A Work Project, presented as part of the requirements for the Award of a Master Degree in Economics / Finance / Management from the NOVA – School of Business and Economics.

Equity Research Report Ørsted – An Analysis of the Key Value Drivers and their Projections

JANN-NICOLAS EILERS - 41052

A Project carried out on the Master in Finance Program, under the supervision of:

(Rosário André)

19th May 2021

Abstract

In line with rising awareness globally for reducing carbon emissions, energy has seen a significant shift to renewables. The report at hand gives an overview to the change and within this context undertakes a fundamental analysis and projection of Ørsted's key value drivers – focusing on the dominant offshore business. It forecasts generation and installed capacity growth, subsidised and wholesale electricity prices as well as load factors on the revenue side on a market-by-market basis. To this end, it maps out the company's entire project pipeline until 2025 and makes assumptions on Ørsted's individual regions' development thereafter. Moreover, it projects CAPEX and OPEX ratios per Megawatt on the cost side. These inputs are used to examine the NPV/IRR profitability for exemplary offshore wind parks in every country market – UK, Germany, Denmark, Rest of Europe, USA, and Asia – and for the overall valuation of Ørsted.

Keywords: Valuation, Analysis, Value Drivers

This work used infrastructure and resources funded by Fundação para a Ciência e a Tecnologia (UID/ECO/00124/2013, UID/ECO/00124/2019 and Social Sciences DataLab, Project 22209), POR Lisboa (LISBOA-01-0145-FEDER-007722 and Social Sciences DataLab, Project 22209) and POR Norte (Social Sciences DataLab, Project 22209).

This report is part of the equity report Ørsted (annexed) and should be read has an integral part of it.

Table of Contents

Company Overview

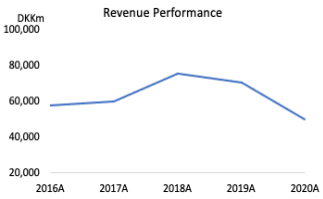


***Exhibit 1**: Revenue Performance*
***Source**: Company Information*

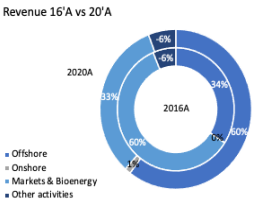


***Exhibit 2**: Revenue 2016 vs 2020*
***Source:** Company Information*

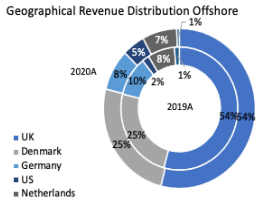


***Exhibit 3:** Geographic Revenue Distribution Offshore*
***Source:** Company Information*

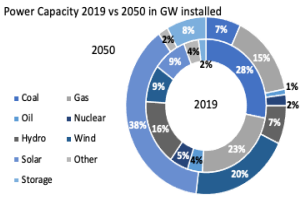


***Exhibit 4**: Power Capacity development 2019 vs 2050*
***Source:** BNEF New Energy Outlook 2020*

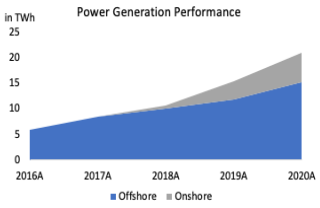


***Exhibit 5**: Power Generation Performance*

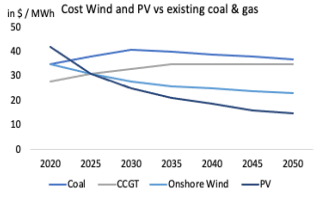


***Exhibit 6:** Cost Wind and PV vs existing coal*
***source:** IEA, Renewables 2020*

Profile

Ørsted's vision is a world that runs entirely on green energy. The company develops, constructs, and operates offshore and onshore wind farms, solar farms, energy storage facilities, and bioenergy plants, and provides energy products to its customers. Ørsted ranks #1 in Corporate Knights'2020 index of the Global 100 most sustainable companies in the world and is acknowledged on the CDP Climate Change A-list as a global forerunner on climate action.

After the acquisitions in 2008 of Elsam, Energi E2, Nesa, Københavns Energi and Frederiksberg Forsyning, the company took a chance with a radical transformation strategy from a fossil fuel-based to a renewable energy company. Consequently, investments went primarily into development and build-out of offshore wind farms and further into converting coal-and gas-fired power stations to sustainable biomass in and outside of Denmark. While at the time risky, Ørsted thus essentially managed to first set itself onto the now-apparent higher growth trajectory and second turned from a relatively small player to market leader.

Seen in Exhibit 2, the main change in the revenue over the past four years was in the business units Offshore (from 34% 16A - 60% 20A) and Markets & Bioenergy (from 60% 16A to 33% 20A). As a result of this conversion, Ørsted has become one of the fastest-growing energy groups (over the last four years 7%) and decided to go public on 9 June 2016, changing its name from DONG Energy A/S to Ørsted. The following chapter describes Ørsted's dynamic business context before we move on to our analyses of the value drivers.

Business Segmentation & Market Overview

Due to the fast development of the company from natural gas to renewables, Ørsted had various structural reorganizations to improve core business and vision to run as a green company.

The main focus for Ørsted is the **renewables and electricity generation and distribution** on the physical markets. To be successful within the competitive market, the company needs to have the know-how to profitably operate their assets. About 82% of the world's electric energy supply is generated by fossil fuels (coal, gas, oil) and nuclear energy.[1] Nevertheless, the past decades have seen a recognisable shift towards **renewable energy** driven by energy policy and now requiring extensive investment.

Renewable energy sources have grown at an average annual rate of 2%, slightly above the growth rate of the world TES, 1.8%. This primarily stems from a significant increase in wind power and solar PV, at an average annual rate of 23% and 36.5% respectively. Biogas represents the third-highest growth rate at 11.5%, followed by solar thermal (10.9%) and liquid biofuels (9.7%).[2] In 2019 the power capacity worldwide was at 7.38 GW with the goal of 20.40 GW of total installed capacity in 2050 (Exhibit 5).[3] Consequently, the EU energy strategy has been mainly driven by the need to support renewable energies and to contribute to the decarbonisation of the energy sector. Additionally, they believe that the market in the US will be cheaper in the production of

[1] Mario Richter, "Utility business models for renewable energy: A review", 2012
[2] IEA, "Renewables Information Overview 2020", 2020
[3] Bloomberg NEF, "New Energy Outlook 2020", 2020

wind and solar PV compared to existing coal and gas within the next 5 years (Exhibit 6).[4]

Since 2018, Ørsted is organised in three central units: **Offshore, Onshore / Solar PV and Storage, and Markets & Bioenergy.**

- Offshore Wind

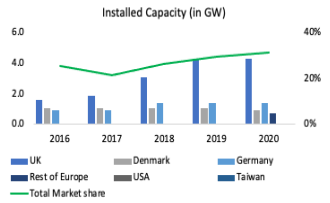
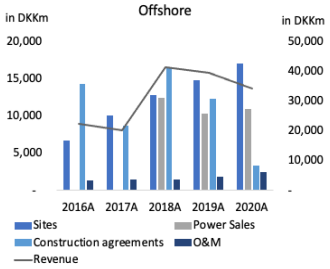


Exhibit 7: *Installed Capacity Offshore*
Source: *Company Information*

Offshore wind is Ørsted's by far most important business, not only in terms of revenue but in profit contribution and growth outlook. Nowadays, Ørsted operates **offshore wind** farms in **Denmark, the UK, Germany**, the **Netherlands**, the **US** and in future **Taiwan** and reached a market share of 32% installed capacity worldwide (seen Exhibit 7 green line). We see that this created economies of scale in the fall of costs over the five years (in 2016A 50% vs 2020A 42% of sales). The company aims to maintain their market position with a target installed capacity of 15GW in 2025 and develop a global business to keep reducing the cost of construction and keeping its distribution and transmission cost stable over the years, seen in Exhibit 8. Illustrated in Exhibit 9, the company has been on an expansion path for its market position worldwide over the last five years. We generally believe Ørsted has won much experience in the field of offshore wind and in the entry of new markets (e.g. Netherlands in 2020, Taiwan in 2021).



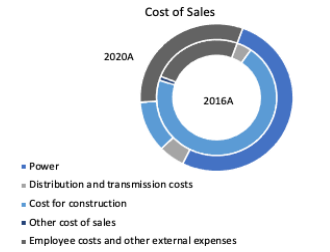


Exhibit 8: *Revenue and Cost split Offshore*
Source: *Company Information*

The specific utility resource wind is an electricity generation source with, compared to others, **low-capacity factor,** and **high variability**. Factors will affect its merits including the wide of variability in production, changes in fast production and limited predictability.[5] Over the past decade, the consumption of wind-powered generating capacity has established its fastest growth ever. Based on the increasing concern for energy supply security and fossil fuel depletion beside growing concerns about CO_2 emissions and climate change, are boosting interest in more sustainable energy sources.

In 2019, wind farms generated 28.3% of renewable electricity in the OECD with an increase from 3.8TWh to 838.5TWh from 1990 to 2019, implying an annual growth rate of 20.7%. Given EU and now also US focus on green energy, offshore wind will all but certain be an area of significant growth in OECD countries in the upcoming years. In 2018 the largest share of offshore wind production was the UK (45.4%), Germany (33.1%), Denmark (7.9%) and the Netherlands (6.2%)[6], illustrating how central Ørsted is to the overall business (Exhibit 9).

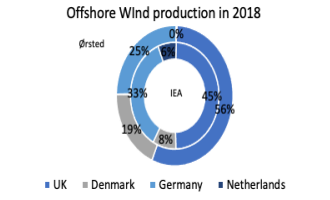


Exhibit 9: *Offshore Wind production in 2018*

Based on the increasing wind power demand, natural gas-fired capacity also gains attractiveness relative to coal-fired and nuclear capacity for investor. By adding wind generation to its operation, the company experienced ominous decreases of the average capacity factor for residual demand. Therefore, it focuses on the increase of share capacity running at deficient capacity factors. Previous statement reflects Ørsted strategy plan, whilst the company is shifting its main business to wind generation and away from its bioenergy focus by its divestments. For example, in 2020 the divestment of Danish power distribution, residential customer and city light business and new arrangement to divest its UK B2B gas and power portfolios to Total Gas & Power.

[4] Bloomberg NEF, "New Energy Outlook 2020", 2020
[5] IEA," Impact of Wind Power on European Natural Gas Market", 2012
[6] IEA, "Renewables Information Overview 2020", 2020

- Onshore and Solar Photovoltaic

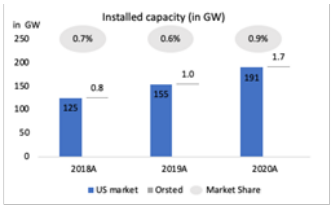


***Exhibit10**: Installed Capacity Onshore Unit*
***source:** Company Information*

The company operates an onshore business through the 2018 merger with Lincoln Clean Energy (operating portfolio of 813MW). Thus, limited to the US, market is the firms' strategic focus for onshore business, operating as developer, owner, and operator. The company owns and operates seven wind farms with an installed capacity of 1.7GW and further projects of 0.7GW. This amounts to less than 1% of the 191GW US market, showing the overwhelming significance of offshore for Ørsted (Exhibit 10). Furthermore, under construction of 1.1GW solar PV and 40MW of storage. Based on the currently capacity, the company won a market share of 0.9% over the last three years in the US.

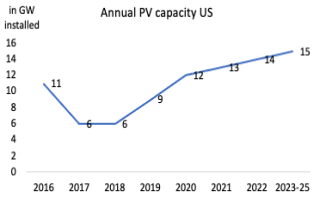


***Exhibit11:** Annual PV capacity growth US Market*

The growth of the Solar photovoltaic (Solar PV) has been strong since 2003 with an average annual rate of 40% to 2009 and up to 135% in 2010.[7] Utility capacity is expected to continue to increase even with the ongoing pandemic.[8] While still in an immature phase with only 2% share of the world's power generation, also seen in the revenue of Ørsted. The US is the largest producer of solar PV with 93.1TWh[9], underlining Ørsted's decision to focus its business on the US market and given abovementioned growth rates we expect a significant expansion. The company is one of the five major US constructors in term of latest capacity additions in 2020 (Exhibit 10 – Installed Capacity / Market Share US). Large-scale Solar PV reached 57 GW in 2020 and is estimated to accelerate at an annual **growth of 10% towards 2030**. Furthermore, Ørsted has currently under construction its new project Permian Energy Centre in Texas (420 MW).

Solar energy can provide faster access to modern energy services for the disadvantaged communities in the countryside with low population densities.

- Markets & Bioenergy

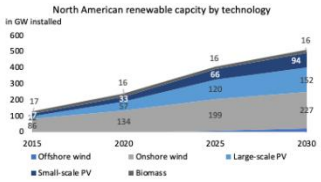


***Exhibit12**: Renewable capacity by technology US Market*
***Source**: BNEF New Energy Outlook 2020*

As a result of the separation of the wind business and the focus on green energy, Ørsted combined its business units Bioenergy, Markets, and customer solutions in 2019. The consolidation of the business units into **Markets & Bioenergy** will provide the company a sharp focus on its wind business. Furthermore, based on the performance of the past years and several divestments, we expect this business unit to decrease further in importance. In 2020, Ørsted completed various divestments, i.a. Danish power distribution, LNG activities to Glencore and their B2B revenues, except for gas sales. Moreover, the company signed new agreements to divest its UK B2B gas and power portfolio to Total Gas & Power. All activities of the value chain of offshore/ onshore will be reported within the unit, such as trading and hedging. Besides, Ørsted decided to implement heat and power stations, which benefits from now on the run 100% on sustainable biomass by 2020.

[7] IEA, "Solar Energy Perspectives", 2011
[8] IEA, "Renewables 2020 – Analysis and Forecast to 2025", 2020
[9] IEA, "Renewables Information Overview 2020", 2020

Key-Value Drivers and their Projections

In our view, the primary driver of Ørsted's value is the development of its offshore wind park capacity. To project capacity growth we have a twofold approach. First, making use of the long-time horizons, we map out every individual project addition they have planned or are constructing already to aggregate the next five years. Second, for the remaining forecast period, we derive additions from analysing main country markets' government targeted capacity growth and estimated market shares for Ørsted. While capacity drives the size of the business, its growth must be profitable to create value. To assess profitability, we project price, subsidy structures and load factors on the revenue side, and CAPEX and OPEX volumes on the cost side. This then allows us to set up and analyse NPV/IRR tables (see Appendix B) for individual projects and forecast market model inputs for the overall valuation. All of the above we derive in the following on a market-by-market basis.

United Kingdom

Capacity - In terms of additional installations *until 2025***,** the Hornsea 2 wind park, with 1.4GW one of the largest offshore projects overall, is already under construction and based on company information targeted for commission in 2022. As per current planning, we calculate with 100% ownership. Until 2025 there are currently no other planned projects. Any auction that follows now would only affect operational parks after 2025.[10]

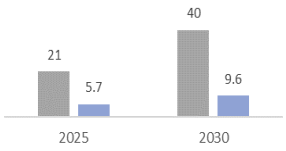


Exhibit 13 *– Offshore Installed capacity (GW) projection for UK (grey) and thereof Ørsted (blue)*
Source *for overall: Global offshore wind report 2020 – GWEC Energy council*

To project additions for the *period from 2025 to 2030*, we analyse macro developments, government targets for renewable energy, and Ørsted market share (see exhibit 13). With now (2020) 10GW installed capacity the country has one of the largest offshore capacities in the world, facilitated by a long coastline and weather conditions ideal for wind power. The so-called UK offshore sector deal targets 40GW installed capacity in 2030 (implied CAGR: 15%).[11] We incorporate this target because we see compelling reasons in support. Natural conditions make offshore an obvious climate-friendly choice and post-pandemic public investment and intended reduction of red tape is likely to favour infrastructure projects. The past ten years have seen 10GW installation with the industry in a very immature phase and the target was only recently increased from 30 GW, in our view showing confidence in the feasibility.[12] We expect this government push to attract many developers wanting to participate in this growth and the high load factors in the British North Sea.

As of now the UK is Ørsted's most important market with 57% of its capacity as well as Ørsted the largest developer in the UK (43%). Combined with the promising outlook described above, we believe this warrants the general projection of intense continued activity. To estimate how much capacity will be awarded to Ørsted, we can break the rate down to bidding and winning rate. In the last auctions, Ørsted had a winning rate of around 30%. This is similar to their total offshore market share, which implies they bid on every project. We thus assume it is their strategy to do so and project it to continue. For the future winning rate, we see three key factors at play. On the one hand, as will be discussed below, their strong presence in UK offshore clusters should provide a cost advantage through combined OPEX activities and construction area experience.

[10] Company information
[11] UK Government Policy Paper, "Offshore Wind Sector Deal UK (2020)", 2020
[12] Financial Times, "Offshore wind/UK electricity: about turn (2020)", 2020

However, we also expect more focus on margin attainment and much more competition in the maturing market. For these reasons, we calculate with a lower but still significant winning rate of 20%. While the quantitative basis for such forecasts is thin, we believe this combined is our most realistic estimate for award share leading to 3.9GW in addition.

Hornsea 1	£140.00
Hornsea 2	£57.50
Market price	£49.63

Exhibit 14 *– Hornsea subsidy strike prices vs. UK wholesale price*
Source*: Company information and Bloomberg*

Price - The UK operates a Contract-for-Difference (CfD) subsidy scheme, with different projects receiving different subsidies. Recently commissioned Hornsea 1 still receives a strike price of around 140 GBP/MWh until 2036, 100GBP higher than the past average wholesale electricity price of approximately 50GBP.[13] Hornsea 2 will only receive a subsidy price of 57.5 GBP/MWh, highlighting the crass significance of subsidy changes as compared to changes in wholesale prices, making it in our view necessary to research individual project subsidies.[14] Given this strong decline, we calculate with wholesale prices adjusted for expected inflation from 2025 onwards. As another data point validating this assumption, Doggerbank parks planned by RWE and Equinor were already awarded at wholesale prices.[15] Profitability discussion follows below.

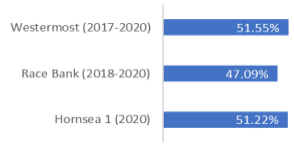


Exhibit 15 *– Current average load factors for Ørsted's major UK wind parks*
Source*: Calculated from company information*

Load factor - The load factor/wind speed is a key value driver for a wind park as it drives production but barely costs. It is very dependent on the site and also on the type of turbine. For our purposes, we include in this factor availability, which is very constant across all markets at 94%. We will keep it this way into the future and project the actual load factor portion itself separately.

For the *period until 2025* we reverse calculate the load factors from the actual electricity production per park. For Hornsea 2 we take as reference Hornsea 1 as it is in the same area and revise it slightly upward because of the use of more efficient turbines. For the *period from 2025 to 2030***,** we consider the existing UK Ørsted range of 45-50% (see exhibit 15). As validation, UK wind park values of RWE are readily available and exhibit virtually the same range.[16] However, examples like Westermost Rough farther off coast exceed 50%. Due to the general trend to construct parks farther out and only upside potential for turbine efficiencies, we expect it to increase in the future. Therefore, we set our future average load factor for the UK at 50%.

Exemplary profitability discussion of Hornsea 1 and 2 - With the factors already discussed, we derive a revenue estimate for the individual parks. To analyse their profitability, we take into consideration upfront cost (CAPEX) as well as margins (OPEX). Both developments we estimate per MW in the respective chapters below.

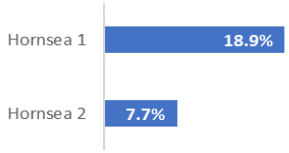


Exhibit 16 *– Estimated IRR values for Hornsea parks (WACC = 5.2%)*
Source*: Valuation Model*

For Hornsea 1 we base our assumption slightly higher than the calculated average CAPEX/MW value in the last 5 years, at 20m DKK/MW. For Hornsea 2 we refer to our cost advantage calculation through using larger turbines (see Appendix C) in the same chapter, which for a difference of 8.4 to 7.0MW yields a CAPEX of 90.4%. In terms of OPEX, we take for Hornsea 1 the current global average O&M costs of 0.6m DKK/MW.[17] Although difficult to quantify, Hornsea 2 should benefit from synergies in OPEX activities; in employee costs through combined O&M, shared onshore stations, and partially shared electrical equipment. We also believe it is plausible that OPEX scales to a certain extent with the number of turbines/towers, as there are to this extent

[13] Bloomberg, 2021
[14] Company information
[15] Power Technology, "RWE makes investment decision on Sofia Offshore wind farm, UK", 2021
[16] RWE, "RWE generation asset list as of 31 December 2020", 2020
[17] IEA, "Offshore wind outlook 2019", 2019

fewer plants to manage and maintain. If we scale it down 1 to 2, it implies for Hornsea 2 another 8.5% reduction. Therefore, we consider a reduction to 0.5m DKK/MW realistic and take it as our base case for the following results. Lastly, given Hornsea 2 is newer, we calculate with 30 years of lifetime instead of the standard 25 for Hornsea 1. Decommissioning costs are set at 15% of CAPEX.

Sensitivity Data	Hornsea 2
CAPEX/MW	23.9
OPEX/MW	.96
Subsidy Price	£42.24
Load Factor (%)	40.2%

Exhibit 17 *– Ceteris paribus break-even inputs; base assumptions: CAPEX/MW = 18m, OPEX/MW = 0.5m, Subsidy period price = 57.5GBP, Load Factor = 50%*
Source*: Valuation Model – NPV wind park tables*

Based on the input assumed above, we judge Hornsea 1 as highly profitable and Hornsea 2 as less but still generating positive returns (see exhibit 16). For Hornsea 1 this is not surprising given the high CfD price of 140 GBP for the first 18 years. For Hornsea 2 we conduct a sensitivity analysis by calculating the individual break-even inputs, all others at base level (see exhibit 17). For all inputs there is quite significant margin, which reduces the investment risk. In this context, we consider the OPEX figure especially important as it is for Ørsted arguably the most difficult to forecast over a long period; some of the difference, however, will stem from the fact that the high load factor drives revenue while not our choice of OPEX indicator. The break- even subsidy period price is our best estimate of how low Ørsted could have gone in auction.

Germany

Capacity – As per our research, Ørsted plans for the *period until 2025* to commission two awarded projects: Gode Wind 3 (0.2GW) and Borkum Riffgrund 3 (0.9GW), both in 2025. In context, Ørsted has 1.4GW capacity in Germany, a market share of half their UK's at 18% in 2020 and past four years' activity was limited to 0.5GW in Ørsted additions. For both parks, we researched a planned 50% ownership and 50% as construction agreements.

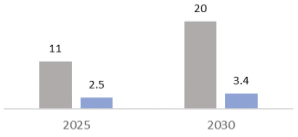


Exhibit 18 *– Offshore Installed capacity (GW) projection for Germany (grey) and thereof Ørsted (blue)*
Source *for overall: Global offshore wind report 2020 – GWEC Energy council*

We consider the overall market development to project the *period from 2025 to 2030*. In the last four years, around 4GW were installed, growing in parallel to the UK. In the next five years, based on projects under construction, only 3GW will be added – implying an Ørsted market share of 38% in midterm additions, culminating in 23% total 2025 share. An additional 9GW are targeted until 2030,[18] in our view potentially constrained in comparison to the UK by the natural battery limit of Germany's coastline. Given the anticipated increase in market share, we expect Ørsted to keep a foothold in the German offshore market. Nevertheless, we calculate with 10% post-2025. Apart from expected increase in competition, we first believe the strong share in coming installations will saturate further project engagement afterwards, especially as new projects are likely developed outside of Ørsted clusters. Second, as the result of our profitability section below, we do not consider exposure to the German offshore market very profitable and expect the company's focus to divert.

Borkum Riffgrund 2	184.00 €
Borkum Riffgrund 3	40.64 €
Gode Wind 3	81.00 €
Market Price	40.64 €

Exhibit 19 *– Subsidy strike prices vs. German wholesale price*
Source*: Company information and Bloomberg*

Price - Ørsted's operating parks receive generous fixed feed-in tariffs, more than 100EUR above wholesale electricity price around 40EUR. However, many will be phased out already after 10 years, meaning a significant drop in revenue in our forecast period once the schemes expire (see exhibit 36). As in the UK, strike prices drop strongly for upcoming projects. Per our research, Gode Wind 3 still receives 81EUR, while Borkum Riffgrund 3 will operate without any subsidies entirely,[19] reinforcing our rationale to calculate without any subsidy structures post-2025.

Load factor - Parks like Gode Wind 1+2, Borkum 1+2 show over the last four years factors of only 40%, significantly lower than in UK, impacting profitability of these projects (see exhibit 20).

[18] GWEC, "Global offshore wind report 2020", 2020
[19] Company information

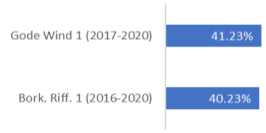


Exhibit 20 *– Current average load factors for Ørsted's major German wind parks*
Source*: Calculated from company information*

While we consider it the future minimum, we assume an increase for newer projects. That is first because turbine sizes tend to increase it and they are set to expand from 6/8MW to 11MW; and second Germany has first-mover wind parks that are relatively old and is thus well-positioned to benefit from efficiency advances. While we cannot quantify it precisely, we believe it is prudent to calculate with future load factors of 45%.

Exemplary profitability discussion of Gode Wind 3 and Borkum Riffgrund 3 - At first glance, the German market looks less attractive for Ørsted than the UK, dragged down by lower prices and load factors. In terms of CAPEX/MW values for Gode Wind 3 and Borkum Riffgrund 3, we apply our turbine size calculation with 11MW turbines to estimate a relative reduction by around 20% to 16m. We use this as our base case to calculate profitability. We see, however, more potential through the similar conditions to the Netherlands (see respective section) and Ørsted is heavily involved in the older generation parks, which in our view should enable cost reductions through cluster experience. OPEX/MW should strongly benefit from Ørsted's cluster, where both new ones are located, too. Furthermore, 36% fewer turbines will used per MW. Even at a 1:2 decrease in cost, this would amount to almost a fifth. Together, we believe much effort can be saved and think it is realistic to calculate with an OPEX/MW value of 0.3m. This value is where the IEA sees the long-term average and we believe this cluster of Ørsted features most of the development's characteristics.

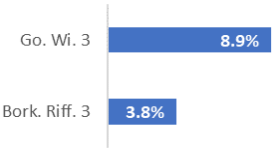


Exhibit 21 *– Estimated IRR values for selected German parks (WACC = 5.2%)*
Source*: Valuation Model*

Sensitivity Data	Bork. Riffg. 3
CAPEX/MW	13.3
OPEX/MW	.09
Market Price	47.09 €
Load Factor (%)	52.1%

Exhibit 22 *– Ceteris paribus break-even inputs; base assumptions: CAPEX/MW = 16m, OPEX/MW = 0.3m, Subsidy period price = market, Load Factor = 45%*
Source*: Valuation Model – NPV wind park tables*

The key result of our analysis is that engagement in post-subsidy German offshore will pose high profitability risk, shown through Borkum Riffgrund 3 that is not NPV positive with our base assumptions (see exhibit 21). Nevertheless, exhibit 22 also shows that this could be reached with a CAPEX factor of around 13m, which is not unreasonable given that it corresponds to our assumed Dutch value. It would also turn positive if Ørsted manages to negotiate price premiums of around 18%, e.g. through green PPAs. The cluster-optimized OPEX/MW value we consider difficult to improve further and the load factor is well-foreseeable. For these reasons we believe Ørsted will maintain a strong foothold but not accelerate much beyond existing clusters and projects between 2025 and 2030.

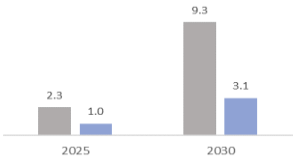


Exhibit 23 *– Offshore Installed capacity (GW) projection for Denmark (grey) and thereof Ørsted (blue)*
Source *for overall: Global offshore wind report 2020 – GWEC Energy council*

Denmark and Rest of Europe

Capacity - As per our research, Ørsted will not add any projects to their European portfolio beyond Germany and the UK within the *period until 2025*. In our view, this emphasizes the shift away from their home market Denmark, where they actually have added no capacity since 2013. Outside of these three markets, Ørsted has recently become active in the Netherlands, where it commissioned Borssele 1&2 in 2020, which special geographic conditions will be examined below in terms of profitability considerations.

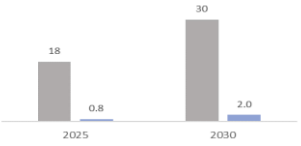


Exhibit 24 *– Offshore Installed capacity (GW) projection for Rest of Europe (grey) and thereof Ørsted (blue)*
Source *for overall: Global offshore wind report 2020 – GWEC Energy council*

With respect to the *period from 2025 to 2030*, we again consider the EU's as well as Denmark's big push to increase offshore wind capacities to significantly reduce emissions. As per our research, Denmark plans to have a capacity of 10GW by 2030 and the rest of Europe even 30GW.[2021] Given especially Denmark's and the Netherlands' past commitment to offshore, geographic suitability, and the EU's seriousness about its Green New Deal, we calculate with full implementation of these plans. In terms of Ørsted's role, we do calculate with a resumption in

[20] International Renewable Energy Agency (IRENA), 2020
[21] GWEC, "Global offshore wind report 2020", 2020

Danish additions and apply their existing winning rate of 30% to the full estimated additional 7GW between 2025 and 2030. Activity is assumed because first the market offers attractive load factors, and second Ørsted should enjoy a scale advantage through a current offshore market share there of around 60%. In the rest of Europe, we reduce their share of additions to 10%, as we think they will be selective with entering many diverse markets without existing cluster advantage and focus new entries on especially profitability-driving geographic conditions, as was the case in the Netherlands. We believe these shares are in a very realistic order of magnitude but will test their sensitivity below.

Anholt	1051.00
Market Price	295.95
Borssele 1&2	72.70 €
Market Price	49.44 €

Exhibit 25 *– Subsidy strike prices vs. Danish (DKK) and Dutch wholesale prices for wind park analysis*
Source*: Company information and Bloomberg*

Price - Borssele 1&2 receives a relatively low subsidy fixed feed-in tariff of 72.7 EUR per MWh, however for the first 15 years and higher than Hornsea 2. The quite old Danish parks will lose their subsidies sooner, leading to a drop in revenue especially in 2021 through Anholt and Horns Rev 2. As argued before, we see the clear trend that no relevant subsidy volumes will be awarded after 2025. Nevertheless, given that new national offshore markets will open up in Europe, we test the possibility of higher average prices through nascent national schemes in the scenario analysis.

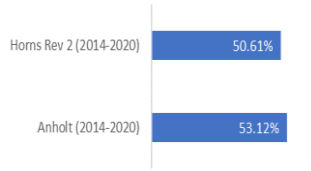


Exhibit 26 *– Current average load factors for Ørsted's major Danish wind parks*
Source*: Calculated from company information*

Load factor - There is no past Dutch Ørsted data. However, we estimate a load factor for this specific project in the range of 40-45%. Geographic conditions can be compared to Germany, e.g. Borkum Riffgrund and Gode Wind are less than 100 km from the border, where we have 40%. However, we believe it can be a little higher, as the Netherlands also stretch closer to the UK. 45% is the current average in Europe, according to the IEA[22], and the company's total average over the last five years is 43%. For Denmark we refer to the average of the big parks Horns Rev 2 and Anholt over the past years, at 50% (see exhibit 26). For Rest of Europe, we calculate with above-mentioned 45%.

