Ørsted

Green Finance Framework Second Opinion

May 14, 2019

Ørsted is a Danish upstream power and heat producer. The company has its roots in North Sea oil and gas production and was formally known as DONG Energy. **Strategic decisions to transition the company to a renewable power and heat producer were taken more than a decade ago**. The company will complete the phasing out of coal in its power and heat plants and replacing it with certified biomass within the next 5 years. Ørsted has adopted clear and ambitious targets, such as the goal to reach a 99% renewables share in its energy production by 2025. The company is the global leader in offshore wind power installations. Ørsted's operations are focused in Europe, and projects in the USA and Taiwan are being developed.

This second opinion is an update to the green bond framework from 2017. The concentration on just one project category, offshore wind, reflects the dominating role this technology has taken in the company.The issuer intends to cover most of its financing needs with green finance instruments, which this updated framework opens up for. Ørsted has informed us that it aims to allocate the major part of proceeds from green finance instruments issued under this framework to new eligible projects.

System prices for offshore wind have fallen over the past years thanks to technological advances, economies of scale and the professionalisation of the supply chain. **More investments in offshore wind are needed, according to the International Energy Agency.**

Ørsted has in place sound management and governance structures that support the implementation of this framework. The company will provide impact reporting to investors and the public on a regular basis, as it has done under the previous green bond framework and the related green bond issuance. The company is transparent on methods to calculate impacts.

Ørsted has a policy in place to assess and manage impacts from its operations on the environment. Protective measures can exceed requirements under local law. Ørsted engages with different kinds of stakeholder groups in project areas and aims to let affected communities benefit from its projects in order to manage local concerns in a transparent and responsible way. The company will broaden its CDP emissions reporting to include construction phases and life-cycle-emissions from materials. Ørsted has started to engage with suppliers on climate issues, and has begun to implement the recommendations by the Task Force on Climate-related Financial Disclosure (TCFD) in its annual report. Ørsted takes acute and chronic weather events into account when designing offshore wind projects and is aware of the potential financial consequences of low probability / severe consequence events.

Based on the assessment of the eligible project category and governance and transparency considerations, Ørsted's Green Finance Framework receives a **Dark Green** shading.

SHADES OF GREEN

Based on our review, we rate the ØRSTED's **green finance framework DARK Green.**

GOVERNANCE

Included in the overall shading is an assessment of the governance structure of the green finance framework. CICERO Shades of Green finds the governance procedures in ØRSTED's framework to be **Excellent**.

GREEN BOND / LOAN PRINCIPLES

Based on this review, this Framework is found in alignment with the Green Bond Principles and the Green Loan Principles.

