings, annual monetary savings, investment required and payback period) cover all 51 vessels.	2010	Scope 1	Voluntary	93435	10200000	>25 years	21-30 years	

CC3.3c

What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Employee engagement	NORDEN conducts internal workshops in order to determine what new initiatives to take in order to optimise the vessels with the aim of reducing fuel consumption and CO2 emissions. NORDEN has previously initiated an internal project, "Eco vessel of the future", with participation of several departments. The aim of the project was to select a set of practicable emissions reduction technologies, using an MR product tanker as reference vessel. Moreover, NORDEN has established a Fuel Efficiency Team consisting of qualified engineers, who in cooperation with other departments, monitor the specific vessels' bunker consumption and thereby analyse the reasons why a vessel might consume more bunkers than expected, by for instance analysing the impact of weather on bunker consumption.

Method	Comment
Dedicated budget for energy efficiency	NORDEN's Fuel Efficiency Team was established to continuously focus on fuel efficiency and thus financial optimisation as fuel accounts for a significant proportion of total voyage costs (52% in 2015). Because fuel consumption is directly linked to CO2 emissions, the more NORDEN can reduce fuel consumption the more CO2 emissions will decrease.
Other	NORDEN practices knowledge sharing with other ship-owners and suppliers, including yards, suppliers of sub-components and the classes. In addition, NORDEN enters into dialogue with research institutions and participates in trade fairs in order to obtain new knowledge on emissions reduction activities and technology.
Compliance with regulatory requirements/standards	Compliance requirements is a significant driver of investment in emissions reductions in NORDEN. For instance, the introduction of further regulation on sulphur content limits in bunker fuel, will both prompt investment in new fuel types and prompt investment in so-called air scrubbers that can be used to remove particulates and gases from CO2 emissions to air from burning fuel in operating NORDEN's vessels.

CC3.3d

If you do not have any emissions reduction initiatives, please explain why not

Further Information

Page: CC4. Communication

CC4.1

Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s)

Publication	Status	Page/Section reference	Attach the document	Comment
In mainstream reports (including an integrated	Complete	Page 40-41	https://www.cdp.net/sites/2016/69/22369/Climate Change 2016/Shared Documents/Attachments/CC4.1/NORDEN_Annual	NORDEN's Annual Report

Publication	Status	Page/Section reference	Attach the document	Comment
report) in accordance with the CDSB Framework			Report 2015.pdf	2015
In voluntary communications	Complete	Page 7-9 CO2 Efficiency, Page 18 Transparency, page 19-29 Environmental Management, page 24-25 Facts, Figures and Assurance.	https://www.cdp.net/sites/2016/69/22369/Climate Change 2016/Shared Documents/Attachments/CC4.1/NORDEN CSR report 2015.pdf	NORDEN's annual CSR Report 2015

Further Information

Module: Risks and Opportunities

Page: CC5. Climate Change Risks

CC5.1

Have you identified any inherent climate change risks that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

Risks driven by changes in regulation
Risks driven by changes in physical climate parameters
Risks driven by changes in other climate-related developments

CC5.1a

Please describe your inherent risks that are driven by changes in regulation

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Fuel/energy taxes and regulations	There are currently several proposals put forward in the International Maritime Organisation (IMO) concerning market-based mechanisms to reduce greenhouse gas emissions from the shipping industry. One of these proposals concerns the introduction of a levy on bunker fuel. A proposal of a levy on bunker fuel is in the region of USD 25 per ton of bunker fuel; however, this is still very uncertain. There is currently no overwhelming support for the various proposals among the IMO countries.	Increased operational cost	>6 years	Direct	About as likely as not	Low-medium	If a levy on bunker fuel were introduced, it would increase NORDEN's operating costs as bunker fuel costs account for approximately 52% of total voyage costs in 2015. In 2015, NORDEN's fuel purchase amounted to approx. 1.261.033 metric tons. If a levy on bunker fuel of USD 25 per ton were introduced, NORDEN would in 2015 have had an increase in bunker costs of approximately USD 31.5 mio.	To ensure that NORDEN is more resistant to increasing fuel prices as well as future levies on bunker fuel, NORDEN focuses greatly on fuel and CO2 efficiency, which are directly linked. NORDEN has 3 focus areas to become more fuel and CO2 efficient and to minimising, the financial impact that future levies on bunker fuel would impose on NORDEN. These are: 1) technical improvements, 2) speed optimisation and 3) investments in fuel-efficient vessels. For instance, within the area of technical improvements, NORDEN has developed a	The cost of the activities vary, i.e. depending on if we invest in new ECO vessels or performance systems to optimise our speed. The Climate Action Plan has required a non-recurring investment of approximately USD 30.2 million since 2007 by implementing the 10 initiatives on owned vessels. This investment has resulted in a saving of 145,743 metric tons CO2 and USD 6.5 million solely in 2015

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	Therefore, the timeframe for the introduction of the levy is very uncertain, but we expect it to be more than 10 years in the future. If a levy on bunker fuel were introduced, it would increase NORDEN's operating costs as bunker fuel costs account for approx. 52% of total voyage costs in 2015.							Climate Action Plan in 2007 consisting of 10 fuel saving measures. The plan is updated annually. Investments in new vessels is an essential part of NORDEN's strategy to maintain a young and fuel efficient fleet. In 2015, NORDEN took delivery of 4 ECO tanker vessels and 1 ECO dry cargo vessel. NORDEN ordered 3 ECO dry cargo vessels to be delivered in 2018-2019, 4 long-term chartered ECO vessels to be delivered in 2018 and 5 long term chartered ECO tanker vessels with purchase options to be delivered in 2017-2018.	

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Air pollution limits	In 2015, new regulation on global sulphur limits was introduced. The next regulation on global sulphur (SOx) emission limits will come into effect January 2020. The sulphur limit will go from 3.5% to 0.5%, though the global Emission Control Areas (ECA) will still preserve a sulphur limit of 0.1%. If IMO (the International Maritime Organisation) in 2020 does not deem it possible to reach this goal and implement the regulation, IMO will postpone it until 2025.	Increased operational cost	3 to 6 years	Direct	Very likely	Medium-high	NORDEN generally supports the introduction of a new ECA sulphur cap and stricter rules as a sound environmental improvement initiative and thus as a means for NORDEN, who has solid environmental management in place, to gain a competitive advantage. However, if the proposed regulation on sulphur content levels is not sufficiently enforced on a global scale, hence allowing less environmentally conscientious companies to stay non-compliant, this will presumably have an anti-competitive effect	To obtain enough bunker fuel with low sulphur content to comply with the new sulphur content limits, NORDEN will disperse the purchase of bunker fuel to more parts of the world. NORDEN has taken several steps to make the fleet more energy efficient, incl. initiatives aimed at reducing the sulphur content in bunker fuel. Reduction methods are included in NORDEN's Climate Action Plan, consisting of 10 fuel saving measures updated annually. Moreover, NORDEN has created a taskforce whose role and objective it is to assess the impact of the	Since 2007, NORDEN has had non-recurring investment costs of approx. USD 30.2 million by implementing the initiatives in NORDEN's Climate Action Plan on owned vessels. However, the investments in these have in turn resulted in savings of 145,743 metric tons of CO2 and USD 6.5 million solely in 2015. NORDEN foresees that the new regulation on sulphur content limits will impose considerable additional management cost, but the exact forecast remains to be

