

Ørsted

Green Bonds

Investor Letter



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Investing in our vision of a world that runs entirely on green energy

Climate change is one of the biggest challenges for life on Earth. We need to transform the way we power the world; from black to green energy. At Ørsted, our vision is a world that runs entirely on green energy.

In the Ørsted Sustainability Commitment, we commit to operating in a way that creates progress towards the United Nations Sustainable Development Goals (SDGs). The SDGs express a global agreement to act on society's greatest challenges towards 2030.

At Ørsted, issuing Green Bonds is a natural step in our green transition as one of the world's largest green energy developers. In 2017, we invested a total of DKK 17.7 billion in primarily offshore wind projects as well as bioenergy projects, upgrade of the power distribution grid and installation of the new smart meters. With Green Bonds, we invite investors to join us in the green transformation.

Our Green Bonds Framework has been developed in cooperation with SEB in alignment with the Green Bond Principles 2017. The framework was reviewed by the not-for-profit research institute Center for International Climate and Environmental Research (CICERO) to provide a Second Opinion. CICERO gave Ørsted's Green Bonds Framework a Dark Green Shading, which is the highest

grading a Green Bond issuer can receive. Ørsted's Green Bonds Framework and CICERO's Second Opinion are both publicly available at our [website here](#).

In November 2017, we entered the Green Bond market with the issuance of a EUR 750 million Green Senior Unsecured Bond listed on London Stock Exchange and a EUR 500 million Subordinated Green Hybrid Bond listed on Luxembourg Stock Exchange with a parallel listing on the Luxembourg Green Exchange (LGX).

This report constitutes Ørsted's first annual Green Bond Investor Letter and reports on the allocation of proceeds and environmental impacts in accordance with our Green Bonds Framework. In 2017, our Green Bond net proceeds totaled DKK 9.2 billion, of which a total of DKK 2.2 billion so far have been allocated to seven eligible projects. Avoided emissions from these projects total almost 7.5 million tonnes of CO₂ per year. Of this, 209,000 tonnes of avoided carbon emissions are attributable to the Green Bond proceeds allocated in 2017.

For more information about Ørsted's sustainability practices, please see orsted.com/sustainability.

Green financing governance

In January 2018, Ørsted's Sustainability Committee approved in consensus the allocation of Green Bond proceeds for 2017. Going forward, the investor letter with the allocation of proceeds will be published annually along with Ørsted's annual financial and sustainability reporting.

The allocation of funds, as described in this Green Bond Investor Letter, and the internal tracking of the Green Bond proceeds has been verified by PwC. PwC's assurance report is attached as Appendix II to this Green Bonds Investor Letter.

Allocated proceeds

In November 2017, Ørsted issued EUR 750 million Green Senior Unsecured Bonds which matures on 26 November 2029 and EUR 500 million Subordinated Green Hybrid Bonds with maturity in 3017 and first par call date on 24 November 2024.

At least 75% of proceeds are intended for new eligible projects, including projects taken into operation up to 12 months before approval for Green Bond financing by Ørsted's Sustainability Committee. "Refinancing" is

allocation of Green Bond proceeds to eligible investments made prior to this. The allocation of proceeds for refinancing will be kept within 25% of the Green Bond proceeds.

In this first round of allocations, the Sustainability Committee has approved that around a quarter of the raised Green Bond proceeds are allocated to new eligible investments made in 2017, and we expect to allocate the remaining amount to investments in eligible projects in 2018.

Total amount allocated by bond

The table below provides details on Ørsted's two outstanding Green Bonds, including total allocated amount.

Bond type	Green Senior Bond	Green Hybrid Bond
Face Value (EURm)	750	500
Green Bond net proceeds (DKKm)	5,499	3,674
Settlement date	24 Nov 2017	24 Nov 2017
ISIN	XS1721760541	XS1720192696
Maturity	26 Nov 2029	24 Nov 3017
Listing	London Stock Exchange	Luxembourg Stock Exchange, inscribed on the Luxembourg Green Exchange platform (LGX)
Allocated to new Eligible Projects (DKKm)	1,300	900
Refinancing (DKKm)	0	0
Unallocated Amount (DKKm)*	4,199	2,774

* According to our Green Bonds Framework, unallocated amounts will be included in Ørsted's liquidity reserve and managed in accordance with our cash management policies and investment mandates. Ørsted's total liquidity reserve as at 31.12.2017 was DKK 29.5 billion, consisting primarily of Danish AAA-rated mortgage bonds.

