



**Ørsted**

# Interim ESG performance report

First half year 2019

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This report is a condensed version of the full-year ESG performance report. The indicators in this interim report are selected based on their relevance for quarterly reporting towards investor communities.

The interim ESG performance report can be downloaded at: [orsted.com/en/Investors/IR-material/Financial-reports-and-presentations](http://orsted.com/en/Investors/IR-material/Financial-reports-and-presentations)

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# 1.1 CFO's review – first half year

## Increased green share of generation and new ambitious targets to reduce greenhouse gas emissions

- Our total installed, decided and awarded capacity increased by 30% to 18GW from H1 2018 to H1 2019.
- Ocean Wind project selected as preferred bidder for New Jersey's first offshore wind farm with a capacity of 1.1GW.
- Sunrise Wind project selected as preferred bidder for an 800MW offshore wind farm in New York.
- Our green share of generation in H1 2019 increased from 71% to 82%.
- The greenhouse gas intensity decreased by 43% to 80g CO<sub>2</sub>e/kWh.
- We have increased the scope of our greenhouse gas intensity target to include all emissions from our own operations (scope 1) and energy sourced for our operations (scope 2).
- We have furthermore set a new ambitious target to reduce the emissions in our supply chain and from the sale of gas and fossil-based power (scope 3) by 50% in 2032.

## Fatal accident

In May, an employee of one of our contractors died after a serious accident at Avedøre Power Station. We are deeply affected by his death, and have been in close contact with the contractor, our own employees and the relatives of the deceased to offer support and assistance. We have put every effort into finding the cause of the accident and take the

necessary precautions to ensure that an accident like this will never happen again. It is crucial for us that all employees and contractors of Ørsted can be confident that they will come home safely every day.

## Energy capacity

Our total installed, decided and awarded renewable capacity increased by 30% to 18GW from H1 2018 to H1 2019.

In April 2019, we made final investment decision on the offshore wind farm Greater Changhua 1 & 2a and the onshore wind farm Sage Drew.

On 21 June, the New Jersey Board of Public Utilities selected Ørsted's Ocean Wind project to negotiate a 20-year offshore wind renewable energy certificate (OREC) for an offshore wind farm with a capacity of 1.1GW.

On 18 July, the New York State Energy Research and Development Authority (NYSERDA) selected the Sunrise Wind project to negotiate a 25-year OREC for an offshore wind farm with a capacity of 880MW. Sunrise Wind is a 50-50 partnership between Ørsted and Eversource, our partner in the New England area.

At Hornsea 1 we have now installed 131 turbines and expect the wind farm to be completed in Q4 2019. Hornsea 1 will become the world's largest offshore wind farm with a capacity of 1,218MW, almost twice the capacity of Walney Extension, which is currently the world's largest offshore wind farm.

## Power generation

Our total power generation in H1 2019 was 9.5TWh, which was 6% higher than in H1 2018.



Our total heat and power generation was 14TWh in H1 2019, of which 82% was based on renewable energy sources – an increase of 11 percentage points compared to H1 last year.

Offshore wind speeds were 1% higher than last year, but with underlying differences between locations. High windspeeds in Denmark and Germany were almost fully offset by lower windspeeds in the UK.

The offshore wind power generation increased by 10% to 5.3TWh in H1 2019. The increase was primarily due to ramp-up of power generation capacity. Despite the growth, we are not fully satisfied with our generation in the first half year where the number of outages and curtailments across the portfolio has been higher than normal.

The onshore wind farms in the US generated 1.6TWh in H1 2019.

Thermal power generation decreased by 38% to 2.6TWh relative to H1 2018. This was mainly due to the divestment of the Dutch power plant Enecogen in 2018 and lower combined heat and power generation in H1 2019 driven by lower heat demand.

## Heat generation

We generated 4.8TWh heat in H1 2019 which was a reduction of 16% compared to H1 2018 due to the warmer weather.

The sourcing of certified sustainable biomass increased by 14 percentage points to 94% certified woody biomass in H1 2019. Our target is 100% in 2020.

## Green share of energy and greenhouse gas intensity

Our total heat and power generation was 14TWh in H1 2019, of which 82% was based on renewable energy sources – an increase of 11 percentage points compared to H1 last year. The main drivers of the improvement were the increase in wind-based generation and lower thermal energy generation combined with the continued transformation from fossil fuels to biomass.

We reduced our coal consumption by 46%, and natural gas consumption by 55%. Consequently our total greenhouse gas emissions were reduced by 47% to 1.1 million tonnes CO<sub>2</sub>e in H1 2019.

The reduction in the use of fossil fuels combined with the increased energy generation from wind reduced our greenhouse gas intensity by 43% to 80g CO<sub>2</sub>e/kWh in H1 2019.