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
							and negative financial implications for NORDEN.	upcoming SOx regulations, both in terms of risk and opportunities for NORDEN. In addition, they monitor which technologies, if any, would be the most relevant to invest in.	estimated.
Lack of regulation	Pollution and CO2 emissions rarely recognize national borders, which is why the best way to legislate for the benefit of environment and climate is to have in place regulation with a global scope. At COP21 in 2015, at the UN Convention on Climate Change, shipping was unfortunately left out of the UN climate agreement, thus dodging stringent	Increased operational cost	1 to 3 years	Direct	Very likely	Medium-high	The financial implication will depend on the scope of the regional regulation imposed. We foresee that this will have a significant effect on the ability to compete for the shipping companies comprised by the regional regulation vis-à-vis the companies that are not comprised.	Through NORDEN's involvement in the Danish Shipowners' Association, NORDEN works for a global agreement on CO2 emissions that includes the shipping industry, in recognition of that without a clear signal from the UN Convention on Climate Change, the IMO is incapable of making the necessary decisions to ensure global	There is zero additional cost (USD 0) linked to NORDEN's engagement in the group in the Danish Shipowners' Association working to achieve an UN climate agreement that also includes the shipping industry.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	requirements on CO2 emissions. Consequently, the risk of governments or other actors adopting regional maritime emissions regulation is prominent. Not having global regulation in place, comprising all shipping companies alike, is very likely to have a negative effect on global shipping.							shipping takes their share of the work in reducing emissions. Together with the Danish Shipowners' Association, NORDEN has initiated a comprehensive study on the different transition approaches for the shipping industry to reach the 'well below 2 degree' trajectory compared to pre-industrial temperatures that is presented in the UN climate agreement, where the shipping industry unfortunately was left out. The outcome of the study will be an ambitious and science-based CO2 reduction target that most likely will be adopted by	

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								NORDEN and the other Danish shipowners.	
International agreements	The UN climate agreement passed in 2015 at the UN Convention on Climate Change, presents a 'well below 2 degree' trajectory. Working towards reducing emissions to reach a low carbon economy will require a major global transition also for the shipping industry. NORDEN recognizes a significant trade risk in this transition to a greener economy - potential protectionism, conditionality and subsidies. The urgency of the global	Reduced demand for goods/services	>6 years	Indirect (Supply chain)	Very likely	Medium-high	The financial implication will depend on the scope of the emission reduction targets set forth. However, the European Parliament and other actors propose a 63% reduction target (some actors even higher) before 2050 based on 2005-levels. Without proper incentive schemes this will obviously have a huge impact on shipping and consequently global trade prices, however the exact financial implications has not yet been estimated.	Through NORDEN's involvement in the Danish Shipowners' Association, NORDEN works towards a global agreement on CO2 emissions that includes the shipping industry, in recognition of the fact that without a clear signal from the UNFCCC (UN Convention on Climate Change), the IMO (International Maritime Organisation) is incapable of making the necessary decisions to ensure global shipping takes their share of the work in reducing emissions.	There is zero additional cost (USD 0) linked to NORDEN's engagement in the group in the Danish Shipowners' Association working to achieve an UN climate agreement that also includes the shipping industry. There is zero additional cost (USD 0) linked to NORDEN's engagement in the working group in the Danish Shipowners' Association working to present the study and to achieve an UN climate agreement that

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	challenges brings renewed focus to these risks and the outcomes of the political negotiations will have an influence on trade; e.g. by affecting consumption, global trade flows and trade opportunities.							Together with the Danish Shipowners' Association, NORDEN has thus initiated a comprehensive study on the different transition approaches for the shipping industry to reach the 'well below 2 degree' trajectory compared to pre-industrial temperatures that is presented in the UN climate agreement. This study will present the identified transition risk prompted by the move towards a low carbon economy and present the estimated financial implications.	also includes the shipping industry.
Air pollution limits	December 2015, the Chinese Ministry of Transportation	Increased operational cost	1 to 3 years	Direct	Likely	Medium-high	At the end of 2019, the Chinese government will assess the	In order to obtain enough bunker fuel with a low sulphur content to	Since 2007, NORDEN has had non-recurring

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	published new Chinese regulation designating parts of the Chinese coastal waters as emission control areas (ECA) introducing a sulphur content limit of 0,5%. This means that vessels, which operate in areas near the Pearl River Delta, Yangtze River Delta and the Bohai Sea, will be obliged to use fuel containing less than 0.5% sulphur as of January 1st 2019.						situation and consider whether it is necessary to reduce the sulphur limit even further to 0.1%. NORDEN generally supports the introduction of sulphur emission caps and stricter rules as a sound environmental improvement initiative and thus as a means for NORDEN, who has solid environmental management in place, to gain a competitive advantage. However, if the proposed regulation on sulphur content levels is not sufficiently enforced locally, hence allowing less environmentally conscientious companies to stay non-compliant,	comply with the new sulphur content limits, NORDEN will disperse the purchase of bunker fuel to more parts of the world. Furthermore, NORDEN has taken several steps in making our fleet more energy efficient, including initiatives aimed at reducing the sulphur content in bunker fuel. Reduction methods are included in NORDEN's Climate Action Plan, consisting of 10 fuel saving measures, and this is updated yearly to include new initiatives and to phase out ones that have become inefficient or irrelevant.	investment costs of approx. USD 30.2 million by implementing the initiatives in NORDEN's Climate Action Plan on owned vessels. However, the investments in these have in turn resulted in savings of 145,743 metric tons of CO2 and USD 6.5 million solely in 2015. NORDEN foresees that the new regulation on sulphur content limits will impose additional management cost, but the exact forecast remains to be estimated.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
							this will presumably have an anti-competitive effect and negative financial implications for NORDEN	Moreover, NORDEN has created a taskforce whose role and objective it is to assess the impact of the upcoming SOx regulations, both in terms of risk and opportunities for NORDEN. In addition, they are monitoring which technologies, if any, would be the most relevant and viable to invest in.	

CC5.1b

Please describe your inherent risks that are driven by changes in physical climate parameters

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Other physical climate	Rough and abnormal weather conditions as forecasted by the	Increased operational cost	Up to 1 year	Direct	Likely	Low	Rough and abnormal weather conditions may	Management of physical challenges related	As the physical challenges related to extreme

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
drivers	Intergovernmental Panel on Climate Change (IPCC) are likely to alter the intensity and significance of physical challenges (e.g. as a result of an increase in the frequency of severe storms, freak waves (>25 metres), floods and droughts). NORDEN operates globally in dry cargo and product tankers and therefore physical weather challenges can affect our ability to sail and hence our business operations. Rough and abnormal weather conditions may also increase the risk of fatalities and damage to vessels that may imply more days in dock, fewer days for generating earnings and increase in maintenance and insurance costs. These weather conditions can also cause delayed arrival and departure times for vessels as well as late discharge and						increase the risk of damage to vessels that may imply more days in dock, fewer days for generating earnings and increase in maintenance and insurance costs. The range of costs from small to total loss damages, i.e. vessels that are beyond repair, lies between USD 0-40 mio. per event. Other risks comprise labor injuries, fatalities, delayed arrival and departure, late discharge and loading of cargoes, and cancellation of cargoes due to force majeure, which could increase NORDEN’s costs.	to extreme weather conditions are integrated into our daily operation of owned and chartered vessels -e.g. use of the best available technology for constant monitoring of the position of vessels (using GPS), monitoring of weather conditions, route planning, type of vessel in operation and well-trained and qualified crew. Hence, different types of physical challenges posed by climate change are already factored in. An increase in intensity and significance of those risks can immediately be responded to by escalating the activities already in place. It is clear	weather conditions are already factored into NORDEN's daily operations and operational costs, it involves zero additional costs (USD 0) for NORDEN to monitor these. In case that an incident requires NORDEN to make use of our insurance, NORDEN has an excess of approx. USD 100,000 per incident.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	loading of cargoes and cancellation of cargoes due to force majeure. This could imply additional expenses for NORDEN since the operator of the vessel bears the costs related to bad weather conditions. Moreover, rough and abnormal weather conditions can lead to delayed port arrivals. In cases such as these, two risks are involved. One is the risk of missing business opportunities as the cargo holder might choose another cargo carrier. The other is the risk of missing the discharge date, which will result in lower earnings.							that a modern fleet and crew training is necessary to be able to ensure proper management of extreme weather events both in the short and long term. NORDEN's Dry Cargo Department makes use of an external weather routing company to pinpoint the best navigation route, avoiding rough weather, which could compromise the safety of the crew and/or damage the vessel and increase the vessel's fuel consumption and CO2 emissions. Our tankers use an external weather routing system that monitors the weather and sends forecasts to the vessels,	

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								whereby the Master, in dialogue with the operator and the weather routing company as required, can continuously ensure optimal performance throughout the journey. Moreover, adequate insurance is important, and hence, NORDEN continuously make sure that our insurance is up to date and relevant in relation to the different incidents, which we might face.	