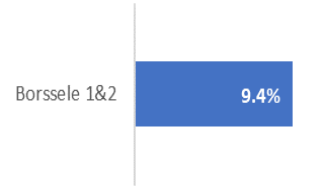


Exhibit 27 *– Estimated IRR values for selected Dutch parks (WACC = 5.2%)*
Source*: Valuation Model*

Exemplary profitability discussion of Borssele 1&2 - Our profitability analysis of Borssele 1&2 is driven by and shows the importance of favourable geographical conditions for the project costs. To estimate CAPEX/MW value we take the 2020 overall value, as Borssele was the only commissioned project in that year and was shifted in its entirety from under construction to production assets and its MW to generation capacity (see CAPEX development chapter for method detail). The number of 13m is actually in line with data from the IEA[23] that in the Netherlands construction costs are in the very low range. We can attribute that primarily to shallow water and close distance to the coast. Besides, we calculate for OPEX/MW with the current average for European parks as per IEA. The parks have cluster disadvantages but significant potential for geographic savings and some turbine size advantages (8MW). See exhibit 27 for our quite favourable IRR estimate. The only risk we see concerns OPEX, but as per exhibit 28 there is significant buffer. Given our break-even subsidy price, we expect Ørsted to pursue opportunities also at Dutch wholesale prices. This exemplary project shows how important it will be for Ørsted to find attractive spots in Europe. It will in our opinion be key to focus on projects with favourable geographic conditions like in the Netherlands or to build on clusters – which is pursued in the US market entry.

Sensitivity Data	Borssele 1&2
CAPEX/MW	19.9
OPEX/MW	1.13
Subsidy Price	48.74 €
Load Factor (%)	33.8%

Exhibit 28 *– Ceteris paribus break-even inputs; base assumptions: CAPEX/MW = 13m, OPEX/MW = 0.6m, Subsidy period price = 72.7EUR, Load Factor = 45%*
Source*: Valuation Model – NPV wind park tables*

[22] IEA, "Offshore wind outlook 2019", 2019
[23] IEA, "Offshore wind outlook 2019", 2019

New Markets – United States and Asia

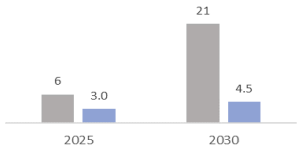


Exhibit 29 *– Offshore Installed capacity (GW) projection for the US (grey) and thereof Ørsted (blue)*
Source *for overall: Global offshore wind report 2020 – GWEC Energy council*

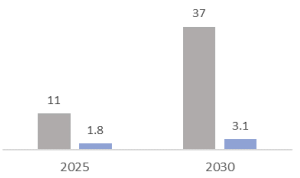


Exhibit 30 *– Offshore Installed capacity (GW) projection for Asia excl. China (grey) and thereof Ørsted (blue)*
Source *for overall: Global offshore wind report 2020 – GWEC Energy council*

Capacity - Ørsted's non-European pipeline of capacity additions *until 2025* include 2.9 GW planned in the USA and 1.8GW in Taiwan. There is no third country already in the pipeline.

For the *period from 2025 to 2030*, the US has virtually zero capacity now but many states follow ambitious renewable plans and in the next decade, policy targets and forecasts expect the US to build over 20GW, whereof according to our calculations 14GW post-2025. Until 2025 Ørsted will have a large market share of around 50%. However, we do not calculate with more than 10% post-2025, which is yielded when calculating with a bidding rate of half and a little lower winning rate. That is to some extent arbitrary, however we do not expect a full-hearted approach in the US after strong activity pre-2025 and high European engagement post-2025. Moreover, we consider it likely that the US government will push American companies in a subsidised, strategically important energy industry. For Asia we exclude China –from various statements we draw the conclusion that Ørsted's focus lies explicitly on the US and other Asian states, which we do not change in our model. Between 2025 and 2030 they are estimated to add 26GW. We apply here the same logic as of focus on clusters and cautious engagement spread-out markets as in rest of Europe, where we had 10%, and calculate with an award rate limited to 5%.

Furthermore, the USA feature Ørsted's newly entered *onshore* business – with additions already planned in the amount of 0.7GW for onshore wind and 1.1GW for solar, which gives the company a stronger foothold in these markets. As the planning horizons are shorter here, we already apply market share estimates from 2022. From their strategy we expect a slowly growing capacity market share and calculate with 2% per year until 2027. Given tax credits expiring then and the offshore ramp-up, we then keep the share constant, which still yields a capacity in 2030 of 4.5GW onshore and 1.9GW solar. The ratio between them Ørsted target.

Ocean Wind 1	$98.10
South Fork	$137.20
Market Price	33.69 €
Greater Changhua 1&2a	1381.6
Greater Changhua 2b&4	560.56
Market Price (SG)	74.03 €

Exhibit 31 *– Subsidy strike prices (in DKK for Taiwan) vs. US and Asian wholesale prices for wind park analysis*
Source*: Company information and Bloomberg*

Price - In the US, companies agree negotiated constant prices with public energy boards or large customers. For example, Ocean Wind 1 and South Fork projects receive prices of 98.1 and 137.2 USD/MWh for 20 years, respectively.[24] The prices seem very high, but may be explained with the nascent nature of the US industry and are in line with early subsidy prices in Europe. Post-2025 we calculate with the much lower wholesale electricity price of 33.7EUR, inflation-adjusted. The Taiwanese projects receive 1,381DKK and 561DKK in fixed feed-in tariffs, respectively.[25] The stark fall reinforces our view on wholesale pricing post-2025.

In the USA, there is currently in place an incentive scheme to support the development of onshore renewable sources, called production tax credits (PTC). In 2018, operators of wind farms got an incentive of 24$ per MWh in addition to the wholesale electricity price. This subsidy is then adjusted for annual inflation each year. Although this incentive scheme is successful in promoting the development and construction of onshore renewables, the US government is continuously discussing to let it expire. At this moment, projects which will be awarded after 2020, are not any more eligible for this incentive scheme. For this reason we calculate without subsidies for all new projects post-2020.

Load factor – There is currently only one US park in operation, Ørsted's small Block Island, with a 2-year average load factor of 48%. As this park is closer to the coast with older turbine

[24] 4C Offshore, 2021, (database is in line with Ørsted data for European parks)
[25] Company information

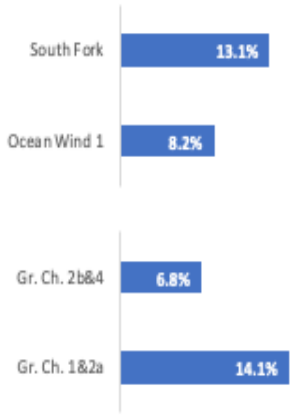


Exhibit 33 *– Estimated IRR values for selected US and Taiwanese parks (WACC = 5.2%)*
Source*: Valuation Model*

Sensitivity Data	Ocean Wind 1
CAPEX/MW	26.9
OPEX/MW	1.14
Subsidy Price	$76.22
Load Factor (%)	40.0%

Exhibit 34 *– Ceteris paribus break-even inputs; base assumptions: CAPEX/MW = 20m, OPEX/MW = 0.6m, Subsidy period price = 98.1USD, Load Factor = 50%*
Source*: Valuation Model – NPV wind park tables*

Sensitivity Data	Gr. Ch. 2b&4
CAPEX/MW	24.3
OPEX/MW	.94
Subsidy Price	467.18
Load Factor (%)	38.9%

Exhibit 35 *– Ceteris paribus break-even inputs; base assumptions: CAPEX/MW = 20m, OPEX/MW = 0.6m, Subsidy period price = 561DKK, Load Factor = 45%*
Source*: Valuation Model – NPV wind park tables*

generations, Ocean Wind 1 will use new 12MW ones, we assume a load factor of 50% for the newly commissioned projects. For lack of a better value for Taiwan, we calculate with 45%, the global average as per IEA.

Exemplary profitability discussion of selected US and Taiwanese Projects - Based on our input assumptions above, Ørsted to operate US projects seems attractive on the revenue side, with high assumed load factors and above-wholesale prices for a long 20-year period. In terms of CAPEX one might estimate DKK/MW above European levels, in the upper region above 20m, due to an immature market and less regional experience. However, this is in our opinion offset by the use of 12MW turbines in the Ocean Wind 1 Project, which per our model creates relative savings of 24%. Therefore, we do assume a value of 20m DKK. This is also in line with Hornsea 1, which should feature similar geographic conditions as the US North-East focus region. By constructing a full cluster of five wind parks we believe they will be able to replicate an OPEX ecosystem similar to home and thus calculate with the European average, 0.6m, leading to a positive US IRR (see exhibit 33). We consider the risks generally limited, with significant buffer in all factors, but underline the importance of watching large-scale load factor data, as 40% is not an unreasonable figure and Ocean Wind 1 receives a high price (see exhibit 34).

For Taiwanese projects Greater Changhua 1&2a, turbine sizes do not offset the higher new-market CAPEX and we expect numbers in the upper 20m DKK. As per a press statement, Ørsted's first project in the region apparently requires expensive grid reinforcement not needed in Europe and, for OPEX, the set-up of support infrastructure and weather conditions strongly complicating activity. Here too we thus apply a value above European averages. However, per our analysis, the high and long subsidy price still makes Greater Changhua 1 very profitable (see exhibit 33). Greater Changhua 2&4b benefits from cluster synergies but receives only half the price making it much more dependent on cost reductions. If they do manage to achieve European levels in CAPEX and OPEX, then our model yields a slightly positive IRR 6.8%. We see high risk especially on the CAPEX side, as the break-even factor would still imply an improvement, only short of European levels.

DKKm	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Offshore Wind	17,091	18,531	21,282	24,033	25,090	27,170	30,982	30,942	33,031	35,154	37,311
Onshore	465	1,592	1,771	2,089	2,272	2,473	2,693	2,933	3,134	3,351	3,584

Exhibit 36 *– Full revenue development projection from operation of parks, all analyses above aggregated and inclusive of existing portfolio*
Source*: Valuation Model*

CAPEX Developments

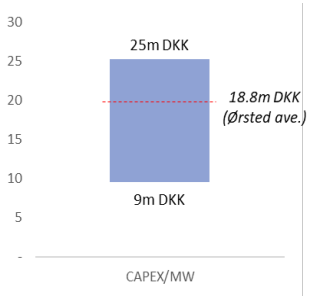


***Exhibit 37** – global range of minimum to average offshore park construction costs in DKKm/MW (blue) and Ørsted average from 2018 to 2020*
***Source** for global: Offshore wind outlook 2019 – International Energy Agency (IEA)*

Exhibit 38 – estimated savings from increased turbine size through fewer towers; assumptions: base turbine size 7MW, foundation costs (22.5%) decrease 1:1, installation costs (17.5%) decrease 1:1, turbine costs (35%) decrease 1:2
Source for cost weights: Offshore wind outlook 2019 – (IEA)

mDKK	CAPEX/MW
2017	23.2
2018	21.8
2019	21.7
2020	13.0
2021	18.8
2022	18.4
2023	18.1
2024	17.7
2025	17.3
2026	16.9
2027	16.5
2028	16.1
2029	15.8
2030	15.0

Exhibit 39 – calculated past and projected offshore wind CAPEX/MW factor until 2030
Source: Valuation model

As analysed above, Ørsted's project profitability is very sensitive to initial capital expenditure (CAPEX). With respect to its development, we consider the CAPEX/MW ratio. To this end, we look at past Ørsted data, project PP&E items by linking the capacity projections above to production assets and assets under construction, consider the IEA forecast for the ratio's decrease until 2030, and analyse a CAPEX cost breakdown with respect to changes in turbine size, which we consequently see as the main downward driver.

To examine past CAPEX/MW values, we calculate the ratio between yearly additions in production assets and increase in generation capacity, which yields an average from 2018 to 2020 of 18.8m. This compares to the global average as per IEA of 25m (see exhibit 37); it is influenced by the 2020 low-CAPEX Borssele 1&2, without 2020 at 22.2m. We take the full value as historic basis, as the outlier is properly weighted and it is realistic that Ørsted with its market share enjoys a cost advantage. To link yearly capacity projections with the PP&E items, we distribute them in the commissioning year into production assets and reverse build up assets under construction over the respective two years before. We apply a linear key of 25%, 50%, and 25%, which assumes an average construction time of 2 years and an average start mid-year.

The IEA estimates the average ratio to fall below 16m by 2030.[26] We believe this is globally realistic. As seen above, new large offshore parks feature 12MW turbines, which we believe will eventually become overall standard on average. Considering the cost breakdown of CAPEX (see appendix C, results in exhibit 38), we believe installation and foundations fully scale with number of towers, which decreases in proportion to the increase in turbine size. We further make the basic assumption that this effect can be transferred halfway also to turbine cost per MW, i.e. a larger turbine is still more expensive also per MW, but only halfway in proportion. This leads to 14.3m. Nevertheless, this may be countered by higher costs in new markets (seen above e.g. for USA/Taiwan) and construction farther out at sea, and what we expect to be a quite tight upper size limit constraining the average. On the other hand, further experience gains could provide more downward pressure. All in all, we believe it to be realistic to calculate with 15m DKK. As per our projections, Ørsted remains a very large player, also warranting an expected cost advantage in the future. We let the ratio fall linearly until 2030 (see exhibit 39). Onshore we keep steady at the first proper historic Ørsted value (2020) of 6.5m, as the industry is mature.

EBITDA Developments

In the following we briefly discuss how the above analysis of the key value drivers ties into revenue forecast, how we estimate and project into the future OPEX costs and thus EBITDA margin, and finally how we consider alternative revenue streams from constructions agreements and O&M contracts.

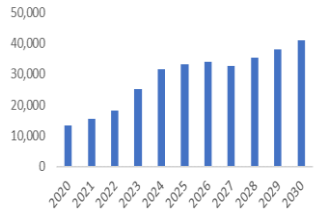


***Exhibit 40** – projected offshore wind EBITDA (DKKm) development (2020-2030)*
***Source**: Valuation model*

The all-important *offshore revenue* is built from the generation capacity as projected per market, multiplied with the price projection per market, and with the load factor. Furthermore, subsidy structures are examined bottom-up per wind park and are phased out individually, which applies in the forecast period to older projects in Denmark and Germany (see e.g. exhibit 36, 2026 to 2027). We continue Ørsted's current practice to sell 50% of their share in offshore wind projects

[26] IEA, "Offshore wind outlook 2019", 2019

before starting construction. In addition to revenue from Sites, Ørsted as vertically integrated company benefits from being an EPC contractor and operator, considered below.

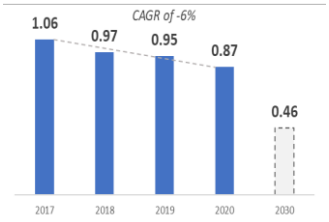


Exhibit 41 *– Offshore empl. costs and other ext. exp./MW (DKKm) development (2017-2030)*
Source*: Valuation model*

We estimate *OPEX/EBITDA* for the wind business by considering employee costs, other external expenses as basis. To normalise OPEX, we calculate per MW, based on installed capacity as activity usually applies to non-owned park shares, too. As analysed above, we expect OPEX/MW to decrease significantly. That is because over the past 4 years OPEX/MW as estimated decreased by a CAGR of 6% a year (see exhibit 41). We continue this trend into the future as our base case, culminating in 0.46 for our model OPEX as defined. Applying the same CAGR to the direct OPEX ratio for the individual wind park as described above (on average 0.6m in 2020) that would lead to 0.3m in 2030. This can be compared to the ratio's IEA forecast for 2030;[27] ours is slightly more aggressive (0.4m). However, the IEA expects the same decrease afterwards to our level and we believe it is likely that Ørsted, with the scale and clustering analysed above, will be able to reach lower levels earlier than the global average – especially given the weight on being Europe ahead of the curve. See exhibit 40 for our resultant offshore EBITDA projection. As qualitative drivers for OPEX decrease, we see the use of fewer towers/turbines to operate and maintain as discussed above, the for Ørsted typical clustered wind parks (e.g. in UK, Germany) allowing to use same employees for a large scope, and in general experience and equipment gains.

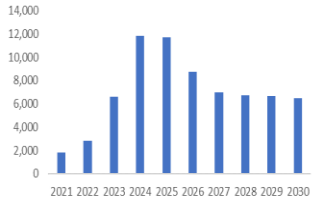


Exhibit 42 *– Gross profit from construction agreements for partners (DKKm) development (2021-2030)*
Source*: Valuation model*

In terms of revenue from *construction agreements*, Ørsted typically acts as EPC contractor for non-owned park shares. We calculate it backwards, projecting costs with our CAPEX/MW and apply a premium based on historic average (40%, see Appendix A). For *O&M revenues* we use the ratio to non-owned capacity and write it into the future. For the *markets & bioenergy*, we apply a constant projection of EBITDA since there is very little impetus to grow this business, as discussed in the markets section.

[27] IEA, "Offshore wind outlook 2019", 2019

Appendix

Appendix A – Calculation of Construction costs for Partners' share

Construction costs for Partners' share															
Construction agreements	*Capex/MW*	*Generation Capacity*	*Cost for partners assuming 50%*	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Hornsea 2	18.4	1,388.0	25,570											
Gode Wind 3	17.3	121.0	2,093				523	1,047	523					
Borkum Riffgrund 3	17.3	450.0	7,785				1,946	3,892	1,946					
Borssele 1 & 2	13.0	752.0												
South Fork	17.7	65.0	1,149			287	575	287						
Revolution Wind	17.7	352.0	6,224			1,556	3,112	1,556						
Sunrise Wind	17.7	440.0	7,780			1,945	3,890	1,945						
Skipjack	17.3	60.0	1,038			259	519	259						
Ocean Wind	17.3	550.0	9,515				2,379	4,757	2,379					
Greater Changhua 1	18.4	302.5	5,581		2,790	1,395								
Greater Changhua 2a	18.4	147.5	2,721		1,361	680								
Greater Changhua 2b&4	17.3	460.0	7,958				1,989	3,979	1,989					
Yearly assumed additional capacity 2026	16.9	947.0	16,019					4,004.9	8,009.7	4,005				
Yearly assumed additional capacity 2027	16.5	947.0	15,657						3,914.1	7,828	3,914			
Yearly assumed additional capacity 2028	16.1	947.0	15,294							3,823	7,647	3,823		
Yearly assumed additional capacity 2029	15.8	947.0	14,931								3,733	7,465	7,465	
Yearly assumed additional capacity 2030	15.0	947.0	14,205					3,551	7,103	3,551		3,551	7,103	14,205
SUM					**4,151**	**6,123**	**14,933**	**25,279**	**25,864**	**19,208**	**15,294**	**14,840**	**14,568**	**14,205**

Appendix B – NPV calculation for individual wind parks and profitability results

Borssele 1&2		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
DKKm	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
Revenue		1,603	1,619	1,636	1,652	1,669	1,685	1,702	1,719	1,736	1,754	1,771	1,789	1,807	1,825	1,843	1,861	1,291	1,304	1,317	1,331	1,344	1,357	1,371	1,385	1,398	1,412	1,427	1,441	1,455	1,470	-
OPEX		451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	
Decomm. costs																																1,466
EBITDA		1,152	1,168	1,184	1,201	1,217	1,234	1,251	1,268	1,285	1,302	1,320	1,338	1,356	1,374	1,392	1,410	840	853	866	879	893	906	920	933	947	961	975	990	1,004	1,019	(1,466)
Depreciation		326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	-
EBIT		826	842	859	875	891	908	925	942	959	977	994	1,012	1,030	1,048	1,066	1,084	514	527	540	553	567	580	594	608	621	635	649	664	678	693	(1,466)
Taxes (22%)		182	185	189	192	196	200	203	207	211	215	219	223	227	231	235	239	113	116	119	122	125	128	131	134	137	140	143	146	149	152	(323)
Profit after tax		645	657	670	682	695	708	721	735	748	762	775	789	803	817	831	846	401	411	421	432	442	453	463	474	485	496	507	518	529	540	(1,144)
Depreciation		326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	-
Capex	9,776	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Free Cash Flow	(9,776)	970	983	996	1,008	1,021	1,034	1,047	1,061	1,074	1,088	1,101	1,115	1,129	1,143	1,157	1,172	727	737	747	758	768	778	789	800	811	821	832	844	855	866	(1,144)
Discount Factor	1	.95	.90	.86	.82	.78	.74	.70	.67	.64	.60	.57	.55	.52	.49	.47	.45	.42	.40	.38	.36	.35	.33	.31	.30	.28	.27	.26	.24	.23	.22	.21
PV	(9,776)	923	889	856	824	794	764	736	708	682	657	632	609	586	564	543	523	308	297	287	276	266	257	247	238	230	221	213	205	198	191	(239)
NPV	4,709	14,485																														
IRR	9.4%																															

	NPV	IRR
Hornsea 1	35,399	18.9%
Hornsea 2	7,529	7.7%
Gode Wind 3	1,437	8.9%
Borkum Riffgrund 3	(2,236)	3.8%
Borssele 1&2	4,709	9.4%
Ocean Wind 1	6,981	8.2%
South Fork	2,248	13.1%
Greater Changhua 1&2a	24,081	14.1%
Greater Changhua 2b&4	3,625	6.8%

Appendix C – Calculation of synergies from changes in turbine size

CAPEX savings estimate through fewer turbines/towers

reference	7.0 MW		new	12.0 MW	fewer turbines/MW		42%
CAPEX components as per IEA				assumed to scale	saving estimate		
	low	high	mid	with #towers, 1:	low	high	mid
Foundatio	20.0%	25.0%	22.5%	**1.0**	11.7%	14.6%	13.1%
Installatio	15.0%	20.0%	17.5%	**1.0**	8.8%	11.7%	10.2%
Turbines	30.0%	40.0%	35.0%	**.5**	23.8%	31.7%	27.7%
Transmissi	20.0%	30.0%	25.0%	**-**	20.0%	30.0%	25.0%
Total	*85.0%*	*115.0%*	*100.0%*		*64.2%*	*87.9%*	***76.0%***

Appendix D – Financial Statements

BALANCE SHEET						Forecast Period									
DDKm	2016A	2017A	2018A	2019A	2020A	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	CAGR (2021-30)
Core Invested Capital																
Intangibles and property, plant and equipment	71,137	76,534	84,832	106,685	122,249	123,815	128,256	136,686	153,978	170,779	183,353	194,268	203,625	211,939	218,765	6.53%
growth rate (%)		*8%*	*11%*	*26%*	*15%*	*1%*	*4%*	*7%*	*13%*	*11%*	*7%*	*6%*	*5%*	*4%*	*3%*	
PP&E	68,239	73,931	82,744	100,184	115,529	118,486	122,852	131,144	148,600	165,221	177,735	188,599	197,922	206,153	212,921	
Intangibles assets	2,898	2,603	2,088	6,501	6,720	5,329	5,404	5,542	5,378	5,559	5,618	5,668	5,703	5,785	5,845	
Operating cash	1,148	1,194	1,510	1,408	1,003	1,196	1,323	1,682	2,052	2,155	2,085	2,018	2,094	2,178	2,261	
2% of sales	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	
Inventories	3,451	3,853	13,943	14,031	14,739	12,444	14,730	20,747	23,934	25,456	23,162	21,542	21,933	22,248	22,417	
Average holding period	*33*	*35*	*94*	*120*	*209*	*141*	*156*	*169*	*155*	*160*	*161*	*159*	*160*	*160*	*160*	
Trade receivables and other receivables	8,765	11,316	13,949	12,933	10,381	11,473	12,842	16,621	19,959	21,063	20,419	19,708	20,474	21,295	22,094	
Average collection period	*56*	*69*	*67*	*67*	*76*	*70*	*71*	*72*	*71*	*71*	*71*	*71*	*71*	*71*	*71*	
Contract assets	6,453	10,817	1,451	739	30	-	-	-	-	-	-	-	-	-	-	
% of construction agreements	*45%*	*123%*	*9%*	*6%*	*1%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
Total assets	**90,954**	**103,714**	**115,685**	**135,796**	**148,402**	**148,929**	**157,151**	**175,736**	**199,923**	**219,454**	**229,019**	**237,535**	**248,126**	**257,659**	**265,536**	**6.64%**
growth rate (%)		*14%*	*12%*	*17%*	*9%*	*0%*	*6%*	*12%*	*14%*	*10%*	*4%*	*4%*	*4%*	*4%*	*3%*	
Trade payables and other payables	(22,923)	(23,581)	(18,284)	(15,548)	(16,198)	(14,298)	(16,443)	(23,200)	(26,970)	(28,521)	(25,982)	(24,190)	(24,602)	(24,965)	(25,158)	
Average payable period	*222*	*212*	*124*	*132*	*229*	*162*	*175*	*189*	*175*	*179*	*181*	*178*	*180*	*180*	*179*	
Contract liabilities	(171)	(1,317)	(4,566)	(4,546)	(4,130)	-	-	-	-	-	-	-	-	-	-	
% of construction agreements	*1%*	*15%*	*28%*	*37%*	*123%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
Lease liabilities	-	-	-	(5,332)	(5,054)	(5,054)	(5,054)	(5,054)	(5,054)	(5,054)	(5,054)	(5,054)	(5,054)	(5,054)	(5,054)	
Total Liabilities	**(23,094)**	**(24,898)**	**(22,850)**	**(25,426)**	**(25,382)**	**(19,352)**	**(21,497)**	**(28,254)**	**(32,024)**	**(33,575)**	**(31,036)**	**(29,244)**	**(29,656)**	**(30,019)**	**(30,212)**	**5.07%**
growth rate (%)		*8%*	*-8%*	*11%*	*0%*	*-24%*	*11%*	*31%*	*13%*	*5%*	*-8%*	*-6%*	*1%*	*1%*	*1%*	
Total Core Invested capital	**67,860**	**78,816**	**92,835**	**110,370**	**123,020**	**129,577**	**135,654**	**147,481**	**167,898**	**185,878**	**197,983**	**208,291**	**218,469**	**227,640**	**235,325**	**6.85%**
growth rate (%)		*16%*	*18%*	*19%*	*11%*	*5%*	*5%*	*9%*	*14%*	*11%*	*7%*	*5%*	*5%*	*4%*	*3%*	
Non-core invested capital																
Investments in associates and joint ventures	1,060	339	457	497	555	462	493	502	503	490	497	498	497	495	497	
Other securities and equity investments	158	130	211	217	209	209	209	209	209	209	209	209	209	209	209	
Derivatives assets	8,689	4,870	5,468	7,740	6,109	6,109	6,109	6,109	6,109	6,109	6,109	6,109	6,109	6,109	6,109	
Deferred taxes assets	88	2,865	4,588	6,847	6,784	6,784	6,784	6,784	6,784	6,784	6,784	6,784	6,784	6,784	6,784	
Income tax assets	430	296	1,525	346	852	704	891	991	1,385	1,361	1,339	1,280	1,352	1,390	1,447	
% of core revenue	*0.7%*	*0.5%*	*2.0%*	*0.5%*	*1.7%*	*1.2%*	*1.3%*	*1.2%*	*1.4%*	*1.3%*	*1.3%*	*1.3%*	*1.3%*	*1.3%*	*1.3%*	
Not available cash and securities	953	749	1,584	1,446	1,485	1,485	301	768	1,368	1,706	1,885	1,753	1,644	1,788	1,899	
% of invested capital	*1%*	*-15%*	*-73%*	*380%*	*-15%*	*-15%*	*-15%*	*-15%*	*-15%*	*-15%*	*-15%*	*-15%*	*-15%*	*-15%*	*-15%*	
Other Receivables	1,421	3,376	3,912	2,173	1,996	2,864	2,736	2,442	2,510	2,638	2,582	2,543	2,568	2,583	2,569	
Assets classified as held for sale	15,373	2,642	15,223	16,952	1,464	976	-	-	-	-	-	-	-	-	-	
Liabilities related to Assets classified as held for sale	(13,504)	(630)	(4,851)	(8,832)	(687)	(458)	-	-	-	-	-	-	-	-	-	
Derivatives liabilities	(6,930)	(4,374)	(8,094)	(6,958)	(6,318)	(6,318)	(6,318)	(6,318)	(6,318)	(6,318)	(6,318)	(6,318)	(6,318)	(6,318)	(6,318)	
Deferred taxes liabilities	(2,185)	(2,128)	(4,025)	(3,371)	(2,187)	(2,187)	(2,187)	(2,187)	(2,187)	(2,187)	(2,187)	(2,187)	(2,187)	(2,187)	(2,187)	
Income tax liabilities	(54)	(1,498)	(4,717)	(4,075)	(6,220)	(4,873)	(5,806)	(8,220)	(9,131)	(9,862)	(9,669)	(9,192)	(9,610)	(10,004)	(10,352)	
% of core revenue	*0.1%*	*2.5%*	*6.2%*	*5.8%*	*12.4%*	*8.1%*	*8.8%*	*9.8%*	*8.9%*	*9.2%*	*9.3%*	*9.1%*	*9.2%*	*9.2%*	*9.2%*	
Provisions	(9,039)	(11,520)	(13,454)	(12,601)	(13,863)	(7,745)	(8,288)	(10,126)	(12,514)	(13,395)	(12,822)	(12,354)	(12,870)	(13,410)	(13,889)	
% of invested capital	*14%*	*15%*	*14%*	*11%*	*11%*	*13%*	*13%*	*12%*	*12%*	*12%*	*12%*	*12%*	*12%*	*12%*	*12%*	
Non-Core invested capital	**(3,540)**	**(4,883)**	**(2,173)**	**381**	**(9,821)**	**(1,988)**	**(5,077)**	**(9,047)**	**(11,283)**	**(12,465)**	**(11,592)**	**(10,875)**	**(11,822)**	**(12,561)**	**(13,231)**	**23.44%**
growth rate (%)		*38%*	*-55%*	*-118%*	*-2678%*	*-80%*	*155%*	*78%*	*25%*	*10%*	*-7%*	*-6%*	*9%*	*6%*	*5%*	
Total invested capital	**64,320**	**73,933**	**90,662**	**110,751**	**113,199**	**127,589**	**130,577**	**138,435**	**156,616**	**173,413**	**186,391**	**197,416**	**206,647**	**215,079**	**222,094**	**6.35%**
growth rate (%)		*15%*	*23%*	*22%*	*2%*	*13%*	*2%*	*6%*	*13%*	*11%*	*7%*	*6%*	*5%*	*4%*	*3%*	
Financing																
Excess cash (incl. liquid securities)	17,363	27,540	25,922	20,846	28,863	31,009	31,735	33,645	38,064	42,146	45,300	47,979	50,223	52,272	53,977	
% of invested capital	*27%*	*37%*	*29%*	*19%*	*25%*	*24%*	*24%*	*24%*	*24%*	*24%*	*24%*	*24%*	*24%*	*24%*	*24%*	
Financial Assets	**17,363**	**27,540**	**25,922**	**20,846**	**28,863**	**31,009**	**31,735**	**33,645**	**38,064**	**42,146**	**45,300**	**47,979**	**50,223**	**52,272**	**53,977**	**6.35%**
Bank and bond debt	(24,183)	(29,636)	(27,296)	(36,840)	(36,766)	(40,579)	(34,327)	(34,110)	(47,030)	(59,224)	(66,718)	(72,207)	(75,511)	(77,955)	(78,817)	
% of invested capital	*38%*	*40%*	*30%*	*33%*	*32%*	*32%*	*26%*	*25%*	*30%*	*34%*	*36%*	*37%*	*37%*	*36%*	*35%*	
Non-controlling interests	(5,146)	(3,807)	(3,388)	(3,248)	(2,721)	(3,404)	(3,311)	(3,602)	(4,024)	(4,484)	(4,804)	(5,096)	(5,330)	(5,550)	(5,730)	
% of invested capital	*8%*	*5%*	*4%*	*3%*	*2%*	*3%*	*3%*	*3%*	*3%*	*3%*	*3%*	*3%*	*3%*	*3%*	*3%*	
Hybrid capital	(13,248)	(13,239)	(13,239)	(13,232)	(13,232)	(13,236)	(13,235)	(13,234)	(13,234)	(13,234)	(13,234)	(13,234)	(13,234)	(13,234)	(13,234)	
Tax equity liabilities	-	-	(4,173)	(5,195)	(7,967)	(7,967)	(7,967)	(7,967)	(7,967)	(7,967)	(7,967)	(7,967)	(7,967)	(7,967)	(7,967)	
Financial Liabilities	**(42,577)**	**(46,682)**	**(48,096)**	**(58,515)**	**(60,686)**	**(65,185)**	**(58,840)**	**(58,912)**	**(72,254)**	**(84,909)**	**(92,722)**	**(98,504)**	**(102,042)**	**(104,705)**	**(105,748)**	**5.52%**
Net Financial Assets	**(25,213)**	**(19,142)**	**(22,174)**	**(37,669)**	**(31,823)**	**(34,177)**	**(27,105)**	**(25,267)**	**(34,191)**	**(42,763)**	**(47,422)**	**(50,524)**	**(51,819)**	**(52,433)**	**(51,770)**	**4.72%**
Equity																
Equity attributable to Shareholder	**39,106**	**54,791**	**68,488**	**73,082**	**81,376**	**93,412**	**103,471**	**113,167**	**122,425**	**130,651**	**138,969**	**146,891**	**154,828**	**162,645**	**170,323**	
Share Capital	4,204	4,204	4,204	4,204	4,204	4,204	4,204	4,204	4,204	4,204	4,204	4,204	4,204	4,204	4,204	
Reserves	20,218	(1,524)	(1,827)	413	(1,956)	(201)	13	337	739	674	837	743	807	895	991	
Retained Earnings	12,162	48,328	62,012	64,051	74,294	84,140	93,512	102,366	110,658	118,813	126,829	134,702	142,431	150,012	157,443	
Proposed Dividends	2,522	3,783	4,099	4,414	4,834	5,269	5,743	6,260	6,824	6,960	7,099	7,241	7,386	7,534	7,684	
Shares outstanding		420	420	420	420	420	420	420	420	420	420	420	420	420	420	
D/E Ratio	64%	35%	32%	52%	39%	37%	26%	22%	28%	33%	34%	34%	33%	32%	30%	
P/E		7.6x	10.2x	30.0x	40.0x	60.9x										
Transaction with Shareholder		(4,466)	(4,638)	(5,205)	(5,293)	(5,269)	(5,743)	(6,260)	(6,824)	(6,960)	(7,099)	(7,241)	(7,386)	(7,534)	(7,684)	
Payout Ratio (Dividend payout Ratio)		23%	25%	72%	34%	73.50%	61%	50%	41%	42%	46%	53%	51%	55%	51%	
Reinvestment Rate (equity)		77%	75%	28%	66%	27%	39%	50%	59%	58%	54%	47%	49%	45%	49%	
ROE		14%	28%	25%	9%	8%	9%	11%	13%	13%	11%	9%	9%	8%	9%	
Reinvestment Ratio (firm)		98%	100%	101%	99%	100.22%	99.62%	99.64%	99.97%	99.86%	99.86%	99.76%	99.80%	99.72%	99.73%	
ROC		21%	11%	20%	20%	11%	12%	14%	19%	27%	27%	24%	20%	20%	20%	
Earnings per share (EPS)		44.8	42.7	23.0	31.1	17.1	22.3	29.6	39.1	39.6	37.0	32.7	34.8	32.5	35.9	
Dividends per share (DPS)		9.0	9.8	10.5	11.5	12.5	13.7	14.9	16.2	16.6	16.9	17.2	17.6	17.9	18.3	
Share price on 31/12		339.0	436.0	689.0	1,244.0	1,037.8										
Dividend yield		2.7%	2.2%	1.5%	0.9%	1.2%										