# 1.1 CFO's review – first half year continued

## New ambitious targets

Over the past decade, we have undertaken one of the most ambitious green transformations in the global energy industry, guided by our vision of creating a world that runs entirely on green energy and our strong commitment to the Paris Agreement and the UN Sustainable Development Goals.

By the end of H1 2019, we have reduced the greenhouse gas emission intensity from our energy generation by 83%, compared with 2006, through the conversion of our CHP plants to sustainable biomass and the deployment of offshore and onshore wind.

Now, we extend our decarbonisation commitment to cover the entire carbon footprint of our business, i.e. greenhouse gas scopes 1-3.

## Greenhouse gas intensity target

Until now, our greenhouse gas intensity target has only included greenhouse gas emissions from our energy generation. But we want to reduce our greenhouse gas emissions in all parts of our business. Therefore, we expand the target to include all direct greenhouse gas emissions from our entire operations (scope 1) and indirect emissions from the energy we source for our operations (scope 2).

We still maintain our target of 10g CO<sub>2</sub>e/kWh in 2025, which corresponds to a 98% reduction from 2006. To meet the target, we have a wide range of carbon reduction initiatives underway, including a full conversion of our company car fleet to electric vehicles by 2025.

## New scope 3 greenhouse gas target

With our energy generation and other operational activities well on track to become

virtually carbon free, we also take the next major step in our decarbonisation strategy by setting a new target that covers the greenhouse gas emissions related to our supply chain and to the end-use of our products (indirect emissions, scope 3). By 2032, we want to reduce our scope 3 emissions by 50% compared to 2018.

To meet the target, we will gradually reduce our natural gas and LNG sourcing portfolios, which today make up more than 80% of our total scope 3 emissions. The gradual reduction in our gas sourcing and corresponding sales over the coming decade reflects our view that natural gas will continue to play an important role in the transition towards a society fully powered by green energy, but over time must be replaced by renewable energy sources.

Furthermore, we will reinforce our engagement with our suppliers to reduce the emissions from the goods and services we source, in particular related to the construction of our wind farms, which make up one of the largest emission sources in our supply chain.





The status as at H1 2019 is a 23% reduction in our scope 3 greenhouse gas emissions compared to H1 2018, primarily driven by lower gas sales and reduced sales of fossil-based power.

You can find data for our scope 1-3 emissions and read more about our new targets on page 13, 14 and 16. Greenhouse gas accounting policy can be found on page 22.



  
**Marianne Wilnholt**  
CFO

# 1.2 Overview by business unit

Note	Indicator	Unit	 Offshore	 Onshore	 Bioenergy	 Customer Solutions	Other activities/eliminations	H1 2019	H1 2018	%
	Revenue	DKK million	13,784	248	3,238	20,241	(3,829)	33,682	38,401	(12%)
	EBITDA	DKK million	7,300	319	276	877	(17)	8,755	8,598	2%
2.1	Installed renewable capacity	MW	5,602	813	1,888	-	-	8,303	6,995	19%
2.1	Decided (FID) renewable capacity (not yet installed)	MW	4,256	625	125	-	-	5,006	3,931	27%
2.1	Awarded and contracted renewable capacity (no FID yet)	MW	4,116	630	-	-	-	4,746	2,962	60%
2.1	Total renewable capacity (installed + FID + awarded)	MW	13,974	2,068	2,013	-	-	18,055	13,888	30%
2.2	Generation capacity, power	MW	3,328	813	2,840	-	-	6,981	6,166	13%
2.2	Generation capacity, heat	MW	-	-	3,425	-	-	3,425	3,415	0%
2.3	Power generation	TWh	5.3	1.6	2.6	-	-	9.5	9.0	6%
2.3	Heat generation	TWh	-	-	4.8	-	-	4.8	5.7	(16%)
2.7	Scope 1 and 2 (market-based) GHG emissions	Thousand tonnes CO <sub>2</sub> e	23	0.04	1,118	12	1	1,154	2,119	(46%)
2.8	Scope 3 GHG emissions	Thousand tonnes CO <sub>2</sub> e	41	0.02	316	15,267	16	15,640	20,270	(23%)
2.10	Greenhouse gas intensity (scope 1 and 2)	g CO <sub>2</sub> e/kWh	4	0.03	150	-*	-*	80	144	(44%)
2.5	Green share of energy generation	%	100	100	65	-	-	82	71	11%p
3.1	Number of employees	Full-time equivalents (FTE)	2,610	81	693	1,181	1,747	6,312	5,741	10%
3.2	TRIR (total recordable injury rate) 12M rolling	Number/million hours worked	3.2	2.4	7.7	8.1	0.6	4.1	6.2	(34%)
3.2	LTIF (lost-time injury frequency) 12M rolling	Number/million hours worked	0.8	-	3.7	3.7	1.2	1.4	2.0	(30%)
3.2	Fatalities	Number	-	-	1	-	-	1	-	n.a.
4.1	Suppliers screened regarding code of conduct	Number	173	-	25	10	16	224	120	87%