CC5.1c

Please describe your inherent risks that are driven by changes in other climate-related developments

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Other drivers	During the past years, climate change has increased the global focus on renewable energy sources in order to decrease pollution and greenhouse gas emissions. Previously, it has primarily been the so-called developed countries, which have initiated the transition from fossil fuels to alternative energy sources, as the costs of the latter are currently somewhat higher. However, with the extensive pollution experienced in major cities for instance in China, which is currently the biggest importer of coal in the world, China is now also considering making the transition to more renewable energy.	Other: decrease income	>6 years	Direct	Likely	High	In 2015, transport of coal represented approx. 30% of the total demand for dry cargo vessels and a global decrease in coal consumption will presumably have a significant impact on the market. NORDEN has as a consequence focused on increasing other cargo types such as grain, which in 2015 represented roughly the same as coal.	NORDEN continuously monitors the market developments, e.g. drilling activities, power plant developments, demand, prices, rules and regulations etc., but also the new trading patterns and commodities within the market. This enables NORDEN to position properly in order to deal with the transition in due time. Monitoring is done by NORDEN's Business Analytics Team, which also focuses on analysis of implications of future regulations, risks and opportunities. Further, NORDEN has much contact with energy companies, and in their efforts to become more environmentally friendly, we have a good footing. Thus, in 2012, we signed a major contract transporting biomass from the USA to	There are currently zero additional costs (USD 0) as monitoring the development of and demand for alternative energy sources and conventional fossil fuels is already integrated in our existing market analysis. NORDEN has a department charged with this specific task, the Business Analytics Team, but the segments are also monitoring developments. The Business Analytics Team comrpise 4 full-time employees and costs approximately USD 320,000 annually.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	In 2015, China reduced its import of coal with 31% and increased its consumption of non-fossil fuels such as hydropower. The increased focus on renewable energy may impact NORDEN in the very long term, as one of our current core cargoes is energy based on fossil fuels. In Tankers, our business is primarily devoted to refined oil products while in Dry Cargo, coal constitutes approx. 30% of the transported volumes in 2015.							Europe. NORDEN also transported its first project cargo comprising windmills in 2015. As the transition from fossil fuel is very slow and far off in the future, NORDEN has time to adapt and target other commodities, thus taking advantage of the opportunities that this risk could bring.	

CC5.1d

Please explain why you do not consider your company to be exposed to inherent risks driven by changes in regulation that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC5.1e

Please explain why you do not consider your company to be exposed to inherent risks driven by physical climate parameters that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC5.1f

Please explain why you do not consider your company to be exposed to inherent risks driven by changes in other climate-related developments that have the potential to generate a substantive change in your business operations, revenue or expenditure

Further Information

Page: CC6. Climate Change Opportunities

CC6.1

Have you identified any inherent climate change opportunities that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

Opportunities driven by changes in regulation
Opportunities driven by changes in physical climate parameters
Opportunities driven by changes in other climate-related developments

CC6.1a

Please describe your inherent opportunities that are driven by changes in regulation

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
General environmental regulations, including planning	Several ports have already introduced reductions in port costs for vessels, which have energy efficient and fuel saving initiatives implemented and/or so-called "green certificates". A possible reduction in port costs will reduce operational costs for NORDEN as NORDEN has implemented various fuel saving measures in connection with the Climate Action Plan on owned vessels, which ultimately reduces CO2 emissions. For instance, the	Reduced operational costs	Up to 1 year	Direct	Virtually certain	Low	In 2015, NORDEN saved USD 114,000 on dockage costs when in the Port of Long Beach in Southern California (16 calls in 2015 to this port). This was due to the reduction of dockage payable to the Port of Long Beach because of our compliance with the Voluntary Vessel Speed Reduction Programme.	NORDEN's Climate Plan Action comprise 10 initiatives that reduce CO2 emissions and fuel consumption on NORDEN vessels. These initiatives are continuously evaluated based on impact and if they can profitably be combined with other initiatives. Moreover, NORDEN continuously assesses if other reduction emissions initiatives could be relevant to implement. NORDEN also monitors the establishment of new ports,	There are zero additional costs (USD 0) associated with monitoring new ports, as the monitoring process is already included in existing market analyses. NORDEN has one department for this specific task, which costs approx. USD 320,000 annually. The implementation of the 10 initiatives of the Climate Action Plan on owned vessels has required a non-recurring investment of approx. USD 30.2 million since 2007. The annual savings of these in 2015 were

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	Port of Long Beach in Southern California is committed to reduce air pollution and gives a reduction in dockage payable to the Port of Long Beach if the vessels comply with the Voluntary Vessel Speed Reduction Programme. NORDEN is compliant with this programme and has been awarded the port cost reductions as well as received the Green Flag Environmental Achievement Award for our commitment to reducing air pollution. This reduction in dockage payable to the							which introduce the same type of port cost reductions.	approx. USD 6.5 million and 145,743 metric tons of CO2.

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	Port in Long Beach decreases our operational costs for voyages to Long Beach.								

CC6.1b

Please describe the inherent opportunities that are driven by changes in physical climate parameters

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management

CC6.1c

Please describe the inherent opportunities that are driven by changes in other climate-related developments

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Reputation	There is increased focus on companies	Increased demand for existing	Up to 1 year	Direct	Likely	Low	NORDEN can increase revenues and	For NORDEN, the reputational opportunity	Focus on communicating climate-related

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	who manage to decrease their environmental footprint and are environmentally responsible. This focus is an advantage for NORDEN that has a strong focus on energy efficiency and the reduction of CO2 emissions. To the extent that NORDEN's customers find it important that we have a modern and energy efficient fleet, it will have positive financial implications for NORDEN. Customers who presently consider this an important factor mainly include oil majors and, though to a lesser but increasing extent, large dry cargo companies. NORDEN has	products/services					earnings as we can attract new customers or retain existing customers by actively increasing our profile as a responsible shipping company, which continuously works towards reducing CO2 emissions. This is a factor of influence for obtaining future customers, which is likely to increase in significance due to increasing fuel prices and focus on decreasing companies' environmental footprint.	implies a constant and high awareness on developments in the debate and increasing efforts to communicate new initiatives. It is important that stakeholders know that NORDEN makes an effort to address climate issues through e.g. CO2 efficiency measures. NORDEN communicates both internally and externally about climate initiatives. Externally, NORDEN's CSR report and CDP questionnaire are used. NORDEN also communicates about the company's	issues, e.g. through the completion of the CDP questionnaire and NORDEN's CSR report, has resulted in extra costs in the form of working hours. It is estimated that the completion of both the CDP questionnaire and the CSR report annually costs approx. USD 30,000. However, there are zero additional costs (USD 0) for NORDEN in continuing to focus on a flexible business model consisting of owned and chartered vessels.

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	the opportunity to gain a competitive advantage by actively increasing our profile as a responsible shipping company, which continuously works towards reducing CO2 emissions. This is a factor of influence for obtaining future customers, which is likely to increase in significance due to increasing fuel prices and focus on decreasing companies' environmental footprint. In addition, NORDEN likes doing business with customers who are interested in informing consumers, etc. of transportation-specific							strategy to own a modern fleet, which is traditionally more fuel-efficient and which had an average age of operation of 7 years in 2015. Moreover, NORDEN communicates about our Climate Action Plan with various climate initiatives on owned vessels, which reduced CO2 emissions on owned vessels by 10.7 % in 2015, as well as other fuel efficiency measures.	