°CICERO Dark Green

Contents

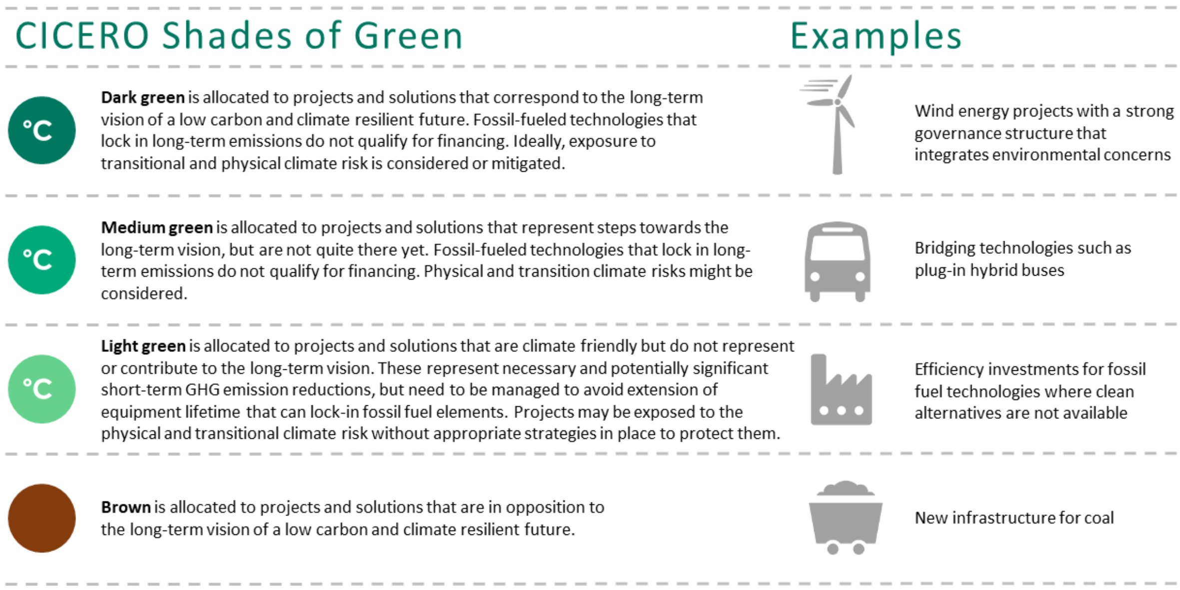
1 Terms and methodology

This note provides CICERO Shades of Green's (CICERO Green) second opinion of the ØRSTED's green finance framework dated April 1, 2019. This second opinion remains relevant to all green bonds issued under this framework for the duration of three years from publication of this second opinion, as long as the framework remains unchanged. Any amendments or updates to the framework require a revised second opinion. CICERO Green encourages the client to make this second opinion publicly available. If any part of the second opinion is quoted, the full report must be made available.

The second opinion is based on a review of the framework and documentation of the ØRSTED's policies and processes, as well as information gathered during meetings, teleconferences and email correspondence with ØRSTED.

Expressing concerns with 'shades of green'

CICERO Green second opinions are graded dark green, medium green or light green, reflecting a broad, qualitative review of the climate and environmental risks and ambitions of the bonds. The shading methodology aims to provide transparency to investors that seek to understand and act upon potential exposure to climate risks and impacts. Investments in all shades of green projects are necessary in order to successfully implement the ambition of the Paris agreement. The shades are intended to communicate the following:



Sound governance and transparency processes facilitate delivery of ØRSTED's climate and environmental ambitions laid out in the framework. Hence, the governance aspects are carefully considered and reflected in the overall shading of the green finance framework. CICERO Green considers four factors in its review of an ØRSTED's governance processes: 1) the policies and goals of relevance to the green finance framework; 2) the selection process used to identify and approve eligible projects under the framework, 3) the management of proceeds and 4) the reporting on the projects to investors. Based on these factors, we assign an overall governance grade: Fair, Good or Excellent.

2 Brief description of ØRSTED’s green finance framework and related policies

About the issuer:

Ørsted is a Danish energy company engaged in the production of power and heat. The company is the global leader in installed offshore wind capacity. Until October 2017, Ørsted was known as DONG Energy, with its roots in North Sea oil and gas development, production and transmission. About 12 years ago, DONG started its shift towards renewable energy, especially offshore wind. The company sold its upstream oil and gas business in September 2017. In October 2017, DONG Energy changed its name to Ørsted to underline the shift towards renewable energy production. The company has around 6000 employees and is majority owned by the Danish state. Operations are located mainly in Denmark, UK and Germany. Outside of Europe, Ørsted is developing and constructing offshore wind projects in Taiwan and the US and has in 2018 acquired an onshore platform in the US with focus on onshore wind and solar PV.

Ørsted’s activities are organized in four business units of which offshore wind is the largest, contributing to above 90% of EBITDA in 2018. Ørsted offshore wind portfolio consists of 26 wind farms in operation with a total capacity of 5.6 GW and 3 offshore wind farms under construction, which will take the operating capacity to 9 GW by 2022. The onshore renewables energy business consists of construction, ownership and operation of onshore wind, PV-solar projects and energy storage facilities. This business unit was established in 2018 after the acquisition of Lincoln Clean Energy in the US, which at that point had a 1.5 GW pipeline of US based projects and 813 MW of existing projects.