\* Does not generate heat and power, hence greenhouse gas intensity cannot be calculated

# 1.3 Overview by country

Note	Indicator	Unit	Denmark	United Kingdom	Germany	Netherlands	USA	Taiwan	Other countries	H1 2019	H1 2018	%
2.1	Installed green capacity	MW	2,894	3,182	1,384	-	843	-	-	8,303	6,995	19%
2.1	- of which offshore wind	MW	1,006	3,182	1,384	-	30	-	-	5,602	5,107	10%
2.1	- of which onshore wind	MW	-	-	-	-	803	-	-	803	-	-
2.1	- of which solar	MW	-	-	-	-	10	-	-	10	-	-
2.1	- of which thermal	MW	1,888	-	-	-	-	-	-	1,888	1,888	0%
2.1	Decided (FID) renewable capacity (not yet installed)	MW	125	2,604	-	752	625	900	-	5,006	3,931	27%
2.1	Awarded and contracted renewable capacity (no FID yet)	MW	-	-	1,142	-	2,684	920	-	4,746	2,962	60%
2.1	Total renewable capacity (installed+ FID + awarded)	MW	3,019	5,786	2,526	752	4,152	1,820	-	18,055	13,888	30%
2.2	Generation capacity, power	MW	3,403	2,043	692	-	843	-	-	6,981	6,166	13%
2.2	- of which offshore wind	MW	563	2,043	692	-	30	-	-	3,328	2,775	20%
2.2	- of which onshore wind	MW	-	-	-	-	803	-	-	803	-	-
2.2	- of which thermal	MW	2,840	-	-	-	-	-	-	2,480	3,391	(27%)
2.2	- of which solar	MW	-	-	-	-	10	-	-	10	-	-
2.2	Generation capacity, heat	MW	3,425	-	-	-	-	-	-	3,425	3,415	0%
2.3	Power generation	TWh	3.7	3.1	1.0	-	1.7	-	-	9.5	9.0	6%
2.3	Heat generation	TWh	4.8	-	-	-	-	-	-	4.8	5.7	(16%)
2.5	Green share of energy generation	%	70	100	100	-	100	-	-	82	71	15%
2.9	Greenhouse gas intensity (scope 1 and 2)	g CO <sub>2</sub> e/kWh	133	5	4	-*	-*	-	-	80	141	(43%)
3.1	Number of employees (FTE)	Number	4,497	1,015	204	26	165	51	355	6,312	5,741	10%

\* Does not generate heat and power, hence greenhouse gas intensity cannot be calculated

# 2.1 Renewable capacity

Indicator	Unit	Target	H1 2019	H1 2018	%	2018	2017
<b>Installed renewable capacity</b>	<b>MW</b>	<b>30GW (2030)*</b>	<b>8,303</b>	<b>6,995</b>	<b>19%</b>	<b>8,303</b>	<b>5,763</b>
- Offshore wind power	MW	15GW (2025)**	5,602	5,107	10%	5,602	3,875
- Denmark	MW		1,006	1,006	0%	1,006	1,006
- The United Kingdom	MW		3,182	3,182	0%	3,182	1,950
- Germany	MW		1,384	920	50%	1,384	919
- USA	MW		30	-	-	30	-
- Onshore wind power, USA	MW		803	-	-	803	-
- Solar power, USA	MW		10	-	-	10	-
- Thermal heat, biomass, Denmark	MW		1,888	1,888	0%	1,888	1,888
<b>Decided (FID) renewable capacity (not yet installed)</b>	<b>MW</b>		<b>5,006</b>	<b>3,931</b>	<b>27%</b>	<b>3,931</b>	<b>5,178</b>
- Offshore wind power	MW		4,256	3,806	12%	3,806	5,053
- The United Kingdom	MW		2,604	2,604	0%	2,604	3,836
- Germany	MW		-	450	(100%)	450	465
- The Netherlands	MW		752	752	0%	752	752
- Taiwan	MW		900	-	-	-	-
- Onshore wind power, USA	MW		625	-	-	-	-
- Thermal heat, biomass, Denmark	MW		125	125	0%	125	125
<b>Awarded and contracted capacity (no FID yet) renewable capacity</b>	<b>MW</b>		<b>4,746</b>	<b>2,962</b>	<b>60%</b>	<b>2,962</b>	<b>590</b>
- Offshore wind power	MW		4,116	2,962	39%	2,962	590
- Germany	MW		1,142	1,142	0%	1,142	590
- USA	MW		2,054	-	-	-	-
- Taiwan	MW		920	1,820		1,820	-
- Onshore wind power, USA	MW		230	-	-	-	-
- Solar power, USA	MW		400	-	-	-	-
<b>Sum of installed and FID capacity</b>	<b>MW</b>		<b>13,309</b>	<b>10,926</b>	<b>22%</b>	<b>12,234</b>	<b>10,941</b>
<b>Sum of installed + FID + awarded and contracted capacity</b>	<b>MW</b>		<b>18,055</b>	<b>13,888</b>	<b>30%</b>	<b>15,196</b>	<b>11,531</b>