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	emissions								
Other drivers	During the last decade, climate changes have led to an increased focus on alternative energy sources in order to reduce pollution and greenhouse gas emissions. It is primarily the so-called developed countries, which make the transition, as the cost of alternative energy is higher than fossil fuels. This means that developed countries in Europe and North America are gradually substituting fossil fuels with other energy sources, thus freeing up their resources for export while emerging markets and developing countries in Asia	Other: Increase income	Up to 1 year	Direct	Likely	High	Since the cost of alternative energy is higher than fossil fuels it is the developed countries that are gradually substituting fossil fuels with other energy sources, while emerging markets are increasing their demand for conventional energy forms such as coal. Coal constitutes 30 % of NORDEN’s transported dry cargo volumes, and the increased demand from emerging markets for conventional energy forms such as coal could thus lead to an increase in NORDEN’s	NORDEN continuously monitors market developments in order to assess whether these developments will result in changing product demands and/or trading patterns. This is conducted by NORDEN's Business Analytics Team, which also focuses on looking into future regulations, risks and opportunities. This is done by reading and analysing external reports and by plotting data into our own model to evaluate the impact on the market from our view. Moreover,	There are zero additional costs (USD 0) associated with monitoring market developments, as the monitoring process is included in existing market, opportunity and risk analyses. NORDEN has one department charged with this specific task, the Business Analytics Team, but the dry cargo and tanker segments also monitor the developments. The Business Analytics Team has 4 full-time employees focusing on this task at a cost of approx. USD 320,000 annually.

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	and South America are increasing their demand for conventional energy forms such as coal. Coal constitutes 30% of NORDEN's transported dry cargo volumes, and the increased demand from emerging markets for conventional energy forms such as coal could thus lead to increased income for NORDEN due to among other things new orders, longer voyages and thereby higher earnings.						revenue.	the Department also looks at customer relations and requirements, risks and opportunities due to climate change – incl. rough weather and severe ice conditions, trading patterns, attracting new customers and legal requirements, which may improve or worsen the foundation on which NORDEN operates.	

CC6.1d

Please explain why you do not consider your company to be exposed to inherent opportunities driven by changes in regulation that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC6.1e

Please explain why you do not consider your company to be exposed to inherent opportunities driven by physical climate parameters that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC6.1f

Please explain why you do not consider your company to be exposed to inherent opportunities driven by changes in other climate-related developments that have the potential to generate a substantive change in your business operations, revenue or expenditure

Further Information

Module: GHG Emissions Accounting, Energy and Fuel Use, and Trading

Page: CC7. Emissions Methodology

CC7.1

Please provide your base year and base year emissions (Scopes 1 and 2)

Scope	Base year	Base year emissions (metric tonnes CO2e)
Scope 1	Mon 01 Jan 2007 - Mon 31 Dec 2007	362000
Scope 2 (location-based)	Wed 01 Jan 2014 - Wed 31 Dec 2014	438.5
Scope 2 (market-based)		

CC7.2

Please give the name of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

Please select the published methodologies that you use
Other

CC7.2a

If you have selected "Other" in CC7.2 please provide details of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

The following 2 methodologies have been used: 1) IMO "Guidelines for Voluntary Use of the Ship Energy Efficiency Operational Indicator (EEOI)" 2009 2) CO2 emissions from fuel combustion highlights 2011 edition, International Energy Agency.

CC7.3

Please give the source for the global warming potentials you have used

Gas	Reference
CO2	Other: IMO "Guidelines for Voluntary Use of the Ship Energy Efficiency Operational Indicator (EEOI)" 2009; CO2 emissions from fuel combustion highlights 2011 edition, International Energy Agency

CC7.4

Please give the emissions factors you have applied and their origin; alternatively, please attach an Excel spreadsheet with this data at the bottom of this page

Fuel/Material/Energy	Emission Factor	Unit	Reference
Residual fuel oil	3.1144	metric tonnes CO2 per metric tonne	IMO "Guidelines for Voluntary Use of the Ship Energy Efficiency Operational Indicator (EEOI)" 2009
Diesel/Gas oil	3.206	metric tonnes CO2 per metric tonne	IMO "Guidelines for Voluntary Use of the Ship Energy Efficiency Operational Indicator (EEOI)" 2009
Electricity	303	Other: Gram CO2 per kWh	CO2 emissions from fuel combustion highlights 2011 edition, International Energy Agency, Conversion indicators for Denmark
Electricity	64	Other: Gram CO2 per kWh	CO2 emissions from fuel combustion highlights 2011 edition, International Energy Agency, Conversion indicators for Brazil
Electricity	743	Other: Gram CO2 per kWh	CO2 emissions from fuel combustion highlights 2011 edition, International Energy Agency, Conversion indicators for China
Electricity	951	Other: Gram CO2 per kWh	CO2 emissions from fuel combustion highlights 2011 edition, International Energy Agency, Conversion indicators for India
Electricity	519	Other: Gram CO2 per kWh	CO2 emissions from fuel combustion highlights 2011 edition, International Energy Agency, Conversion indicators for Singapore

Further Information

The location-based result has been used as a proxy for Scope 2 since a market-based result cannot be calculated. NORDEN's reporting on emissions relate to all CO2 emissions from our shipping operations at sea, the car fleet (7 owned and 42 leased), the land-based administrative activities (both head office and overseas offices) and emissions from business travel activities. Shipping itself is NORDEN's primary and most significant source of CO2 emissions. The CO2 emissions from land-based and business travel activities are insignificant compared to the CO2 emissions from the shipping operations at sea. By the end of 2015, NORDEN owned 48 vessels (all under NORDEN's full control). In this connection, "full control" means that NORDEN owns the vessels, has the right to impose own standards, has the decision-making rights and has the opportunity to invest in the best available technology. Some of the owned vessels are chartered out to other companies. All of the owned vessels are part of Scope 1. As a result of NORDEN's flexible business model, by the end of 2015 we also operated some 179 vessels hold on charter for shorter or longer periods of time. NORDEN only controls these vessels commercially. The chartered vessels are part of Scope 3, which also includes business travel by air travel and leased company cars. Scope 1 includes CO2 emissions from the vessels, which are owned by NORDEN in 2015. When NORDEN owns the vessels, we have full financial and operational within the boundaries of international shipping regulations and planning to which all shipping companies are subject. NORDEN's CO2 emissions from owned vessels are calculated by multiplying the bunker fuel quantity (metric tonnes) consumed by the CO2 emissions factor for each bunker type, and CO2 emissions from the combustion of biologically sequestered carbon have been excluded as prescribed in the Greenhouse Gas Protocol. Scope 1 CO2 emissions also include emissions from 7 company cars. The emissions from owned company cars are calculated based on the following assumptions: all the cars are diesel cars with a yearly usage of 20,000 km per car, 12 km/l, and CO2 emissions of 2.65 kg/l. The conversion factor is from key2Green. Scope 2 includes Co2 emissions from land-based activities at NORDEN's offices worldwide. Emissions included in Scope 2 are from electricity and district heating used during 2015. Electricity is already measured in kWh and therefore the total estimated amount of electricity used in 2015 is multiplied by the CO2 emissions factor valid for the different countries in which NORDEN has offices. These factors are from the International Energy Agency's conversion indicators for 2011 stated in the publication "CO2 emissions from fuel combustion, highlights 2011 edition" for the specific countries, NORDEN is located in. District heating is measured in MWh at NORDEN's overseas offices, but in GJ at the head office in Denmark. The amount of district heating in GJ used at the head office in Denmark is converted to kWh by using the Global Reporting Initiative's conversion standard.