The business area Bioenergy consists of combined heat and power plants where all but two plants have been converted from coal to biomass. One of the two remaining coal-fired combined heat and power (CHP) plants will be converted to biomass in 2019 and the last plant will be closed in 2023, completing Ørsted’s phase-out of the use of coal.

Within CHP production, which excludes onshore and offshore wind, coal stood for 38 % of the used fuel (2018), biomass for 48 % and natural gas for about 13 %. The use of fuel oil (1%) is limited to starting-up of power stations. Within the course of 2019 Ørsted expects commissioning of a waste management plant in the UK where unsorted municipal waste is recycled and used for power production based on extracted biogas. Ørsted has decided to seek to divest its Danish power distribution grid and B2C energy supply business with expected signing end of 2019.

About the framework:

The green finance framework under consideration is an update of Ørsted’s green bond framework from 2017. The main changes are that other green financial products than just green bonds are included, as the issuer aims to source all its financing as green financing. Also, the project categories have been reduced to offshore wind projects only, given the divestment from distribution and the dominating role offshore wind plays in the company.

Environmental Strategies and Policies:

Ørsted uses the UN sustainable development goals (SDG) as a framework for its environmental goals and policies. Specifically, three SDG were chosen.

Regarding SDG 7, access to clean and affordable energy for all, Ørsted aims to generate 99 % of energy (power and heat) from green sources. In 2018, the share of green energy generation was 75%. For the offshore wind unit Ørsted states a goal of generating electricity that would serve the demand from 30 million people in 2025, equivalent to 15 GW installed capacity, up from serving 12 million people, equivalent to 5.6 GW, in 2018.

Regarding SDG 13, focusing on action against climate change, Ørsted aims to reduce the carbon intensity of its generation of energy (power and heat) by 98% by 2025, compared to 2006. Ørsted has adopted policies and goals to convert all coal fired power stations to run on certified biomass in order to achieve the reduction in carbon intensity.

The goals under SDG 8, decent work and economic growth, are related to the planned increase in offshore wind power generation. Ørsted aims to invest EUR 26.8 billion in green energy towards 2025. A share of 75-85 % of these investments will be made in new offshore wind projects, while between 15-20 % of investments will flow to onshore wind activities, according to the annual report 2018.

The issuer reports emissions from its own operations according to the CDP and GHG Protocol standards. Ørsted does not currently record emissions from construction or life-cycle emissions from supplies and materials, such as turbines, towers or nacelles. The issuer has however informed us that the scope of emission reporting is being widened to also include these emission sources, and that this will be part of the upcoming CDP reporting. Further, the issuer informs us that Ørsted has started to engage with some of its suppliers on climate issues. We encourage the issuer to continue this work.

Ørsted has defined ESG criteria and quantifies these in its ESG performance report. Ørsted is a member of the UN Global Compact and various other environmental and climate related initiatives. The issuer took first steps to integrate the recommendations by the Task Force on Climate related Financial Disclosure (TCFD) in the annual report 2018. The issuer briefly describes some elements of its exposure to physical and transition risk, and the management thereof. The issuer informs us that work on TCFD reporting continues, especially in terms of scenario analysis.

Regarding physical risk, Ørsted acknowledges the financial risk emanating from low probability/severe consequence events, such as 1000-year floods, or hurricanes, according to the annual report. When designing and constructing wind power projects, Ørsted takes acute and chronic weather events, such as extreme winds, changes in wind patterns, changes in temperatures and precipitation levels, into account. Physical risk is part of ongoing efforts to increase the use of scenario analysis.