\* Ambition 2030 for installed renewable capacity

\*\* Target 2025 for offshore wind power, installed renewable capacity

The awarded and contracted renewable capacity increased by 60% relative to H1 2018.

In June 2019, we were awarded a new offshore project in Jew Jersey with 1.1GW capacity. The acquisition of Lincoln Clean Energy and Deepwater Wind in 2018 also contributed to the increase.

The investment decision on Greater Changhua 1 & 2a reduced the awarded capacity as the capacity was moved up to decided capacity.

Decided renewable capacity increased by 27% due to the final investment decision on the onshore wind farms Lockett and Sage

Drew and the offshore wind farm Greater Changhua 1 & 2a.

The commissioning of Borkum Riffgrund 2 reduced the decided renewable capacity as it was moved to installed capacity.

Installed renewable capacity increased by 19% relative to H1 2018 with the

commissioning of Borkum Riffgrund 2 and the acquisition of Lincoln Clean Energy and Deepwater Wind in 2018.

The changes resulted in a 30% increase in the total sum of awarded, decided and installed renewable capacity from H1 2018 to H1 2019.

## 2.2 Generation capacity

Indicator	Unit	H1 2019	H1 2018	%	2018	2017
<b>Power generation capacity</b>	<b>MW</b>	<b>6,981</b>	<b>6,166</b>	<b>13%</b>	<b>6,673</b>	<b>5,899</b>
- Offshore	MW	3,328	2,775	20%	3,018	2,508
- Denmark	MW	563	583	(3%)	563	583
- United Kingdom	MW	2,043	1,733	18%	1,733	1,465
- Germany	MW	692	460	50%	692	460
- USA	MW	30	-	-	30	-
- Onshore, USA	MW	803	-	-	803	-
- Solar, USA	MW	10	-	-	10	-
- Thermal	MW	2,840	3,391	(16%)	2,842	3,391
- Denmark	MW	2,840	2,956	(4%)	2,842	2,956
- Netherlands	MW	-	435	(100%)	-	435
<b>Heat generation capacity, thermal</b>	<b>MW</b>	<b>3,425</b>	<b>3,415</b>	<b>0%</b>	<b>3,425</b>	<b>3,415</b>
Based on biomass	MW	1,888	1,888	0%	1,888	1,888
Based on coal	MW	1,384	1,492	(7%)	1,384	1,492
Based on natural gas	MW	1,774	1,774	0%	1,774	1,774
<b>Power generation capacity, thermal</b>	<b>MW</b>	<b>2,840</b>	<b>3,391</b>	<b>(16%)</b>	<b>2,842</b>	<b>3,391</b>
Based on biomass	MW	1,190	1,098	8%	1,190	1,098
Based on coal	MW	1,016	1,130	(10%)	1,016	1,130
Based on natural gas	MW	1,010	1,447	(30%)	1,012	1,447

The power generation capacity increased by 13% from H1 2018 to H1 2019.

Offshore generation capacity increased by 20%. We have commissioned Borkum Riffgrund 2 in Germany, and Hornsea 1 is under construction.

Through the acquisition of Lincoln Clean Energy in October 2018, we have added three operating onshore wind farms, Willow

Springs, Amazon and Tahoka, as well as the solar power asset Oak to our power capacity.

Thermal power generation capacity decreased by 16%, primarily because of the divestment of the natural gas-fired Dutch power plant Enecogen. In addition, there has been a technical adjustment of the fossil-based heat and power capacity of Asnæs Power Station.

Note: Fuel-specific thermal power and heat generation capacities cannot be added to total thermal capacity as they are defined individually for each fuel type for our multi-fuel plants. All fuels cannot be used at the same time.