Total amount allocated by project

In January 2018, Ørsted allocated a total of DKK 2.2 billion of the Green Bond proceeds to eligible investments made in 2017. The proceeds have been allocated to a total of seven projects listed below. These are divided into three project categories: 'offshore wind, 'bioenergy' and 'smart grid' as also described in Ørsted's Green Bonds Framework.

It is our ambition to allocate Green Bond proceeds to a broad range of green assets at Ørsted why most projects will only be partially funded by Green Bond proceeds. Allocations can never exceed Ørsted's ownership share of the total investment.

Projects (DKK m)	Allocated amount: Green Senior Bond	Allocated amount: Green Hybrid Bond
Offshore wind: DKK 1,600m		
Race Bank	400	
Walney Extension	500	
Borkum Riffgrund 2		500
Hornsea Project One		200
Bioenergy: DKK 350m		
Skærbæk Power Station biomass conversion		200
Asnæs Power Station biomass conversion	150	
Smart grid: DKK 250m		
Installation of smart meters	250	
Total: DKK 2,200m	1,300	900

Projects and environmental impacts

The net proceeds from Ørsted's Green Bonds can be used to finance the acquisition, development and construction of new projects, or to renovate and upgrade existing projects. The projects aim to promote the transition to low carbon and climate-resilient growth and a sustainable economy. Our key markets are Denmark, the United Kingdom, Germany and the Netherlands, with the off-shore wind business currently expanding beyond Europe, primarily to the United States and Taiwan.

Avoided emissions by bond

The annual avoided carbon emissions for each bond is the sum of avoided emissions for the projects attributable to the bond. This is calculated as the relative share of Green Bond allocation to total CAPEX for a project multiplied by the avoided emissions for the project. For competitive reasons, we do not disclose total CAPEX or other figures which may indicate this at project level.

Bond type	Avoided emissions from Green Bond projects	Avoided emissions attributable to the bonds
Green Senior Bond	3,100,000 t CO ₂ / year	104,000 t CO ₂ / year
Green Hybrid Bond	4,384,000 t CO ₂ / year	105,000 t CO ₂ / year
Total	7,484,000 t CO₂ / year	209,000 t CO₂ / year

For accounting practices on annual avoided carbon emissions, please see Appendix I.





Offshore wind

Offshore wind represents a scalable and efficient green energy technology that can help replace black energy with green energy. Ørsted is the market leader, having installed the most offshore wind capacity worldwide. By the end of 2017, we had constructed a total of 3.9GW of offshore wind capacity. We expect to more than double this to 8.9GW in 2022. It is our ambition to reach a total of 11-12GW by 2025, which equals the annual power consumption of around 30 million people.

Our offshore wind activities increase the share of renewable energy in the global energy mix and create progress towards Sustainable Development Goal (SDG) #7 on affordable and clean energy.

An amount of DKK 1.6 billion of our Green Bond proceeds has been allocated to the following four offshore wind power projects.

Race Bank

Power capacity	573 MW
No. of turbines	91
Country	UK
Project status	In operation
Construction period	2015–2018
Avoided emissions	1,339,000 t CO ₂ /year

Ørsted took the final investment decision on Race Bank in June 2015. The wind farm is located about 27 kilometers off the North Norfolk coast and 28 kilometers off the Lincolnshire coast.

Race Bank comprises 91 Siemens 6MW wind turbines with performance-enhancing features, adding up to a capacity of 573MW – enough to power more than 400,000 British households. First power was delivered to the grid in May 2017. By the end of 2017, all turbines were installed, and the wind farm was commissioned in January 2018. It has been built out of Ørsted's construction base in Grimsby and is operated from Ørsted's O&M base in the Grimsby Royal Dock.

Race Bank's power generation will result in avoided emissions of more than 1.3 million tonnes CO₂ each year, equaling the annual emissions of 687,000 cars.

In December 2016, Ørsted sold 50% of Race Bank to the financial group Macquarie.

Walney Extension

Power capacity	659 MW
No. of turbines	87
Country	UK
Project status	Under construction (partial generation)
Construction period	2015–2018
Avoided emissions	1,539,000 t CO ₂ /year

Ørsted took the final investment decision on Walney Extension in October 2015. Walney Extension is located in the Irish Sea approximately 19 kilometers from the Walney Island coast in Cumbria and will cover an area of 145 km².