Page: CC8. Emissions Data - (1 Jan 2015 - 31 Dec 2015)

CC8.1

Please select the boundary you are using for your Scope 1 and 2 greenhouse gas inventory

Financial control

CC8.2

Please provide your gross global Scope 1 emissions figures in metric tonnes CO2e

454348

CC8.3

Does your company have any operations in markets providing product or supplier specific data in the form of contractual instruments?

No

CC8.3a

Please provide your gross global Scope 2 emissions figures in metric tonnes CO2e

Scope 2, location-based	Scope 2, market-based (if applicable)	Comment
461.4		The location-based result has been used as a proxy for Scope 2 since a market-based result cannot be calculated.

CC8.4

Are there are any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

Yes

CC8.4a

Please provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure

Source	Relevance of Scope 1 emissions from this source	Relevance of location-based Scope 2 emissions from this source	Relevance of market-based Scope 2 emissions from this source (if applicable)	Explain why the source is excluded
Emissions from electricity and heating from NORDEN's offices in in the US, Australia and Chile.	No emissions from this source	Emissions are relevant but not yet calculated	Emissions are relevant but not yet calculated	Scope 2 includes CO2 emissions from NORDEN's land-based activities at NORDEN's offices worldwide. Emissions included in Scope 2 are emissions from electricity and district heating. Utilities from NORDEN's offices in the US, Australia and Chile are Integrated in the rental costs and provided at no additional assessment by the landlord. The landlord has not been able to specify what part of the rent relates to electricity and heating and what part relates to rent of the office. However, electricity and heating emissions from the office are estimated to be in the region of the emissions from the other overseas offices and therefore represent a rather insignificant part of NORDEN's total CO2 emissions from Scope 1, 2 and 3 combined.

CC8.5

Please estimate the level of uncertainty of the total gross global Scope 1 and 2 emissions figures that you have supplied and specify the sources of uncertainty in your data gathering, handling and calculations

Scope	Uncertainty range	Main sources of uncertainty	Please expand on the uncertainty in your data
Scope 1	More than 2% but less than or equal to 5%	Assumptions	The main sources of uncertainty in the total scope 1 data refer to the assumptions concerning owned cars. The CO2 emissions from owned company cars are calculated based on the following assumptions: all the cars are diesel cars with an annual usage of 20,000 kr per car, 12 km/l, and CO2 emissions of 2.65 kg/l. The conversion factor is from Key2Green. As CO2 emissions from owned company cars are

Scope	Uncertainty range	Main sources of uncertainty	Please expand on the uncertainty in your data
			insignificant compared to CO2 emissions from owned vessels, NORDEN belives that this assumption is valid.
Scope 2 (location-based)	Less than or equal to 2%	Data Gaps	The main source of uncertainty in the toal scope 2 data relates to the data provided by NORDEN's eclectricity and district heating providers and whether they have measured the accurate energy consumption.
Scope 2 (market-based)		No Sources of Uncertainty	

CC8.6

Please indicate the verification/assurance status that applies to your reported Scope 1 emissions

Third party verification or assurance process in place

CC8.6a

Please provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements

Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/section reference	Relevant standard	Proportion of reported Scope 1 emissions verified (%)

Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/section reference	Relevant standard	Proportion of reported Scope 1 emissions verified (%)
Annual process	Complete	Limited assurance	https://www.cdp.net/sites/2016/69/22369/Climate Change 2016/Shared Documents/Attachments/CC8.6a/CDP verification statement signed by PWC.pdf	Page 1-3 in the attached document "CDP verification statement signed by PWC". Page 28-29 "Independent Auditor's Report" in "NORDEN Corporate Social Responsibility Report 2015"	ISAE3000	100

CC8.6b

Please provide further details of the regulatory regime to which you are complying that specifies the use of Continuous Emissions Monitoring Systems (CEMS)

Regulation	% of emissions covered by the system	Compliance period	Evidence of submission

CC8.7

Please indicate the verification/assurance status that applies to at least one of your reported Scope 2 emissions figures

Third party verification or assurance process in place

CC8.7a

Please provide further details of the verification/assurance undertaken for your location-based and/or market-based Scope 2 emissions, and attach the relevant statements

Location-based or market-based figure?	Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/Section reference	Relevant standard	Proportion of reported Scope 2 emissions verified (%)
Location-based	Annual process	Complete	Limited assurance	https://www.cdp.net/sites/2016/69/22369/Climate Change 2016/Shared Documents/Attachments/CC8.7a/CDP verification statement signed by PWC.pdf	Page 1-3 in the attached document "CDP verification statement signed by PWC". Page 28-29 "Independent Auditor's Report" in "NORDEN Corporate Social Responsibility Report 2015"	ISAE3000	100

CC8.8

Please identify if any data points have been verified as part of the third party verification work undertaken, other than the verification of emissions figures reported in CC8.6, CC8.7 and CC14.2

Additional data points verified	Comment
Emissions reduction activities	The total reduction of CO2 emissions from NORDEN’s 10 fuel saving initiatives in the Climate Action Plan has been verified by an external assurance provider, PricewaterhouseCoopers, who has also verified NORDEN’s scope 1, 2 and 3 data. In 2015, the total reduction of CO2 emissions from the 10 fuel saving initiatives was 145.743 metric tonnes of CO2.

CC8.9

Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?

Yes

CC8.9a

Please provide the emissions from biologically sequestered carbon relevant to your organization in metric tonnes CO2

Further Information

Page 28-29 "Independent Auditor's Report" in "NORDEN Corporate Social Responsibility Report 2015".

Attachments

https://www.cdp.net/sites/2016/69/22369/Climate Change 2016/Shared Documents/Attachments/ClimateChange2016/CC8.EmissionsData(1Jan2015-31Dec2015)/NORDEN CSR report 2015.pdf

Page: CC9. Scope 1 Emissions Breakdown - (1 Jan 2015 - 31 Dec 2015)

CC9.1

Do you have Scope 1 emissions sources in more than one country?

Yes

CC9.1a

Please break down your total gross global Scope 1 emissions by country/region

Country/Region	Scope 1 metric tonnes CO2e
Denmark	4.3
Brazil	8.7
China	0
India	0
Singapore	0
United States of America	17
International Waters	454318
Australia	0
Chile	0

CC9.2

Please indicate which other Scope 1 emissions breakdowns you are able to provide (tick all that apply)

By facility

CC9.2a

Please break down your total gross global Scope 1 emissions by business division

Business division	Scope 1 emissions (metric tonnes CO2e)

CC9.2b

Please break down your total gross global Scope 1 emissions by facility

Facility	Scope 1 emissions (metric tonnes CO2e)	Latitude	Longitude
Owned vessels	454318		
Owned company cars	30		

CC9.2c

Please break down your total gross global Scope 1 emissions by GHG type

GHG type	Scope 1 emissions (metric tonnes CO2e)

CC9.2d

Please break down your total gross global Scope 1 emissions by activity

Activity	Scope 1 emissions (metric tonnes CO2e)

Further Information

Page: CC10. Scope 2 Emissions Breakdown - (1 Jan 2015 - 31 Dec 2015)

CC10.1

Do you have Scope 2 emissions sources in more than one country?

Yes

CC10.1a

Please break down your total gross global Scope 2 emissions and energy consumption by country/region

Country/Region	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
Denmark	388.5	0	1282	0
Brazil	0.8	0	11.8	0
China	18.7	0	25.5	0
India	30.6	0	32.2	0
Singapore	22.8	0	43.8	0
Chile	0	0	0	0
Australia	0	0	0	0

CC10.2

Please indicate which other Scope 2 emissions breakdowns you are able to provide (tick all that apply)

CC10.2a

Please break down your total gross global Scope 2 emissions by business division

Business division	Scope 2 emissions, location based (metric tonnes CO2e)	Scope 2 emissions, market-based (metric tonnes CO2e)

CC10.2b

Please break down your total gross global Scope 2 emissions by facility

Facility	Scope 2 emissions, location based (metric tonnes CO2e)	Scope 2 emissions, market-based (metric tonnes CO2e)

CC10.2c

Please break down your total gross global Scope 2 emissions by activity

Activity	Scope 2 emissions, location based (metric tonnes CO2e)	Scope 2 emissions, market-based (metric tonnes CO2e)

Further Information

Page: CC11. Energy

CC11.1

What percentage of your total operational spend in the reporting year was on energy?