## 2.3 Energy generation

Indicator	Unit	Q2 2019	Q2 2018	%	H1 2019	H1 2018	%	2018	2017
<b>Power generation, Ørsted total</b>	<b>TWh</b>	<b>3.7</b>	<b>2.7</b>	<b>37%</b>	<b>9.5</b>	<b>9.0</b>	<b>6%</b>	<b>17.2</b>	<b>16.7</b>
Power generation, offshore wind	TWh	2.2	1.8	22%	5.3	4.8	10%	10.0	8.5
- Denmark	TWh	0.5	0.5	0%	1.1	1.1	0%	2.2	2.5
- United Kingdom	TWh	1.2		33%	3.1	2.9	7%	6.1	4.5
- Germany	TWh	0.5	0.4	25%	1.0	0.8	25%	1.7	1.5
- USA	TWh	0.03	-	-	0.06	-	-	0.02	-
Power generation, onshore wind, USA	TWh	0.8	-	-	1.6	-	-	0.5	-
Power generation, solar, USA	TWh	0.005	-	-	0.008	-	-	0.003	-
Power generation, thermal	TWh	0.7	0.9	(22%)	2.6	4.2	(38%)	6.7	8.2
- Denmark	TWh	0.7	0.8	(13%)	2.6	3.8	(32%)	6.3	6.0
- Netherlands	TWh	-	0.1	(100%)	-	0.4	(100%)	0.4	2.2
<b>Heat generation, Ørsted total, Denmark</b>	<b>TWh</b>	<b>1.1</b>	<b>0.9</b>	<b>22%</b>	<b>4.8</b>	<b>5.7</b>	<b>(16%)</b>	<b>8.8</b>	<b>9.0</b>

Offshore power generation increased by 10% (0.5TWh) relative to H1 2018. The increase was primarily due to ramp-up of generation from Borkum Riffgrund 2, Walney Extension and Hornsea 1, and higher wind speeds.

Walney Extension commenced generation in October 2017 and was fully commissioned in May 2018, whereas Borkum Riffgrund 2 was fully commissioned in December 2018, and Hornsea 1 is under construction.

Despite the significant growth in profits, we are not fully satisfied with our generation in H1 2019 where the number of outages and curtailments across the portfolio has been higher than normal. This was mainly related to Horns Rev 1 in Denmark due to a platform fire in October 2018 (all 79 wind turbines were back in operation at the end of June 2019), converter station outages at Borkum Riffgrund 2, as well as array cable repair campaign at London Array and various array cable and export system outages at Race Bank, West of Duddon Sands, and Burbo Bank in the

UK. In addition, we have had higher than expected non-compensated curtailments at our German wind farms in H1 2019.

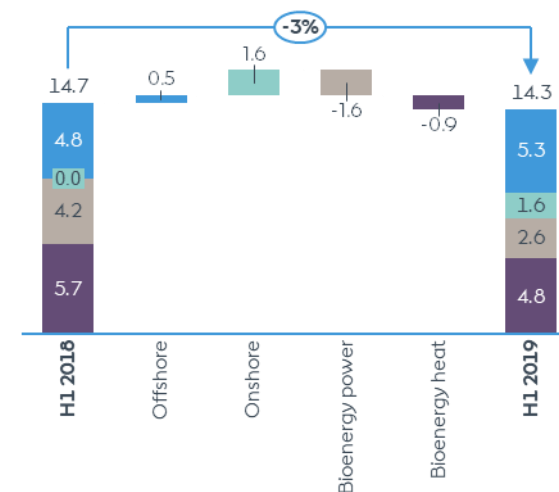
We estimate that these effects in total have resulted in a non-compensated generation shortfall of roughly 0.3TWh during H1 2019. We expect that some of these issues will persist into Q3 2019. In addition, we had 0.2TWh lower generation in H1 2019 due to curtailment, where we are fully compensated by the grid operator.

Generation in the new Onshore wind segment was 1.6TWh in H1 2019.

Thermal power generation was 38% (1.6TWh) lower than in H1 2018 because we divested our Dutch power plant Enecogen, and because we generated heat without combined power generation at Asnæs Power Station.

Thermal heat generation was 16% (0.9TWh) lower than in H1 2018 due to warmer weather, leading to a lower demand for heat.

Heat and power generation by business unit, TWh



## 2.4 Energy sales and distribution

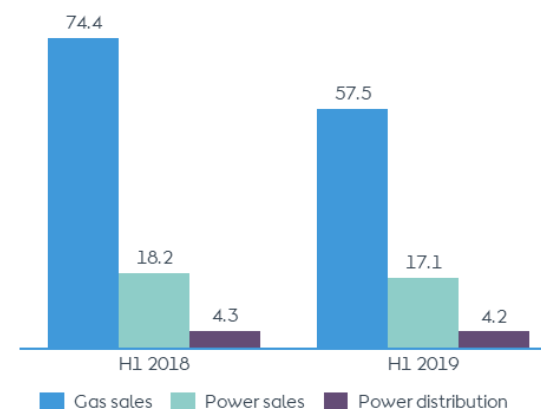
Indicator	Unit	Q2 2019	Q2 2018	%	H1 2019	H1 2018	%	2018	2017
<b>Sales and distribution</b>									
Gas sales	TWh	31.7	33.9	(6%)	57.5	74.4	(23%)	131.1	129.0
Power sales	TWh	7.4	6.7	10%	17.1	18.2	(6%)	35.2	37.5
- Green power to end-customers	TWh	-	-	-	4.6	3.8	21%	7.6	-
- Regular power to end-customers	TWh	-	-	-	1.9	2.2	(14%)	4.3	-
- Power, wholesale	TWh	-	-	-	10.6	12.2	(13%)	23.3	-
Power distribution	TWh	1.9	1.9	0%	4.2	4.3	(2%)	8.4	8.4
<b>Customer satisfaction</b>									
Customer satisfaction, B2C	Scale 1-100	72	73	(1%)	72	75	(4%)	74	76