INCOME STATEMENT							Forecast Period										
DDKm		2016A	2017A	2018A	2019A	2020A	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	CAGR (2021-30)
Core Business																	
DKKm																	
Revenue		**57,393**	**59,709**	**75,520**	**70,398**	**50,151**	**59,817**	**66,139**	**84,090**	**102,594**	**107,762**	**104,241**	**100,912**	**104,700**	**108,881**	**113,027**	**7.33%**
	growth (%)		*4%*	*26%*	*-7%*	*-29%*	*19%*	*11%*	*27%*	*22%*	*5%*	*-3%*	*-3%*	*4%*	*4%*	*4%*	
Revenue Offshore		22,473	20,345	41,369	39,558	34,235	37,935	44,514	60,653	78,499	82,890	78,550	74,303	77,277	80,630	83,862	9.21%
Revenue Onshore		-	-	545	684	714	1,887	2,043	2,373	2,550	2,754	2,972	3,213	3,414	3,630	3,864	8.29%
Revenue Markets & Bioenergy		39,069	46,045	39,282	36,499	18,519	25,499	24,792	26,158	26,327	27,266	27,777	28,417	29,011	29,678	30,335	1.95%
Revenue Other Activities		(4,149)	(6,681)	(5,676)	(6,343)	(3,317)	(5,504)	(5,210)	(5,094)	(4,781)	(5,147)	(5,058)	(5,020)	(5,002)	(5,057)	(5,034)	-0.99%
Cost of sales		**(37,622)**	**(40,694)**	**(54,018)**	**(42,836)**	**(25,784)**	**(32,259)**	**(34,390)**	**(44,916)**	**(56,271)**	**(58,051)**	**(52,413)**	**(49,492)**	**(50,011)**	**(50,728)**	**(51,243)**	**5.28%**
	% of sales	*66%*	*68%*	*72%*	*61%*	*51%*	*54%*	*52%*	*53%*	*55%*	*54%*	*50%*	*49%*	*48%*	*47%*	*45%*	
COGS Offshore		(11,130)	(6,565)	(25,551)	(18,981)	(14,377)	(16,237)	(18,934)	(28,428)	(39,339)	(40,511)	(34,441)	(30,984)	(30,971)	(31,162)	(31,127)	
COGS Onshore		-	-	-	(6)	-	(6)	(3)	(5)	(5)	(6)	(6)	(6)	(7)	(7)	(8)	
COGS Markets & Bioenergy		(30,295)	(40,800)	(34,185)	(30,121)	(14,905)	(21,588)	(20,745)	(21,668)	(21,829)	(22,773)	(23,121)	(23,622)	(24,137)	(24,713)	(25,242)	
COGS Other Activities		3,803	6,671	5,718	6,272	3,498	5,572	5,292	5,185	4,901	5,239	5,155	5,120	5,104	5,155	5,133	
Gross Profit		**19,771**	**19,015**	**21,502**	**27,562**	**24,367**	**27,558**	**31,749**	**39,174**	**46,323**	**49,711**	**51,828**	**51,420**	**54,689**	**58,154**	**61,784**	**9.39%**
Employee costs and other external expenses		(7,166)	(7,438)	(8,991)	(10,043)	(10,057)	(10,200)	(11,793)	(11,752)	(12,754)	(14,399)	(15,421)	(16,310)	(17,017)	(17,611)	(18,177)	
	% of sales	*12%*	*12%*	*12%*	*14%*	*20%*	*17%*	*18%*	*14%*	*12%*	*13%*	*15%*	*16%*	*16%*	*16%*	*16%*	
Expenses Offshore		(3,626)	(4,122)	(5,435)	(6,440)	(6,624)	(6,209)	(7,464)	(6,996)	(7,715)	(9,308)	(10,026)	(10,617)	(11,095)	(11,470)	(11,756)	
Expenses Onshore		-	-	(121)	(528)	(640)	(1,361)	(1,557)	(1,693)	(1,842)	(2,004)	(2,182)	(2,377)	(2,540)	(2,715)	(2,905)	
Expenses Markets & Bioenergy		(3,524)	(3,244)	(3,467)	(3,326)	(2,831)	(2,567)	(2,683)	(2,962)	(3,126)	(3,005)	(3,128)	(3,231)	(3,302)	(3,341)	(3,433)	
Expenses Other Activities		(16)	(72)	32	251	38	(63)	(89)	(101)	(72)	(82)	(86)	(85)	(81)	(83)	(84)	
EBITDA		**12,605**	**11,577**	**12,511**	**17,519**	**14,310**	**17,359**	**19,956**	**27,422**	**33,569**	**35,312**	**36,407**	**35,110**	**37,672**	**40,543**	**43,607**	**10.78%**
Amortisation, depreciation and impairment losses on intangible assets and property, plant and equipment		(5,232)	(6,284)	(5,375)	(7,432)	(7,588)	(8,120)	(7,885)	(10,916)	(10,092)	(10,996)	(13,134)	(14,354)	(15,418)	(16,344)	(17,144)	
	% of PP&E	*7%*	*8%*	*6%*	*7%*	*6%*	*7%*	*6%*	*8%*	*7%*	*6%*	*7%*	*7%*	*8%*	*8%*	*8%*	
Operating profit (loss) (EBIT)		**7,373**	**5,293**	**7,136**	**10,087**	**6,722**	**9,239**	**12,071**	**16,506**	**23,477**	**24,316**	**23,273**	**20,757**	**22,253**	**24,199**	**26,463**	**12.40%**
adjusted taxes		(1,214)	1,722	(435)	(3,046)	554	(3,024)	(4,140)	(5,702)	(8,208)	(8,664)	(8,426)	(7,520)	(8,062)	(9,279)	(10,114)	
	statutory tax rate	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	
Total operating income Core Business		**6,159**	**7,015**	**6,701**	**7,041**	**7,276**	**6,215**	**7,931**	**10,804**	**15,269**	**15,652**	**14,847**	**13,237**	**14,191**	**14,920**	**16,349**	**11.35%**

Non Core Business																
DKKm	2016A	2017A	2018A	2019A	2020A	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	
Share of profit (loss) in associates and joint ventures	25	(119)	(6)	(20)	71	(12)	(10)	(12)	(11)	(11)	(11)	(11)	(11)	(11)	(11)	
% of investments on Associates and joint ventures	*2%*	*-35%*	*-1%*	*-4%*	*13%*	*-3%*	*-2%*	*-2%*	*-2%*	*-2%*	*-2%*	*-2%*	*-2%*	*-2%*	*-2%*	
Additional other operating income and expenses	1,369	281	906	993	408	582	727	903	1,016	1,115	1,094	1,047	1,076	1,129	1,173	
% of sales	*2%*	*0%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	
Gain (loss) on disposal of non-current assets	2,940	10,835	14,995	(101)	805	811	831	885	993	1,097	1,175	1,240	1,297	1,348	1,390	
% of non-current assets	*4%*	*13%*	*16%*	*0%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	
Gain (loss) on divestment of enterprises	1,250	(139)	127	(63)	10,831	0	0	0	0	0	0	0	0	0	0	
Share of profit (loss) in associates and joint ventures	(8)	(10)	1	2	7	1	-2	-2	-2	-1	-2	-2	-2	-2	-2	
% of investments on Associates and joint ventures	*1%*	*3%*	*0%*	*0%*	*-1%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
Other Financial income / expenses	810	596	510	952	(406)	413	367	332	176	322	299	282	270	293	286	
Profit from discontinued operations	(2,532)	6,104	10	(56)	(11)	0	0	0	0	0	0	0	0	0	0	
US Tax credits and tax equity income	-	-	85	629	1,004	1,736	1,949	1,990	2,033	2,079	2,108	2,137	2,167	-	-	
Result before taxes and OCI	**3,854**	**17,548**	**16,628**	**2,336**	**12,709**	**3,531**	**3,862**	**4,096**	**4,206**	**4,600**	**4,663**	**4,694**	**4,797**	**2,758**	**2,837**	**-2.40%**
adjusted taxes	(848)	(3,861)	(3,658)	(514)	(2,796)	(777)	(850)	(901)	(925)	(1,012)	(1,026)	(1,033)	(1,055)	(607)	(624)	
statutory tax rate	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	
Other comprehensive income	(1,374)	(622)	(360)	2,417	(2,477)											
Total operating income Non Core Business	**1,632**	**13,065**	**12,610**	**4,239**	**7,436**	**2,754**	**3,013**	**3,195**	**3,281**	**3,588**	**3,637**	**3,661**	**3,742**	**2,151**	**2,213**	**-2.40%**

Financial Business																
DKKm	2016A	2017A	2018A	2019A	2020A	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	
Financial expenses																
Interest expenses	(1,466)	(1,219)	(1,484)	(2,063)	(2,106)	(2,118)	(1,887)	(1,880)	(2,581)	(3,215)	(3,657)	(3,955)	(4,130)	(4,259)	(4,314)	
% of borrowings	*6%*	*4%*	*5%*	*6%*	*6%*	*5%*	*5%*	*6%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*	
Capitalised financial expenses	(111)	(419)	(304)	(24)	(12)	(190)	(132)	(90)	(106)	(129)	(114)	(110)	(115)	(117)	(114)	
Results before taxes and OCI	**(1,577)**	**(1,638)**	**(1,788)**	**(2,087)**	**(2,118)**	**(2,308)**	**(2,019)**	**(1,969)**	**(2,687)**	**(3,345)**	**(3,771)**	**(4,065)**	**(4,245)**	**(4,377)**	**(4,428)**	**7.51%**
adjusted taxes	(347)	(360)	(393)	(459)	(466)	(508)	(444)	(433)	(591)	(736)	(830)	(894)	(934)	(963)	(974)	
Total financial result	**(1,230)**	**(1,278)**	**(1,395)**	**(1,628)**	**(1,652)**	**(1,800)**	**(1,575)**	**(1,536)**	**(2,096)**	**(2,609)**	**(2,942)**	**(3,171)**	**(3,311)**	**(3,414)**	**(3,454)**	**7.51%**

Taxes																
	2016A	2017A	2018A	2019A	2020A	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	
Statutory Taxes	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	
Reported Taxes	1,715	1,778	3,700	3,101	1,776	3,294	4,545	6,170	8,542	8,940	8,622	7,658	8,184	8,923	9,764	
Financial tax shield	(347)	(360)	(393)	(459)	(466)	(508)	(444)	(433)	(591)	(736)	(830)	(894)	(934)	(963)	(974)	
Non Core tax shield	848	3,861	3,658	514	2,796	777	850	901	925	1012	1026	1033	1055	607	624	
Core business taxes	1,214	(1,722)	435	3,046	(554)	3,024	4,140	5,702	8,208	8,664	8,426	7,520	8,062	9,279	10,114	
Effective core business taxes	16%	-33%	6%	30%	-8%	33%	34%	35%	35%	36%	36%	36%	36%	38%	38%	

Comprehensive Income																
Total Comprehensive Income	6,561	18,803	17,916	9,652	13,060	7,169	9,369	12,462	16,453	16,631	15,543	13,727	14,622	13,658	15,108	**8.64%**

CASH FLOW MAP						Forecast Period										
DDKm	2016A	2017A	2018A	2019A	2020A	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	CAGR (2021-30)
Operating activites																
EBIT	7,373	5,293	7,136	10,087	6,722	9,239	12,071	16,506	23,477	24,316	23,273	20,757	22,253	24,199	26,463	**12.40%**
Adjusted taxes	(1,214)	1,722	(435)	(3,046)	554	(3,024)	(4,140)	(5,702)	(8,208)	(8,664)	(8,426)	(7,520)	(8,062)	(9,279)	(10,114)	
NOPLAT	**6,159**	**7,015**	**6,701**	**7,041**	**7,276**	**6,215**	**7,931**	**10,804**	**15,269**	**15,652**	**14,847**	**13,237**	**14,191**	**14,920**	**16,349**	**11.35%**
Depreciation & amortization	5,232	6,284	5,375	7,432	7,588	8,120	7,885	10,916	10,092	10,996	13,134	14,354	15,418	16,344	17,144	
Gross CF	**11,391**	**13,299**	**12,076**	**14,473**	**14,864**	**14,334**	**15,816**	**21,719**	**25,361**	**26,648**	**27,981**	**27,590**	**29,610**	**31,264**	**33,493**	**9.89%**
New Investments		9,613	16,729	20,089	2,448	14,390	2,988	7,858	18,181	16,798	12,978	11,024	9,232	8,432	7,015	
Δ PP&E and Intangibles Asset		5,397	8,298	21,853	15,564	1,566	4,442	8,430	17,292	16,801	12,573	10,915	9,357	8,314	6,827	
Δ CAPEX		**11,681**	**13,673**	**29,285**	**23,152**	**9,685**	**12,326**	**19,346**	**27,384**	**27,798**	**25,707**	**25,269**	**24,775**	**24,658**	**23,971**	
Δ NWC		**5,559**	**5,721**	**1,014**	**(3,192)**	**4,991**	**1,636**	**3,398**	**3,125**	**1,179**	**(468)**	**(607)**	**821**	**857**	**858**	
		(1,176)	3,550	3,352	(1,188)											
Gross cash flow from investments		**(17,240)**	**(19,394)**	**(30,299)**	**(19,960)**	**(14,676)**	**(13,962)**	**(22,743)**	**(30,509)**	**(28,976)**	**(25,239)**	**(24,662)**	**(25,597)**	**(25,515)**	**(24,829)**	**6.02%**
Operating free cash flow		**(3,941)**	**(7,318)**	**(15,826)**	**(5,096)**	**(342)**	**1,854**	**(1,024)**	**(5,148)**	**(2,328)**	**2,742**	**2,929**	**4,013**	**5,750**	**8,664**	**43.19%**
Non-operating activities																
Non-core result before taxes and OCI	3,854	17,548	16,628	2,336	12,709	3,531	3,862	4,096	4,206	4,600	4,663	4,694	4,797	2,758	2,837	
adjusted taxes	(848)	(3,861)	(3,658)	(514)	(2,796)	(777)	(850)	(901)	(925)	(1,012)	(1,026)	(1,033)	(1,055)	(607)	(624)	
NOPLAT (non-core)	**3,006**	**13,687**	**12,970**	**1,822**	**9,913**	**2,754**	**3,013**	**3,195**	**3,281**	**3,588**	**3,637**	**3,661**	**3,742**	**2,151**	**2,213**	**-2.40%**
Δ Equity method and other investments		(1,479)	(364)	(978)	(1,350)	6,893	(1,824)	(1,655)	(1,720)	(427)	702	298	(601)	(384)	(379)	
Δ Net, Assets classified as held for sale		143	8,360	(2,252)	(7,343)	(259)	(518)	-	-	-	-	-	-	-	-	
Δ other non-operating assets and liabilities		(7)	(5,286)	5,784	(1,509)	1,199	(747)	(2,314)	(516)	(755)	171	418	(346)	(356)	(291)	
Change in non-operating assets		**(1,343)**	**2,710**	**2,554**	**(10,202)**	**7,833**	**(3,089)**	**(3,969)**	**(2,236)**	**(1,182)**	**873**	**717**	**(947)**	**(739)**	**(670)**	**-23.91%**
OCI		(622)	(360)	2,417	(2,477)	0	0	0	0	0	0	0	0	0	0	
Non-operating free cash flows		**14,408**	**9,900**	**1,685**	**17,638**	**-5,079**	**6,102**	**7,164**	**5,517**	**4,771**	**2,764**	**2,944**	**4,688**	**2,890**	**2,883**	**-6.10%**
Unlevered free cash flow		**10,467**	**2,581**	**(14,141)**	**12,542**	**-5,421**	**7,956**	**6,140**	**369**	**2,442**	**5,507**	**5,873**	**8,701**	**8,640**	**11,546**	**8.76%**
Tax shield	347	360	393	459	466	508	444	433	591	736	830	894	934	963	974	
Levered free cash flow	**(347)**	**10,828**	**2,975**	**(13,682)**	**13,008**	**(4,913)**	**8,400**	**6,573**	**960**	**3,178**	**6,336**	**6,767**	**9,635**	**9,603**	**12,520**	**10.95%**
Financing activities																
Financial expenses		(1,638)	(1,788)	(2,087)	(2,118)	(2,308)	(2,019)	(1,969)	(2,687)	(3,345)	(3,771)	(4,065)	(4,245)	(4,377)	(4,428)	
Δ Excess cash		10,177	(1,618)	(5,076)	8,017	2,146	726	1,910	4,419	4,082	3,154	2,679	2,244	2,049	1,705	
Δ Bank and bond debt		(5,453)	2,340	(9,544)	74	(3,813)	6,252	217	(12,920)	(12,194)	(7,494)	(5,489)	(3,304)	(2,443)	(863)	
Δ Lease liabilities		-	-	(5,332)	278	0	0	0	0	0	0	0	0	0	0	
Δ Equity liabilities		-	(4,173)	(1,022)	(2,772)	-	-	-	-	-	-	-	-	-	-	
Financial cash flow		**(6,362)**	**1,663**	**18,887**	**(7,715)**	**(641)**	**(8,997)**	**(4,097)**	**5,814**	**4,767**	**569**	**(1,255)**	**(3,184)**	**(3,982)**	**(5,270)**	**26.38%**
Total comprehensive income	6,561	18,803	17,916	9,652	13,060	7,169	9,369	12,462	16,453	16,631	15,543	13,727	14,622	13,658	15,108	
Equity	39,106	54,791	68,488	73,082	81,376	93,412	103,471	113,167	122,425	130,651	138,969	146,891	154,828	162,645	170,323	
Δ Non-controlling interests		1,339	419	140	527	-683	93	-291	-421	-460	-320	-292	-234	-220	-180	
Δ Hybrid capital		9	-	7	-	(4)	1	1	(0)	(0)	0	0	(0)	(0)	0	
Equity cash flow		**(4,466)**	**(4,638)**	**(5,205)**	**(5,293)**	**5,554**	**597**	**(2,477)**	**(6,774)**	**(7,945)**	**(6,905)**	**(5,512)**	**(6,451)**	**(5,621)**	**(7,250)**	**3.01%**
Financing free cash flow		**(10,828)**	**(2,975)**	**13,682**	**(13,008)**	**4,913**	**(8,400)**	**(6,573)**	**(960)**	**(3,178)**	**(6,336)**	**(6,767)**	**(9,635)**	**(9,603)**	**(12,520)**	**10.95%**

Appendix - Final Report (Full) – Group Component

"ØRSTED"

COMPANY REPORT

"ENERGY"

21 MAY 2021

STUDENT: "JANNICK EILERS & ANN MARLEEN MANTEL"

41052@novasbe.pt; 40599@novasbe.pt

The power of wind

Investing into a sustainable world

- **BUY recommendation** with a target price of DKK 1,037.83 (EUR 22.24), a shareholder return of 19% and a dividend per share pay-out ratio of 73.50%.
- We project revenue to grow with a CAGR of **7.33% between 2021 and 2030 and the EBITDA of core business by 10.78%** based on the potential of an unfolding renewables market and successfully winning new wind projects.
- We see offshore as Ørsted's strong focus – 87% of EBITDA 2020 and current **market leader in growth industry**, leveraging operational clusters and construction experience from Europe.
- One key driver for cost reductions could be the use of larger and more efficient turbines, in our view with the potential to **decrease CAPEX/MW by 24%.**
- In 2020 the company achieved an **increase in power generation of 20.9TWh** (increase by 14%), driven mainly by Hornsea 1 and Borssele 1&2 (first offshore wind farm in the Netherlands) projects and higher wind speed in 2020.
- However, last year revenue decreased by **29% from DKK 70.4bn to DKK 50.2bn**, mainly due to reduced construction agreements on wind parks for partners and lower gas and power prices. Nevertheless, the power generation of offshore and onshore increased significantly (+14%).

Company description

Ørsted [Nasdaq: ØRSTED] is one of the most sustainable corporations within the global energy sector. Headquartered in Denmark, Ørsted employs 6.179 people worldwide with a group's revenue of DKK 50.2bn in 2020.

Recommendation:	**BUY**
Price Target FY21:	**1,037.83 DKK**
Price (as of 19-May-21)	**883.20 DKK**

Reuters: 19.05.2021, Bloomberg: 19.05.2021

52-week range (DKK)	718.60 – 1,400.50
Market Cap (DKKm)	371.281
Outstanding Shares (m)	420.381

Source: Bloomberg

Source: Bloomberg

(Values in DKK millions)	2019	2020	2021E
Revenues	70.398	50.151	59.817
EBITDA	19.020	16.598	17.359
EBIT	11.588	9.010	9.239
Net Profit	7.235	15.537	7.169
P/E	30x	40x	61x
EPS	23.0	31.1	17.1
DPS	10.5	11.5	12.5
Dividend Yield	1.5%	0.9%	1.2%
Return on Equity	25%	9%	8%
Return on Asset	4%	4%	6%
ROIC	8%	7%	5%

Source: Company Reports, Estimates

Table of Contents

Setting the stage

Investment Thesis

We judge that Ørsted delivers a good **buying opportunity**. While in the last weeks, investors were concerned about the performance and investments made by Ørsted, we expect **positives returns** for the long run.

Ørsted, as the **leading sustainable player** worldwide, is not much affected by the pandemic. Offshore and onshore wind divisions accounted for **83% of its total power generation** (vs 77% in 2019). We see their transformation from a fossil fuel company to strongly offshore wind energy focused driving the valuation. We put a **BUY** on Ørsted, as we believe the company will be able to defend a **large position** as one of the market leaders in an industry with long-term growth potential (**7.33% Revenue CAGR**), even with the prospect of bigger players entering the wind energy market (**such as Shell, BP etc.)**. Having mapped out and valued their project pipeline and subsidy structure until 2025, and thus projected their starting position in key markets for the decade's second half, we expect Ørsted shares to be **trading at DKK 1,037.83** in December 2021 with a **shareholder return of 19%**.

"Stable results both operationally and financially despite COVID-19"

In our view, over the last year's, Ørsted was benefitting from high subsidy prices for offshore wind electricity and limited competition. However, the very clear trend towards wholesale pricing put the **focus on reducing costs (up to 6% p.a.)** – several parks coming online in the short-term feature already wholesale level strike prices. Our analysis yielded that the different markets pose very different conditions especially in price and geography and that projects without subsidies do question profitability. However, we still see the prospect for **optimistic returns**, especially in clusters, at often controllable risks, necessitating however a selective approach for post-2025 capacity increase. For example, we fully support engagement as now in the US with the creation of **an entire cluster enabling an OPEX** ecosystems as in Europe and **minimized turbines** and **towers per capacity driving down CAPEX.**

"Goal to become carbon neutral by 2025"

Throughout the past years' success, Ørsted set its goals to **reach carbon neutral operations till 2025** and a total carbon footprint by 2040.[1] Mads Nipper, CEO of Ørsted, expects **EBITDA to be DKK 15-16bn** and **gross investments** with **the amount of DKK 32-34bn** as well as **high single digital percentage growth** of dividends for the next years, which reflects a high level of construction activity related to offshore wind, onshore wind, and solar PV projects.

[1] Ørsted, "Annual Report 2020", 2020

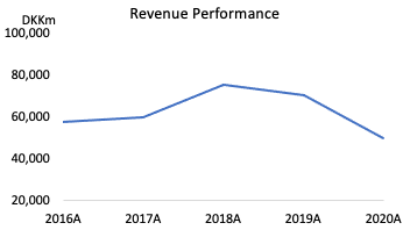


***Exhibit 1**: Revenue Performance*
***Source**: Company Information*

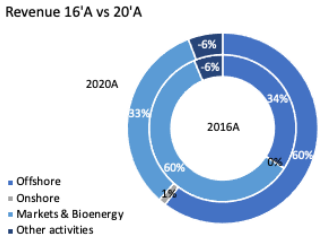


***Exhibit 2**: Revenue 2016 vs 2020*
***Source:** Company Information*

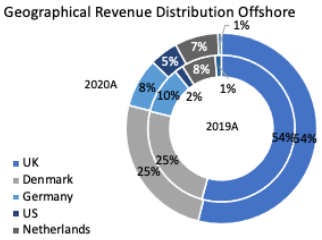


***Exhibit 3:** Geographic Revenue Distribution Offshore*
***Source:** Company Information*

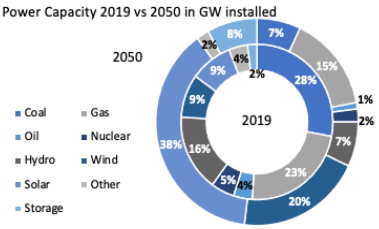


***Exhibit 4**: Power Capacity development 2019 vs 2050*
***Source:** BNEF New Energy Outlook 2020*

Company Overview

Profile

Ørsted's vision is a world that runs entirely on green energy. The company develops, constructs, and operates offshore and onshore wind farms, solar farms, energy storage facilities, and bioenergy plants, and provides energy products to its customers. Ørsted ranks #1 in Corporate Knights'2020 index of the Global 100 most sustainable companies in the world and is acknowledged on the CDP Climate Change A-list as a global forerunner on climate action.

After the acquisitions in 2008 of Elsam, Energi E2, Nesa, Københavns Energi and Frederiksberg Forsyning, the company took a chance with a radical transformation strategy from a fossil fuel-based to a renewable energy company. Consequently, investments went primarily into development and build-out of offshore wind farms and further into converting coal-and gas-fired power stations to sustainable biomass in and outside of Denmark. While at the time risky, Ørsted thus essentially managed to first set itself onto the now-apparent higher growth trajectory and second turned from a relatively small player to market leader.

Seen in Exhibit 2, the main change in the revenue over the past four years was in the business units Offshore (from 34% 16A - 60% 20A) and Markets & Bioenergy (from 60% 16A to 33% 20A). As a result of this conversion, Ørsted has become one of the fastest-growing energy groups (over the last four years 7%) and decided to go public on 9 June 2016, changing its name from DONG Energy A/S to Ørsted. The following chapter describes Ørsted's dynamic business context before we move on to our analyses of the value drivers.

Business Segmentation & Market Overview

Due to the fast development of the company from natural gas to renewables, Ørsted had various structural reorganizations to improve core business and vision to run as a green company.

The main focus for Ørsted is the **renewables and electricity generation and distribution** on the physical markets. To be successful within the competitive market, the company needs to have the know-how to profitably operate their assets. About 82% of the world's electric energy supply is generated by fossil fuels (coal, gas, oil) and nuclear energy.[2] Nevertheless, the past decades have seen a recognisable shift towards **renewable energy** driven by energy policy and now

[2] Mario Richter, "Utility business models for renewable energy: A review", 2012

requiring extensive investment.

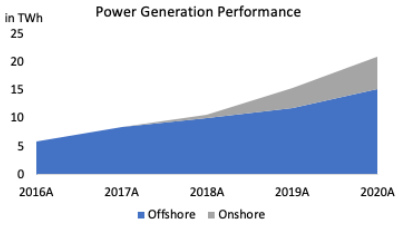


***Exhibit 5**: Power Generation Performance*
***Source:** Company Information*

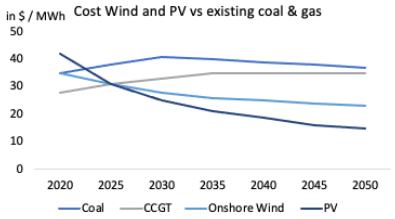


***Exhibit 6:** Cost Wind and PV vs existing coal*
***source:** IEA, Renewables 2020*

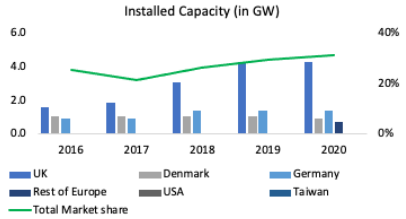
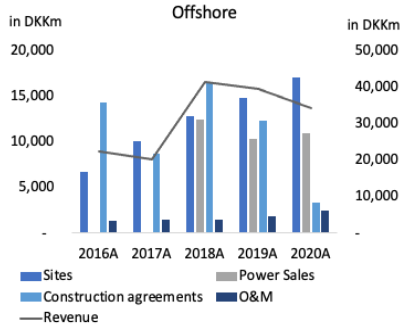


***Exhibit 7:** Installed Capacity Offshore*
***Source:** Company Information*



Renewable energy sources have grown at an average annual rate of 2%, slightly above the growth rate of the world TES, 1.8%. This primarily stems from a significant increase in wind power and solar PV, at an average annual rate of 23% and 36.5% respectively. Biogas represents the third-highest growth rate at 11.5%, followed by solar thermal (10.9%) and liquid biofuels (9.7%).[3] In 2019 the power capacity worldwide was at 7.38 GW with the goal of 20.40 GW of total installed capacity in 2050 (Exhibit 5).[4] Consequently, the EU energy strategy has been mainly driven by the need to support renewable energies and to contribute to the decarbonisation of the energy sector. Additionally, they believe that the market in the US will be cheaper in the production of wind and solar PV compared to existing coal and gas within the next 5 years (Exhibit 6).[5]

Since 2018, Ørsted is organised in three central units: **Offshore, Onshore / Solar PV and Storage,** and **Markets & Bioenergy**.