More than 30% but less than or equal to 35%

CC11.2

Please state how much heat, steam, and cooling in MWh your organization has purchased and consumed during the reporting year

Energy type	Energy purchased and consumed (MWh)
Heat	570
Steam	0
Cooling	0

CC11.3

Please state how much fuel in MWh your organization has consumed (for energy purposes) during the reporting year

11502

CC11.3a

Please complete the table by breaking down the total "Fuel" figure entered above by fuel type

Fuels	MWh
Residual fuel oil	10169
Diesel/Gas oil	1333

CC11.4

Please provide details of the electricity, heat, steam or cooling amounts that were accounted at a low carbon emission factor in the market-based Scope 2 figure reported in CC8.3a

Basis for applying a low carbon emission factor	MWh consumed associated with low carbon electricity, heat, steam or cooling	Comment
No purchases or generation of low carbon electricity, heat, steam or cooling accounted with a low carbon emissions factor	0	In 2011-2014, NORDEN was in partnership with the Danish energy group DONG Energy to purchase electricity from renewable energy from windmills to NORDEN’s head office in Copenhagen, Denmark. DONG Energy provided NORDEN with certificates with reference to the international standard RECS: Renewable Energy Certificate System. However NORDEN chose to end this partnership in 2015, because NORDEN, based on a public evaluation, assessed that it did not have a specific beneficial effect on the environment, and in turn NORDEN had to pay a significant premium price.

CC11.5

Please report how much electricity you produce in MWh, and how much electricity you consume in MWh

Total electricity consumed (MWh)	Consumed electricity that is purchased (MWh)	Total electricity produced (MWh)	Total renewable electricity produced (MWh)	Consumed renewable electricity that is produced by company (MWh)	Comment
825.3	825.3	0	0	0	NORDEN does not produce electricity or purchase any renewable energy. The primary energy source that NORDEN purchases is diesel and gasoline.

Further Information

Page: CC12. Emissions Performance

CC12.1

How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to the previous year?

Increased

CC12.1a

Please identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined) and for each of them specify how your emissions compare to the previous year

Reason	Emissions value (percentage)	Direction of change	Please explain and include calculation
Emissions reduction activities	38.3	Decrease	NORDEN’s total emissions from owned vessels increased from 380,485 tons CO2 in 2014 to 454,348 in 2015. This was primarily due to the decrease in the price of bunkers, which provides an incentive for increasing the vessel speed, hereby strengthening the commercial opportunities, however also increasing CO2 emissions. The 10 different reduction initiatives described below did, however, ensure that the increase was significantly lower compared to a situation, where the technical reduction initiatives had not been implemented. The 10 reduction initiatives included in The Climate Action Plan comprised: 1. Slide fuel valves for main engines: improving the combustion of the main engine and ensuring a cleaner engine. 2. Vessel performance monitoring system: ensuring an overview of the development of the fuel efficiency for each individual vessel in the fleet. 3. Alpha lubricator system for the main engine: ensuring an effective dosage of cylinder lubrication oil, and a reduction of the cylinder oil consumption can be obtained. 4. M/E cylinder oil scrape down analysis for main engines: ensuring an effective dosage of cylinder lubrication oil via the Alpha Lubricating System and obtaining a reduction of the cylinder oil consumption. 5. Shaft torque monitoring system: ensuring online real-time monitoring of the propulsion power delivered to the propeller. 6. Electrical heaters: instead of using the large capacity oil fired boiler to "top-up" steam at low engine loads and/or in cold weather, a small electrical heating system is installed and efficiently generating the required "top-up" steam. 7. Advanced hull coating: reducing marine growth on the underwater hull. 8. Propeller cleaning: adoption of propeller cleaning on an average 6 months’ basis. 9. Increased service and check of main engine performance: more frequent check and service intervals of the turbo charger, fuel oil pump and air cooler. 10. Variable Sea Water Cooling Pump capacity: adjusting the cooling capacity to the actual cooling demand, reducing the electrical power drawn from the main switchboard and thereby reducing auxiliary engine fuel oil consumption. Total estimated annual CO2e savings in metric tonnes CO2e 2015: 145734 Total emissions 2015: 454348 Total emissions 2014: 380485 (145734/380485)*100 = 38,3%
Divestment			
Acquisitions			
Mergers			
Change in output			
Change in methodology			
Change in boundary			
Change in physical operating conditions			
Unidentified			
Other	19.4	Increase	NORDEN’s total emissions from owned vessels increased from NORDEN’s total emissions from owned

Reason	Emissions value (percentage)	Direction of change	Please explain and include calculation
			vessels increased from 380,485 tons CO2 in 2014 to 454,348 in 2015. This was primarily due to the decrease in the price of bunkers, which provides an incentive for increasing the vessel speed, hereby strengthening the commercial opportunities, however also increasing CO2 emissions. Total increase in CO2e 2015 Total emissions 2015: 454348 Total emissions 2014: 380485 (454348-380485/380485)*100 = 19,4%

CC12.1b

Is your emissions performance calculations in CC12.1 and CC12.1a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Location-based

CC12.2

Please describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tonnes CO2e per unit currency total revenue

Intensity figure =	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator: Unit total revenue	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
0.00028	metric tonnes CO2e	1600000000	Location-based	47	Increase	During 2015, NORDEN's Scope 1 and 2 emissions constituted 454,809.5 tons CO2 and revenue amounted to USD 1,600 mio. During 2014, NORDEN's Scope 1 and 2 emissions constituted 380,485.1 tons

Intensity figure =	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator: Unit total revenue	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
						CO2 and revenue amounted to USD 2,038.1 million. In 2014, we chartered out a higher amount of vessels to third parties, meaning that we have not operated these vessels and hence have not purchase fuel for them. This reduced our Scope 1 emissions considerably. Hence in 2015, where we operated more of our owned vessels, we purchased fuel for these and thereby we increased our Scope 1 emissions compared to 2014. As a result of that, we thereby also increased our intensity figure. It should, however, be stressed that the reported intensity figure is not representative and meaningful for NORDEN, since income from chartered vessels is included in revenue but the CO2 emissions associated with chartered vessels are part of Scope 3 and not Scope 1 and Scope 2.

CC12.3

Please provide any additional intensity (normalized) metrics that are appropriate to your business operations

Intensity figure =	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator	Metric denominator: Unit total	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
465.5	metric tonnes CO2e	full time equivalent (FTE)	977	Location-based	19.7	Increase	During 2015, NORDEN's Scope 1 and 2 emissions constituted in total 454,809.5 tons CO2 and FTE's was 977. In 2014, NORDEN's Scope 1 and 2 emissions

Intensity figure =	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator	Metric denominator: Unit total	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
		employee					constituted 380,485.1 tons CO2 and at year-end, NORDEN had 978 FTE's. The increase in intensity figure is due to an increase in CO2 emissions from 2014 to 2015. It should be stressed, however, that the reported intensity figure is not representative and meaningful for NORDEN, since the employees of NORDEN operate both owned and chartered vessels which not only relate to Scope 1 and Scope 2 CO2 emissions but also Scope 3 emissions.

Further Information

Page: CC13. Emissions Trading

CC13.1

Do you participate in any emissions trading schemes?

No, and we do not currently anticipate doing so in the next 2 years

CC13.1a

Please complete the following table for each of the emission trading schemes in which you participate

Scheme name	Period for which data is supplied	Allowances allocated	Allowances purchased	Verified emissions in metric tonnes CO2e	Details of ownership

CC13.1b

What is your strategy for complying with the schemes in which you participate or anticipate participating?