Regarding biodiversity, Ørsted aims to reduce or altogether avoid negative impacts from its operations. The issuer follows the laws of the countries where activities are located when assessing and managing environmental impacts, and adds voluntary activities where it deems this necessary, according to Ørsted's offshore wind biodiversity policy, which is supported by the WWF, according to the issuer. The issuer informed us about its policy for community engagement in all projects in order to avoid controversies or manage opposition to projects from affected communities. Ørsted engages with various stakeholder groups in project areas. An assessment of the likely impacts on the local communities informs the choice of engagement during construction and operations, ranging from economic opportunities to charity. Ørsted's policies require that all engagement is done in a transparent and responsible way.

Use of proceeds:

Eligible projects are within the field of climate mitigation. Eligible technologies are in the category "renewable energy" in the form of offshore wind power projects.

The net proceeds from green financing instruments raised in accordance with this Green Financing Framework can be allocated to finance, or re-finance, a pool of eligible projects, including the acquisition, development and construction of such projects, by Ørsted and its subsidiaries. New financing includes projects finalized or taken into operation up to 12 months prior to approval for Green financing by the Ørsted Sustainability Committee. Existing eligible projects may be subject to re-financing with a targeted look-back period of around 2 years. Ørsted aims to prioritize new projects in relation to the allocation of proceeds from new Green Financing Instruments.

Eligible Projects may be subject to financing from several types of Green Financing Instruments provided that the financed amounts and achieved impacts are not 'double-counted'. The legal documentation for each individual green financing instrument issued by Ørsted shall provide a reference to this Green Finance Framework.

Selection:

The selection process is a key governance factor to consider in CICERO Green's assessment. CICERO Green typically looks at how climate and environmental considerations are considered when evaluating whether projects can qualify for green bond funding. The broader the project categories, the more importance CICERO Green places on the governance process.

Eligible Projects to be financed with proceeds from Ørsted's green finance instruments will be evaluated, selected and prioritized by the sustainability department in co-operation with the treasury department at Ørsted. Prioritized projects will, on an annual basis, be presented to Ørsted's Sustainability Committee for final approval of allocation of Green Bond proceeds. According to the issuer, annual allocations of green proceeds better match the company's internal processes and the annual reporting to investors on allocations and impacts.

Ørsted's Sustainability Committee consist of representatives from Ørsted's Sustainability Department, People & Development, Internal Audit, Accounting and is chaired by the CFO of the Ørsted group. All decisions must be taken unanimously. Proceeds from the green financing instruments will be used exclusively to projects that meet the eligibility criteria.

Management of proceeds:

According to the framework, the net proceeds from any green finance instruments will be managed by the Treasury department in Ørsted.

For Green Bonds an amount equal to the net proceeds will be credited to a separate account ("Green Account") that will support and document Ørsted's green financing of eligible projects.

As long as Ørsted has any Green Bonds outstanding and the Green Account has a positive balance, funds will, on an annual basis, be allocated from the Green Account to Ørsted's green project portfolio in respect of financing and/or refinancing eligible projects as approved by Ørsted's Sustainability Committee.

Until all net proceeds from Green Bonds have been allocated to Eligible Projects, the balance of the Green Account will be included in Ørsted's liquidity reserve and managed in accordance with the cash management policies and investment mandates. According to the issuer, these prohibit investments in products that are directly related to the financing of fossil energy.

Unallocated proceeds from other green financing instruments will be managed under the same investment policies and mandate. The actual management process may differ from the green bond example, subject to the type and format of the green financing instruments and agreement with the lenders or counterparts.

Ørsted aims to maintain a stable pool of eligible projects but may, at any time, and subject to its own discretion, substitute one or more projects in the pool with other eligible projects. If, for any reason, a financed eligible project no longer meets the eligibility criteria the issuer will remove this project from the green project portfolio and substituted it with another eligible project.

Reporting:

Transparency, reporting, and verification of impacts are key to enable investors to follow the implementation of green bond programs. Procedures for reporting and disclosure of green bond investments are also vital to build confidence that green bonds are contributing towards a sustainable and climate-friendly future, both among investors and in society.

According to the framework, Ørsted will publish an annual letter to investors in its Green Bonds on the allocation of proceeds and the targeted impacts.