- Offshore Wind

Offshore wind is Ørsted's by far most important business, not only in terms of revenue but in profit contribution and growth outlook. Nowadays, Ørsted operates **offshore wind** farms in **Denmark, the UK, Germany**, the **Netherlands**, the **US** and in future **Taiwan** and reached a market share of 32% installed capacity worldwide (seen Exhibit 7 green line). We see that this created economies of scale in the fall of costs over the five years (in 2016A 50% vs 2020A 42% of sales). The company aims to maintain their market position with a target installed capacity of 15GW in 2025 and develop a global business to keep reducing the cost of construction and keeping its distribution and transmission cost stable over the years, seen in Exhibit 8. Illustrated in Exhibit 9, the company has been on an expansion path for its market position worldwide over the last five years. We generally believe Ørsted has won much experience in the field of offshore wind and in the entry of new markets (e.g. Netherlands in 2020, Taiwan in 2021).

The specific utility resource wind is an electricity generation source with, compared to others, **low-capacity factor,** and **high variability**. Factors will affect its merits including the wide of variability in production, changes in fast production and limited predictability.[6] Over the past decade, the consumption of wind-powered generating capacity has established its fastest growth ever. Based on the increasing concern for energy supply security and fossil fuel depletion beside growing concerns about

[3] IEA, "Renewables Information Overview 2020", 2020
[4] Bloomberg NEF, "New Energy Outlook 2020", 2020
[5] Bloomberg NEF, "New Energy Outlook 2020", 2020
[6] IEA," Impact of Wind Power on European Natural Gas Market", 2012

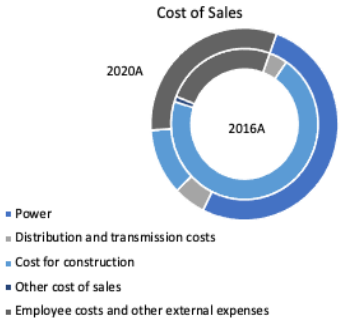


Exhibit 8: *Revenue and Cost split Offshore*
Source: *Company Information*

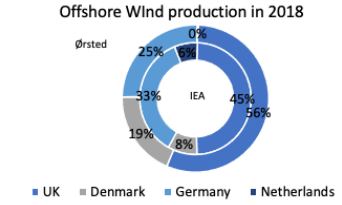


Exhibit 9: *Offshore Wind production in 2018*
Source: *IEA, Renewables Information Reviews 2020*

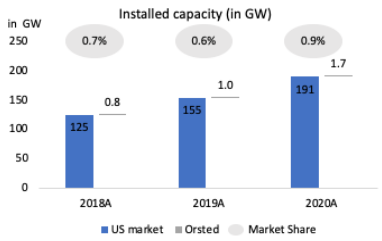


Exhibit10*: Installed Capacity Onshore Unit*
source: *Company Information*

CO_2 emissions and climate change, are boosting interest in more sustainable energy sources.

In 2019, wind farms generated 28.3% of renewable electricity in the OECD with an increase from 3.8TWh to 838.5TWh from 1990 to 2019, implying an annual growth rate of 20.7%. Given EU and now also US focus on green energy, offshore wind will all but certain be an area of significant growth in OECD countries in the upcoming years. In 2018 the largest share of offshore wind production was the UK (45.4%), Germany (33.1%), Denmark (7.9%) and the Netherlands (6.2%)[7], illustrating how central Ørsted is to the overall business (Exhibit 9).

Based on the increasing wind power demand, natural gas-fired capacity also gains attractiveness relative to coal-fired and nuclear capacity for investor. By adding wind generation to its operation, the company experienced ominous decreases of the average capacity factor for residual demand. Therefore, it focuses on the increase of share capacity running at deficient capacity factors. Previous statement reflects Ørsted strategy plan, whilst the company is shifting its main business to wind generation and away from its bioenergy focus by its divestments. For example, in 2020 the divestment of Danish power distribution, residential customer and city light business and new arrangement to divest its UK B2B gas and power portfolios to Total Gas & Power.

- Onshore and Solar photovoltaic

The company operates an onshore business through the 2018 merger with Lincoln Clean Energy (operating portfolio of 813MW). Thus, limited to the US, market is the firms' strategic focus for onshore business, operating as developer, owner, and operator. The company owns and operates seven wind farms with an installed capacity of 1.7GW and further projects of 0.7GW. This amounts to less than 1% of the 191GW US market, showing the overwhelming significance of offshore for Ørsted (Exhibit 10). Furthermore, under construction of 1.1GW solar PV and 40MW of storage. Based on the currently capacity, the company won a market share of 0.9% over the last three years in the US.

The growth of the Solar photovoltaic (Solar PV) has been strong since 2003 with an average annual rate of 40% to 2009 and up to 135% in 2010.[8] Utility capacity is expected to continue to increase even with the ongoing pandemic.[9] While still in an immature phase with only 2% share of the world's power generation, also seen in

[7] IEA, "Renewables Information Overview 2020", 2020
[8] IEA, "Solar Energy Perspectives", 2011
[9] IEA, "Renewables 2020 – Analysis and Forecast to 2025", 2020

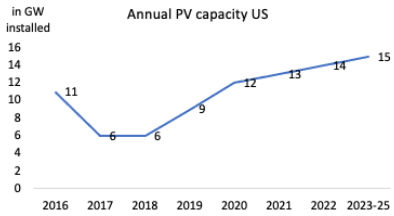


Exhibit11: *Annual PV capacity growth US Market*
Source*: BNEF New Energy Outlook 2020*

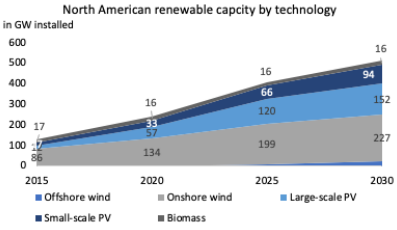


Exhibit12*: Renewable capacity by technology US Market*
Source*: BNEF New Energy Outlook 2020*

the revenue of Ørsted. The US is the largest producer of solar PV with 93.1TWh[10], underlining Ørsted's decision to focus its business on the US market and given abovementioned growth rates we expect a significant expansion. The company is one of the five major US constructors in term of latest capacity additions in 2020 (Exhibit 10 – Installed Capacity / Market Share US). Large-scale Solar PV reached 57 GW in 2020 and is estimated to accelerate at an annual **growth of 10% towards 2030**. Furthermore, Ørsted has currently under construction its new project Permian Energy Centre in Texas (420 MW).

Solar energy can provide faster access to modern energy services for the disadvantaged communities in the countryside with low population densities.

- Markets & Bioenergy

As a result of the separation of the wind business and the focus on green energy, Ørsted combined its business units Bioenergy, Markets, and customer solutions in 2019. The consolidation of the business units into **Markets & Bioenergy** will provide the company a sharp focus on its wind business. Furthermore, based on the performance of the past years and several divestments, we expect this business unit to decrease further in importance. In 2020, Ørsted completed various divestments, i.a. Danish power distribution, LNG activities to Glencore and their B2B revenues, except for gas sales. Moreover, the company signed new agreements to divest its UK B2B gas and power portfolio to Total Gas & Power. All activities of the value chain of offshore/ onshore will be reported within the unit, such as trading and hedging. Besides, Ørsted decided to implement heat and power stations, which benefits from now on the run 100% on sustainable biomass by 2020.

[10] IEA, "Renewables Information Overview 2020", 2020

Key-Value Drivers and Their Projections

In our view, the primary driver of Ørsted's value is the development of its offshore wind park capacity. To project capacity growth we have a twofold approach. First, making use of the long-time horizons, we map out every individual project addition they have planned or are constructing already to aggregate the next five years. Second, for the remaining forecast period, we derive additions from analysing main country markets' government targeted capacity growth and estimated market shares for Ørsted. While capacity drives the size of the business, its growth must be profitable to create value. To assess profitability, we project price, subsidy structures and load factors on the revenue side, and CAPEX and OPEX volumes on the cost side. This then allows us to set up and analyse NPV/IRR tables (see Appendix F) for individual projects and forecast market model inputs for the overall valuation. All of the above we derive in the following on a market-by-market basis.

United Kingdom

Capacity - In terms of additional installations *until 2025***,** the Hornsea 2 wind park, with 1.4GW one of the largest offshore projects overall, is already under construction and based on company information targeted for commission in 2022. As per current planning, we calculate with 100% ownership. Until 2025 there are currently no other planned projects. Any auction that follows now would only affect operational parks after 2025.[11]

To project additions for the *period from 2025 to 2030*, we analyse macro developments, government targets for renewable energy, and Ørsted market share (see exhibit 13). With now (2020) 10GW installed capacity the country has one of the largest offshore capacities in the world, facilitated by a long coastline and weather conditions ideal for wind power. The so-called UK offshore sector deal targets 40GW installed capacity in 2030 (implied CAGR: 15%).[12] We incorporate this target because we see compelling reasons in support. Natural conditions make offshore an obvious climate-friendly choice and post-pandemic public investment and intended reduction of red tape is likely to favour infrastructure projects. The past ten years have seen 10GW installation with the industry in a very immature phase and the target was only recently increased from 30 GW, in our view showing confidence in the feasibility.[13] We expect this government push to attract many developers wanting to participate in this growth and the high load factors in the

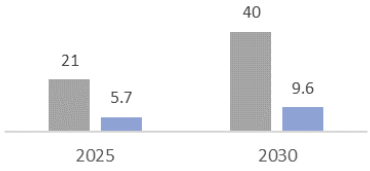


Exhibit 13 *– Offshore Installed capacity (GW) projection for UK (grey) and thereof Ørsted (blue)*
Source *for overall: Global offshore wind report 2020 – GWEC Energy council*

[11] Company information
[12] UK Government Policy Paper, "Offshore Wind Sector Deal UK (2020)", 2020
[13] Financial Times, "Offshore wind/UK electricity: about turn (2020)", 2020

British North Sea.

As of now the UK is Ørsted's most important market with 57% of its capacity as well as Ørsted the largest developer in the UK (43%). Combined with the promising outlook described above, we believe this warrants the general projection of intense continued activity. To estimate how much capacity will be awarded to Ørsted, we can break the rate down to bidding and winning rate. In the last auctions, Ørsted had a winning rate of around 30%. This is similar to their total offshore market share, which implies they bid on every project. We thus assume it is their strategy to do so and project it to continue. For the future winning rate, we see three key factors at play. On the one hand, as will be discussed below, their strong presence in UK offshore clusters should provide a cost advantage through combined OPEX activities and construction area experience. However, we also expect more focus on margin attainment and much more competition in the maturing market. For these reasons, we calculate with a lower but still significant winning rate of 20%. While the quantitative basis for such forecasts is thin, we believe this combined is our most realistic estimate for award share leading to 3.9GW in addition.

Hornsea 1	£140.00
Hornsea 2	£57.50
Market price	£49.63

Exhibit 14 *– Hornsea subsidy strike prices vs. UK wholesale price*
Source*: Company information and Bloomberg*

Price - The UK operates a Contract-for-Difference (CfD) subsidy scheme, with different projects receiving different subsidies. Recently commissioned Hornsea 1 still receives a strike price of around 140 GBP/MWh until 2036, 100GBP higher than the past average wholesale electricity price of approximately 50GBP.[14] Hornsea 2 will only receive a subsidy price of 57.5 GBP/MWh, highlighting the crass significance of subsidy changes as compared to changes in wholesale prices, making it in our view necessary to research individual project subsidies.[15] Given this strong decline, we calculate with wholesale prices adjusted for expected inflation from 2025 onwards. As another data point validating this assumption, Doggerbank parks planned by RWE and Equinor were already awarded at wholesale prices.[16] Profitability discussion follows below.

Load factor - The load factor/wind speed is a key value driver for a wind park as it drives production but barely costs. It is very dependent on the site and also on the type of turbine. For our purposes, we include in this factor availability, which is very constant across all markets at 94%. We will keep it this way into the future and project the actual load factor portion itself separately.

For the *period until 2025* we reverse calculate the load factors from the actual electricity production per park. For Hornsea 2 we take as reference Hornsea 1 as it is in the same area and revise it slightly upward because of the use of more efficient

[14] Bloomberg, 2021
[15] Company information
[16] Power Technology, "RWE makes investment decision on Sofia Offshore wind farm, UK", 2021

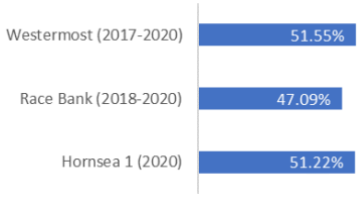


Exhibit 15 *– Current average load factors for Ørsted's major UK wind parks*
Source*: Calculated from company information*

turbines. For the *period from 2025 to 2030***,** we consider the existing UK Ørsted range of 45-50% (see exhibit 15). As validation, UK wind park values of RWE are readily available and exhibit virtually the same range.[17] However, examples like Westermost Rough farther off coast exceed 50%. Due to the general trend to construct parks farther out and only upside potential for turbine efficiencies, we expect it to increase in the future. Therefore, we set our future average load factor for the UK at 50%.

Exemplary profitability discussion of Hornsea 1 and 2 - With the factors already discussed, we derive a revenue estimate for the individual parks. To analyse their profitability, we take into consideration upfront cost (CAPEX) as well as margins (OPEX). Both developments we estimate per MW in the respective chapters below.

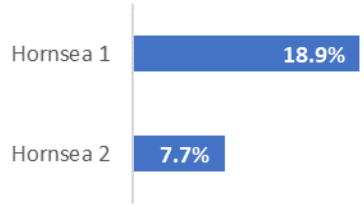


Exhibit 16 *– Estimated IRR values for Hornsea parks (WACC = 5.2%)*
Source*: Valuation Model*

For Hornsea 1 we base our assumption slightly higher than the calculated average CAPEX/MW value in the last 5 years, at 20m DKK/MW. For Hornsea 2 we refer to our cost advantage calculation through using larger turbines (see Appendix G) in the same chapter, which for a difference of 8.4 to 7.0MW yields a CAPEX of 90.4%. In terms of OPEX, we take for Hornsea 1 the current global average O&M costs of 0.6m DKK/MW.[18] Although difficult to quantify, Hornsea 2 should benefit from synergies in OPEX activities; in employee costs through combined O&M, shared onshore stations and partially shared electrical equipment. We also believe it is plausible that OPEX scales to a certain extent with the number of turbines/towers, as there are to this extent fewer plants to manage and maintain. If we scale it down 1 to 2, it implies for Hornsea 2 another 8.5% reduction. Therefore, we consider a reduction to 0.5m DKK/MW realistic and take it as our base case for the following results. Lastly, given Hornsea 2 is newer, we calculate with 30 years of lifetime instead of the standard 25 for Hornsea 1. Decommissioning costs are set at 15% of CAPEX.

Sensitivity Data	Hornsea 2
CAPEX/MW	23.9
OPEX/MW	.96
Subsidy Price	£42.24
Load Factor (%)	40.2%

Exhibit 17 *– Ceteris paribus break-even inputs; base assumptions: CAPEX/MW = 18m, OPEX/MW = 0.5m, Subsidy period price = 57.5GBP, Load Factor = 50%*
Source*: Valuation Model – NPV wind park tables*

Based on the input assumed above, we judge Hornsea 1 as highly profitable and Hornsea 2 as less but still generating positive returns (see exhibit 16). For Hornsea 1 this is not surprising given the high CfD price of 140 GBP for the first 18 years. For Hornsea 2 we conduct a sensitivity analysis by calculating the individual break-even inputs, all others at base level (see exhibit 17). For all inputs there is quite significant margin, which reduces the investment risk. In this context, we consider the OPEX figure especially important as it is for Ørsted arguably the most difficult to forecast over a long period; some of the difference, however, will stem from the fact that the high load factor drives revenue while not our choice of OPEX indicator. The break-

[17] RWE, "RWE generation asset list as of 31 December 2020", 2020
[18] IEA, "Offshore wind outlook 2019", 2019

even subsidy period price is our best estimate of how low Ørsted could have gone in auction.

Germany

Capacity – As per our research, Ørsted plans for the *period until 2025* to commission two awarded projects: Gode Wind 3 (0.2GW) and Borkum Riffgrund 3 (0.9GW), both in 2025. In context, Ørsted has 1.4GW capacity in Germany, a market share of half their UK's at 18% in 2020 and past four years' activity was limited to 0.5GW in Ørsted additions. For both parks, we researched a planned 50% ownership and 50% as construction agreements.

We consider the overall market development to project the *period from 2025 to 2030*. In the last four years, around 4GW were installed, growing in parallel to the UK. In the next five years, based on projects under construction, only 3GW will be added – implying an Ørsted market share of 38% in midterm additions, culminating in 23% total 2025 share. An additional 9GW are targeted until 2030,[19] in our view potentially constrained in comparison to the UK by the natural battery limit of Germany's coastline. Given the anticipated increase in market share, we expect Ørsted to keep a foothold in the German offshore market. Nevertheless, we calculate with 10% post-2025. Apart from expected increase in competition, we first believe the strong share in coming installations will saturate further project engagement afterwards, especially as new projects are likely developed outside of Ørsted clusters. Second, as the result of our profitability section below, we do not consider exposure to the German offshore market very profitable and expect the company's focus to divert.

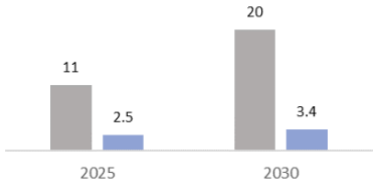


Exhibit 18 *– Offshore Installed capacity (GW) projection for Germany (grey) and thereof Ørsted (blue)*
Source *for overall: Global offshore wind report 2020 – GWEC Energy council*

Price - Ørsted's operating parks receive generous fixed feed-in tariffs, more than 100EUR above wholesale electricity price around 40EUR. However, many will be phased out already after 10 years, meaning a significant drop in revenue in our forecast period once the schemes expire (see exhibit 36). As in the UK, strike prices drop strongly for upcoming projects. Per our research, Gode Wind 3 still receives 81EUR, while Borkum Riffgrund 3 will operate without any subsidies entirely,[20] reinforcing our rationale to calculate without any subsidy structures post-2025.

Borkum Riffgrund 2	184.00 €
Borkum Riffgrund 3	40.64 €
Gode Wind 3	81.00 €
Market Price	40.64 €

Exhibit 19 *– Subsidy strike prices vs. German wholesale price*
Source*: Company information and Bloomberg*

[19] GWEC, "Global offshore wind report 2020", 2020
[20] Company information

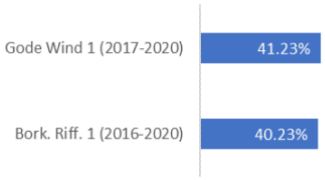


Exhibit 20 *– Current average load factors for Ørsted's major German wind parks*
Source*: Calculated from company information*

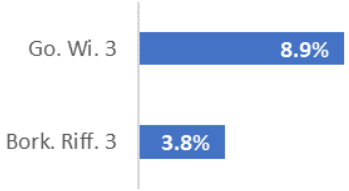


Exhibit 21 *– Estimated IRR values for selected German parks (WACC = 5.2%)*
Source*: Valuation Model*

Load factor - Parks like Gode Wind 1+2, Borkum 1+2 show over the last four years factors of only 40%, significantly lower than in UK, impacting profitability of these projects (see exhibit 20). While we consider it the future minimum, we assume an increase for newer projects. That is first because turbine sizes tend to increase it and they are set to expand from 6/8MW to 11MW; and second Germany has first-mover wind parks that are relatively old and is thus well-positioned to benefit from efficiency advances. While we cannot quantify it precisely, we believe it is prudent to calculate with future load factors of 45%.

Exemplary profitability discussion of Gode Wind 3 and Borkum Riffgrund 3 - At first glance, the German market looks less attractive for Ørsted than the UK, dragged down by lower prices and load factors. In terms of CAPEX/MW values for Gode Wind 3 and Borkum Riffgrund 3, we apply our turbine size calculation with 11MW turbines to estimate a relative reduction by around 20% to 16m. We use this as our base case to calculate profitability. We see, however, more potential through the similar conditions to the Netherlands (see respective section) and Ørsted is heavily involved in the older generation parks, which in our view should enable cost reductions through cluster experience. OPEX/MW should strongly benefit from Ørsted's cluster, where both new ones are located, too. Furthermore, 36% fewer turbines will used per MW. Even at a 1:2 decrease in cost; this would amount to almost a fifth. Together, we believe much effort can be saved and think it is realistic to calculate with an OPEX/MW value of 0.3m. This value is where the IEA sees the long-term average and we believe this cluster of Ørsted features most of the development's characteristics.

The key result of our analysis is that engagement in post-subsidy German offshore will pose high profitability risk, shown through Borkum Riffgrund 3 that is not NPV positive with our base assumptions (see exhibit 21). Nevertheless, exhibit 22 also shows that this could be reached with a CAPEX factor of around 13m, which is not unreasonable given that it corresponds to our assumed Dutch value. It would also turn positive if Ørsted manages to negotiate price premiums of around 18%, e.g. through green PPAs. The cluster-optimized OPEX/MW value we consider difficult to improve further and the load factor is well-foreseeable. For these reasons we believe Ørsted will maintain a strong foothold but not accelerate much beyond existing clusters and projects between 2025 and 2030.

Sensitivity Data	Bork. Riffg. 3
CAPEX/MW	13.3
OPEX/MW	.09
Market Price	47.09 €
Load Factor (%)	52.1%

Exhibit 22 *– Ceteris paribus break-even inputs; base assumptions: CAPEX/MW = 16m, OPEX/MW = 0.3m, Subsidy period price = market, Load Factor = 45%*
Source*: Valuation Model – NPV wind park tables*

Denmark and Rest of Europe

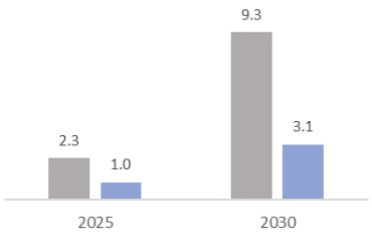


Exhibit 23 *– Offshore Installed capacity (GW) projection for Denmark (grey) and thereof Ørsted (blue)*
Source *for overall: Global offshore wind report 2020 – GWEC Energy council*

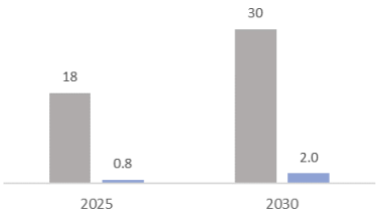


Exhibit 24 *– Offshore Installed capacity (GW) projection for Rest of Europe (grey) and thereof Ørsted (blue)*
Source *for overall: Global offshore wind report 2020 – GWEC Energy council*

Capacity - As per our research, Ørsted will not add any projects to their European portfolio beyond Germany and the UK within the *period until 2025*. In our view, this emphasizes the shift away from their home market Denmark, where they actually have added no capacity since 2013. Outside of these three markets, Ørsted has recently become active in the Netherlands, where it commissioned Borssele 1&2 in 2020, which special geographic conditions will be examined below in terms of profitability considerations.

With respect to the *period from 2025 to 2030*, we again consider the EU's as well as Denmark's big push to increase offshore wind capacities to significantly reduce emissions. As per our research, Denmark plans to have a capacity of 10GW by 2030 and the rest of Europe even 30GW.[21][22] Given especially Denmark's and the Netherlands' past commitment to offshore, geographic suitability, and the EU's seriousness about its Green New Deal, we calculate with full implementation of these plans. In terms of Ørsted's role, we do calculate with a resumption in Danish additions and apply their existing winning rate of 30% to the full estimated additional 7GW between 2025 and 2030. Activity is assumed because first the market offers attractive load factors, and second Ørsted should enjoy a scale advantage through a current offshore market share there of around 60%. In the rest of Europe, we reduce their share of additions to 10%, as we think they will be selective with entering many diverse markets without existing cluster advantage and focus new entries on especially profitability-driving geographic conditions, as was the case in the Netherlands. We believe these shares are in a very realistic order of magnitude but will test their sensitivity below.

Anholt	1051.00
Market Price	295.95
Borssele 1&2	72.70 €
Market Price	49.44 €

Exhibit 25 *– Subsidy strike prices vs. Danish (DKK) and Dutch wholesale prices for wind park analysis*
Source*: Company information and Bloomberg*

Price - Borssele 1&2 receives a relatively low subsidy fixed feed-in tariff of 72.7 EUR per MWh, however for the first 15 years and higher than Hornsea 2. The quite old Danish parks will lose their subsidies sooner, leading to a drop in revenue especially in 2021 through Anholt and Horns Rev 2. As argued before, we see the clear trend that no relevant subsidy volumes will be awarded after 2025. Nevertheless, given that new national offshore markets will open up in Europe, we test the possibility of higher average prices through nascent national schemes in the scenario analysis.

Load factor - There is no past Dutch Ørsted data. However, we estimate a load factor for this specific project in the range of 40-45%. Geographic conditions can be compared to Germany, e.g. Borkum Riffgrund and Gode Wind are less than 100 km

[21] International Renewable Energy Agency (IRENA), 2020
[22] GWEC, "Global offshore wind report 2020", 2020

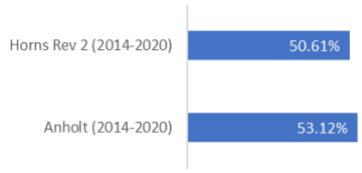


Exhibit 26 *– Current average load factors for Ørsted's major Danish wind parks*
Source*: Calculated from company information*

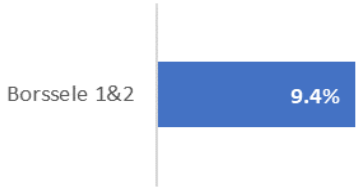


Exhibit 27 *– Estimated IRR values for selected Dutch parks (WACC = 5.2%)*
Source*: Valuation Model*

Sensitivity Data	Borssele 1&2
CAPEX/MW	19.9
OPEX/MW	1.13
Subsidy Price	48.74 €
Load Factor (%)	33.8%

Exhibit 28 *– Ceteris paribus break-even inputs; base assumptions: CAPEX/MW = 13m, OPEX/MW = 0.6m, Subsidy period price = 72.7EUR, Load Factor = 45%*
Source*: Valuation Model – NPV wind park tables*

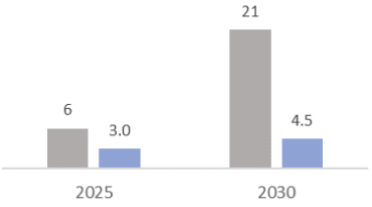


Exhibit 29 *– Offshore Installed capacity (GW) projection for the US (grey) and thereof Ørsted (blue)*
Source *for overall: Global offshore wind report 2020 – GWEC Energy council*

from the border, where we have 40%. However, we believe it can be a little higher, as the Netherlands also stretch closer to the UK. 45% is the current average in Europe, according to the IEA[23], and the company's total average over the last five years is 43%. For Denmark we refer to the average of the big parks Horns Rev 2 and Anholt over the past years, at 50% (see exhibit 26). For Rest of Europe we calculate with above-mentioned 45%.

Exemplary profitability discussion of Borssele 1&2 - Our profitability analysis of Borssele 1&2 is driven by and shows the importance of favourable geographical conditions for the project costs. To estimate CAPEX/MW value we take the 2020 overall value, as Borssele was the only commissioned project in that year and was shifted in its entirety from under construction to production assets and its MW to generation capacity (see CAPEX development chapter for method detail). The number of 13m is actually in line with data from the IEA[24] that in the Netherlands construction costs are in the very low range. We can attribute that primarily to shallow water and close distance to the coast. Besides, we calculate for OPEX/MW with the current average for European parks as per IEA. The parks have cluster disadvantages but significant potential for geographic savings and some turbine size advantages (8MW). See exhibit 27 for our quite favourable IRR estimate. The only risk we see concerns OPEX, but as per exhibit 28 there is significant buffer. Given our break-even subsidy price, we expect Ørsted to pursue opportunities also at Dutch wholesale prices. This exemplary project shows how important it will be for Ørsted to find attractive spots in Europe. It will in our opinion be key to focus on projects with favourable geographic conditions like in the Netherlands or to build on clusters – which is pursued in the US market entry.

New Markets – United States and Asia

Capacity - Ørsted's non-European pipeline of capacity additions *until 2025* include 2.9 GW planned in the USA and 1.8GW in Taiwan. There is no third country already in the pipeline.

For the *period from 2025 to 2030*, the US has virtually zero capacity now, but many states follow ambitious renewable plans and in the next decade, policy targets and forecasts expect the US to build over 20GW, whereof according to our calculations 14GW post-2025. Until 2025 Ørsted will have a large market share of around 50%. However, we do not calculate with more than 10% post-2025, which is yielded when calculating with a bidding rate of half and a little lower winning rate. That is to some extent arbitrary, however we do not expect a full-hearted approach in the US after

[23] IEA, "Offshore wind outlook 2019", 2019
[24] IEA, "Offshore wind outlook 2019", 2019

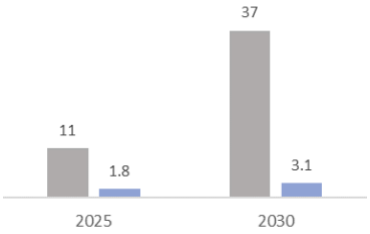


Exhibit 30 *– Offshore Installed capacity (GW) projection for Asia excl. China (grey) and thereof Ørsted (blue)*
Source *for overall: Global offshore wind report 2020 – GWEC Energy council*

strong activity pre-2025 and high European engagement post-2025. Moreover, we consider it likely that the US government will push American companies in a subsidised, strategically important energy industry. For Asia we exclude China – from various statements we draw the conclusion that Ørsted's focus lies explicitly on the US and other Asian states, which we do not change in our model. Between 2025 and 2030 they are estimated to add 26GW. We apply here the same logic as of focus on clusters and cautious engagement spread-out markets as in rest of Europe, where we had 10%, and calculate with an award rate limited to 5%.

Furthermore, the USA feature Ørsted's newly entered *onshore* business – with additions already planned in the amount of 0.7GW for onshore wind and 1.1GW for solar, which gives the company a stronger foothold in these markets. As the planning horizons are shorter here, we already apply market share estimates from 2022. From their strategy we expect a slowly growing capacity market share and calculate with 2% per year until 2027. Given tax credits expiring then and the offshore ramp-up, we then keep the share constant, which still yields a capacity in 2030 of 4.5GW onshore and 1.9GW solar. The ratio between them Ørsted target.

Ocean Wind 1	$98.10
South Fork	$137.20
Market Price	33.69 €
Greater Changhua 1&2a	1381.6
Greater Changhua 2b&4	560.56
Market Price (SG)	74.03 €

Exhibit 31 *– Subsidy strike prices (in DKK for Taiwan) vs. US and Asian wholesale prices for wind park analysis*
Source*: Company information and Bloomberg*

Price - In the US, companies agree negotiated constant prices with public energy boards or large customers. For example, Ocean Wind 1 and South Fork projects receive prices of 98.1 and 137.2 USD/MWh for 20 years, respectively.[25] The prices seem very high, but may be explained with the nascent nature of the US industry and are in line with early subsidy prices in Europe. Post-2025 we calculate with the much lower wholesale electricity price of 33.7EUR, inflation-adjusted. The Taiwanese projects receive 1,381DKK and 561DKK in fixed feed-in tariffs, respectively.[26] The stark fall reinforces our view on wholesale pricing post-2025.