CC13.2

Has your organization originated any project-based carbon credits or purchased any within the reporting period?

No

CC13.2a

Please provide details on the project-based carbon credits originated or purchased by your organization in the reporting period

Credit origination or credit purchase	Project type	Project identification	Verified to which standard	Number of credits (metric tonnes of CO2e)	Number of credits (metric tonnes CO2e): Risk adjusted volume	Credits cancelled	Purpose, e.g. compliance

Further Information

Page: CC14. Scope 3 Emissions

CC14.1

Please account for your organization’s Scope 3 emissions, disclosing and explaining any exclusions

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
Purchased goods and services	Not relevant, explanation provided				As a shipping company, NORDEN's primary purpose is to transport commodities between different locations. NORDEN operates both in the dry cargo and tanker segment and thereby transports commodities such as coal, grain, steel, cement, iron ore, fuel oil, gas oil, gasoline, naphtha etc. NORDEN does not purchase the above commodities but merely provides the maritime transportation. The only commodity, which NORDEN purchases, is fuel to enable operation of its vessels. This is included in Scope 1 for NORDEN owned vessels and in Scope 3 for chartered vessels under the category "Fuel and energy related activities". Consequently, the category "Purchased goods and services" has been deemed ‘not relevant’.
Capital goods	Not relevant, explanation provided				NORDEN purchases vessels, which are used to transport our customers' commodities between different locations. Emissions from the use of these vessels,

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
					which arise from fuel consumption, are included in Scope 1 for owned vessels and in Scope 3 for chartered vessels under the category "Fuel and energy related activities". Consequently, the category "Capital goods" has been deemed ‘not relevant’.
Fuel-and-energy-related activities (not included in Scope 1 or 2)	Relevant, calculated	2643307	Fuel figures for tankers and dry cargo vessels are registered when arriving/bunkering/departing a port in NORDEN’s Integrated Maritime Operating System (IMOS). For tankers, the figures are partly updated manually by the operators or the operators can import the fuel figures stated by the Captain via NORDENS Master Operations Environmental Performance System (MOEPS) through an established integration to IMOS. For dry cargo vessels, the fuel figures are manually entered by the operator into IMOS. The total fuel consumption for tankers and dry cargo vessels is calculated by adding the fuel, which is already on the vessel at the beginning of the voyage with the bunker oil purchased during the voyage. Finally, the fuel that remains on the vessel when the voyage ends is subtracted. This is done for each vessel and registered in IMOS. CO2 emissions from vessels are calculated on the basis of the fuel quantity consumed on a voyage multiplied by the duration of the voyage (calculated pro rata) multiplied by the CO2 emissions factor for each fuel type (for residual fuel oil, the CO2 emissions factor is 3.1144, and for marine diesel oil	0%	

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
			and marine gas oil the CO2 emissions factor is 3.206. Source: ”Guidelines for Voluntary Use of the Ship Energy Efficiency Operational Indicator (EEOI)” from 2009.		
Upstream transportation and distribution	Not relevant, explanation provided				NORDEN transports commodities between different locations and thereby emissions arise from the consumption of fuel, which enables the operation of vessels. These emissions are included in Scope 1 for NORDEN owned vessels and in Scope 3 for chartered vessels under the category "Fuel and energy related activities". Moreover, the use of air transport is accounted for in Scope 3 under the category "Business travel", and the use of leased cars is accounted for in Scope 3 under the category "Employee commuting". Consequently, the category "Upstream transportation and distribution" has been deemed ‘not relevant’.
Waste generated in operations	Not relevant, explanation provided				NORDEN does not have any influence or control over waste disposal for vessels owned or operated by third parties, i.e. chartered vessels. NORDEN's business model comprising a mix of long-term chartered vessels with purchase option and vessels chartered short term or for single voyages, makes it a complex matter to define the boundaries for waste

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
					reporting. For a significant amount of the time, the data on waste for the different voyages is unavailable, which means that it is quite improbable to create a realistic overview of waste disposal for all vessels chartered by NORDEN in a given year. Therefore, the category "Waste generated in operations" has been deemed ‘not relevant’.
Business travel	Relevant, calculated	3019.35	The CO2 emissions from business travels are calculated according to the guidelines from the 3 travel agencies, which NORDEN uses. For voyage distances of less than 1,000 km, the factor 0.18 per km is used to calculate the CO2 emissions, while for voyage distances of more than 1,000 km, the factor 0.11 per km is used. NORDEN has received a report from each travel agency illustrating the total number of voyages, kilometres and CO2 emissions aligned with the above calculation methodology.	0%	
Employee commuting	Relevant, calculated	191	Leased company cars are calculated based on the following assumptions: All cars are diesel cars with a yearly usage of 20,000 km per car, 12 km/l, and CO2 emissions of 2.65 kg/l. The conversion factor is from Key2Green. NORDEN had 44 leased cars in 2015.		
Upstream leased assets	Not relevant, explanation provided				As the category "upstream leased assets" is only applicable to companies that operate leased assets (i.e. lessees) according to "the corporate value chain (Scope 3) accounting and reporting

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
					standard", NORDEN has deemed it ‘not relevant’ as we do not operate leased assets. The vessels taken in on time charter are already accounted for in Scope 3 under the category "Fuel and energy related activities".
Downstream transportation and distribution	Not relevant, explanation provided				According to "the corporate value chain (Scope 3) accounting and reporting standard", the category "downstream transportation and distribution" includes emissions from transportation and distribution of products sold by the reporting company in the reporting year between the reporting company's operations and the end consumer in vehicles and facilities not owned or controlled by the reporting company. NORDEN does not sell any commodities but merely sells the maritime transport of commodities to our customers. The emissions from transport of different commodities are already accounted for in Scope 1 for owned vessels and in Scope 3 for chartered vessels under the category "Fuel and energy related activities". Consequently, the category "Downstream transportation and distribution" is deemed ‘not relevant’.
Processing of	Not relevant,				According to "the corporate value chain

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
sold products	explanation provided				(Scope 3) accounting and reporting standard", the category "processing of sold products" includes emissions from processing of sold commodities by third parties subsequent to sale by the reporting company. NORDEN does not sell any commodities but merely sells the maritime transport of commodities to our customers. The emissions from transport of different commodities are already accounted for in Scope 1 for owned vessels and in Scope 3 for chartered vessels under the category "Fuel and energy related activities".
Use of sold products	Not relevant, explanation provided				According to "the corporate value chain (scope 3) accounting and reporting standard", the category "use of sold products" includes emissions from the use of goods and services sold by the reporting company in the reporting year. End users include both consumers and business customers who use final products. NORDEN does not sell any commodities, but merely provides maritime transportation of different commodities for our customers who sell them to end users. The emissions from transport of different commodities are already accounted for in scope 1 for

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
					owned vessels and in scope 3 for chartered vessels under the category "Fuel and energy related activities". Consequently, the category "Use of sold products" is deemed ‘not relevant’.
End of life treatment of sold products	Not relevant, explanation provided				According to "the corporate value chain (scope 3) accounting and reporting standard", the category "end of life treatment of sold products" includes emissions from the waste disposal and treatment of products sold by the reporting company in the reporting year at the end of their life. NORDEN does not sell any commodities, but merely provides transport of different commodities for our customers who sell them to end users. The emissions from transport of different products are already accounted for in scope 1 for owned vessels and in scope 3 for chartered vessels under the category "Fuel and energy related activities". Consequently, the category "End-of-life treatment of sold products" is deemed ‘not relevant’.
Downstream leased assets	Not relevant, explanation provided				According to "the corporate value chain (scope 3) accounting and reporting standard", the category "upstream leased assets" is only applicable to companies, which receive payments from lessees (i.e.