The report will include:

- a list of the eligible projects financed including allocated amounts and their main environmental impacts
- a description of the projects including location and case studies
- information about the allocation of proceeds between new projects and refinancing and any unallocated balance on the Green Account
- The balance of the Green Account

According to the framework, Ørsted may choose to report the impact and allocation of other green finance instruments directly, and non-publicly, to the lenders or counterparts. For the avoidance of doubt Ørsted will clarify, and specifically outline, if an Eligible Project has been financed by several Green Finance Instruments. For instruments other than bonds, reporting will follow the green bond reporting method to the extent feasible. According to the issuer, the reports will show expected impacts for projects under construction, and calculated impacts for operating projects or project portfolios on an annual basis. The issuer informs us that financial instruments with a maturity under one year will not be used.

The issuer seeks to align the reporting with emerging standards for impact reporting where this seems relevant, such as the Nordic Public Sector Issuers Position Paper on Green Bond Impact Reporting. The issuer also intends to align reporting with the European Commission’s work on sustainable finance, which has not been finalized yet. According to the issuer, avoided emissions will be calculated based on the emissions factor in the country where a specific project is located. The issuer informs that the impact calculation method has been published in one of the investor letters connected to a previous green bond issuance, available on the Ørsted website.

According to the framework, Ørsted’s internal auditor will review and report on the allocation of proceeds and internal tracking methods of the proceeds from green financing instruments. The auditor will thus ensure that impacts are not double counted if projects are financed using more than one instrument established under this framework. The auditor’s report will be part of the annual investor letter and will be made available online. For financial products other than green bonds the auditor’s report may be provided directly to the lender or other counterpart without publication due to the legal structures of instruments such as loans.

3 Assessment of ØRSTED's green finance framework and policies

The framework and procedures for ØRSTED's green investments are assessed and their strengths and weaknesses are discussed in this section. The strengths of an investment framework with respect to environmental impact are areas where it clearly supports low-carbon projects; weaknesses are typically areas that are unclear or too general. Pitfalls are also raised in this section to note areas where ØRSTEDs should be aware of potential macro-level impacts of investment projects.

Overall shading

Based on the project category shading detailed below, and the consideration of environmental ambitions and governance structure reflected in ØRSTED's green finance framework, we rate the framework **CICERO Dark Green.**

Eligible projects under the ØRSTED's green finance framework

At the basic level, the selection of eligible project categories is the primary mechanism to ensure that projects deliver environmental benefits. Through selection of project categories with clear environmental benefits, green bonds, and related green financing instruments, aim to provide investors with certainty that their investments deliver environmental returns as well as financial returns. The Green Bonds Principles (GBP) state that the "overall environmental profile" of a project should be assessed and that the selection process should be "well defined".

Category	Eligible project types	Green Shading and some concerns
Renewable Energy °C	Offshore wind farms Investments can be related, but are not limited, to: • Wind turbines • Blades • Foundations • Cables • Transmission assets	• These investments could have negative impacts on marine biodiversity. The issuer has a biodiversity policy for offshore wind projects which is supported by the WWF. Ørsted reports on biodiversity indicators in its ESG performance report. • Ørsted engages with affected stakeholders and communities in all projects to manage local concerns. • Lifecycle assessments, including emissions during construction, are not yet part of the standard reporting process. The issuer informs that these emissions sources will be part of future CDP reporting, and that

engagement with suppliers on climate issues is under way.

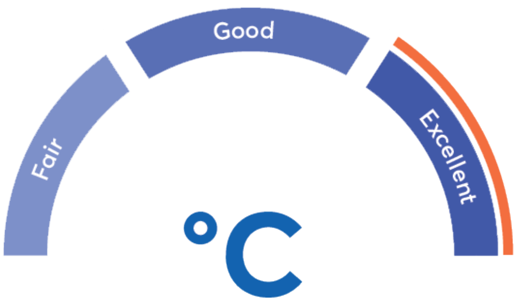
Table 1. Eligible project categories

Governance Assessment

Four aspects are studied when assessing the ØRSTED's governance procedures: 1) the policies and goals of relevance to the green finance framework; 2) the selection process used to identify eligible projects under the framework; 3) the management of proceeds; and 4) the reporting on the projects to investors. Based on these aspects, an overall grading is given on governance strength falling into one of three classes: Fair, Good or Excellent.