In the USA, there is currently in place an incentive scheme to support the development of onshore renewable sources, called production tax credits (PTC). In 2018, operators of wind farms got an incentive of 24$ per MWh in addition to the wholesale electricity price. This subsidy is then adjusted for annual inflation each year. Although this incentive scheme is successful in promoting the development and construction of onshore renewables, the US government is continuously discussing to let it expire. At this moment, projects which will be awarded after 2020, are not any more eligible for this incentive scheme. For this reason we calculate without subsidies for all new projects post-2020.

Load factor – There is currently only one US park in operation, Ørsted's small Block Island, with a 2-year average load factor of 48%. As this park is closer to the coast

[25] 4C Offshore, 2021, (database is in line with Ørsted data for European parks)
[26] Company information

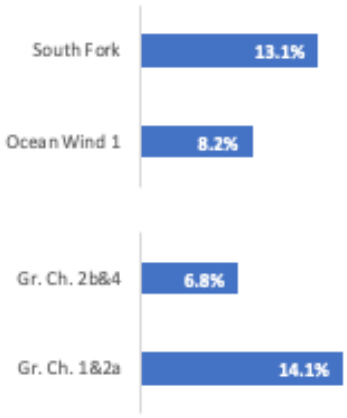


Exhibit 33 *– Estimated IRR values for selected US and Taiwanese parks (WACC = 5.2%)*
Source*: Valuation Model*

Sensitivity Data	Ocean Wind 1
CAPEX/MW	26.9
OPEX/MW	1.14
Subsidy Price	$76.22
Load Factor (%)	40.0%

Exhibit 34 *– Ceteris paribus break-even inputs; base assumptions: CAPEX/MW = 20m, OPEX/MW = 0.6m, Subsidy period price = 98.1USD, Load Factor = 50%*
Source*: Valuation Model – NPV wind park tables*

Sensitivity Data	Gr. Ch. 2b&4
CAPEX/MW	24.3
OPEX/MW	.94
Subsidy Price	467.18
Load Factor (%)	38.9%

Exhibit 35 *– Ceteris paribus break-even inputs; base assumptions: CAPEX/MW = 20m, OPEX/MW = 0.6m, Subsidy period price = 561DKK, Load Factor = 45%*
Source*: Valuation Model – NPV wind park tables*

with older turbine generations, Ocean Wind 1 will use new 12MW ones, we assume a load factor of 50% for the newly commissioned projects. For lack of a better value for Taiwan, we calculate with 45%, the global average as per IEA.

Exemplary profitability discussion of selected US and Taiwanese Projects - Based on our input assumptions above, Ørsted to operate US projects seems attractive on the revenue side, with high assumed load factors and above-wholesale prices for a long 20-year period. In terms of CAPEX one might estimate DKK/MW above European levels, in the upper region above 20m, due to an immature market and less regional experience. However, this is in our opinion offset by the use of 12MW turbines in the Ocean Wind 1 Project, which per our model creates relative savings of 24%. Therefore, we do assume a value of 20m DKK. This is also in line with Hornsea 1, which should feature similar geographic conditions as the US North-East focus region. By constructing a full cluster of five wind parks we believe they will be able to replicate an OPEX ecosystem similar to home and thus calculate with the European average, 0.6m, leading to a positive US IRR (see exhibit 33). We consider the risks generally limited, with significant buffer in all factors, but underline the importance of watching large-scale load factor data, as 40% is not an unreasonable figure and Ocean Wind 1 receives a high price (see exhibit 34).

For Taiwanese projects Greater Changhua 1&2a, turbine sizes do not offset the higher new-market CAPEX and we expect numbers in the upper 20m DKK. As per a press statement, Ørsted's first project in the region apparently requires expensive grid reinforcement not needed in Europe and, for OPEX, the set-up of support infrastructure and weather conditions strongly complicating activity. Here too we thus apply a value above European averages. However, per our analysis, the high and long subsidy price still makes Greater Changhua 1 very profitable (see exhibit 33). Greater Changhua 2&4b benefits from cluster synergies but receives only half the price making it much more dependent on cost reductions. If they do manage to achieve European levels in CAPEX and OPEX, then our model yields a slightly positive IRR 6.8%. We see high risk especially on the CAPEX side, as the break-even factor would still imply an improvement, only short of European levels.

DKKm	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Offshore Wind	17,091	18,531	21,282	24,033	25,090	27,170	30,982	30,942	33,031	35,154	37,311
Onshore	465	1,592	1,771	2,089	2,272	2,473	2,693	2,933	3,134	3,351	3,584

Exhibit 36 *– Full revenue development projection from operation of parks, all analyses above aggregated and inclusive of existing portfolio*
Source*: Valuation Model*

CAPEX Developments

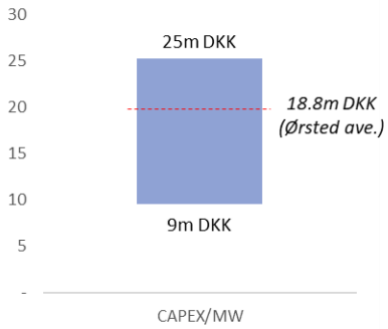


Exhibit 37 – *global range of minimum to average offshore park construction costs in DKKm/MW (blue) and Ørsted average from 2018 to 2020*
Source *for global: Offshore wind outlook 2019 – International Energy Agency (IEA)*

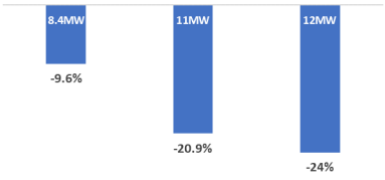


Exhibit 38 *– estimated savings from increased turbine size through fewer towers; assumptions: base turbine size 7MW, foundation costs (22.5%) decrease 1:1, installation costs (17.5%) decrease 1:1, turbine costs (35%) decrease 1:2*
Source *for cost weights: Offshore wind outlook 2019 – (IEA)*

mDKK	CAPEX/MW
2017	23.2
2018	21.8
2019	21.7
2020	13.0
2021	18.8
2022	18.4
2023	18.1
2024	17.7
2025	17.3
2026	16.9
2027	16.5
2028	16.1
2029	15.8
2030	15.0

Exhibit 39 *– calculated past and projected offshore wind CAPEX/MW factor until 2030*
Source*: Valuation model*

As analysed above, Ørsted's project profitability is very sensitive to initial capital expenditure (CAPEX). With respect to its development, we consider the CAPEX/MW ratio. To this end, we look at past Ørsted data, project PP&E items by linking the capacity projections above to production assets and assets under construction, consider the IEA forecast for the ratio's decrease until 2030, and analyze a CAPEX cost breakdown with respect to changes in turbine size, which we consequently see as the main downward driver.

To examine past CAPEX/MW values, we calculate the ratio between yearly additions in production assets and increase in generation capacity, which yields an average from 2018 to 2020 of 18.8m. This compares to the global average as per IEA of 25m (see exhibit 37); it is influenced by the 2020 low-CAPEX Borssele 1&2, without 2020 at 22.2m. We take the full value as historic basis, as the outlier is properly weighted and it is plausible that Ørsted with its market share enjoys a cost advantage. To link yearly capacity projections with the PP&E items, we distribute them in the commissioning year into production assets and reverse build up assets under construction over the respective two years before. We apply a linear key of 25%, 50%, and 25%, which assumes an average construction time of 2 years and an average start mid-year.

The IEA estimates the average ratio to fall below 16m by 2030.[27] We believe this is globally realistic. As seen above, new large offshore parks feature 12MW turbines, which we believe will eventually become overall standard on average. Considering the cost breakdown of CAPEX (see Appendix G, results in exhibit 38), we believe installation and foundations fully scale with number of towers, which decreases in proportion to the increase in turbine size. We further make the basic assumption that this effect can be transferred halfway also to turbine cost per MW, i.e. a larger turbine is still more expensive also per MW, but only halfway in proportion. This leads to 14.3m. Nevertheless, this may be countered by higher costs in new markets (seen above e.g. for USA/Taiwan) and construction farther out at sea, and what we expect to be a quite tight upper size limit constraining the average. On the other hand, further experience gains could provide more downward pressure. All in all we believe it to be realistic to calculate with slightly higher 15m DKK. As per our projections, Ørsted remains a very large player, warranting an expected cost advantage vs IEA in the future. We let the ratio fall linearly until 2030 (see exhibit 39). Onshore we keep steady at the first proper historic Ørsted value (2020), 6.5m, as the industry is mature.

[27] IEA, "Offshore wind outlook 2019", 2019

EBITDA Developments

In the following we briefly discuss how the above analysis of the key value drivers ties into revenue forecast, how we estimate and project into the future OPEX costs and thus EBITDA margin, and finally how we consider alternative revenue streams from constructions agreements and O&M contracts.

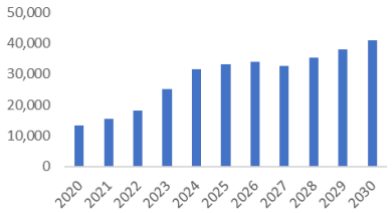


Exhibit 40 *– projected offshore wind EBITDA (DKKm) development (2020-2030)*
Source*: Valuation model*

The all-important *offshore revenue* is built from the generation capacity as projected per market, multiplied with the price projection per market, and with the load factor. Furthermore, subsidy structures are examined bottom-up per wind park and are phased out individually, which applies in the forecast period to older projects in Denmark and Germany (see e.g. exhibit 36, 2026 to 2027). We continue Ørsted's current practice to sell 50% of their share in offshore wind projects before starting construction. In addition to revenue from Sites, Ørsted as vertically integrated company benefits from being an EPC contractor and operator, considered below.

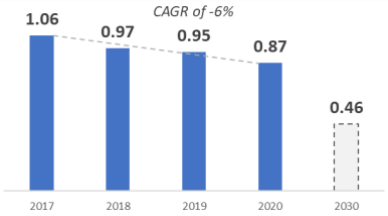


Exhibit 41 *– Offshore empl. costs and other ext. exp./MW (DKKm) development (2017-2030)*
Source*: Valuation model*

We estimate *OPEX/EBITDA* for the wind business by considering employee costs and other external expenses as basis. We calculate per MW, based on installed capacity as activity usually applies to non-owned park shares, too. As analysed above, we expect OPEX/MW to decrease significantly. That is because over the past 4 years OPEX/MW as estimated decreased by a CAGR of 6% a year (see exhibit 41). We continue this trend into the future as our base case, culminating in 0.46 for our model OPEX as defined. Applying the same CAGR to the direct OPEX ratio for the individual wind park as described above (on average 0.6m in 2020) that would lead to 0.3m in 2030. This can be compared to the ratio's IEA forecast for 2030;[28] ours is slightly more aggressive (0.4m). However, the IEA expects the same decrease afterwards to our level and we believe it is likely that Ørsted, with the scale and clustering analysed above, will be able to reach lower levels earlier than the global average – especially given the weight on Europe ahead of the curve. See exhibit 40 for our resultant offshore EBITDA projection.

As qualitative drivers for OPEX decrease, we see the use of fewer towers/turbines to operate and maintain as discussed above, the for Ørsted typical clustering of wind parks (e.g. in UK, Germany) allowing to use same employees for a large scope, and in general experience and equipment gains.

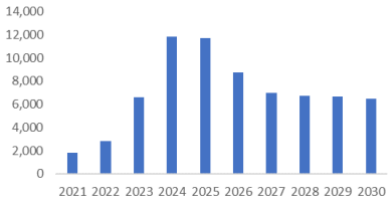


Exhibit 42 *– Gross profit from construction agreements for partners (DKKm) development (2021-2030)*
Source*: Valuation model*

In terms of revenue from *construction agreements*, Ørsted typically acts as EPC contractor for non-owned park shares. We calculate it backwards, projecting costs with our CAPEX/MW ratio and apply a premium based on historic average (40%, see Appendix E). See exhibit 42 for the resultant development. For *O&M revenues* we use the ratio to non-owned capacity and write it into the future. For the *markets*

[28] IEA, "Offshore wind outlook 2019", 2019

& bioenergy, we apply a constant projection of EBITDA since there is very little impetus to grow this business, as discussed in the markets section.

Performance Analysis

Ørsted Performance

Throughout the past five years, the gross profit margin, the EBITDA -, as well as the **EBIT - margin** have increased at a CAGR of 9%, 7%, and 1%, respectively, which gives a first indication of the profitability and growth of the core business. Significantly, the core gross profit margin has increased marginally from 34% in '16A to 49% in '20A, which reflects how much of each dollar in revenue is left over after both costs of goods sold and operating expenses are considered. The core EBIT margin was moving in line with the gross profit margin and was stable over the past five years from 13% in '16A to 13% in '20A (Exhibit 43).

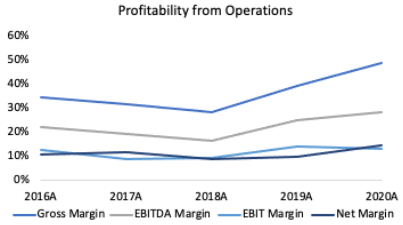


***Exhibit 43**: Profitability Performance*
***Source:** Company Information*

Key Financials	2017A	2018A	2019A
Benchmark			
EBITDA Margin	43%	43%	43%
EBIT Margin	24%	23%	25%
CAPEX/ Revenue	47%	33%	71%
ROA	4%	4%	4%
Ørsted			
EBITDA Margin	20%	18%	26%
EBIT Margin	10%	10%	17%
CAPEX/ Revenue	29%	19%	32%
ROA	4%	3%	3%

***Exhibit 44**: Key Financials Renewable Peers*
***Source:** Capital IQ*

Its group **EBITDA margin** was 26% in '19A compared to its peer 43% '19A (only comparing within the renewable industry, as Ørsted core business operates only within the industry), to conclude, we can say that Ørsted operates highly profitable with its core business but including its non-core business, it still needs improvement compared with its peer. Additionally, Ørsted's group EBIT margin was 17% in '19A, indicating that the Core Business drives the company's performance. Compared to the peer group average of 25% in '19A (Exhibit 44 – detailed table in Appendix C), we determine that Ørsted is operating within the average of its peers in the renewable industry. However, Ørsted exhibits higher Depreciation and Amortisation, as a result of its ownership of wind parks and biofuels assets. Moreover, Ørsted is already planning to divest various projects or shares thereof as a rule and has been cutting costs over the previous years and into future, as mentioned before.

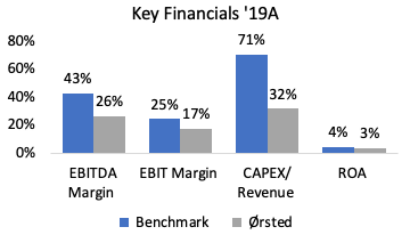


***Exhibit 45**: Financials Renewables Peer '19A*
***Source:** Capital IQ*

Asset Turnover has decreased significantly up to 41% in '20A over the last five years due to an increase in invested capital overproportionate to the growth in revenue, as mentioned in the previous chapter (CAPEX development) mainly driven by PP&E growth offshore. Nevertheless, Return on Assets (ROA) was stable over the last years at 3% and is in line with its peers (Exhibit 44 and 45) and the norm of the utility sector. While Ørsted needs improvement in Asset Turnover, we see it considering strong expansion, which will give it a future higher return as operational phases for its projects start worldwide. As will be explained under CAPEX development, assets are already increased through construction, which distorts the turnover in expansion phases.

Benchmark	2017A	2018A	2019A
Average collecting period*	80	103	86
Average inventory holding period *	25	29	27
Average payable period *	62	74	52
Average Cash Conversion Cycle	**43**	**57**	**61**

* excl. Solaria Energia and Acciona S.A

Ørsted	2017A	2018A	2019A
Collection period	146	88	75
Inventory holding period	35	94	120
Payable period	103	88	92
Cash Conversion Cycle	**77**	**93**	**102**

***Exhibit 46**: Figures Cash Conversion Cycle*
***source:** Capital IQ*

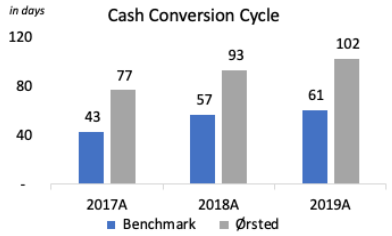


***Exhibit 47:** Cash Conversion Cycle*
***Source**: Capital IQ*

Major Holders	
% of Shares Held by All Insider	0.05
% of Shares Held by Institutions	83.5
% of Float Held by Institutions	61.3
Number of Instiutions Holding Shares	752

Major Holder
***source:** Bloomberg*

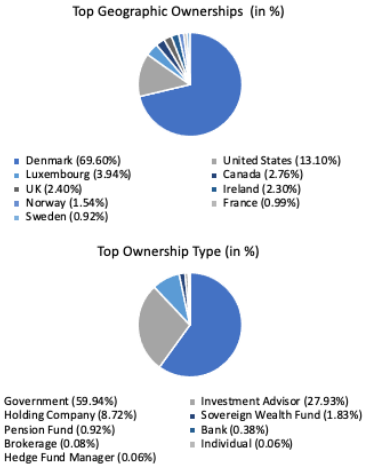


***Exhibit 48:** Ownership Distribution*
***Source:** Bloomberg*

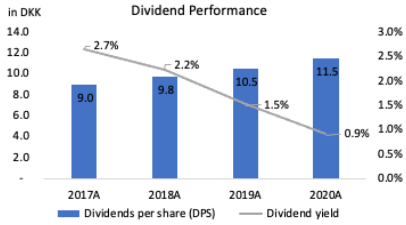


***Exhibit 49**: Dividend Performance*
***Source**: Company Information*

Ørsted was not able to decrease its **Cash Conversion Cycle (CCC)** over the years. Instead, the CCC increased significantly over the years, driven by an increase in the average holding period from 35 days in '16A to 120 days in '19A, as Ørsted stocked up inventory such as the construction of offshore transmission assets in the UK until they will be divested and generate cash. Additionally, it includes storage for its gas and its CHP plants. Compared with peers (27 days in '19A - Exhibit 46), this implies the company is investing long-term. Further, the company could lower its payable period to 92 compared to peers 52 in '19A, which shows the high payments from partners and divestments. In total, the CCC increased up to 102 days in '19A. However, as seen in the table (Exhibit 47), the company's holding period is above its peer group, which indicates it can still improve within the period, although, the company has already started with divestements. Moreover, the company is already using contract assets/ liabilities to use it for construction of offshore farms, which are only owned by 50% and for prepayments from heat customers, which will increase already its average payable period. The insensitivity of CAPEX is also shown within the increase of the ratio CAPEX / Revenues, from 29% in '17A to 32% in '19A, reflecting the fast growth pace.

- Share Structure and Price Performance

Ørsted is majority-owner with 50.12% by the Danish State, followed by insitutional investors Andel AMBA (increase to 5% due the acquisition of its Danish power distribution), The Capital Group (5-10%) and other institutional investors from Denmark (6%). The rest is spread trough North America, the UK and other countries (Exhibit 48). The increasing trend of Environmental, Social, and Governance (ESG) factors and impact investing is prompting big global investment managers as well as active investors to invest in Ørsted. Ørsted was awarded the most sustainable energy company in the world in the Corporate Knights Global 100 Index.

Share price performance over the past years was continually increasing, currently trading at DDK 883 as compared to DKK 255 in '16A (IPO), underscoring the sentiment that Ørsted is an attractive utility company with high future potential. That is reinforced through Ørsted being very open about to new potential for its business, e.g., through hydrogen. The dividend yielded a return of 34% in '20A, and growth in the share price of 81% and DKK 11.5 dividends per share (vs 10.5 per share in '19A). Ørsted highest traded price was at DKK 1,273 on 29 December 2020. As seen in the graph comparing its peers, Ørsted recovered more forcefully from Covid-19 (Exhibit 50– Ørsted red line). Covid-19 has a small impact beginning of April, as the market is in total volatile. However, the utility industry recovered quickly, likely driven by it being less affected as an essential business for the economy, reflected in the low Beta (<1.0). Additionally, the industry is not a seasonal business and

Exhibit 50: *Share Price Performance*
Source: *Euroland.com*

highly regulated in nature, therefore a typical long-term holding for investors.

Peer Performance

We separate the top companies within the sector between renewable, integrated, and regulated (detailed description: Appendix D). Integrated companies are companies operating in every level of the supply chain: generation, transmission, and distribution. Regulated companies are defined as owned and thus tightly controlled by the government.

Ørsted is part of all three segments, as reflected above description. For analyzing Ørsted position within its peers, we run an analysis depending on (I) LTM P/E ratio and EPS CAGR and (II) LTM EV/EBITDA and EBITDA CAGR, both over the last three years. Ørsted is illustrated in red. We decided to use the two ratios to analyze the growth of the peer group as well as the profitability and stability of each company. Additionally, we are comparing Ørsted to its main peer evaluating EBITDA Margin, EV as well as ROIC (based on Capital IQ data).

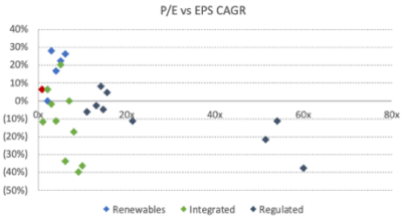


Exhibit 51: *P/E vs EPS CAGR*
source: *Capital IQ*

Illustrated in (I), all comparable are relatively placed with **a P/E ratio** between 0x and 10x (mostly integrated and renewables comps) and partly related with a negative **EPS CAGR** (integrated comps) and median CAGR around 24.4% (renewables comps). The mentioned scatter reflects a division within the utility sector, as the regulated comps, exhibit a higher P/E ratio (≥ 11x) with negative EPS CAGR of median -6.2% (Exhibit 51). However, Ørsted has rather a high P/E (27.8x) with a positive CAGR of 6.2%, potentially based on the decrease of production works on wind farms for partners and ominously lower gas and power prices over the past years. While the high P/E ratio is above average, Ørsted is below average with its EPS CAGR (6.2% vs peer 24.4%). This leads to the reason for the P/E ratio split within the utility sector vs regulated, as renewables are more capital intensive than their peers, based on currently high expansion CAPEX (wind parks, solar panels) and result in higher leverage than traditional utility peers. Nevertheless, this is likely to change in the long run, as investment needs to be done at the beginning of the operations/construction phase and will heavily decrease once the operational phase of more than 10 years.

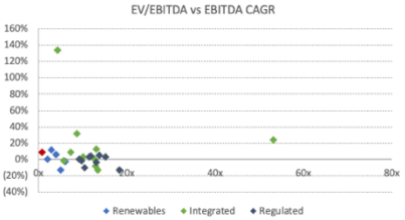


Exhibit 52: *EV/EBITDA vs EBITDA CAGR*
Source: *Capital IQ*

By analyzing Ørsted **LTM EV/EBITDA** (27.5x) with a CAGR of 8.5% compared to its peer group (renewables only) median EV/EBITDA of 15.1x and **EBITDA CAGR** of 1.5%, we can drastically see that the company has a higher enterprise value (DKK 434.427 vs peer's median DKK 180.226) based on a higher market cap of DKK 420.488 vs peer's median of DKK 138.278. Additionally, with a higher growth in EBITDA over the last three years of 8.5% (vs peer's median of 1.5%), which leads to a slightly higher EV/EBITDA multiple. Concludes as well that Ørsted is receiving

currently high subsidies for its wind projects, and therefore not demanding on the current market of power prices and has stable revenues, consequently, its revenue is not sensitive to the market. The multiple illustrates the way of Ørsted' operations and development of changing its focus at the right moment towards renewables and building on the opportunities and always eager to be more innovative and be the first with new technologies such as new hydrogen project in cooperation with Norway. Additionally, the industry is less impacted by Covid-19, as it always is essential for the population, which causes the multiple to be higher than other industries, due to lower capital cost and lower unemployment. Although the company's EBITDA growth seems like a small increase, we must note the comparison with peer's median– renewables (1.5%) and integrated (18.7%) and the main competitor EDP only achieved with its renewable business (-3.0%) and main business (0.5%). The overall EBITDA growth includes two outliers – RWE (133.7%) and e-on (31.4%)[29], which is based on RWE's high other operating expenses in 2020 including other operating income. However, the adjusted EBITDA by RWE does not show a CAGR of 133.7% instead of 28%, which is influenced by the expansion of the new business unit "renewable – offshore wind".[30]

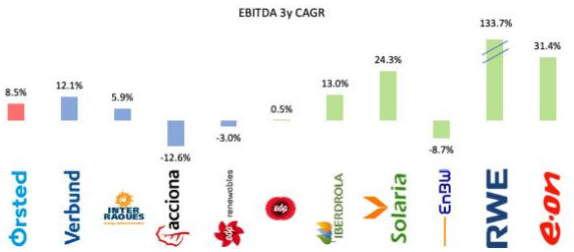


Exhibit 53: *source: Capital IQ*

Additionally, we are evaluating some operating metrics: (I) EBITDA based on the 2020 data Capital IQ. By looking at the EBITDA margin, Ørsted is clearly in line with its peers with a margin of 30.2%, only 4 out of 11 have a margin ≥ 30.2%: Verbund (38.7%), edp renewables (65.6%), RWE (30.4%), and Solaria (73.7%). Comparing its margin per classification, the median EBITDA margin of "renewables" is 25.0% (detailed analysis previous chapter "Ørsted Performance"), of "integrated" is 24.2% and of "regulated" is 62.1%.[31] As mentioned before, this indicates upside potential, however, it is still above the median.

[29] Capital IQ
[30] RWE, "Annual Report 2020", 2020
[31] Capital IQ

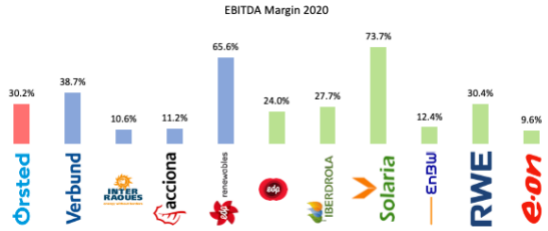


Exhibit 54: *source: Capital IQ*

Furthermore, another interesting feature to deliberate on is the difference in size between the competitors. Using data by Capital IQ, as well as the EV calculation of Ørsted to give us a first impression, only one peer – Iberdrola (DKK 903.583) is outperforming in size of EV, influenced by the high amount debt (~ DKK 302.844). In conclusion, we will give the company less weight in the relative valuation.[32]

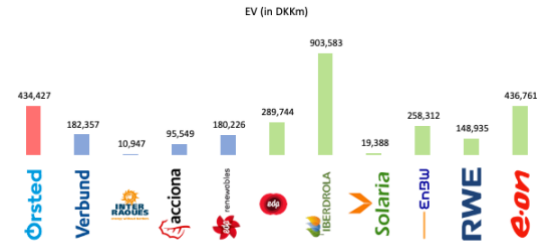


Exhibit 55: *source: Capital IQ*

Setting the ROIC in comparison with its peers, we can observe that Ørsted is in line with an ROIC of 3.8%. Only three outliers – Verbund (6.9%), Public Joint Stock Company Inter Rao UES (7.7%), and RWE (7.7%).[33] The ROIC shows a median of 3.9% within all three classifications. This, however, strengthens the case that we should only take renewables as well as integrated under consideration for further valuation, looking at EBITDA growth, as well as EV (median "regulated" of DKK 106.511).

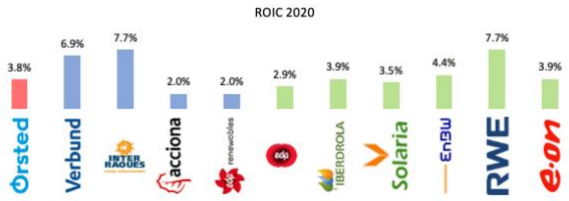


Exhibit 56: *source: Capital IQ*

[32] Capital IQ, 2021
[33] Capital IQ

Valuation

The current share price of Ørsted is stated at DKK 883.20 (19 May 2021).[34] To derive a fair value of Ørsted listed shares, we focus on the intrinsic valuation methodology – Discounted Cash Flow (DCF) while also considering comparable trading multiples. The valuation based on a DCF analysis targets a share price of DKK 1,037.83 (EUR 22.24) in 2021. The relative valuation established on Ørsted historical and competitor multiples shows a target price range between [DKK1,037.83 – DKK 1,032.13].

Intrinsic Valuation (DCF)

The Discounted Cash Flow (DCF) indicates an in-depth evaluation of the unlevered free cash flow to the firm forecasted for the next upcoming years between 2021 and 2030 and the terminal value. The Enterprise Value for Ørsted is derived from its reformulated Income Statement and Balance Sheet into Core Free Cash Flow (operating activities). It was taken into consideration the change of CAPEX and Net Working Capital and its Non-Core Free Cash Flow (non-operating activities). For evaluating the company, we need to talk about various discount rates into account to derive the opportunity cost of capital – illustration of the expected return for equity and debt holder of Ørsted.

- Cost of Equity

For the estimation of cost of equity, we determine an applicable **cost of equity of 5.67%** in 2020.

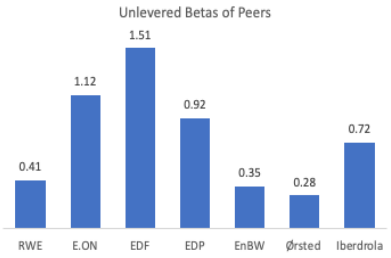


Exhibit 57: *Unlevered Betas of Peers*
Source: *Bloomberg*

For the estimation of cost of equity, we applied CAPM (for resulting Ru), and the calculation of unlevered beta, ßu, corresponding D/E ratio, and its peer group based on historical betas. For the calculation of $ß_U$, we run a regression and unlever the levered betas of the closest comparables (Exhibit 57). Therefore, we relever the median by using the median capital structure of peers, and additionally, use the regression over the past betas of each peer company over the last five years, simulating the proposed optimal capital structure. We receive an **unlevered Beta $ß_U$ of 0.28** for Ørsted, whereas the peers are having a higher $ß_U$ with a median of 0.82. In comparison, the lower $ß_U$ measures the market risk of Ørsted without the impact of debt. As mentioned in previous chapters, indicating Ørsted is less sensitive to cyclical market risk as well as having a Debt / Equity ratio of 10.03% median peer Debt / Equity ratio of 71.42%, based on the higher market cap as its peer, slightly influenced by the high subsidies Ørsted is receiving for its Offshore

[34] Bloomberg, 2021

and Onshore business units. Additionally, looking into levered beta ße of 0.797 Ørsted, which includes debt, it is still lower than the median of its peer, 0.80, as Ørsted has a relatively low Debt / Enterprise ratio of 9.12%.

Secondly, we challenge our analysis and consult other sources. NYU data source suggests a ße of 0.74 and ßU of 0.48 and Bloomberg provides a ße of 0.95, which corresponds to ßU of 0.88.[35] After taking all the analysis under consideration, we decide for **ßU of 0.72**. Regarding the Market Risk Premium of 7.16%, we used the market return of the Denmark national bank of 7.19%, which stays stable over the forecasted periods. Additionally, we assume a Risk-Free rate of 0.04%, as given by the current 10-year Denmark government bond.[36]

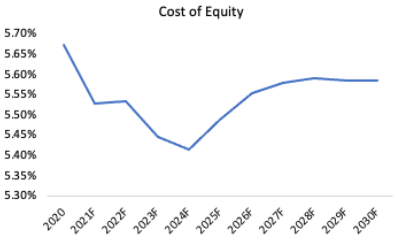


Exhibit 58: *Cost of Equity*
Source*: Valuation Model*

Consequently, as the forecast is not having a constant capital structure (2021 – 2030), the cost of equity is shifting over the period built on the implicit Net Debt / Equity ratio (detailed view in the following chapter "WACC"). In 2021, **the cost of equity is 5.53%**, while it is **5.58% for the final forecasted year 2030** (Exhibit 58).[37] Further sensitivity analysis is conducted on the cost of equity in the next chapter.