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
					lessors). NORDEN has consequently deemed the category "Downstream leased assets" ‘not relevant’ as we do not lease assets.
Franchises	Not relevant, explanation provided				According to "the corporate value chain (scope 3) accounting and reporting standard" the category "franchises" is only applicable to franchisors or franchisees. NORDEN is neither a franchisor nor franchisee and consequently the category "Franchises" is deemed ‘not relevant’.
Investments	Not relevant, explanation provided				According to "the corporate value chain (scope 3) accounting and reporting standard", the category "investments" is only applicable to investors (i.e. companies, which make an investment with the objective of making a profit) and companies which provide financial services. NORDEN's core business is none of the above, but instead deals with transport of commodities between locations. Consequently, the category "Investments" has been deemed ‘not relevant’.
Other (upstream)	Not evaluated				
Other (downstream)	Not evaluated				

CC14.2

Please indicate the verification/assurance status that applies to your reported Scope 3 emissions

Third party verification or assurance process in place

CC14.2a

Please provide further details of the verification/assurance undertaken, and attach the relevant statements

Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/Section reference	Relevant standard	Proportion of reported Scope 3 emissions verified (%)
Annual process	Complete	Limited assurance	https://www.cdp.net/sites/2016/69/22369/Climate Change 2016/Shared Documents/Attachments/CC14.2a/CDP verification statement signed by PWC.pdf	Page 1-3 in the attached document "CDP verification statement signed by PWC". Page 28-29 "Independent Auditor's Report" in "NORDEN Corporate Social Responsibility Report 2015"	ISAE3000	100

CC14.3

Are you able to compare your Scope 3 emissions for the reporting year with those for the previous year for any sources?

Yes

CC14.3a

Please identify the reasons for any change in your Scope 3 emissions and for each of them specify how your emissions compare to the previous year

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
Fuel- and energy-related activities (not included in Scopes 1 or 2)	Change in output	1.7	Increase	The transport work done by NORDEN chartered vessels increased from 2014 to 2015 by 4.4%. As emissions only increased 1.7% this means the chartered fleet was more efficient in 2015 compared to 2014.
Business travel	Change in output	1.8	Increase	The slight increase of the CO2 emissions of 1.8% is due to an increase in the crew's business travel to and from NORDEN's owned vessels as well as an increase in general business travel among employees.
Employee commuting	Divestment	15	Decrease	The decrease in CO2 from leased company cars is due to decision to reduce the number of leased cars to bring down costs, while also reducing emissions to air.

CC14.4

Do you engage with any of the elements of your value chain on GHG emissions and climate change strategies? (Tick all that apply)

Yes, our suppliers
Yes, our customers

CC14.4a

Please give details of methods of engagement, your strategy for prioritizing engagement and measures of success

NORDEN cooperates and engages in dialogue with the company’s suppliers to ensure decent social, economic, ethical and environmental conditions, to reduce corporate risk and to build knowledge and capacity on CSR issues with the suppliers. In collaboration with the International Marine Purchasing Association (IMPA)

and the Danish shipowner J.Lauritzen, NORDEN has created a Responsible Supply Chain Management standard called IMPA ACT.

The standard is principle-based and builds on the general principles of the UN Global Compact, the UN Guiding Principles on Business and Human Rights and the International Bill of Human Rights. IMPA ACT comprise a Supplier Code of Conduct, a Supplier Self-Assessment Questionnaire, an implementation plan, as well as a common supplier database. The latter enables NORDEN to access information regarding suppliers that have already completed the process and comply with the Supplier Code of Conduct, as well as suppliers that are currently undergoing the engagement process.

As many shipping companies share the same suppliers, creating a standardised system to ensure compliance throughout the industry reduces bureaucracy both for suppliers, who will not have to spend time adhering to countless Codes of Conducts, and for shipping companies, who are able to benefit from their peers' assessment of common suppliers. The engagement strategy is based on continuous dialogue and mutual development between the partners. Both NORDEN and the supplier should develop and implement the following 3 processes within human and labour rights, environment and anti-corruption: 1) a policy statement, 2) due diligence processes and 3) remediation processes.

In 2015, NORDEN continued the engagement with the 5 suppliers chosen in 2014 as well as started new engagement with 5 other first-tier suppliers, which was the target set for 2015. These suppliers were selected based on 3 criteria: spend, dependency and frequency. All suppliers have received NORDEN’s Supplier Code of Conduct and the Self-Assessment Questionnaire where the processes required are explained. Within the environmental and climate area, we expect suppliers to establish processes that cover all significant impacts on the environment (including energy, natural resources, and emissions to air, water, land and soil, noise, odour, waste, chemicals etc.) and supports the principles in the Rio Declaration on Environment and Development. More specifically, suppliers should ensure processes for management of: • Air emissions and impact on global warming (greenhouse gases); • Impact on the ozone layer (Montreal Protocol Annexes) • Prohibition of use of certain materials and substances, incl. safe handling/transport of dangerous substances; • Distance to residential neighbourhoods for production sites; • Soil, ground water and surface water contamination • Treatment and reduction of waste water; • Water consumption and leakage; • ‘Eco-efficiency’, consumption of raw materials, and consumption of energy; • Export of waste and re-use of material; • Subsidising of environmental projects (e. g. protection of the rainforest etc.). • Use and handling of GMOs (Genetically Modified Organisms); • Animal welfare. • Bio-Diversity: conservation, impact on diversity, use of genetic material, technology transfer. • The Precautionary Principle (Do not let scientific doubt about negative environmental impacts of a given action stop your company from preventing and mitigating such possible impacts). The engagement process is successful when the supplier has established the relevant processes within the areas of environment, anti-corruption and human and labour rights. This will be visible through documentation, through dialogue and potential audits from the suppliers, which support the fact that they have succeeded in creating relevant processes for managing impacts.

CC14.4b

To give a sense of scale of this engagement, please give the number of suppliers with whom you are engaging and the proportion of your total spend that they represent

Number of suppliers	% of total spend (direct and indirect)	Comment
10	11%	NORDEN selects technical suppliers for engagement based on 3 criteria: spend with the supplier, dependency of the supplier, and frequency of interaction with the supplier. In 2015, NORDEN's target was to engage in dialogue with 5 new suppliers in addition to

Number of suppliers	% of total spend (direct and indirect)	Comment
		the 5 suppliers invited to join the process in 2014, and which are still undergoing the process. New contracts with suppliers now include a specific clause stating that they have to abide by NORDEN's Supplier Code of Conduct, describing the requirements for processes for management of impacts on the environment and climate.

CC14.4c

If you have data on your suppliers' GHG emissions and climate change strategies, please explain how you make use of that data

How you make use of the data	Please give details
We do not have any data	In line with the principles of the UN Guiding Principles for Business and Human Rights (UNHPs), NORDEN's supplier dialogue focuses processes. As a consequence NORDEN's does not ask for suppliers' specific GHG emissions data, but rather a completed self-assessment where they describe, which processes they have in place within the areas of environment, anti-corruption and human and labour rights. If they do not have any processes and policies in place within one of the above mentioned areas, we engage in dialogue with them and set an agreed upon timeframe for the supplier to develop these processes and policies.

CC14.4d

Please explain why you do not engage with any elements of your value chain on GHG emissions and climate change strategies, and any plans you have to develop an engagement strategy in the future

Further Information

Attachments

https://www.cdp.net/sites/2016/69/22369/Climate Change 2016/Shared Documents/Attachments/ClimateChange2016/CC14.Scope3Emissions/NORDEN CSR report 2015.pdf

Module: Sign Off

Page: CC15. Sign Off

CC15.1

Please provide the following information for the person that has signed off (approved) your CDP climate change response

Name	Job title	Corresponding job category
Jan Rindbo	NORDEN’s CEO and Chairman of the CSR Executive Body	Chief Executive Officer (CEO)

Further Information

CDP 2016 Climate Change 2016 Information Request