Gas sales was down 23% at 57.5TWh in H1 2019 compared to H1 2018. This was mainly driven by a substantial drop in gas prices resulting in fewer sold gas volumes.

Power sales was down 6% at 17.1TWh in H1 2019 compared to H1 2018, primarily due to lower power prices. However, the sale of green power to end-customers increased by 21% to 4.6TWh, whereas regular (non-green) power sold to end-customers decreased by 14% to 1.9TWh.

B2C customer satisfaction as measured according to interactions between the customer and Ørsted, declined from 75 in H1 2018 to 72 in H1 2019, primarily due to a new IT system which has temporarily impacted the level of customer service.

Sales and distribution, TWh



## 2.5 Green energy share

Indicator	Unit	Target	Q2 2019	Q2 2018	%	H1 2019	H1 2018	%	2018	2017
<b>Ørsted's total power and heat generation</b>	%		<b>100</b>	<b>100</b>	<b>0%p</b>	<b>100</b>	<b>100</b>	<b>0%p</b>	<b>100</b>	<b>100</b>
- From offshore wind	%		45	50	(5%p)	37	33	4%p	39	33
- From onshore wind	%		17	-	17%p	11	-	11%p	2	-
- From biomass	%		23	30	(7%p)	34	38	(4%p)	34	31
- From solar	%		0.1	-	0%p	0.1	-	0%p	0.01	-
- From coal	%		9	17	(8%p)	12	18	(6%p)	17	19
- From natural gas	%		5	3	2%p	6	11	(5%p)	8	17
- From oil	%		0.4	0.1	0%p	0.3	0.4	(0%p)	0	0
<b>Green energy share</b>	%	<b>99 (2025)*</b>	<b>85</b>	<b>80</b>	<b>5%p</b>	<b>82</b>	<b>71</b>	<b>11%p</b>	<b>75</b>	<b>64</b>
<b>Green energy (biomass) share, Bioenergy</b>	%		<b>61</b>	<b>60</b>	<b>1%p</b>	<b>65</b>	<b>57</b>	<b>8%p</b>	<b>58</b>	<b>47</b>

\* additional target is 2023: ≥95%

The green share of heat and power generation amounted to 82% in H1 2019, up 11 percentage points relative to the same period last year. The increase was due to the addition of generation from onshore wind farms, higher generation from offshore wind farms, and lower heat and power generation based on coal and gas.

The share of generation from wind increased by 15 percentage points as a result of new offshore generation capacity in the UK and Germany as well as the acquisition of Lincoln Clean Energy in October 2018.

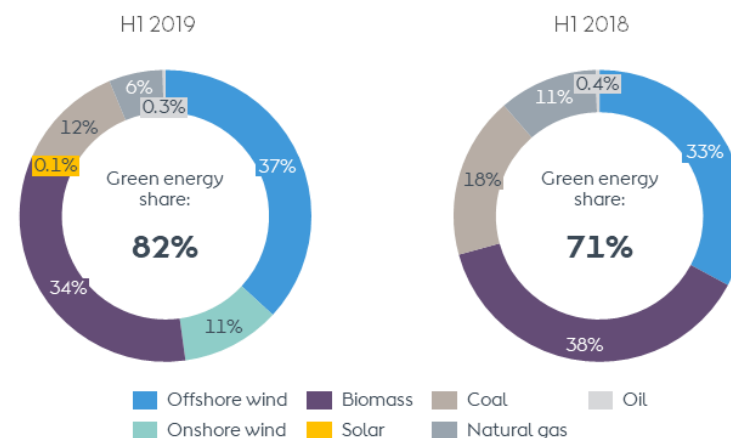
The share of generation based on biomass decreased by 4 percentage points. However,

the biomass share of energy generation in the combined heat and power plants increased by 8 percentage points to 65% in H1 2019.

The coal-based share of our generation decreased by 6 percentage points, primarily due to lower generation at the Asnæs Power Station.

The 5 percentage point reduction in the share of generation based on natural gas was due to the divestment of our 50% ownership share in the gas-fired power plant Enecogen in the Netherlands.