- Cost of Debt

For the estimation of the cost of debt, we refer to the average expected return for debtholders of Ørsted, to determine an applicable **cost of debt at 0.24%**.[38]

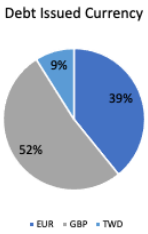


Exhibit 59: *Debt Currency*
Source: *Company Information*

Currently, Ørsted is rated according to **Moody's (Baa1) and S&P (BBB+) with a stable outlook**. This is supported by (I) the meaningful impact form long-term contracted cash flows under generally foreseeable and well-established regulatory regimes, (II) growing international diversification of Ørsted's operations, and (III) growing experience as one of the world's leading offshore wind developer with a fast-growing portfolio of offshore wind assets.[39] Additionally, Ørsted is owned 50.2% by the Government of Denmark; therefore, it will be considered as a government issuer. The stability of the outlook illustrates that rating agencies expect that the company will continue financial metrics in line with guidance for the current rating.

According to Moody's a corporate bond with Baa1 and a stable outlook corresponds to a probability of default of 6.05% and loss given default of 34.2%.[40] The calculation of the cost of debt was approached by one methodology based on the average weighted yield of maturity. We used an average weighted yield of the bond issued 2020 by Ørsted (based on the principal) and adjusted it with the mentioned probability of default and loss given default. We determined the **cost of debt of**

[35] NYU Stern, 2021 and Bloomberg, 2021
[36] Bloomberg, 2021
[37] Valuation Model, 2021
[38] Valuation Model, 2021
[39] Moody's, "Rating Action", 2020
[40] Moody's, "Moody's Investor Service Annual Default Study", 2021

0.24%.

Furthermore, we wanted to take the potential up-/ downgrades of the rating agencies under consideration. Therefore, we performed a sensitivity analysis of the various components such as the probability of default and loss given default done based by Moody's. For the optimistic scenario, the company **develops to A3**, the cost of debt **reduces to 0.23%.** In a pessimistic scenario, Ørsted rating **worsening to Baa2**, the cost of debt **increases to 0.27%.** Secondly, we analyze the impact of the increase/decrease of ßU based on the following cost of debt analysis, where we are receiving a cost of equity range [4.90% - 6.45%]. The two analyses impact the WACC with a range of [4.47% - 5.88%] (detailed matrix following chapter). [41]

		Probability of Default						
	Rd	5.15%	5.45%	5.45%	6.05%	6.46%	6.86%	7.27%
Loss of given Default	19.2%	0.23%	0.20%	0.20%	0.16%	0.13%	0.09%	0.06%
	24.2%	0.25%	0.23%	0.23%	0.19%	0.16%	0.13%	0.10%
	29.2%	0.28%	0.26%	0.26%	0.22%	0.19%	0.16%	0.13%
	34.2%	0.30%	0.28%	0.28%	0.24%	0.22%	0.19%	0.17%
	39.2%	0.33%	0.31%	0.31%	0.27%	0.25%	0.23%	0.20%
	44.2%	0.35%	0.34%	0.34%	0.30%	0.28%	0.26%	0.24%
	49.2%	0.38%	0.36%	0.36%	0.33%	0.31%	0.29%	0.27%

Exhibit 60: *source: Valuation Model, Moodys*

	0.43	0.55	0.67	0.80	0.92	1.05	1.17
	Unlevered Equity Beta						
Re	0.619	0.652	0.685	0.719	0.752	0.785	0.819
0.06%	4.90%	5.17%	5.43%	5.69%	5.95%	6.22%	6.48%
0.13%	4.90%	5.16%	5.42%	5.68%	5.95%	6.21%	6.47%
0.19%	4.89%	5.15%	5.42%	5.68%	5.94%	6.20%	6.47%
0.24%	4.89%	5.15%	5.41%	5.67%	5.94%	6.20%	6.46%
0.31%	4.88%	5.14%	5.40%	5.67%	5.93%	6.19%	6.45%
0.34%	4.88%	5.14%	5.40%	5.66%	5.93%	6.19%	6.45%
0.38%	4.87%	5.13%	5.40%	5.66%	5.92%	6.18%	6.45%

Exhibit 61: *Source: Valuation Model*

- Weighted Cost of Capital (WACC)

For the calculation of WACC, we apply the capital asset pricing model (CAPM). As mentioned before, we calculated the WACC for the previous years based on historically reported data until 2020. For the forecasted period, we calculated a new WACC each year as the opportunity costs and capital structure of the firm will change over the years. The market risk premium, risk-free rate, and the cost of debt are not expected to change over the years. Influenced by the capital structure of the firm (D/E ratio), which will decrease, ranging [10.03% - 8.24%] correspondingly, the WACC is predictably built on the cost of equity of 5.67%, cost of debt of 0.24%, and the implicit D/E of 10.03%. Consequently, we establish a **WACC of 5.17%.**[42]

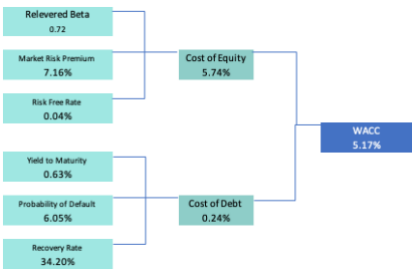


Exhibit 62: *Disposition WACC*
Source: *Valuation Model*

	2020	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F
Tax Rate	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%
Ru	5.18%	5.18%	5.18%	5.18%	5.18%	5.18%	5.18%	5.18%	5.18%	5.18%	5.18%
Re	0.797	0.77	0.78	0.76	0.76	0.77	0.78	0.78	0.78	0.78	0.78
Rd	0.24%	0.24%	0.24%	0.24%	0.24%	0.24%	0.24%	0.24%	0.24%	0.24%	0.24%
Re (implicit)	5.67%	5.53%	5.53%	5.45%	5.42%	5.49%	5.55%	5.58%	5.59%	5.58%	5.58%
D/EV (implicit)	9.12%	6.66%	6.73%	5.15%	4.61%	5.94%	7.09%	7.54%	7.71%	7.61%	7.61%
E/EV (implicit)	90.88%	93.34%	93.27%	94.85%	95.39%	94.06%	92.91%	92.46%	92.29%	92.39%	92.39%
D/E (implicit)	10.03%	7.13%	7.21%	5.43%	4.84%	6.32%	7.63%	8.16%	8.35%	8.24%	8.24%
WACC	5.173%	5.175%	5.175%	5.175%	5.176%	5.175%	5.174%	5.174%	5.174%	5.174%	5.174%

[41] Valuation Model, 2021
[42] Valuation Model, 2021

		Cost of Equity						
	WACC	4.90%	5.16%	5.42%	5.67%	5.93%	6.19%	6.45%
Cost of Debt	0.23%	4.473%	4.706%	4.939%	5.172%	5.405%	5.641%	5.875%
	0.23%	4.473%	4.706%	4.939%	5.172%	5.405%	5.641%	5.876%
	0.26%	4.475%	4.708%	4.941%	5.174%	5.407%	5.643%	5.878%
	0.24%	4.474%	4.707%	4.940%	5.173%	5.406%	5.642%	5.877%
	0.25%	4.475%	4.707%	4.940%	5.174%	5.406%	5.642%	5.877%
	0.26%	4.475%	4.708%	4.941%	5.174%	5.407%	5.643%	5.878%
	0.27%	4.476%	4.709%	4.942%	5.175%	5.408%	5.644%	5.879%

	WACC						
Target Price (DKK)	4.47%	4.71%	4.94%	5.17%	5.41%	5.64%	5.88%
	1,682	1,405	1,203	1,053	935	839	761

Exhibit 63: *source: Valuation Model*

- Terminal Value

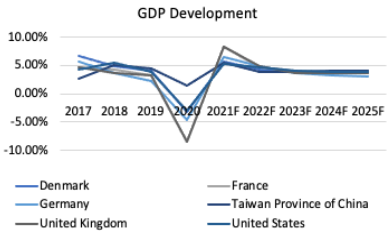


Exhibit 64: *GDP Development*
Source: *IMF*

To estimate the terminal value, we need four critical components. The NOPLAT for the period 2030, the perpetuity growth rate, return on new invested Capital (RONIC), and WACC. The main challenges, which include the high and volatile CAPEX as well as the growth rate (ROIC x RR), will be addressed further. The high CAPEX was diversified for the years starting in 2025, influenced by installed capacity generalized timing-wise for new projects. Based on the model, the growth rate (ROIC x RR) is at 7.16% in 2030. For the calculation of the terminal value, we used an adjusted **growth rate of 3.27%.**[43] In our opinion, the optimal way to estimate the terminal growth rate is to analyze GDP growth in which country Ørsted is operating, and the sector weighted contribution to the GDP of the world. We are not using the historical growth rate, as the company, as well as its industry, is growing fast.

Furthermore, the company is, compared to peers, still geographically concentrated, and therefore has high capital expenditure to extend its business into the various markets. Based on these conditions, we decided to estimate the continuing growth rate by the nominal world GDP of 4.96% (Exhibit 64) and the sector weighted contribution to the GDP in 2021 of 0.24% and 2030 of 0.22%.[44] As a result, we determine a **growth rate of 3.27%.** We also consult additional sources by Bloomberg, Deloitte, and fnfresearch, who recommend a CAGR for the renewable market of around 6.2%.[45] As the sector is growing significantly, we also perform a sensitivity analysis based on the impact of the sector weight and RONIC [0.21% - 0.24%] and [17.1% - 20.1%] respectively, receiving a terminal value range of [DDK 437,427 – DKK 2,286,071]. As a result, with a growth rate of 3.27% and RONIC of 18.58%, we determine a continuing value of **DKK 707,136** with a Target Price range of [DKK 631– DDK 3,422].

[43] Valuation Model, 2021
[44] International Monetary Fund, "Outlook", 2021
[45] Bloomberg, Deloitte, "2021 renewable energy industry outlook", and fnfresearch, "Industry insights", 2021

		Sector weight 2025						
		0.21%	0.21%	0.22%	0.22%	0.23%	0.23%	0.24%
		Sector weighted growth rate						
	TV 2029	1.8%	2.3%	2.8%	3.3%	3.7%	4.2%	4.6%
RONIC	17.1%	437,427	495,654	575,961	693,885	883,997	1,241,948	2,166,018
	17.6%	438,927	497,874	579,173	698,553	891,014	1,253,387	2,188,872
	18.1%	440,345	499,971	582,207	702,963	897,643	1,264,193	2,210,462
	18.6%	441,686	501,955	585,078	**707,136**	903,915	1,274,418	2,230,890
	19.1%	442,957	503,835	587,798	711,091	909,858	1,284,107	2,250,247
	19.6%	444,163	505,619	590,380	714,843	915,498	1,293,301	2,268,617
	20.1%	445,309	507,314	592,833	718,408	920,858	1,302,037	2,286,071

	Sector weighted growth rate						
Target Price (DKK)	1.8%	2.3%	2.8%	3.3%	3.7%	4.2%	4.6%
	631	722	849	1,038	1,344	1,923	3,422

Exhibit 65: *source: Valuation Model, International Monetary Fund*

- Enterprise Value

Since we now have determined all significant input values for Ørsted's enterprise value, based on the unlevered FCF discounted by the mentioned WACC, we get to a **levered enterprise value** of **DKK 477,929**. For the enterprise to equity bridge, we deduct non-core invested capital of DKK 9,821 and Financial Assets of DKK 31,823 (Net Financial Debt – Excess Cash (DKK 7,903), Hybrid Capital (DKK 13,232), and Non-Controlling Interest (2,721) and Tax equity liabilities (7,967)), and finally get to an **equity value** of **DKK 436,285**. Ultimately, to estimate the target price, we divide the market value of equity by the number of shares outstanding of Ørsted #420M and get a Target Price of **DKK 1,037.83** (EUR 22.24) with a **total shareholder return of 19%** and the recommendation of **BUY**.

Relative Valuation

For the multiple methodologies (detailed list in Appendix D), Ørsted's historical multiples as well as of its peers are analyzed (chapter "Performance analysis"). The most suitable multiple EV/EBITDA '21E, merged with the financial forecasted figures by us, provides a target price of DKK 1,032.13 (EUR 21.48) with the range of [DKK 319.97 – DKK 1,127.79] and a total shareholder return of 18%, which is in line with the **BUY** recommendation of the DCF valuation.[46]

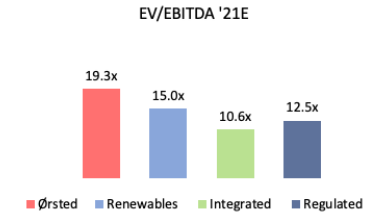


Exhibit 66: *EV/EBITDA Estimates*
Source: *Capital IQ*

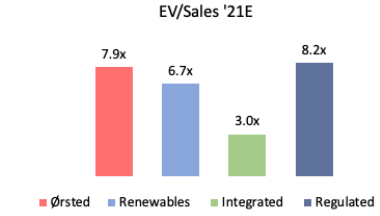


Exhibit 67*: EV/Sales Estimates*
Source: *Capital IQ*

For this approach, we believe the forward-looking multiples are the most relevant (Exhibit 66, 67, 68). Observing on the left, Ørsted outperforms in all three multiples compared with its peer groups, and the renewable group is outperforming in two out of three multiples. By analyzing the multiple ranges for the selected peers, we derive an EV/Sales range between [1.4x – 23.6x], leading to a target price of [DKK 188.60 – 3,127.85]. Secondly, the EV/EBIT multiple results in a range between [13.8x – 32.0x] and the P/E multiple in a wide range between [13.9x – 56.4x]. As concluded and argued before, we do not take P/E and EV/EBIT multiples under consideration.

We decided that the EV/EBITDA multiple is the most appropriate one, as it best

[46] Valuation Model, 2021

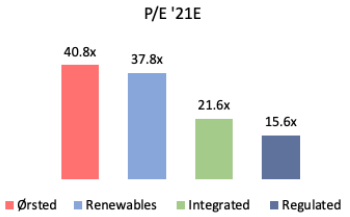


Exhibit 68: *P/E Estimates*
Source: *Capital IQ*

reflects the operating part of Ørsted. Merging the choice of the peers with an assigned weight given, based on its historical performance and forward-looking estimates, leads to an EV/EBITDA 2021 of 21.8x for Ørsted, a **target price of DKK 1,032.13,** and a total **shareholder return of 18%.**

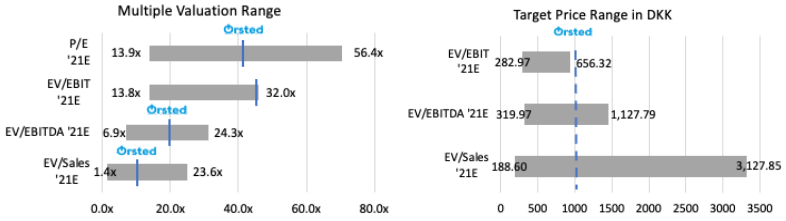


Exhibit 69: *source: Capital IQ, Valuation Model*

Scenario Analysis

Market shares – increase of competition

EU Oil majors	Low Carbon Investments	o/w offshore	Renewable capacity (in GW) 2025	2030
BP	$5bn	tbd	20	50
Total	$2bn	tbd	25	tbd
Shell	$2bn	tbd	tbd	tbd
Equinor	$1bn	tbd	6	16
Total	$10bn	tbd	51	66
Total EU Market w/o Oil			42	71
o/w Orsted			9.92	18
Total EU Market			93	137
Market Share w/o Oil			*24%*	*26%*
Market Share w Oil			*11%*	*13%*

Exhibit 70*:*
source*: Valuation Model and Global Data Global data - Webinar: From Oil to Energy: IOC Strategies for the Energy Transition*

At the beginning of 2020 Larry Fink, the CEO of the world's largest asset management firm, wrote that Blackrock urges firms to focus on sustainable long-term strategies, namely in accord with the goal of the Paris agreement. In our opinion, this statement shows the pressure on oil firms' business model and will potentially accelerate their shift towards renewables in the next years; oil firms such as BP and Equinor already contemplate and plan double-digit GW investment – risking a potential decrease in available capacities for Ørsted (see exhibit 71).

To judge the effect, we sum the targeted offshore wind investment by oil majors based on information from Global Data and adjust the market share for Ørsted accordingly, under the assumption that the firms muscle their way into the market and reach capacity targets. We see this as plausible because they can afford negative direct returns if it helps them with other assets, such as distribution networks and natural gas for hydrogen production. We focus on Europe, as European majors have shown so far much more interest in renewables and any main impact on Ørsted would have to come from here. As can be seen in exhibit 70, however, the effect is relatively limited. One reason for this is in our view the time frame for Big Oil investment, which impact the post-2025 period in which returns are constrained by the phase-out of subsidy structures. Furthermore, the market is in that time expected to be very large anyways and as seen above, Ørsted runs a strong clustering strategy. This is e.g. embodied in our forecasted pursuit of only 10% of Rest of Europe, literally leaving space for Big Oil.

	Market Share						
	4%	11%	17%	24%	30%	37%	43%
Target Price	**996.52**	**997.35**	**998.52**	**1041.76**	**1000.52**	**1002.28**	**1001.71**
Avg. Additional IC in EU	1.23	1.35	1.49	1.67	1.84	2.05	2.23
NOPLAT '30E	15,673	15,583	16,109	16,407	16,697	17,112	17,382
Additional/Less FCF	17,750	8,435	(3,525)	-	(31,972)	(49,411)	(64,753)
Sum CAPEX	(227,901)	(240,060)	(255,613)	(244,097)	(293,020)	(315,667)	(336,711)

***Exhibit 71**: source: Valuation Model*

Operational Expenses

Based on the previous chapter (EBITDA Development), we analyzed the impact of the OPEX costs on the target price. After our research, we saw the potential of cost cutting within the offshore business unit. In a good state, we assumed an annual decrease per capacity / MW of 6% based on the CAGR (2017 – 2020). Our analysis depends on the annual decrease / increase of capacity / MW and the average DKK / MW. For the optimistic case of annual decrease (13.8%) and an average DKK/MW 0.42, it led to a target price of DKK 1,521.61. For the more pessimistic case of an annual increase (1.2%) and average DKK/MW 0.94, which leads to a target price of DKK 71.32, in which case, however, the capacity would of course not be grown in this way.

	DKK per capacity / MW						
	-13.8%	-11.3%	-8.8%	-6.3%	-3.8%	-1.3%	1.2%
Target Price	**1521.61**	**1397.15**	**1238.65**	**1037.83**	**784.73**	**467.35**	**71.32**
Sum OPEX	(57,351)	(67,176)	(78,832)	(92,655)	(109,035)	(128,428)	(151,362)
Average Capacity/MW	0.42	0.48	0.55	0.62	0.71	0.82	0.94

***Exhibit 71 -** source: Valuation Model*

We see, that Ørsted will be able to cut its operational costs in the future, based on the development of larger turbines, project scale materializing in parks and using existing port infrastructure. Additionally, competitive auctions will reduce contract prices, future liabilities and cost to consumer, as seen in the previous scenario analysis (details – chapter EBITDA development).

Subsidy and inflation rate

As Ørsted operates within in the renewable market, it receives currently subsidies by the government for new projects – detailed description in Key Value Drivers. For our valuation, we assumed no further subsidies starting in 2025 (pessimistic case in the scenario analysis). After 2025, we used the market price forecast plus each inflation rate of the various markets, in which Ørsted is operating. For the scenario analysis, we took the average market price including average inflation rate of each market and analyzed the impact of subsidies after 2025. As we are using the average market price for the analysis, we will see some discrepancy compared to the target price of DKK 1,037.83.

For the most optimistic case, we assumed an additional subsidy of 30% for each new project and an average inflation rate of 2.3%. Resulting a target price of DKK 1,170.44. The base case for the analysis is based on an additional subsidy of 20% for each project and an average inflation rate of 1.5%, which will lead us to a target price of DKK 1,099.49.

	Subsidy						
	0%	7%	13%	20%	23%	27%	30%
Target Price	972.61	1011.50	1055.39	1099.49	1123.04	1146.69	1170.44
Additional Revenue	-	10,063	10,704	11,349	11,693	12,038	12,385

Exhibit 72 - *source: Valuation Model*

Based on our analysis, we are able to conclude that subsidies in the future will not impact the target price of Ørsted highly. As seen above, many of the projects planned right now that will make up much of future capacity are already strongly approaching wholesale levels and the wholesale price itself will increase over time based on the forecast and an average annual inflation rate of 1.5%, implying that as the share of wholesale pricing increases it becomes less critical.[47] [48]

[47] Bloomberg, 2021
[48] OECD, "Inflation Forecast", 2021

Appendix

Appendix A - Financial Statements

- Reformulated Balance Sheet

BALANCE SHEET						Forecast Period									
DDKm	2016A	2017A	2018A	2019A	2020A	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	CAGR (2021-30)
Core Invested Capital																
Intangibles and property, plant and equipment	71,137	76,534	84,832	106,685	122,249	123,815	128,256	136,686	153,978	170,779	183,353	194,268	203,625	211,939	218,765	6.53%
growth rate (%)		*8%*	*11%*	*26%*	*15%*	*1%*	*4%*	*7%*	*13%*	*11%*	*7%*	*6%*	*5%*	*4%*	*3%*	
PP&E	68,239	73,931	82,744	100,184	115,529	118,486	122,852	131,144	148,600	165,221	177,735	188,599	197,922	206,153	212,921	
Intangibles assets	2,898	2,603	2,088	6,501	6,720	5,329	5,404	5,542	5,378	5,559	5,618	5,668	5,703	5,785	5,845	
Operating cash	1,148	1,194	1,510	1,408	1,003	1,196	1,323	1,682	2,052	2,155	2,085	2,018	2,094	2,178	2,261	
2% of sales	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	
Inventories	3,451	3,853	13,943	14,031	14,739	12,444	14,730	20,747	23,934	25,456	23,162	21,542	21,933	22,248	22,417	
Average holding period	*33*	*35*	*94*	*120*	*209*	*141*	*156*	*169*	*155*	*160*	*161*	*159*	*160*	*160*	*160*	
Trade receivables and other receivables	8,765	11,316	13,949	12,933	10,381	11,473	12,842	16,621	19,959	21,063	20,419	19,708	20,474	21,295	22,094	
Average collection period	*56*	*69*	*67*	*67*	*76*	*70*	*71*	*72*	*71*	*71*	*71*	*71*	*71*	*71*	*71*	
Contract assets	6,453	10,817	1,451	739	30	-	-	-	-	-	-	-	-	-	-	
% of construction agreements	*45%*	*123%*	*9%*	*6%*	*1%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
Total assets	**90,954**	**103,714**	**115,685**	**135,796**	**148,402**	**148,929**	**157,151**	**175,736**	**199,923**	**219,454**	**229,019**	**237,535**	**248,126**	**257,659**	**265,536**	**6.64%**
growth rate (%)		*14%*	*12%*	*17%*	*9%*	*0%*	*6%*	*12%*	*14%*	*10%*	*4%*	*4%*	*4%*	*4%*	*3%*	
Trade payables and other payables	(22,923)	(23,581)	(18,284)	(15,548)	(16,198)	(14,298)	(16,443)	(23,200)	(26,970)	(28,521)	(25,982)	(24,190)	(24,602)	(24,965)	(25,158)	
Average payable period	*222*	*212*	*124*	*132*	*229*	*162*	*175*	*189*	*175*	*179*	*181*	*178*	*180*	*180*	*179*	
Contract liabilities	(171)	(1,317)	(4,566)	(4,546)	(4,130)	-	-	-	-	-	-	-	-	-	-	
% of construction agreements	*1%*	*15%*	*28%*	*37%*	*123%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
Lease liabilities	-	-	-	(5,332)	(5,054)	(5,054)	(5,054)	(5,054)	(5,054)	(5,054)	(5,054)	(5,054)	(5,054)	(5,054)	(5,054)	
Total Liabilities	**(23,094)**	**(24,898)**	**(22,850)**	**(25,426)**	**(25,382)**	**(19,352)**	**(21,497)**	**(28,254)**	**(32,024)**	**(33,575)**	**(31,036)**	**(29,244)**	**(29,656)**	**(30,019)**	**(30,212)**	**5.07%**
growth rate (%)		*8%*	*-8%*	*11%*	*0%*	*-24%*	*11%*	*31%*	*13%*	*5%*	*-8%*	*-6%*	*1%*	*1%*	*1%*	
Total Core Invested capital	**67,860**	**78,816**	**92,835**	**110,370**	**123,020**	**129,577**	**135,654**	**147,481**	**167,898**	**185,878**	**197,983**	**208,291**	**218,469**	**227,640**	**235,325**	**6.85%**
growth rate (%)		*16%*	*18%*	*19%*	*11%*	*5%*	*5%*	*9%*	*14%*	*11%*	*7%*	*5%*	*5%*	*4%*	*3%*	
Non-core invested capital																
Investments in associates and joint ventures	1,060	339	457	497	555	462	493	502	503	490	497	498	497	495	497	
Other securities and equity investments	158	130	211	217	209	209	209	209	209	209	209	209	209	209	209	
Derivatives assets	8,689	4,870	5,468	7,740	6,109	6,109	6,109	6,109	6,109	6,109	6,109	6,109	6,109	6,109	6,109	
Deferred taxes assets	88	2,865	4,588	6,847	6,784	6,784	6,784	6,784	6,784	6,784	6,784	6,784	6,784	6,784	6,784	
Income tax assets	430	296	1,525	346	852	704	891	991	1,385	1,361	1,339	1,280	1,352	1,390	1,447	
% of core revenue	*0.7%*	*0.5%*	*2.0%*	*0.5%*	*1.7%*	*1.2%*	*1.3%*	*1.2%*	*1.4%*	*1.3%*	*1.3%*	*1.3%*	*1.3%*	*1.3%*	*1.3%*	
Not available cash and securities	953	749	1,584	1,446	1,485	1,485	301	768	1,368	1,706	1,885	1,753	1,644	1,788	1,899	
% of invested capital	*1%*	*-15%*	*-73%*	*380%*	*-15%*	*-15%*	*-15%*	*-15%*	*-15%*	*-15%*	*-15%*	*-15%*	*-15%*	*-15%*	*-15%*	
Other Receivables	1,421	3,376	3,912	2,173	1,996	2,864	2,736	2,442	2,510	2,638	2,582	2,543	2,568	2,583	2,569	
Assets classified as held for sale	15,373	2,642	15,223	16,952	1,464	976	-	-	-	-	-	-	-	-	-	
Liabilities related to Assets classified as held for sale	(13,504)	(630)	(4,851)	(8,832)	(687)	(458)	-	-	-	-	-	-	-	-	-	
Derivatives liabilities	(6,930)	(4,374)	(8,094)	(6,958)	(6,318)	(6,318)	(6,318)	(6,318)	(6,318)	(6,318)	(6,318)	(6,318)	(6,318)	(6,318)	(6,318)	
Deferred taxes liabilities	(2,185)	(2,128)	(4,025)	(3,371)	(2,187)	(2,187)	(2,187)	(2,187)	(2,187)	(2,187)	(2,187)	(2,187)	(2,187)	(2,187)	(2,187)	
Income tax liabilities	(54)	(1,498)	(4,717)	(4,075)	(6,220)	(4,873)	(5,806)	(8,220)	(9,131)	(9,862)	(9,669)	(9,192)	(9,610)	(10,004)	(10,352)	
% of core revenue	*0.1%*	*2.5%*	*6.2%*	*5.8%*	*12.4%*	*8.1%*	*8.8%*	*9.8%*	*8.9%*	*9.2%*	*9.3%*	*9.1%*	*9.2%*	*9.2%*	*9.2%*	
Provisions	(9,039)	(11,520)	(13,454)	(12,601)	(13,863)	(7,745)	(8,288)	(10,126)	(12,514)	(13,395)	(12,822)	(12,354)	(12,870)	(13,410)	(13,889)	
% of invested capital	*14%*	*15%*	*14%*	*11%*	*11%*	*13%*	*13%*	*12%*	*12%*	*12%*	*12%*	*12%*	*12%*	*12%*	*12%*	
Non-Core Invested capital	**(3,540)**	**(4,883)**	**(2,173)**	**381**	**(9,821)**	**(1,988)**	**(5,077)**	**(9,047)**	**(11,283)**	**(12,465)**	**(11,592)**	**(10,875)**	**(11,822)**	**(12,561)**	**(13,231)**	**23.44%**
growth rate (%)		*38%*	*-55%*	*-118%*	*-2678%*	*-80%*	*155%*	*78%*	*25%*	*10%*	*-7%*	*-6%*	*9%*	*6%*	*5%*	
Total Invested capital	**64,320**	**73,933**	**90,662**	**110,751**	**113,199**	**127,589**	**130,577**	**138,435**	**156,616**	**173,413**	**186,391**	**197,416**	**206,647**	**215,079**	**222,094**	**6.35%**
growth rate (%)		*15%*	*23%*	*22%*	*2%*	*13%*	*2%*	*6%*	*13%*	*11%*	*7%*	*6%*	*5%*	*4%*	*3%*	
Financing																
Excess cash (incl. liquid securities)	17,363	27,540	25,922	20,846	28,863	31,009	31,735	33,645	38,064	42,146	45,300	47,979	50,223	52,272	53,977	
% of invested capital	*27%*	*37%*	*29%*	*19%*	*25%*	*24%*	*24%*	*24%*	*24%*	*24%*	*24%*	*24%*	*24%*	*24%*	*24%*	
Financial Assets	**17,363**	**27,540**	**25,922**	**20,846**	**28,863**	**31,009**	**31,735**	**33,645**	**38,064**	**42,146**	**45,300**	**47,979**	**50,223**	**52,272**	**53,977**	**6.35%**
Bank and bond debt	(24,183)	(29,636)	(27,296)	(36,840)	(36,766)	(40,579)	(34,327)	(34,110)	(47,030)	(59,224)	(66,718)	(72,207)	(75,511)	(77,955)	(78,817)	
% of invested capital	*38%*	*40%*	*30%*	*33%*	*32%*	*32%*	*26%*	*25%*	*30%*	*34%*	*36%*	*37%*	*37%*	*36%*	*35%*	
Non-controlling interests	(5,146)	(3,807)	(3,388)	(3,248)	(2,721)	(3,404)	(3,311)	(3,602)	(4,024)	(4,484)	(4,804)	(5,096)	(5,330)	(5,550)	(5,730)	
% of invested capital	*8%*	*5%*	*4%*	*3%*	*2%*	*3%*	*3%*	*3%*	*3%*	*3%*	*3%*	*3%*	*3%*	*3%*	*3%*	
Hybrid capital	(13,248)	(13,239)	(13,239)	(13,232)	(13,232)	(13,236)	(13,235)	(13,234)	(13,234)	(13,234)	(13,234)	(13,234)	(13,234)	(13,234)	(13,234)	
Tax equity liabilities	-	-	(4,173)	(5,195)	(7,967)	(7,967)	(7,967)	(7,967)	(7,967)	(7,967)	(7,967)	(7,967)	(7,967)	(7,967)	(7,967)	
Financial Liabilities	**(42,577)**	**(46,682)**	**(48,096)**	**(58,515)**	**(60,686)**	**(65,185)**	**(58,840)**	**(58,912)**	**(72,254)**	**(84,909)**	**(92,722)**	**(98,504)**	**(102,042)**	**(104,705)**	**(105,748)**	**5.52%**
Net Financial Assets	**(25,213)**	**(19,142)**	**(22,174)**	**(37,669)**	**(31,823)**	**(34,177)**	**(27,105)**	**(25,267)**	**(34,191)**	**(42,763)**	**(47,422)**	**(50,524)**	**(51,819)**	**(52,433)**	**(51,770)**	**4.72%**
Equity																
Equity attributable to Shareholder	**39,106**	**54,791**	**68,488**	**73,082**	**81,376**	**93,412**	**103,471**	**113,167**	**122,425**	**130,651**	**138,969**	**146,891**	**154,828**	**162,645**	**170,323**	
Share Capital	4,204	4,204	4,204	4,204	4,204	4,204	4,204	4,204	4,204	4,204	4,204	4,204	4,204	4,204	4,204	
Reserves	20,218	(1,524)	(1,827)	413	(1,956)	(201)	13	337	739	674	837	743	807	895	991	
Retained Earnings	12,162	48,328	62,012	64,051	74,294	84,140	93,512	102,366	110,658	118,813	126,829	134,702	142,431	150,012	157,443	
Proposed Dividends	2,522	3,783	4,099	4,414	4,834	5,269	5,743	6,260	6,824	6,960	7,099	7,241	7,386	7,534	7,684	
Shares outstanding		420	420	420	420	420	420	420	420	420	420	420	420	420	420	
D/E Ratio	64%	35%	32%	52%	39%	37%	26%	22%	28%	33%	34%	34%	33%	32%	30%	
P/E		7.6x	10.2x	30.0x	40.0x	60.9x										
Transaction with Shareholder		(4,466)	(4,638)	(5,205)	(5,293)	(5,269)	(5,743)	(6,260)	(6,824)	(6,960)	(7,099)	(7,241)	(7,386)	(7,534)	(7,684)	
Payout Ratio (Dividend payout Ratio)		23%	25%	72%	34%	73.50%	61%	50%	41%	42%	46%	53%	51%	55%	51%	
Reinvestment Rate (equity)		77%	75%	28%	66%	27%	39%	50%	59%	58%	54%	47%	49%	45%	49%	
ROE		14%	28%	25%	9%	8%	9%	11%	13%	13%	11%	9%	9%	8%	9%	
Reinvestment Ratio (firm)		98%	100%	101%	99%	100.22%	99.62%	99.64%	99.97%	99.86%	99.86%	99.76%	99.80%	99.72%	99.73%	
ROC		21%	11%	20%	20%	11%	12%	14%	19%	27%	27%	24%	20%	20%	20%	
Earnings per share (EPS)		44.8	42.7	23.0	31.1	17.1	22.3	29.6	39.1	39.6	37.0	32.7	34.8	32.5	35.9	
Dividends per share (DPS)		9.0	9.8	10.5	11.5	12.5	13.7	14.9	16.2	16.6	16.9	17.2	17.6	17.9	18.3	
Share price on 31/12		339.0	436.0	689.0	1,244.0	1,037.5										
Dividend yield		2.7%	2.2%	1.5%	0.9%	1.2%										