The wind farm comprises 87 wind turbines with performance enhancing features: 40 MHI Vestas V164-8.0MW turbines and 47 Siemens Gamesa SWT-7.0 MW-154 turbines, comprising a total capacity of 659MW – enough to power more than 500,000 British households. Walney Extension delivered first power to the grid in September 2017, had all 40 MHI Vestas turbines installed by end 2017, and is expected to be fully commissioned during the second half of 2018. Construction of the wind farm is being coordinated from Ørsted's base at the Port of Barrow, which already hosts the operating and maintenance teams for three other Ørsted offshore wind farms.

When in full operation, Walney Extension's power generation will result in avoided emissions of more than 1.5 million tonnes CO₂ each year, which equals the annual emissions of 790,000 cars.

In November 2017, Ørsted sold 50% of Walney Extension to a consortium consisting of PKA and PFA, two leading Danish pension funds. Each investor will obtain a 25% ownership interest in the project.

Borkum Riffgrund 2

Power capacity	450 MW
No. of turbines	56
Country	Germany
Project status	Under construction
Construction period	2016-2019
Avoided emissions	1,313,000 t CO ₂ /year

Ørsted took the final investment decision on Borkum Riffgrund 2 in June 2016. When completed in 2019, this wind farm will be Ørsted's fourth offshore wind farm in German waters. The wind farm is located right next to our Borkum Riffgrund 1 wind farm, about 59 kilometers from Norddeich harbour and 34 kilometers north of the island of Borkum.

Borkum Riffgrund 2 comprises 56 MHI Vestas V164-8.0MW wind turbines adding up to a total capacity of 450MW, and will generate enough electricity to power more than 460,000 German households. Installation of foundations, array cables and turbines are scheduled for 2018. The wind farm is expected to be fully commissioned in 2019 and will be operated from Ørsted's base in Norddeich.

When in full operation, Borkum Riffgrund 2's power generation will result in avoided emissions of 1.3 million tonnes CO₂ each year – the annual emissions of 674,000 cars.

In August 2017, Ørsted sold 50% of Borkum Riffgrund 2 to Global Infrastructure Partners – a leading global, independent infrastructure investor.

Hornsea Project One

Power capacity	1,218 MW
No. of turbines	174
Country	UK
Project status	Under construction
Construction period	2016-2020
Avoided emissions	2,845,000 t CO ₂ /year

Ørsted took the final investment decision on Hornsea Project One in February 2016, after taking over full ownership of the project from SMart Wind in 2015. The wind farm will be located 120 kilometers off the Yorkshire coast, in an area covering approximately 407 km².

Hornsea Project One will consist of 174 Siemens Gamesa SWT-7.0-154 wind turbines adding up to a total capacity of 1,218 MW. Onshore construction is progressing well, and offshore works are about to commence. The wind farm will be operated from Ørsted's O&M base in the Grimsby Royal Dock.

This will be the largest offshore wind farm in the world. Once completed in 2020, it will generate enough energy to power well over 1 million homes.

When in full operation, Hornsea Project One's power generation will result in avoided emissions of more than 2.8 million tonnes CO₂ each year. This equals the annual emissions of almost 1.5 million cars.





Bioenergy

We have a target to end the use of coal completely by the beginning of 2023. By phasing out the use of coal as fuel, we extend the lifetime of our power stations and significantly reduce the carbon emitted from our heat and power generation. We do this by closing coal-fired capacity and by converting remaining coal-fired capacity to sustainable biomass, mainly wood pellets and wood chips. While we do not plan to phase out natural gas completely, we have converted one gas-fired power station, namely the Skærbæk Power Station, to sustainable biomass.

We document the sustainability of our biomass by means of certification. Ørsted's Programme for Sourcing of Sustainable Biomass outlines our approach in detail and is available at our [website here](#).

Our biomass conversion projects increase the share of renewable energy in the global energy mix and create progress towards SDG #7 on affordable and clean energy as well as SDG #15 by ensuring sustainable forest management.

An amount of DKK 350 million of our Green Bond proceeds has been allocated to the following two bioenergy projects.

Skærbæk Power Station biomass conversion

Biomass heating capacity	320 MW thermal
Biomass power capacity	95 MW
Fuel conversion	From gas to wood chips
Country	Denmark
Project status	In operation
Construction period	2014-2017
Avoided emissions	226,000 t CO ₂ /year

The Skærbæk Power Station is situated in the Danish town Skærbæk in Eastern Jutland. The first units of the power station went into operation in 1951. From 2014 to 2017, the power station has been converted to be fueled by wood chips to replace natural gas. Following the conversion, the power station can still be fueled by natural gas – but this will only happen to a limited extent as wood chips are the main fuel. Natural gas emits half as much CO₂ as coal while the sustainable wood chips that Ørsted uses are carbon neutral in incineration.