Ørsted has adopted relevant and clear targets that directly link to and support the implementation of this framework. Ørsted's activities over the past years, like the scaling up of offshore wind investments and the transition from coal to biomass, demonstrates its willingness and ability to realize its ambitions. The issuer has started to report on climate risk according to the TCFD recommendations but has not yet undertaken scenario stress testing. Future CDP reporting will include emissions during construction and life-cycle emissions of materials. The issuer has also started to engage with suppliers on climate issues. Final decisions on the allocation of proceeds to eligible projects are taken unanimously, giving the sustainability department on the green finance committee veto powers. Ørsted provides project-based impact reporting for the portfolio of operating projects within a specific country on an annual basis, along with the internal auditor's review of allocation and tracking methods. This approach will also apply to green financial instruments other than bonds. Impact reporting for green bonds will be publicly available. Reporting for other green financial instruments may be restricted to the creditor/counterpart due to the non-public character of loans and similar instruments. Ørsted will not use instruments with a maturity of under one year.

The overall assessment of ØRSTED's governance structure and processes gives it a rating of **Excellent**.



Strengths

Governance

Ørsted has defined clear climate targets and has changed its business model from being an upstream oil- and gas producer and coal-based electricity and heat generator, to becoming a green upstream electricity and heat generator. This transition has been executed over many years and will be completed in 2023.

Ørsted has started to report on its exposure to physical and transition climate risk, following the TCFD recommendations. The issuer has informed us that this was a first step towards TCFD reporting and that work on elements such as scenario analysis is under way. The issuer has informed us that emissions during construction and from its supply chain will be included in future CDP reporting, and that Ørsted has started concrete initiatives to engage with its suppliers on climate issues.

Ørsted takes a broad and long-term approach to biodiversity protection. The issuer aims to avoid, reduce and restore biodiversity impacts during project development, construction phase and operation. Environmental impact assessments are taken into the selection of project sites in cases where the location is not decided by national authorities. During construction, harmful but unavoidable activities, such as the piling of foundations, are reduced to the extent possible. During the operational phase, both mandatory and voluntary monitoring programs, which may exceed what is required under local law, are carried out to survey impacts and improve knowledge on impacts that can be transferred to other projects. Voluntary projects, such as research on marine mammals and bird behavior in the vicinity of offshore wind parks, are carried out also as a means to engage with local stakeholders, according to the Ørsted's offshore wind biodiversity policy.

Ørsted also reports on the amount of protected areas, or areas of high biodiversity value, and endangered species in the vicinity of offshore wind projects in the ESG performance report. The issuer has studied the impacts of its offshore wind operations on specific species and has introduced protective measures, for example speed limits for vessels to protect the North Atlantic right whale.

Project Categories

Due to more stable and stronger winds, offshore wind is an important part for decarbonizing the electricity sector in coastal countries. Climate- and energy system models that depict a path which is likely to limit global warming to ca. 2 degrees by the end of the century require the decarbonization of the power sector at a higher pace than e.g. transportation. The International Energy (IEA) agency states that offshore wind showed a 32 % increase in generation growth in 2017 and that investments reached a record level the same year, due to expansion in Europe and China. However, the IEA concludes that offshore wind investments are "not on track" and "more efforts are needed" in order to reach generation levels that are in line with scenarios that depict a path to limiting global warming to around 2 degrees.[1]

Investments in offshore wind by Ørsted and other actors have contributed to a fall in costs due to larger turbines, economics of scale in larger projects and standardization and clustering of the supply industry and service providers.