Reformulated Income Statement

INCOME STATEMENT							Forecast Period									
DDKm	2016A	2017A	2018A	2019A	2020A	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	CAGR (2021-30)
Core Business																
DKKm																
Revenue	**57,393**	**59,709**	**75,520**	**70,398**	**50,151**	**59,817**	**66,139**	**84,090**	**102,594**	**107,762**	**104,241**	**100,912**	**104,700**	**108,881**	**113,027**	**7.33%**
growth (%)		*4%*	*26%*	*-7%*	*-29%*	*19%*	*11%*	*27%*	*22%*	*5%*	*-3%*	*-3%*	*4%*	*4%*	*4%*	
Revenue Offshore	22,473	20,345	41,369	39,558	34,235	37,935	44,514	60,653	78,499	82,890	78,550	74,303	77,277	80,630	83,862	9.21%
Revenue Onshore	-	-	545	684	714	1,887	2,043	2,373	2,550	2,754	2,972	3,213	3,414	3,630	3,864	8.29%
Revenue Markets & Bioenergy	39,069	46,045	39,282	36,499	18,519	25,499	24,792	26,158	26,327	27,266	27,777	28,417	29,011	29,678	30,335	1.95%
Revenue Other Activities	(4,149)	(6,681)	(5,676)	(6,343)	(3,317)	(5,504)	(5,210)	(5,094)	(4,781)	(5,147)	(5,058)	(5,020)	(5,002)	(5,057)	(5,034)	-0.99%
Cost of sales	**(37,622)**	**(40,694)**	**(54,018)**	**(42,836)**	**(25,784)**	**(32,259)**	**(34,390)**	**(44,916)**	**(56,271)**	**(58,051)**	**(52,413)**	**(49,492)**	**(50,011)**	**(50,728)**	**(51,243)**	**5.28%**
% of sales	*66%*	*68%*	*72%*	*61%*	*51%*	*54%*	*52%*	*53%*	*55%*	*54%*	*50%*	*49%*	*48%*	*47%*	*45%*	
COGS Offshore	(11,130)	(6,565)	(25,551)	(18,981)	(14,377)	(16,237)	(18,934)	(28,428)	(39,339)	(40,511)	(34,441)	(30,984)	(30,971)	(31,162)	(31,127)	
COGS Onshore	-	-	-	(6)	-	(6)	(3)	(5)	(5)	(6)	(6)	(6)	(7)	(7)	(8)	
COGS Markets & Bioenergy	(30,295)	(40,800)	(34,185)	(30,121)	(14,905)	(21,588)	(20,745)	(21,668)	(21,829)	(22,773)	(23,121)	(23,622)	(24,137)	(24,713)	(25,242)	
COGS Other Activities	3,803	6,671	5,718	6,272	3,498	5,572	5,292	5,185	4,901	5,239	5,155	5,120	5,104	5,155	5,133	
Gross Profit	**19,771**	**19,015**	**21,502**	**27,562**	**24,367**	**27,558**	**31,749**	**39,174**	**46,323**	**49,711**	**51,828**	**51,420**	**54,689**	**58,154**	**61,784**	**9.39%**
Employee costs and other external expenses	(7,166)	(7,438)	(8,991)	(10,043)	(10,057)	(10,200)	(11,793)	(11,752)	(12,754)	(14,399)	(15,421)	(16,310)	(17,017)	(17,611)	(18,177)	
% of sales	*12%*	*12%*	*12%*	*14%*	*20%*	*17%*	*18%*	*14%*	*12%*	*13%*	*15%*	*16%*	*16%*	*16%*	*16%*	
Expenses Offshore	(3,626)	(4,122)	(5,435)	(6,440)	(6,624)	(6,209)	(7,464)	(6,996)	(7,715)	(9,308)	(10,026)	(10,617)	(11,095)	(11,470)	(11,756)	
Expenses Onshore	-	-	(121)	(528)	(640)	(1,361)	(1,557)	(1,693)	(1,842)	(2,004)	(2,182)	(2,377)	(2,540)	(2,715)	(2,905)	
Expenses Markets & Bioenergy	(3,524)	(3,244)	(3,467)	(3,326)	(2,831)	(2,567)	(2,683)	(2,962)	(3,126)	(3,005)	(3,128)	(3,231)	(3,302)	(3,341)	(3,433)	
Expenses Other Activities	(16)	(72)	32	251	38	(63)	(89)	(101)	(72)	(82)	(86)	(85)	(81)	(83)	(84)	
EBITDA	**12,605**	**11,577**	**12,511**	**17,519**	**14,310**	**17,359**	**19,956**	**27,422**	**33,569**	**35,312**	**36,407**	**35,110**	**37,672**	**40,543**	**43,607**	**10.78%**
Amortisation, depreciation and impairment losses on intangible assets and property, plant and equipment	(5,232)	(6,284)	(5,375)	(7,432)	(7,588)	(8,120)	(7,885)	(10,916)	(10,092)	(10,996)	(13,134)	(14,354)	(15,418)	(16,344)	(17,144)	
% of PP&E	*7%*	*8%*	*6%*	*7%*	*6%*	*7%*	*6%*	*8%*	*7%*	*6%*	*7%*	*7%*	*8%*	*8%*	*8%*	
Operating profit (loss) (EBIT)	**7,373**	**5,293**	**7,136**	**10,087**	**6,722**	**9,239**	**12,071**	**16,506**	**23,477**	**24,316**	**23,273**	**20,757**	**22,253**	**24,199**	**26,463**	**12.40%**
adjusted taxes	(1,214)	1,722	(435)	(3,046)	554	(3,024)	(4,140)	(5,702)	(8,208)	(8,664)	(8,426)	(7,520)	(8,062)	(9,279)	(10,114)	
statutory tax rate	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	
Total operating Income Core Business	**6,159**	**7,015**	**6,701**	**7,041**	**7,276**	**6,215**	**7,931**	**10,804**	**15,269**	**15,652**	**14,847**	**13,237**	**14,191**	**14,920**	**16,349**	**11.35%**
Non Core Business																
DKKm	2016A	2017A	2018A	2019A	2020A	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	
Share of profit (loss) in associates and joint ventures	25	(119)	(6)	(20)	71	(12)	(10)	(12)	(11)	(11)	(11)	(11)	(11)	(11)	(11)	
% of investments on Associates and joint ventures	*2%*	*-35%*	*-1%*	*-4%*	*13%*	*-3%*	*-2%*	*-2%*	*-2%*	*-2%*	*-2%*	*-2%*	*-2%*	*-2%*	*-2%*	
Additional other operating income and expenses	1,369	281	906	993	408	582	727	903	1,016	1,115	1,094	1,047	1,076	1,129	1,173	
% of sales	*2%*	*0%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	
Gain (loss) on disposal of non-current assets	2,940	10,835	14,995	(101)	805	811	831	885	993	1,097	1,175	1,240	1,297	1,348	1,390	
% of non-current assets	*4%*	*13%*	*16%*	*0%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	
Gain (loss) on divestment of enterprises	1,250	(139)	127	(63)	10,831	0	0	0	0	0	0	0	0	0	0	
Share of profit (loss) in associates and joint ventures	(8)	(10)	1	2	7	1	-2	-2	-2	-1	-2	-2	-2	-2	-2	
% of investments on Associates and joint ventures	*1%*	*3%*	*0%*	*0%*	*-1%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
Other Financial income / expenses	810	596	510	952	(406)	413	367	332	176	322	299	282	270	293	286	
Profit from discontinued operations	(2,532)	6,104	10	(56)	(11)	0	0	0	0	0	0	0	0	0	0	
US Tax credits and tax equity income	-	-	85	629	1,004	1,736	1,949	1,990	2,033	2,079	2,108	2,137	2,167	-	-	
Result before taxes and OCI	**3,854**	**17,548**	**16,628**	**2,336**	**12,709**	**3,531**	**3,862**	**4,096**	**4,206**	**4,600**	**4,663**	**4,694**	**4,797**	**2,758**	**2,837**	**-2.40%**
adjusted taxes	(848)	(3,861)	(3,658)	(514)	(2,796)	(777)	(850)	(901)	(925)	(1,012)	(1,026)	(1,033)	(1,055)	(607)	(624)	
statutory tax rate	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	
Other comprehensive income	(1,374)	(622)	(360)	2,417	(2,477)											
Total operating Income Non Core Business	**1,632**	**13,065**	**12,610**	**4,239**	**7,436**	**2,754**	**3,013**	**3,195**	**3,281**	**3,588**	**3,637**	**3,661**	**3,742**	**2,151**	**2,213**	**-2.40%**
Financial Business																
DKKm	2016A	2017A	2018A	2019A	2020A	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	
Financial expenses																
Interest expenses	(1,466)	(1,219)	(1,484)	(2,063)	(2,106)	(2,118)	(1,887)	(1,880)	(2,581)	(3,215)	(3,657)	(3,955)	(4,130)	(4,259)	(4,314)	
% of borrowings	*6%*	*4%*	*5%*	*6%*	*6%*	*5%*	*5%*	*6%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*	
Capitalised financial expenses	(111)	(419)	(304)	(24)	(12)	(190)	(132)	(90)	(106)	(129)	(114)	(110)	(115)	(117)	(114)	
Results before taxes and OCI	**(1,577)**	**(1,638)**	**(1,788)**	**(2,087)**	**(2,118)**	**(2,308)**	**(2,019)**	**(1,969)**	**(2,687)**	**(3,345)**	**(3,771)**	**(4,065)**	**(4,245)**	**(4,377)**	**(4,428)**	**7.51%**
adjusted taxes	(347)	(360)	(393)	(459)	(466)	(508)	(444)	(433)	(591)	(736)	(830)	(894)	(934)	(963)	(974)	
Total financial result	**(1,230)**	**(1,278)**	**(1,395)**	**(1,628)**	**(1,652)**	**(1,800)**	**(1,575)**	**(1,536)**	**(2,096)**	**(2,609)**	**(2,942)**	**(3,171)**	**(3,311)**	**(3,414)**	**(3,454)**	**7.51%**
Taxes																
	2016A	2017A	2018A	2019A	2020A	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	
Statutory Taxes	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	
Reported Taxes	1,715	1,778	3,700	3,101	1,776	3,294	4,545	6,170	8,542	8,940	8,622	7,658	8,184	8,923	9,764	
Financial tax shield	(347)	(360)	(393)	(459)	(466)	(508)	(444)	(433)	(591)	(736)	(830)	(894)	(934)	(963)	(974)	
Non Core tax shield	848	3,861	3,658	514	2,796	777	850	901	925	1012	1026	1033	1055	607	624	
Core business taxes	1,214	(1,722)	435	3,046	(554)	3,024	4,140	5,702	8,208	8,664	8,426	7,520	8,062	9,279	10,114	
Effective core business taxes	16%	-33%	6%	30%	-8%	33%	34%	35%	35%	36%	36%	36%	36%	38%	38%	
Comprehensive Income																
Total Comprehensive Income	6,561	18,803	17,916	9,652	13,060	7,169	9,369	12,462	16,453	16,631	15,543	13,727	14,622	13,658	15,108	**8.64%**

Cash Flow Map

CASH FLOW MAP						Forecast Period										
DDKm	2016A	2017A	2018A	2019A	2020A	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	CAGR (2021-30)
Operating activites																
EBIT	7,373	5,293	7,136	10,087	6,722	9,239	12,071	16,506	23,477	24,316	23,273	20,757	22,253	24,199	26,463	**12.40%**
Adjusted taxes	(1,214)	1,722	(435)	(3,046)	554	(3,024)	(4,140)	(5,702)	(8,208)	(8,664)	(8,426)	(7,520)	(8,062)	(9,279)	(10,114)	
NOPLAT	**6,159**	**7,015**	**6,701**	**7,041**	**7,276**	**6,215**	**7,931**	**10,804**	**15,269**	**15,652**	**14,847**	**13,237**	**14,191**	**14,920**	**16,349**	**11.35%**
Depreciation & amortization	5,232	6,284	5,375	7,432	7,588	8,120	7,885	10,916	10,092	10,996	13,134	14,354	15,418	16,344	17,144	
Gross CF	**11,391**	**13,299**	**12,076**	**14,473**	**14,864**	**14,334**	**15,816**	**21,719**	**25,361**	**26,648**	**27,981**	**27,590**	**29,610**	**31,264**	**33,493**	**9.89%**
New Investments		9,613	16,729	20,089	2,448	14,390	2,988	7,858	18,181	16,798	12,978	11,024	9,232	8,432	7,015	
Δ PP&E and Intangibles Asset		5,397	8,298	21,853	15,564	1,566	4,442	8,430	17,292	16,801	12,573	10,915	9,357	8,314	6,827	
Δ CAPEX		**11,681**	**13,673**	**29,285**	**23,152**	**9,685**	**12,326**	**19,346**	**27,384**	**27,798**	**25,707**	**25,269**	**24,775**	**24,658**	**23,971**	
Δ NWC		**5,559**	**5,721**	**1,014**	**(3,192)**	**4,991**	**1,636**	**3,398**	**3,125**	**1,179**	**(468)**	**(607)**	**821**	**857**	**858**	
		(1,176)	3,550	3,352	(1,188)											
Gross cash flow from investments		**(17,240)**	**(19,394)**	**(30,299)**	**(19,960)**	**(14,676)**	**(13,962)**	**(22,743)**	**(30,509)**	**(28,976)**	**(25,239)**	**(24,662)**	**(25,597)**	**(25,515)**	**(24,829)**	**6.02%**
Operating free cash flow		**(3,941)**	**(7,318)**	**(15,826)**	**(5,096)**	**(342)**	**1,854**	**(1,024)**	**(5,148)**	**(2,328)**	**2,742**	**2,929**	**4,013**	**5,750**	**8,664**	**43.19%**
Non-operating activities																
Non-core result before taxes and OCI	3,854	17,548	16,628	2,336	12,709	3,531	3,862	4,096	4,206	4,600	4,663	4,694	4,797	2,758	2,837	
adjusted taxes	(848)	(3,861)	(3,658)	(514)	(2,796)	(777)	(850)	(901)	(925)	(1,012)	(1,026)	(1,033)	(1,055)	(607)	(624)	
NOPLAT (non-core)	**3,006**	**13,687**	**12,970**	**1,822**	**9,913**	**2,754**	**3,013**	**3,195**	**3,281**	**3,588**	**3,637**	**3,661**	**3,742**	**2,151**	**2,213**	**-2.40%**
Δ Equity method and other investments		(1,479)	(364)	(978)	(1,350)	6,893	(1,824)	(1,655)	(1,720)	(427)	702	298	(601)	(384)	(379)	
Δ Net, Assets classified as held for sale		143	8,360	(2,252)	(7,343)	(259)	(518)	-	-	-	-	-	-	-	-	
Δ other non-operating assets and liabilites		(7)	(5,286)	5,784	(1,509)	1,199	(747)	(2,314)	(516)	(755)	171	418	(346)	(356)	(291)	
Change in non-operating assets		**(1,343)**	**2,710**	**2,554**	**(10,202)**	**7,833**	**(3,089)**	**(3,969)**	**(2,236)**	**(1,182)**	**873**	**717**	**(947)**	**(739)**	**(670)**	**-23.91%**
OCI		(622)	(360)	2,417	(2,477)	0	0	0	0	0	0	0	0	0	0	
Non-operating free cash flows		**14,408**	**9,900**	**1,685**	**17,638**	**-5,079**	**6,102**	**7,164**	**5,517**	**4,771**	**2,764**	**2,944**	**4,688**	**2,890**	**2,883**	**-6.10%**
Unlevered free cash flow		**10,467**	**2,581**	**(14,141)**	**12,542**	**-5,421**	**7,956**	**6,140**	**369**	**2,442**	**5,507**	**5,873**	**8,701**	**8,640**	**11,546**	**8.76%**
Tax shield	347	360	393	459	466	508	444	433	591	736	830	894	934	963	974	
Levered free cash flow	**(347)**	**10,828**	**2,975**	**(13,682)**	**13,008**	**(4,913)**	**8,400**	**6,573**	**960**	**3,178**	**6,336**	**6,767**	**9,635**	**9,603**	**12,520**	**10.95%**
Financing activities																
Financial expenses		(1,638)	(1,788)	(2,087)	(2,118)	(2,308)	(2,019)	(1,969)	(2,687)	(3,345)	(3,771)	(4,065)	(4,245)	(4,377)	(4,428)	
Δ Excess cash		10,177	(1,618)	(5,076)	8,017	2,146	726	1,910	4,419	4,082	3,154	2,679	2,244	2,049	1,705	
Δ Bank and bond debt		(5,453)	2,340	(9,544)	74	(3,813)	6,252	217	(12,920)	(12,194)	(7,494)	(5,489)	(3,304)	(2,443)	(863)	
Δ Lease liabilities		-	-	(5,332)	278	0	0	0	0	0	0	0	0	0	0	
Δ Equity liabilities		-	(4,173)	(1,022)	(2,772)	-	-	-	-	-	-	-	-	-	-	
Financial cash flow		**(6,362)**	**1,663**	**18,887**	**(7,715)**	**(641)**	**(8,997)**	**(4,097)**	**5,814**	**4,767**	**569**	**(1,255)**	**(3,184)**	**(3,982)**	**(5,270)**	**26.38%**
Total comprehensive income	6,561	18,803	17,916	9,652	13,060	7,169	9,369	12,462	16,453	16,631	15,543	13,727	14,622	13,658	15,108	
Equity	39,106	54,791	68,488	73,082	81,376	93,412	103,471	113,167	122,425	130,651	138,969	146,891	154,828	162,645	170,323	
Δ Non-controlling interests		1,339	419	140	527	-683	93	-291	-421	-460	-320	-292	-234	-220	-180	
Δ Hybrid capital		9	-	7	-	(4)	1	1	(0)	(0)	0	0	(0)	(0)	0	
Equity cash flow		**(4,466)**	**(4,638)**	**(5,205)**	**(5,293)**	**5,554**	**597**	**(2,477)**	**(6,774)**	**(7,945)**	**(6,905)**	**(5,512)**	**(6,451)**	**(5,621)**	**(7,250)**	**3.01%**
Financing free cash flow		**(10,828)**	**(2,975)**	**13,682**	**(13,008)**	**4,913**	**(8,400)**	**(6,573)**	**(960)**	**(3,178)**	**(6,336)**	**(6,767)**	**(9,635)**	**(9,603)**	**(12,520)**	**10.95%**

Appendix B – Future of Hydrogen

Followed by the increase of political support for the development of renewable hydrogen in Europe, Ørsted is planning to rise its productivity, based on the production with renewable power. Hydrogen offers a mixture for decarbonising businesses such as ammonia, steel, refining, and heavy transport where direct electrification is problematic or unreasonable. Comparing it with the cost-competitive, hydrogen is presently not cost competitive with fossil-based substitutes. Nevertheless, the main challenge will be to overcome to generate and measure a hydrogen market, demanding achievement from both policymakers and companies.

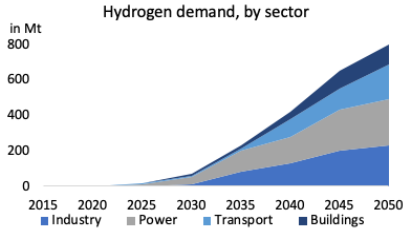


Exhibit 73 *Hydrogen demand by sector*
source*: BNEF New Energy Outlook 2020*

Hydrogen is an adaptable and theoretically zero carbon emission energy carrier that could empower the integration of different energy systems. The demand has grown from 11.7 to 15 metric tons ("Mt") over the past five years [49] and the demand for various sectors will further increase up to **800 Mt till 2050**.[50] (Exhibit 73) New market opportunities within renewable electricity technologies can be created through hydrogen. The energy can be used at situations where is limited renewable resources, i.e., low wind/sunshine levels. The production of hydrogen could happen around the clock based on less-costly power generation sources such as solar/ wind in areas with excellent resources (Ørsted). Hydrogen can be stored in underground carbon fibre-composite tanks or steel tanks. Additionally, with the combination of batteries, hydrogen storage and fuel cells.[51] Based on the newest research by BNEF, green hydrogen will be cheaper than blue hydrogen (use of fossil fuel with carbon capture and storage) by 2050, even gray hydrogen (using fossil fuels) will cost more than green hydrogen by 2030.[52]

The company has already seen the potential of hydrogen and set up a team for researching various developments as well as technologies among other things to investigate the potential to convert renewable power from offshore to hydrogen. The firm will try to use the offshore wind parks to create hydrogen and then converts the hydrogen to methanol, which is useful in ships and aircraft by 2027. In 2020, the company secured already three additional projects. Overall, Ørsted has founded eight renewable hydrogen projects in the EU (Denmark, Germany, the UK, and the Netherlands). Three new projects: (1) Ørsted is already transferring it knowledges to invent new technologies, such as partnering with DFDs and aiming to develop together the **world's first 100% hydrogen-powered ferry**, which will run from Oslo

[49] Omar J. Guerra, "Cost Competitiveness of Electrolytic Hydrogen", 2019
[50] Bloomberg NEF, "New Energy Outlook 2020", 2020
[51] IEA, "Renewables 2019"
[52] BNEF, "Green Hydrogen to Outcompete "Blue" Everywhere by 2030", 2020

to Copenhagen. (2) **Partnership with British energy company**, which will comprise a 50MW electrolyser plant at **bp's Lingen Refinery** in Germany. The plant will replace around **20% of fuel-based hydrogen from refinery** and long-term ambition will be to build a capacity for 500 MW at Lingen.[53] (3) Additionally, the company united with Yara, world's leading fertiliser company, to improve a pioneering project for supplanting fossil hydrogen with renewable hydrogen connected with the production of ammonia, with the aim to **terminate** more than **100'000 tonnes of CO_2** per year.

Appendix C – Renewable peers

VERBUND AG

DKKm	2017A	2018A	2019A	2020A
Total Revenue	21,676	19,924	29,035	-
COGS	11,466	9,736	16,379	
EBITDA	6,631	6,406	8,536	-
EBITDA Margin	**31%**	**32%**	**29%**	
D&A	2,537	2,433	2,708	
EBIT	4,094	3,973	6,086	-
EBIT Margin	**19%**	**20%**	**21%**	
Total Inventory	78	267	255	
Total Receivables	3,044	3,537	3,042	
Total Payables	1,275	1,398	1,679	
Total Assets	83,883	87,014	88,009	
Capex	(1,810)	(2,197)	(2,908)	
CAPEX / Revenues	**8%**	**11%**	**10%**	
CAPEX / Depreciaton	**0.7**	**0.9**	**1.1**	
ROA	**5%**	**5%**	**7%**	
Collecting Period	51	65	38	
Inventory Holding Period	2	10	6	
Payable Period	41	52	37	
Cash Conversion Cycle	**13**	**22**	**7**	

Fortum Oyj

DKKm	2017A	2018A	2019A	2020A
Total Revenue	33,951	39,646	41,080	-
COGS	17,106	20,778	20,228	
EBITDA	9,464	11,129	13,062	-
EBITDA Margin	**28%**	**28%**	**32%**	
D&A	3,449	3,985	4,275	
EBIT	6,014	7,144	8,787	-
EBIT Margin	**18%**	**18%**	**21%**	
Total Inventory	1,606	1,732	1,710	
Total Receivables	8,296	9,144	8,698	
Total Payables	2,364	2,483	2,349	
Total Assets	161,712	166,589	173,688	
Capex	(4,884)	(4,304)	(5,167)	
CAPEX / Revenues	**14%**	**11%**	**13%**	
CAPEX / Depreciaton	**1.4**	**1.1**	**1.2**	
ROA	**4%**	**4%**	**5%**	
Collecting Period	89	84	77	
Inventory Holding Period	34	30	31	
Payable Period	50	44	42	
Cash Conversion Cycle	**73**	**71**	**66**	

Acciona, S.A

DKKm	2017A	2018A	2019A	2020A
Total Revenue	58,486	59,260	58,542	-
COGS	14,470	15,808	14,904	
EBITDA	9,065	8,831	8,819	6,043
EBITDA Margin	**15%**	**15%**	**15%**	
D&A	4,929	4,749	4,882	
EBIT	4,579	4,503	5,148	2,634
EBIT Margin	**8%**	**8%**	**9%**	
Total Inventory	6,103	6,797	9,279	
Total Receivables	16,282	14,330	17,042	
Total Payables	16,193	18,027	19,358	
Total Assets	127,474	111,046	128,974	
Capex	(5,715)	(4,793)	(9,786)	
CAPEX / Revenues	**10%**	**8%**	**17%**	
CAPEX / Depreciaton	**1.2**	**1.0**	**2.0**	
ROA	**4%**	**4%**	**4%**	
Collecting Period	102	88	106	
Inventory Holding Period	154	157	227	
Payable Period	408	416	474	
Cash Conversion Cycle	**(153)**	**(171)**	**(141)**	

Solaria Energía y Medio Ambiente

DKKm	2017A	2018A	2019A	2020A
Total Revenue	250	287	307	480
COGS	5	16	5	
EBITDA	184	211	205	353
EBITDA Margin	**73%**	**73%**	**67%**	**74%**
D&A	84	101	106	
EBIT	100	110	109	250
EBIT Margin	**40%**	**38%**	**35%**	**52%**
Total Inventory	-	-	-	
Total Receivables	95	98	147	
Total Payables	5	2	364	
Total Assets	2,088	2,934	4,464	
Capex	(339)	(211)	(741)	
CAPEX / Revenues	**135%**	**73%**	**241%**	
CAPEX / Depreciaton	**4.0**	**2.1**	**7.0**	
ROA	**5%**	**4%**	**2%**	
Collecting Period	138	125	175	
Inventory Holding Period	-	-	-	
Payable Period	356	39	27,052	
Cash Conversion Cycle	**(217)**	**86**	**(26,878)**	

[53] Ørsted, "Annual Report 2020", 2020

EDP Renováveis					
DKKm		2017A	2018A	2019A	2020A
Total Revenue		11,907	11,237	12,208	11,366
COGS		2,000	2,120	2,139	
EBITDA		8,157	7,662	8,572	7,457
	EBITDA Margin	**69%**	**68%**	**70%**	**66%**
D&A		3,814	4,008	4,284	
EBIT		4,342	3,534	4,401	3,131
	EBIT Margin	**36%**	**31%**	**36%**	**28%**
Total Inventory		212	265	253	
Total Receivables		3,236	4,895	4,806	
Total Payables		519	739	450	
Total Assets		120,608	130,383	131,528	
Capex		(7,710)	(6,718)	(8,993)	
	CAPEX / Revenues	**65%**	**60%**	**74%**	
	CAPEX / Depreciaton	**2.0**	**1.7**	**2.1**	
ROA		**4%**	**3%**	**3%**	
Collecting Period		99	159	144	
Inventory Holding Period		39	46	43	
Payable Period		95	127	77	
Cash Conversion Cycle		**43**	**77**	**110**	

Key Financials (in DKKm)	2017A	2018A	2019A	CAGR
VERBUND AG				
Total Revenue	21,676	19,924	29,035	16%
EBITDA Margin	31%	32%	29%	
EBIT Margin	19%	20%	21%	
CAPEX / Revenues	8%	11%	10%	
ROA	5%	5%	7%	
Acciona, S.A				
Total Revenue	58,486	59,260	58,542	0.05%
EBITDA Margin	15%	15%	15%	
EBIT Margin	8%	8%	9%	
CAPEX / Revenues	10%	8%	17%	
ROA	4%	4%	4%	
Fortum Oyj				
Total Revenue	33,951	39,646	41,080	10%
EBITDA Margin	28%	28%	32%	
EBIT Margin	18%	18%	21%	
CAPEX / Revenues	14%	11%	13%	
ROA	4%	4%	5%	
Solaria Energía y Medio Ambiente				
Total Revenue	250	287	307	11%
EBITDA Margin	73%	73%	67%	
EBIT Margin	40%	38%	35%	
CAPEX / Revenues	135%	73%	241%	
ROA	5%	4%	2%	
EDP Renováveis				
Total Revenue	11,907	11,237	12,208	1%
EBITDA Margin	69%	68%	70%	
EBIT Margin	36%	31%	36%	
CAPEX / Revenues	65%	60%	74%	
ROA	4%	3%	3%	
Ørsted A/S				
Total Revenue	59,709	75,520	70,398	9%
EBITDA Margin	20%	18%	26%	
EBIT Margin	10%	10%	17%	
CAPEX / Revenues	29%	19%	32%	
ROA	4%	3%	3%	