Total heat and power generation by energy source, %



## 2.6 Energy business drivers

Indicator	Unit	Q2 2019	Q2 2018	%	H1 2019	H1 2018	%	2018	2017
<b>Offshore wind</b>									
Availability	%	87	93	(6%p)	92	94	(2%p)	93	93
Load factor	%	31	31	0%p	41	42	(1%p)	42	44
Wind speed	m/s	8.0	7.9	1%	9.2	9.1	1%	9.1	9.3
<b>Onshore wind</b>									
Availability	%	97	-	-	97	-	-	92	-
Load factor	%	47	-	-	47	-	-	41	-
Wind speed	m/s	7.7	-	-	7.7	-	-	7.3	-
<b>Other</b>									
Degree days, Denmark	Number	269	149	81%	1,409	1,566	(10%)	2,526	2,705
Energy efficiency, thermal generation	%	72	64	8%p	79	72	7%p	71	69

### Offshore wind

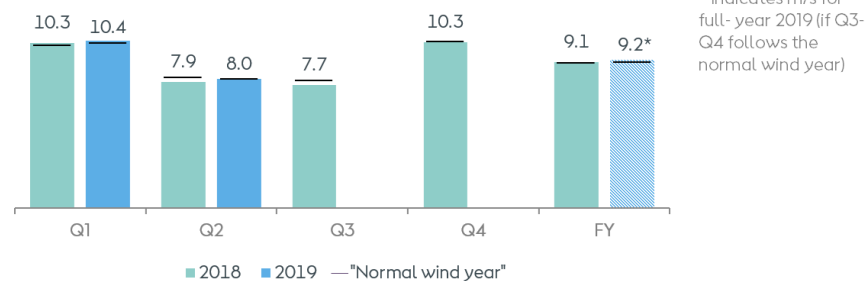
The 92% availability in H1 2019 was 2 percentage points lower compared to H1 2018. This was mainly related to Horns Rev 1 in Denmark due to a platform fire in October 2018 (all 79 wind turbines were back in operation at the end of June 2019), converter station outages at Borkum Riffgrund 2, as well as an array cable repair campaign at London Array and various array cable and export system outages at Race Bank, West of Duddon Sands and Burbo Bank offshore wind farms in the UK.

Wind speeds were slightly higher in H1 2019 than last year and amounted to an average of 9.2m/s in line with a normal wind year (9.2m/s). There were underlying differences between locations. High wind speeds in Denmark and Germany were offset by lower wind speeds in the UK.

### Onshore wind

Wind speeds averaged 7.7m/s, which was below normal wind speeds in Texas (8.4m/s).

### Wind speeds for our offshore wind farms, m/s



## 2.7 Greenhouse gas emissions, scope 1 and 2

Indicator	Unit	Q2 2019	Q2 2018	%	H1 2019	H1 2018	%	2018	2017
<b>Direct GHG emissions (scope 1)</b>									
Total scope 1 GHG emission	Thousand tonnes CO <sub>2</sub> e	320	462	(31%)	1,119	2,100	(47%)	3,483	3,949
- Carbon dioxide (CO <sub>2</sub> )	Thousand tonnes CO <sub>2</sub> e	315	457	(31%)	1,104	2,082	(47%)	3,452	3,916
- Methane (CH <sub>4</sub> )	Thousand tonnes CO <sub>2</sub> e	3	3	0%	7	8	(13%)	14	16
- Nitrogen oxide (N <sub>2</sub> O)	Thousand tonnes CO <sub>2</sub> e	2	2	0%	7	10	(30%)	16	16
- Sulphur hexafluoride (SF <sub>6</sub> )	Thousand tonnes CO <sub>2</sub> e	-	-	-	0.01	0.02	(53%)	0.6	0.6
<b>Indirect GHG emissions (scope 2)</b>									
Location-based	Thousand tonnes CO <sub>2</sub> e	31	33	(6%)	66	75	(12%)	151	98
Market-based	Thousand tonnes CO <sub>2</sub> e	17	9	89%	35	19	84%	46	221
<b>Scope 1 and 2 (market-based) GHG emissions</b>	Thousand tonnes CO <sub>2</sub> e	<b>337</b>	<b>495</b>	<b>(32%)</b>	<b>1,154</b>	<b>2,175</b>	<b>(47%)</b>	<b>3,633</b>	<b>4,047</b>

### Scope 1

For scope 1 greenhouse gas emissions, the main contributor was emissions from the combustion of fossil fuels at power plants. In H1 2019, the part of the total scope 1 emissions coming from fossil fuel-based heat and power generation was 97%.

The 47% reduction in scope 1 was mainly due to lower generation at the Asnæs and Studstrup power stations as well as reduced consumption of natural gas after the sale of the Enecogen power plant in 2018.