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[1] As in the IEA's World Energy Outlook Sustainable Development Scenario, see: https://www.iea.org/tcep/power/renewables/offshorewind/

Weaknesses

There are no apparent weaknesses in the framework.

Pitfalls

Governance

Impact reporting for green financial instruments other than green bonds is a relatively new field. We encourage the issuer to be as transparent and clear as feasible regarding the attribution of achieved impacts to single instruments.

Even though the framework covers offshore wind projects, which face less resistance than onshore wind farms, individual projects could nevertheless cause resistance among affected communities. This is accommodated by the company's focus on community engagement in all projects in order to avoid controversies or manage opposition to projects from affected communities and stakeholder groups.

Project Categories

Offshore wind projects require large amounts of materials, such as steel and concrete for foundations or towers. Also, large vessels are employed over the course of the construction period, which can stretch over several years, with seasonal variations in the intensity of activities. Vessels are used for transport, ground works, construction or dredging. This large-scale use of materials and vessels is a source of carbon emissions where there are limited possibilities to reduce the footprint at this point in time. However, big actors such as Ørsted can leverage their size to nudge suppliers of materials and services in a greener direction, e.g. by requiring carbon intensity reporting in tendering processes and elevating such metrics into Ørsted's choosing of suppliers. Ørsted has informed us that efforts are under way to engage with suppliers in this context, and to broaden the scope of emissions reporting to also include emissions during construction and from procurement. We welcome these announcements and encourage the issuer to continue this process.

Appendix 1:
Referenced Documents List

Document Number	Document Name	Description
1	Ørsted green finance framework 2019	Framework for issuing green bonds and other green financial products
2	Ørsted code of conduct for business partners	Outlining expectations regarding environmental, social and governance performance for suppliers and sub-contractors
3	Ørsted policy for quality, health, safety and environment	Short summary of goals Ørsted is striving towards in the fields of quality and HSE
4	Ørsted sustainability commitment	High level description of goals in the areas environment, labor and human rights, rule of law and anti-corruption, economic development, dialogue
5	Ørsted sustainability report 2018	Sustainability report outlining a.o. challenges, governance and actions for 20 topical areas within green energy, sustainable growth and business integrity
6	Ørsted ESG performance report	Quantified reporting on several ESG indicators
7	Ørsted offshore wind biodiversity policy	Outlining the policies to assess, reduce and monitor impacts on the environment and biodiversity in all offshore wind projects
8	Ørsted local community engagement	Outlining different approached to engage with affected local communities in all offshore wind projects.
9	Ørsted annual report 2018	The annual report 2018, outlining a.o. strategic targets

Appendix 2:
About CICERO Shades of Green

CICERO Green is a subsidiary of the climate research institute CICERO. CICERO is Norway's foremost institute for interdisciplinary climate research. We deliver new insight that helps solve the climate challenge and strengthen international cooperation. CICERO has garnered attention for its work on the effects of manmade emissions on the climate and has played an active role in the UN's IPCC since 1995. CICERO staff provide quality control and methodological development for CICERO Green.

CICERO Green provides second opinions on institutions' frameworks and guidance for assessing and selecting eligible projects for green bond investments. CICERO Green is internationally recognized as a leading provider of independent reviews of green bonds, since the market's inception in 2008. CICERO Green is independent of the entity issuing the bond, its directors, senior management and advisers, and is remunerated in a way that prevents any conflicts of interests arising as a result of the fee structure. CICERO Green operates independently from the financial sector and other stakeholders to preserve the unbiased nature and high quality of second opinions.

We work with both international and domestic issuers, drawing on the global expertise of the Expert Network on Second Opinions (ENSO). Led by CICERO Green, ENSO contributes expertise to the second opinions, and is comprised of a network of trusted, independent research institutions and reputable experts on climate change and other environmental issues, including the Basque Center for Climate Change (BC3), the Stockholm Environment Institute, the Institute of Energy, Environment and Economy at Tsinghua University and the International Institute for Sustainable Development (IISD).