Skærbæk Power Station generates green district heating based on biomass for the equivalent of around 60,000 homes. In October 2017, Her Royal Highness Crown

Princess Mary officially inaugurated the converted power station. By converting to sustainable wood chips, Skærbæk Power Station's heating and power generation will result in avoided emissions of about 226,000 tonnes CO₂ each year. This is equivalent to the annual carbon emissions from 116,000 cars.

Asnæs Power Station biomass conversion

Biomass heating capacity	129 MW thermal
Biomass power capacity	25 MW
Fuel conversion	From coal to wood chips
Country	Denmark
Project status	Under construction
Construction period	2017-2019
Avoided emissions	222,000 t CO ₂ /year

The Asnæs Power Station is situated in the Kalundborg area of Zealand, Denmark, and currently consists of two coal-fired units which were built in 1961 and 1981, respectively.

In 2017, we made the decision to convert the Asnæs Power Station from coal to wood chips. The conversion is expected to be completed by late 2019. By converting to sustainable wood chips, Asnæs Power Station's heating and power generation will result in avoided emissions of about 222,000 tonnes CO₂ each year. This is equivalent to the annual carbon emissions from 114,000 cars.





Smart grid

Societies must electrify the use of energy to take full advantage of new renewable energy sources, such as wind and solar. However, the electrification of society involves new challenges for the energy system. The power grid must manage greater demand as well as balance variable renewable power generation and consumption in an intelligent way.

At Ørsted, we want to help ensure a robust and balanced grid to transport the power. Expanding the grid to cope with the new load situations would require large investments and could cause inconveniences and irregularities for local residents. To avoid this, we encourage customers to be flexible and use electricity at other times of the day, thereby levelling the load on the grid. Moreover, we focus on balancing the power grid with energy storage solutions.

By promoting energy storage solutions and more flexible consumption, we create progress towards SDG #9 on industry, innovation and infrastructure.

An amount of DKK 250 million of Green Bond proceeds have been allocated to the following smart grid project.

Installation of smart meters

No. of smart meters to be installed	1,020,932
Country	Denmark
Project status	Under installation
No. of smart meters in use by end 2017	Approx. 183,000
Share of smart meters in use by end 2017	18%

Smart meters can help customers even out their electricity consumption to reduce pressure on the power grid. A smart meter keeps track of consumption on an hourly basis which allows business and residential customers to move their consumption to periods with low demand and more green energy, resulting in lower prices. Our customers benefit from cost savings and carbon footprint reductions. In this way, smart meters help enable and incentivise power consumers, households as well as industry, in adapting consumption to support the green transformation.

By end 2017, around 183,000 smart meters were taken in use by customers of Ørsted's power distribution company Radius. We have implemented hourly-based tariffs, creating incentives to use power when it is abundant and cheap and pressure on the grid is low.

Towards the end of 2019, we expect to have installed more than 1 million smart meters in Danish homes by replacing 1,500 electricity meters a day in an area covering Northern Zealand, parts of central Zealand, and the Copenhagen Metropolitan Area.



Appendix I: Accounting practices for avoided emissions

Both accounting practices for avoided emissions below follow the principles of the GHG Protocol for Project Accounting and the United Nations Framework Convention on Climate Change (UNFCCC) Clean Development Mechanism (CDM) methodology. EY has reviewed and co-developed the accounting practice to help align with these standards.

Accounting practices for sustainability indicators are generally disclosed in Ørsted's ESG Performance Report 2017 available at our [website here](#).

Avoided emissions from offshore wind

The avoided CO₂ emissions due to generation from offshore wind farms are calculated assuming that the generation from wind farms replace an equal quantity of electricity generated using fossil fuels. The predicted generation from an offshore wind farm is based on the expected installed capacity and an industry average load factor for offshore wind farms, provided by Wind Europe.

The CO₂ emissions factor from fossil fuel is calculated as an average fossil fuel mix in a specific country, as CO₂/kWh. Data is extracted from external sources (Internation-

al Energy Agency, IEA). The power generation at a wind farm does not directly emit CO₂ and no secondary effects are included, from either power stations or offshore wind farms. The avoided CO₂ emissions are calculated as the offshore wind farm's power generation multiplied with the CO₂ emissions factor.

Avoided emissions from biomass

The avoided CO₂ emissions due to conversion of combined heat and power stations and subsequent switch of fuel from fossil to biomass (i.e. biomass from dedicated plantations or biomass residues) are calculated from the energy content of the fuel used at power stations. It is assumed that the use of 1GJ of biomass fuel avoids the use of 1GJ of fossil fuels.