Appendix D – Peer Companies

Company	Country	Regions	Business Unit
Renewables			
innogy	Germany	Germany, Poland and Hungary	Grid & Infrastructure and Retail
VERBUND	Austria	Austria	Renewable Generation, Sales and Grid
Public Joint Stock Company Inter RAO UES	Russia	Worldwide	Generates electricity through thermal, hydro, wind, and gas sources. Also engages in export of power industry equipment
Acciona	Spain	Worldwide	Infrastructure and renewable energy
Fortum	Finland	Nordic countries, Russia, Poland, India, other parts of the Baltic Rim area	Power generation through nuclear, hydro, wind, and thermal resources
EDP Renováveis	Portugal	Portugal, Spain, France, Poland, Romania, Brazil, and the United States	Wind and solar farms
Integrated			
EDP - Energias de Portugal	Portugal	Portugal, Spain, France, Poland, Romania, Brazil, and the United States	Renewables, Networks, and Client Solutions & Energy Management
Iberdrola	Spain	Spain	Generates and markets electrical power using renewable sources, such as onshore and offshore wind, hydro, solar thermal, photovoltaic, biomass
Endesa	Spain	Portgal, Spain, Germany, France, Belgium, France, and the Netherlands	Generates electricity from various energy sources, such as hydroelectric, nuclear, thermal, wind, and solar
Enel	Italy	Worldwide	Renewable, wind, thermal, hydroelectric, nuclear, photovoltaic, and geothermal power plants
Solaria Energía y Medio Ambiente	Spain	Spain, Italy, Uruguay, and Greece	Solar photovoltaic power generation
EnBW	Germany	Worldwide	Sells electricity and gas; and provides energy industry services, billing services, energy supply and energy-saving contracting, and energy solutions. Generates power from renewable energy sources consisting of wind, hydropower, solar energy, biomass, coal, and geothermal energy power plants.
ENGIE	France	USA & Canada, France, Rest of Europe. Latin	Power, natural gas, and energy services
RWE	Germany	Europe and the United States	Electricity generation from lignite and nuclear, gas, hard coal, and biomass sources, as well as lignite production
Electricité de France	France	France, the United Kingdom, Italy	Generation, transmission, distribution, supply, and trading of energy services
E.ON	Germany	Germany, the United Kingdom, Sweden, rest of Europe	Provides power and gas distribution networks and related services
SSE	UK	UK	Wholesale, Networks, and Retail
Regulated			
REN - Redes Energéticas Nacionais	Portugal	Portugal	Electricity and Gas
Red Eléctrica Corporación	Spain	Spain	Operates and manages transmission network for the electricity system
Enagás	Spain	Spain, Mexico, Chile, Peru, Albania, Greece, Italy, and the United States	Gas transmission, Regasification, and Storage of Gas segments
Snam	Italy	Europe	Natural Gas Transportation, Liquefied Natural Gas (LNG) Regasification, and Natural Gas Storage segments
Terna - Rete Elettrica Nazionale Società per Azioni	Italy	Italy	Electricity transmission and dispatching activities
United Utilities Group	UK	UK	Renewable energy generation, corporate trustee, financing, and property management activities
Severn Trent	UK	England, Wales	Water and Waste Water, and Business Services
Pennon Group	UK	UK, Rest of European Union, China	Environmental infrastructure
National Grid	UK	UK	UK Electricity Transmission, UK Gas Transmission, US Regulated, and National Grid Ventures (NGV) and

Main Comparables (in DKKm)	Share Price	NOSH	Market Cap	EV	Gross Margin	EV / EBITDA			EV / EBIT			EV/Sales	P/E		EBITDA CAGR	EPS CAGR	EBITDA Margin	ROIC
						LTM	FY'21E	FY'22E	LTM	FY'21E	FY'22E	'21E	P/E LTM	'21E				
Renewables																		
Ørsted A/S (CPSE:ORSTED)	1001	420	420,488	434,427	48.6%	27.5x	19.3x	28.9x	52.9x	32.7x	30.4x	7.9x	27.8x	40.8x	8.5%	6.2%	30.2%	3.8%
innogy SE (XTRA:IGY)	-	556	180,203	314,213	19.3%	NM	NM	NM	NM	NM	NM	-	NM	NM	NM	NM	NM	NM
VERBUND AG (WBAG:VER)	481	347	166,967	182,357	57.0%	18.2x	18.6x	16.3x	25.4x	27.0x	23.0x	6.7x	35.5x	37.8x	12.1%	28.0%	38.7%	6.9%
Public Joint Stock Company Inter RAO UES (MISX:IRAO)	0	73,541	29,935	10,947	21.4%	1.2x	1.0x	1.0x	1.6x	1.4x	1.4x	0.1x	4.9x	4.7x	5.9%	17.0%	10.6%	7.7%
Acciona, S.A. (BME:ANA)	1,031	55	56,259	95,549	72.1%	12.0x	10.1x	9.0x	24.9x	19.3x	16.8x	1.7x	19.9x	24.1x	-12.6%	22.5%	11.2%	2.0%
EDP Renováveis, S.A. (ENXTLS:EDPR)	144	961	138,278	180,226	81.6%	19.6x	15.0x	14.0x	39.3x	24.8x	23.1x	12.5x	30.4x	38.4x	-3.0%	26.3%	65.6%	2.0%
Min	0	55	29,935	10,947	19.3%	1.2x	1.0x	1.0x	1.6x	1.4x	1.4x	0.1x	4.9x	4.7x	-12.6%	17.0%	10.6%	2.0%
1st Quartile	108	347	56,259	95,549	21.4%	9.3x	7.8x	7.0x	19.1x	14.8x	12.9x	1.3x	16.2x	19.2x	-5.4%	21.2%	11.1%	2.0%
Median	312	556	138,278	180,226	57.0%	15.1x	12.6x	11.5x	25.2x	22.0x	19.9x	4.2x	25.2x	31.0x	1.5%	24.4%	25.0%	4.5%
3rd Quartile	618	961	166,967	182,357	72.1%	18.6x	15.9x	14.5x	28.9x	25.3x	23.0x	8.1x	31.7x	38.0x	7.5%	26.7%	45.4%	7.1%
Max	1,031	73,541	180,203	314,213	81.6%	19.6x	18.6x	16.3x	39.3x	27.0x	23.1x	12.5x	35.5x	38.4x	12.1%	28.0%	65.6%	7.7%
Integrated																		
EDP - Energias de Portugal, S.A. (ENXTLS:EDP)	38	4,034	152,652	289,744	38.1%	12.7x	10.6x	10.1x	27.0x	17.7x	16.7x	2.8x	24.2x	22.7x	0.5%	-11.8%	24.0%	2.9%
Iberdrola, S.A. (BME:IBE)	86	6,332	542,688	903,583	48.7%	13.0x	11.0x	10.1x	22.0x	18.6x	16.9x	3.2x	20.9x	19.5x	13.0%	6.4%	27.7%	3.9%
Endesa, S.A. (BME:ELE)	164	1,059	173,274	225,470	30.4%	7.3x	7.7x	7.4x	10.7x	12.8x	12.3x	1.5x	16.7x	13.5x	8.4%	-1.6%	24.4%	12.0%
Enel SpA (BIT:ENEL)	64	10,163	648,823	1,146,897	34.6%	10.1x	8.3x	7.9x	15.6x	13.0x	12.3x	2.0x	33.0x	16.1x	2.9%	-11.1%	24.8%	6.0%
Solaria Energía y Medio Ambiente, S.A. (BME:SLR)	135	125	16,839	19,388	100.0%	53.1x	31.2x	17.9x	77.4x	45.8x	25.0x	25.0x	74.4x	70.3x	24.3%	20.2%	73.7%	3.5%
EnBW Energie Baden-Württemberg AG (XTRA:EBK)	615	271	166,443	258,312	28.1%	12.9x	NM	NM	26.2x	NM	NM	-	37.5x	NM	-8.7%	-33.8%	12.4%	4.4%
ENGIE SA (ENXTPA:ENGI)	91	2,417	220,185	387,256	37.6%	5.7x	5.1x	5.0x	11.4x	9.6x	9.5x	0.9x	NM	12.3x	0.0x	NM	14.6%	3.4%
RWE Aktiengesellschaft (XTRA:RWE)	253	676	171,299	148,935	25.2%	4.3x	6.9x	6.1x	6.2x	13.8x	11.9x	1.4x	28.0x	21.6x	133.7%	-17.1%	30.4%	7.7%
E.ON SE (XTRA:EOAN)	73	2,607	189,827	436,761	23.6%	8.7x	8.1x	7.7x	18.9x	14.8x	12.7x	0.9x	24.1x	13.9x	31.4%	-39.5%	9.6%	3.9%
SSE plc (LSE:SSE)	129	1,036	133,756	216,382	33.4%	13.5x	12.2x	11.6x	15.3x	16.1x	15.6x	3.6x	14.8x	16.8x	-13.4%	-36.5%	24.0%	4.7%
Min	38	125	16,839	19,388	23.6%	4.3x	5.1x	5.0x	6.2x	9.6x	9.5x	0.9x	14.8x	12.3x	-13.4%	-39.5%	9.6%	2.9%
1st Quartile	76	766	156,100	218,654	28.7%	7.7x	7.7x	7.4x	12.4x	13.0x	12.3x	1.4x	20.9x	13.9x	-1.2%	-33.8%	17.0%	3.6%
Median	110	1,738	172,286	274,028	34.0%	11.4x	8.3x	7.9x	17.3x	14.8x	12.7x	2.0x	24.2x	16.8x	5.6%	-11.8%	24.2%	4.2%
3rd Quartile	156	3,678	212,595	424,385	38.0%	13.0x	11.0x	10.1x	25.2x	17.7x	16.7x	3.2x	33.0x	21.6x	21.5%	-1.6%	27.0%	5.7%
Max	615	10,163	648,823	1,146,897	100.0%	53.1x	31.2x	17.9x	77.4x	45.8x	25.0x	25.0x	74.4x	70.3x	133.7%	20.2%	73.7%	12.0%
Regulated																		
REN - Redes Energéticas Nacionais, SGPS, S.A. (ENXTLS:RE	18	663	11,893	32,658	70.9%	9.7x	9.4x	9.4x	20.9x	19.3x	19.3x	5.7x	14.6x	13.4x	-1.6%	-4.6%	61.1%	2.9%
Red Eléctrica Corporación, S.A. (BME:REE)	111	539	60,048	106,511	98.7%	9.2x	9.2x	9.1x	14.0x	14.1x	14.0x	7.3x	13.0x	12.0x	0.0%	-2.5%	74.3%	6.1%
Enagás, S.A. (BME:ENG)	138	262	35,989	68,716	95.1%	10.5x	10.7x	10.9x	14.8x	16.9x	17.3x	8.9x	10.9x	12.3x	-10.0%	-6.2%	68.7%	3.8%
Snam S.p.A. (BIT:SRG)	34	3,270	112,498	208,714	88.5%	11.5x	12.5x	12.4x	16.8x	19.3x	19.5x	9.8x	14.1x	13.2x	2.8%	8.4%	78.7%	4.1%
Terna - Rete Elettrica Nazionale Società per Azioni (BIT:TR	45	2,009	91,337	159,580	82.8%	11.8x	11.6x	11.6x	18.1x	17.8x	18.0x	8.4x	15.6x	15.6x	4.1%	4.6%	72.6%	5.4%
United Utilities Group PLC (LSE:UU.)	83	682	56,484	125,461	91.3%	13.8x	14.4x	14.0x	22.2x	25.0x	24.4x	8.2x	60.0x	20.2x	5.2%	-37.4%	62.1%	4.2%
Severn Trent Plc (LSE:SVT)	209	239	50,002	105,019	30.5%	15.1x	14.1x	13.0x	26.5x	25.8x	22.6x	6.7x	51.5x	21.1x	3.1%	-21.4%	47.9%	4.6%
Pennon Group Plc (LSE:PNN)	88	422	37,161	44,287	98.6%	18.4x	15.7x	15.3x	25.5x	24.8x	24.0x	8.4x	54.1x	32.8x	-12.6%	-11.3%	50.6%	2.8%
National Grid plc (LSE:NG.)	77	3,549	273,219	541,369	100.0%	13.0x	12.5x	11.2x	18.7x	19.5x	17.1x	4.2x	21.3x	16.1x	-3.9%	-11.2%	31.0%	3.9%
Min	18	239	11,893	32,658	30.5%	9.2x	9.2x	9.1x	14.0x	14.1x	14.0x	4.2x	10.9x	12.0x	-12.6%	-37.4%	31.0%	2.8%
1st Quartile	45	422	37,161	68,716	82.8%	10.5x	10.7x	10.9x	16.8x	17.8x	17.3x	6.7x	14.1x	13.2x	-3.9%	-11.3%	50.6%	3.8%
Median	83	663	56,484	106,511	91.3%	11.8x	12.5x	11.6x	18.7x	19.3x	19.3x	8.2x	15.6x	15.6x	0.0%	-6.2%	62.1%	4.1%
3rd Quartile	111	2,009	91,337	159,580	98.6%	13.8x	14.1x	13.0x	22.2x	24.8x	22.6x	8.4x	51.5x	20.2x	3.1%	-2.5%	72.6%	4.6%
Max	209	3,549	273,219	541,369	100.0%	18.4x	15.7x	15.3x	26.5x	25.8x	24.4x	9.8x	60.0x	32.8x	5.2%	8.4%	78.7%	6.1%

	EV (in DKKm)	EBITDA Margin 2020	EBITDA 3y CAGR	ROIC 2020	EV/EBITDA 2020	EV/Sales '21E	EV/EBITDA '21E	EV/EBIT '21E	P/E'21E	Market Cap (in DKKm)	Assigned Weight EV/Sales	EV/EBITDA	EV/EBIT	P/E
Ørsted	434,427	30.2%	8.5%	3.8%	27.5x	7.9x	19.3x	32.7x	40.8x	420,488	7.9x	19.3x	32.7x	40.8x
Verbund	182,357	38.7%	12.1%	6.9%	18.2x	6.7x	18.6x	27.0x	37.8x	166,967	1.5x	4.2x	6.1x	8.5x
Public Joint	10,947	10.6%	5.9%	7.7%	1.2x					29,935			0.0x	0.0x
Acciona	95,549	11.2%	-12.6%	2.0%	12.0x	1.7x	10.1x	19.3x	24.1x	56,259	0.1x	0.7x	1.4x	1.7x
EDP Renewables	180,226	65.6%	-3.0%	2.0%	19.6x	12.5x	15.0x	24.8x	38.4x	138,278	2.6x	3.1x	5.2x	8.0x
Median						**6.7x**	**15.0x**	**24.8x**	**37.8x**					
EDP	289,744	24.0%	0.5%	2.9%	12.7x	2.8x	10.6x	17.7x	22.7x	152,652	0.2x	0.8x	1.3x	1.6x
Iberdrola	903,583	27.7%	13.0%	3.9%	13.0x	3.2x	11.0x	18.6x	19.5x	542,688	0.3x	0.9x	1.6x	1.6x
Solaria Energgia	19,388	73.7%	24.3%	3.5%	53.1x	25.0x	31.2x	45.8x	70.3x	16,839	3.4x	11.7x	12.6x	19.3x
EnBW	258,312	12.4%	-8.7%	4.4%	12.9x	-	NM	NM	NM	166,443				
RWE	148,935	30.4%	133.7%	7.7%	4.3x	1.4x	6.9x	13.8x	21.6x	171,299	0.0x	0.1x	0.2x	0.3x
E.ON	436,761	9.6%	31.4%	3.9%	8.7x		8.1x	14.8x	13.9x	189,827		0.3x	0.5x	0.5x
Median						**3.0x**	**10.6x**	**17.7x**	**21.6x**		**8.2x**	**21.8x**	**28.7x**	**41.7x**
min	10,947	9.6%	-12.6%	2.0%	1.2x	1.4x	6.9x	13.8x	13.9x	16,839	0.0x	0.1x	0.0x	0.0x
Median	182,357	27.7%	8.5%	3.9%	12.9x	5.0x	11.0x	19.3x	24.1x	166,443	0.3x	0.8x	1.4x	1.6x
max	903,583	73.7%	133.7%	7.7%	53.1x	25.0x	31.2x	45.8x	70.3x	542,688	3.4x	11.7x	12.6x	19.3x
Delta	892,636	64.1%	146.4%	5.7%	51.9x	23.6x	24.3x	32.0x	56.4x	525,849	3.4x	11.6x	12.6x	19.3x

Appendix E – Calculation of Construction costs for Partners' share

Construction costs for Partners' share															
Construction agreements	*Capex/MW*	*Generation Capacity*	*Cost for partners assuming 50%*	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Hornsea 2	18.4	1,386.0	25,570											
Gode Wind 3	17.3	121.0	2,093				523	1,047	523					
Borkum Riffgrund 3	17.3	450.0	7,785				1,946	3,892	1,946					
Borssele 1 & 2	13.0	752.0												
South Fork	17.7	65.0	1,149			287	575	287						
Revolution Wind	17.7	352.0	6,224			1,556	3,112	1,556						
Sunrise Wind	17.7	440.0	7,780			1,945	3,890	1,945						
Skipjack	17.3	60.0	1,038			259	519	259						
Ocean Wind	17.3	550.0	9,515				2,379	4,757	2,379					
Greater Changhua 1	18.4	302.5	5,581		2,790	1,395								
Greater Changhua 2a	18.4	147.5	2,721		1,361	680								
Greater Changhua 2b&4	17.3	460.0	7,958				1,989	3,979	1,989					
Yearly assumed additional capacity 2026	16.9	947.0	16,019					4,004.9	8,009.7	4,005				
Yearly assumed additional capacity 2027	16.5	947.0	15,657						3,914.1	7,828	3,914			
Yearly assumed additional capacity 2028	16.1	947.0	15,294							3,823	7,647	3,823		
Yearly assumed additional capacity 2029	15.8	947.0	14,931								3,733	7,465	7,465	
Yearly assumed additional capacity 2030	15.0	947.0	14,205					3,551	7,103	3,551		3,551	7,103	14,205
SUM					**4,151**	**6,123**	**14,933**	**25,279**	**25,864**	**19,208**	**15,294**	**14,840**	**14,568**	**14,205**

Appendix F – NPV calculation for individual wind parks and profitability results

Borssele 1&2		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
DKKm	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
Revenue		1,603	1,619	1,636	1,652	1,669	1,685	1,702	1,719	1,736	1,754	1,771	1,789	1,807	1,825	1,843	1,861	1,291	1,304	1,317	1,331	1,344	1,357	1,371	1,385	1,398	1,412	1,427	1,441	1,455	1,470	-
OPEX		451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	-
Decomm. costs																																1,466
EBITDA		1,152	1,168	1,184	1,201	1,217	1,234	1,251	1,268	1,285	1,302	1,320	1,338	1,356	1,374	1,392	1,410	840	853	866	879	893	906	920	933	947	961	975	990	1,004	1,019	(1,466)
Depreciation		326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	-
EBIT		826	842	859	875	891	908	925	942	959	977	994	1,012	1,030	1,048	1,066	1,084	514	527	540	553	567	580	594	608	621	635	649	664	678	693	(1,466)
taxes (22%)		182	185	189	192	196	200	203	207	211	215	219	223	227	231	235	239	113	116	119	122	125	128	131	134	137	140	143	146	149	152	(323)
Profit after tax		645	657	670	682	695	708	721	735	748	762	775	789	803	817	831	846	401	411	421	432	442	453	463	474	485	496	507	518	529	540	(1,144)
Depreciation		326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	326	-
Capex	9,776	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Free Cash Flow	(9,776)	970	983	996	1,008	1,021	1,034	1,047	1,061	1,074	1,088	1,101	1,115	1,129	1,143	1,157	1,172	727	737	747	758	768	778	789	800	811	821	832	844	855	866	(1,144)
Discount Factor	1	.95	.90	.86	.82	.78	.74	.70	.67	.64	.60	.57	.55	.52	.49	.47	.45	.42	.40	.38	.36	.35	.33	.31	.30	.28	.27	.26	.24	.23	.22	.21
PV	(9,776)	923	889	856	824	794	764	736	708	682	657	632	609	586	564	543	523	308	297	287	276	266	257	247	238	230	221	213	205	198	191	(239)
NPV	4,709	14,485																														
IRR	9.4%																															

	NPV	IRR
Hornsea 1	35,399	18.9%
Hornsea 2	7,529	7.7%
Gode Wind 3	1,437	8.9%
Borkum Riffgrund 3	(2,236)	3.8%
Borssele 1&2	4,709	9.4%
Ocean Wind 1	6,981	8.2%
South Fork	2,248	13.1%
Greater Changhua 1&2a	24,081	14.1%
Greater Changhua 2b&4	3,625	6.8%

Appendix G – Calculation of synergies from changes in turbine size

CAPEX savings estimate through fewer turbines/towers

reference	7.0 MW		new	12.0 MW	fewer turbines/MW		42%
CAPEX components as per IEA				assumed to scale	saving estimate		
	low	high	mid	with #towers, 1:	low	high	mid
Foundatio	20.0%	25.0%	22.5%	**1.0**	11.7%	14.6%	13.1%
Installatio	15.0%	20.0%	17.5%	**1.0**	8.8%	11.7%	10.2%
Turbines	30.0%	40.0%	35.0%	**.5**	23.8%	31.7%	27.7%
Transmissi	20.0%	30.0%	25.0%	**-**	20.0%	30.0%	25.0%
Total	*85.0%*	*115.0%*	*100.0%*		*64.2%*	*87.9%*	***76.0%***

Sources

Annual Reports Ørsted, 2016-2020, Available: https://Ørsted.com/en/investors/ir-material/financial-reports-and-presentations#financial-reports-presentations-and-fact-sheets-2021, Accessed: September 2020 until May 2021

Annual Reports RWE, 2016-2020, Available: https://www.group.rwe/en/investor-relations/financial-reports-presentations-videos/financial-reports, Accessed: March 2021

Bloomberg, 2020-2021, Trading Terminal, Available: https://bba.bloomberg.net/, Accessed: September 2020 until May 2021

Bloomberg NEF, 2020, "New Energy Outlook 2020", Available: https://about.bnef.com/new-energy-outlook/, Accessed: January 2021

Capital IQ, 2021, Available: https://www.capitaliq.com/ciqdotnet/login-sso.aspx?bmctx=05D50DFC1A22D156FEC7A630EB2EFA98&enablePersistentLogin=true&OAUTH_SSO_EEN_KEY=C57DBB5C08DA42B6E90C86AF0C895A9B1C0828BB0FD48E2881852858161950DE&password=secure_string&OAUTH_TOKEN_RESPONSE=header&contextType=external&IS_OAUTH_OAM_SSO_LINL_ENABLED=true&OAUTH_SSO_ID_DOMAIN=SPGLBDomain&IS_OAUTH_USER_ASSERTION_ENABLEE=true&OverrideRetryLimit=0&env=WAM12C&username=string&challenge_url=https%3A%2F%2Fwww.capicapit.com%2Fciqdotnet%2Flogin-sso.aspx&request_id=-7936431948267639847&authn_try_count=0&locale=de_DE&resource_url=https%253A%252F%252Fwww.cacapital.com%252FCIQDotNet%252FLogin.aspx, Accessed: September 2020 until May 2021

Credit Suisse, 2020-2021, Equity Research

Deloitte, 2021, "2021 renewable energy industry outlook", Available: https://www2.deloitte.com/us/en/pages/energy-and-resources/articles/renewable-energy-outlook.html, Accessed: April 2021

Euroland, 2021, Available: https://www.euroland.com/SiteFiles/start/start.asp, Accessed: May 2021

Exchange Rate, 2021, Available: exchange-rates.org, Accessed: May 2021

Fnfresarch, 2021, "Industry Insights", Available: https://www.fnfresearch.com/renewable-energy-market, Accessed: April 2021

IEA, 2020, "Renewables Information Overview 2020", Available: https://www.iea.org/data-and-statistics/data-products, Accessed: April 2021

IEA, 2012, "Impact of Wind Power on European Natural Gas Market", Available: https://www.iea.org/reports/the-impact-of-wind-power-on-european-natural-gas-markets, Accessed: December 2020

IEA, 2011, "Solar Energy Perspectives", Available: https://www.iea.org/reports/solar-energy-perspectives, Accessed: December 2020

IEA, 2020, "Renewables 2020 - Analysis and Forecast to 2025", Available: https://www.iea.org/reports/renewables-2020, November 2020

International Monetary Fund, 2021, "Outlook", Available: https://www.imf.org/en/Publications/WEO/weo-database/2021/April, Accessed: April 21

Mario Richter, 2012, "Utility business models for renewable energy: A review"

Moody's, 2021, "Rating Action", Available: https://www.moodys.com/research/Moodys-assigns-Baa3-ratings-to-Ørsteds-hybrid-notes-stable-outlook--PR_440224, Accessed: March 2021

Moody's, 2021, "Moody's Investor Service Annual Default Study", Available: https://www.moodys.com/Pages/Default-and-Recovery-Analytics.aspx, Accessed: March 21

NYU Stern, 2021, Available: http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/Betas.html, Accessed: April 2021

OECD, 2021, "Inflation Forecast", Available: https://data.oecd.org/price/inflation-forecast.htm#indicator-chart, Accessed: April 2021

Rating, 2021, Available: https://Ørsted.com/en/investors/debt/rating, Accessed: April 2021

UK Government Policy Paper, 2020, "Offshore Wind Sector Deal UK (2020)", Available: https://www.gov.uk/government/publications/offshore-wind-sector-deal/offshore-wind-sector-deal, Accessed: March 2021

Financial Times, 2020, "Offshore wind/UK electricity: about turn", Available: https://www.ft.com/content/e9476d30-6b28-473a-89c1-c4975e14e434, Accessed: February 2021

Power Technology, 2021, "RWE makes investment decision on Sofia Offshore wind farm, UK", Available: https://www.power-technology.com/news/rwe-takes-financial-investment-decision-sofia-offshore-wind-farm/, Accessed: April 2021

RWE, 2020, "RWE generation asset list as of 31 December 2020", Available: https://www.group.rwe/en/investor-relations/financial-reports-presentations-videos/financial-reports, Accessed: February 2021

IEA, 2019, "Offshore Wind Outlook 2019", Available: https://www.iea.org/reports/offshore-wind-outlook-2019, Accessed: February 2021

GWEC, 2020, "Global Offshore Wind Report 2020", Available: https://gwec.net/global-offshore-wind-report-2020/, Accessed: February 2021

Ørsted Press Release, 2018, "Ørsted wins 551.75MW in German offshore wind auction", Available: https://orsted.com/en/company-announcement-list/2018/04/1731313, Accessed: January 2021

International Renewable Agency (IRENA), 2020, Available: https://www.irena.org/, Accessed: October 2020

4C Offshore, 2021, https://www.4coffshore.com/, Accessed: February 2021

Global data - Webinar: From Oil to Energy: IOC Strategies for the Energy Transition, 2020, Accessed: November 2020

Disclosures and Disclaimers

Report Recommendations

Buy	Expected total return (including expected capital gains and expected dividend yield) of more than 10% over a 12-month period.
Hold	Expected total return (including expected capital gains and expected dividend yield) between 0% and 10% over a 12-month period.
Sell	Expected negative total return (including expected capital gains and expected dividend yield) over a 12-month period.

This report was prepared by Jann-Nicolas Eilers, a Master in Finance student of Nova School of Business and Economics ("Nova SBE"), within the context of the Field Lab – Equity Research.

This report is issued and published exclusively for academic purposes, namely for academic evaluation and master graduation purposes, within the context of said Field Lab – Equity Research. It is not to be construed as an offer or a solicitation of an offer to buy or sell any security or financial instrument.

This report was supervised by a Nova SBE faculty member, acting merely in an academic capacity, who revised the valuation methodology and the financial model.

Given the exclusive academic purpose of the reports produced by Nova SBE students, it is Nova SBE understanding that Nova SBE, the author, the present report and its publishing, are excluded from the persons and activities requiring previous registration from local regulatory authorities. As such, Nova SBE, its faculty and the author of this report have not sought or obtained registration with or certification as financial analyst by any local regulator, in any jurisdiction. In Portugal, neither the author of this report nor his/her academic supervisor is registered with or qualified under COMISSÃO DO MERCADO DE VALORES MOBILIÁRIOS ("CMVM", the Portuguese Securities Market Authority) as a financial analyst. No approval for publication or distribution of this report was required and/or obtained from any local authority, given the exclusive academic nature of the report.

The additional disclaimers also apply:

USA: Pursuant to Section 202 (a) (11) of the Investment Advisers Act of 1940, neither Nova SBE nor the author of this report are to be qualified as an investment adviser and, thus, registration with the Securities and Exchange Commission ("SEC", United States of America's securities market authority) is not necessary. Neither the author nor Nova SBE receive any compensation of any kind for the preparation of the reports.

Germany: Pursuant to §34c of the WpHG (*Wertpapierhandelsgesetz*, i.e., the German Securities Trading Act), this entity is not required to register with or otherwise notify the *Bundesanstalt für Finanzdienstleistungsaufsicht* ("BaFin", the German Federal Financial Supervisory Authority). It should be noted that Nova SBE is a fully-owned state university and there is no relation between the student's equity reports and any fund raising programme.

UK: Pursuant to section 22 of the Financial Services and Markets Act 2000 (the "FSMA"), for an activity to be a regulated activity, it must be carried on "by way of business". All regulated activities are subject to prior authorization by the Financial Conduct Authority ("FCA"). However, this report serves an exclusively academic purpose and, as such, was not prepared by way of business. The author - a Master's student - is the **sole and exclusive responsible** for the information, estimates and forecasts contained herein, and for the opinions expressed, which exclusively reflect his/her own judgment at the date of the report. Nova SBE and its faculty have no single and formal position in relation to the most appropriate valuation method, estimates or projections used in the report and may not be held liable by the author's choice of the latter.

The information contained in this report was compiled by students from public sources believed to be reliable, but Nova SBE, its faculty, or the students make no representation that it is accurate or complete, and accept no liability whatsoever for any direct or indirect loss resulting from the use of this report or of its content.

Students are free to choose the target companies of the reports. Therefore, Nova SBE may start covering and/or suspend the coverage of any listed company, at any time, without prior notice. The students or Nova SBE are not responsible for updating this report, and the opinions and recommendations expressed herein may change without further notice.

The target company or security of this report may be simultaneously covered by more than one student. Because each student is free to choose the valuation method, and make his/her own assumptions and estimates, the resulting projections, price target and recommendations may differ widely, even when referring to the same security. Moreover, changing market conditions and/or changing subjective opinions may lead to significantly different valuation results. Other students' opinions, estimates and recommendations, as well as the advisor and other faculty members' opinions may be inconsistent with the views expressed in this report. Any recipient of this report should understand that statements regarding future prospects and performance are, by nature, subjective, and may be fallible.

This report does not necessarily mention and/or analyze all possible risks arising from the investment in the target company and/or security, namely the possible exchange rate risk resulting from the security being denominated in a currency either than the investor's currency, among many other risks.

The purpose of publishing this report is merely academic and it is not intended for distribution among private investors. The information and opinions expressed in this report are not intended to be available to any person other than Portuguese natural or legal persons or persons domiciled in Portugal. While preparing this report, students did not have in consideration the specific investment objectives, financial situation or

particular needs of any specific person. Investors should seek financial advice regarding the appropriateness of investing in any security, namely in the security covered by this report.

The author hereby certifies that the views expressed in this report accurately reflect his/her personal opinion about the target company and its securities. He/ She has not received or been promised any direct or indirect compensation for expressing the opinions or recommendation included in this report.

[If applicable, it shall be added: *"While preparing the report, the author may have performed an internship (remunerated or not) in* [insert the Company's name]. *This Company may have or have had an interest in the covered company or security"* and/ or *"A draft of the reports have been shown to the covered company's officials (Investors Relations Officer or other), mainly for the purpose of correcting inaccuracies, and later modified, prior to its publication."]*

The content of each report has been shown or made public to restricted parties prior to its publication in Nova SBE's website or in Bloomberg Professional, for academic purposes such as its distribution among faculty members for students' academic evaluation.

Nova SBE is a state-owned university, mainly financed by state subsidies, students tuition fees and companies, through donations, or indirectly by hiring educational programs, among other possibilities. Thus, Nova SBE may have received compensation from the target company during the last 12 months, related to its fundraising programs, or indirectly through the sale of educational, consulting or research services. Nevertheless, no compensation eventually received by Nova SBE is in any way related to or dependent on the opinions expressed in this report. The Nova School of Business and Economics does not deal for or otherwise offer any investment or intermediation services to market counterparties, private or intermediate customers.

This report may not be reproduced, distributed or published, in whole or in part, without the explicit previous consent of its author, unless when used by Nova SBE for academic purposes only. At any time, Nova SBE may decide to suspend this report reproduction or distribution without further notice. Neither this document nor any copy of it may be taken, transmitted or distributed, directly or indirectly, in any country either than Portugal or to any resident outside this country. The dissemination of this document other than in Portugal or to Portuguese citizens is therefore prohibited and unlawful.