The following secondary CO₂ emissions are included in the calculation:

- Fuel used for production of biomass and conversion into wood pellets and wood chips
- Fuel used for transportation and handling of biomass
- Back-up fuel used together with biomass combustion at the power stations

Conversion to number of cars

The amount of annual avoided CO₂ emissions in tonnes is also expressed in the Green Bonds Investor Letter as the equivalent to a number of cars' annual emissions. This

calculation is based on the CO₂ emissions from an EU27 vehicle being close to 2 tonnes CO₂/year. Data, sources and formula are disclosed below.

Indicator	Value	Source
CO ₂ emissions from gasoline (2017)	2,353.9 g CO ₂ per liter	International Energy Agency
EU vehicles avg. fuel consumption (2015)	6.9 liters per 100 km	Odyssee database
EU vehicles avg. distance travelled (2015)	12,000 km per year	Odyssee-mure: Sectoral Profile - Transport

Annual CO₂ emissions per EU vehicle =

CO₂ emissions from gasoline x EU vehicles avg. fuel consumption x EU vehicles avg. distance travelled

Appendix II: Limited assurance report of the independent auditor

To the Green Bond investors and the Board of Directors of Ørsted A/S.

Our conclusion

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that the Selected Information for the 2017 reporting year has not been prepared, in all material aspects, in accordance with the Ørsted Green Bonds Framework.

This conclusion is to be read in the context of what we state in the remainder of our report.

Selected Information

The scope of our work was limited to assurance over the information described in the "Ørsted Green Bonds Framework", section 5 "Reporting and Transparency". The scope of our work was limited to the internal tracking method and the allocation of funds from the Green Bond proceeds as expressed in the Green Bonds Investor Letter for 2017 (together "the Selected Information"), dated February 2018.

Professional standards applied and level of assurance

We performed a limited assurance engagement in accordance with International Standard on Assurance Engagements 3000 (revised), "Assurance Engagements other

than Audits and Reviews of Historical Financial Information" and additional requirements under Danish auditor regulation to obtain limited assurance in respect of our conclusion. A limited assurance engagement is substantially less in scope than a reasonable assurance engagement in relation to both the risk assessment procedures, including an understanding of internal control, and the procedures performed in response to the assessed risks. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

Our independence and quality control

PricewaterhouseCoopers is subject to the International Standard on Quality Control, ISQC 1, and thus applies a comprehensive quality control system, including documented policies and procedures concerning compliance with ethical requirements, professional standards and current statutory requirements and other regulation.

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior.

Work done

We are required to plan and perform our work in order to consider the risk of material misstatement of the Selected Information. In doing so, we:

- made enquiries of relevant Ørsted management to assess to whether the reporting has been prepared in accordance with the Ørsted Green Bonds Framework; and
- to access the design of the processes and internal controls for managing, recording and reporting the Selected Information;
- performed analytical review of the Selected Information, including the allocation of amounts as presented in the "Ørsted Green Bonds Investor Letter".

Management's responsibility

The Directors of Ørsted A/S are responsible for:

- designing, implementing and maintaining internal control over information relevant to the preparation of the Selected Information that is free from material misstatement, whether due to fraud or error;
- establishing objective criteria for preparing the Selected Information as described in the Ørsted Green Bonds Framework;
- measuring and reporting the Selected Information based on the Ørsted Green Bonds Framework; and
- the content of the "Ørsted Green Bonds Investor Letter".

Auditor's responsibility

We are responsible for:

- planning and performing the engagement to obtain limited assurance about whether the Selected Information is free from material misstatement, whether due to fraud or error;
- forming an independent conclusion, based on the procedures we have performed and the evidence we have obtained; and
- reporting our conclusion to the Board of Directors of Ørsted A/S and the Green Bond investors.

This report, including our conclusions, has been prepared solely for the Board of Directors of Ørsted A/S and the Green Bond investors in accordance with the agreement between us, to assist the Board of Directors in reporting on Ørsted's Green Bonds. We permit this report to be disclosed online at Ørsted A/S' homepage in respect of the 2017 reporting year, to assist Ørsted A/S in responding to their governance responsibilities by obtaining an independent assurance report in connection with the Selected Information.

Hellerup, 1 February 2018

PricewaterhouseCoopers

Statsautoriseret Revisionspartnerselskab
CVR No 3377 1231

Lars Baungaard
State Authorised Public Accountant

Rasmus Friis Jørgensen
State Authorised Public Accountant

Ørsted