The remaining 2% of scope 1 emissions originate from other fuel consumption, including cars and vessels.

### Scope 2

The main source of location-based scope 2 emissions was power purchased by Customer Solutions to cover grid loss in the distribution. In H1 2019, grid losses accounted for 49% of the total location-based scope 2 emissions.

Bioenergy and Offshore purchased power during standstill and shutdown periods. Bioenergy also purchased power for three heat boilers which generate heat from power.

The rest of the scope 2 emissions originated from purchased power and heat for office buildings.

You can find data and information about our greenhouse gas intensity target including scope 1 and 2 on page 16.

## 2.8 Greenhouse gas emissions, scope 3

Indicator	Primary source of emission	Unit	Target	H1 2019	H1 2018	%	2018
<b>Indirect GHG emissions (scope 3)</b>		<b>Thousand tonnes CO<sub>2</sub>e</b>	<b>50% (2032)*</b>	<b>15,652</b>	<b>20,286</b>	<b>(23%)</b>	<b>36,234</b>
1. Purchased goods and services		Thousand tonnes CO <sub>2</sub> e		107	85	26%	226
2. Capital goods	Wind farm suppliers	Thousand tonnes CO <sub>2</sub> e		-	700	(100%)	1,032
3. Fuel- and energy-related activities	Fossil-based power sales	Thousand tonnes CO <sub>2</sub> e		1,531	1,904	(20%)	3,570
4. Upstream transportation and distribution		Thousand tonnes CO <sub>2</sub> e		-	-	-	-
5. Waste generated in operations		Thousand tonnes CO <sub>2</sub> e		0.2	0.1	100%	0.4
6. Business travel		Thousand tonnes CO <sub>2</sub> e		6	5	20%	10
7. Employee commuting		Thousand tonnes CO <sub>2</sub> e		9	8	13%	10
8. Upstream leased assets		Thousand tonnes CO <sub>2</sub> e		-	-	-	-
9. Downstream transportation and distribution		Thousand tonnes CO <sub>2</sub> e		2	2	0%	3
10. Processing of sold products		Thousand tonnes CO <sub>2</sub> e		-	-	-	-
11. Use of sold products	Natural gas sales	Thousand tonnes CO <sub>2</sub> e		13,997	17,582	(20%)	31,383
12. End-of-life treatment of sold products		Thousand tonnes CO <sub>2</sub> e		-	-	-	-
13. Downstream leased assets		Thousand tonnes CO <sub>2</sub> e		-	-	-	-
14. Franchises		Thousand tonnes CO <sub>2</sub> e		-	-	-	-
15. Investments		Thousand tonnes CO <sub>2</sub> e		-	-	-	-

\* 50% reduction from base year 2018

We have set a new target to reduce our scope 3 greenhouse gas emissions by 50% from 2018 to 2032.

Our scope 3 greenhouse gas emissions were reduced by 23% from H1 2018 to H1 2019. The main driver for this reduction was the reduced sales of gas, which is reported under the scope 3 category: '11. Use of sold products.

Gas sales was 23% lower in H1 2019 compared with H1 2018, primarily due to lower gas prices. The large reduction in gas sales from 2018 to 2019 might be partly offset in the future if gas prices increase again.

Our main strategy for reducing scope 3 emissions from gas sales is to gradually reduce our natural gas and LNG sourcing portfolio towards 2032.

The second-largest scope 3 emission category was '3. Fuel- and energy-related activities'. The main driver in this category is our power sales to end-customers.

We sell our own generated green power to B2C, SME and C&I end-customers. But we also sell regular (non-green) power to some of our SME and C&I customers. All power sales to B2C customers is green power.

The greenhouse gas emission from the fossil-based part of the power sold to end-customers was reduced by 14% from H1 2018 to H1 2019, whereas the volume of green power sold increased by 21% (see table 2.4).

Greenhouse gas emissions from capital goods cover upstream scope 3 emissions from the wind farms that were completed (had com-

mercial operation date) within the period. We did not have any scope 3 emissions from capital goods in H1 2019, whereas the wind farms Walney Extension and Race Bank achieved commercial operation date in H1 2018.

The scope 3 categories 4, 10 and 12-15 are not relevant for Ørsted, as we have no greenhouse gas emissions within these categories.

The complete 2018 full year scope 3 inventory has been reviewed by PwC.

### Scope 3 target: Base year selection and recalculation policy

2018 will be the base year for our scope 3 target, as this is the first year for which we have consolidated our scope 3 emissions.

For the purpose of tracking progress towards our target, we will adjust our base year emissions inventory for potential significant changes associated with:

- structural changes: acquisitions, divestments or mergers,
- methodology changes: updated emission factors, improved data access, updated calculation methods or protocols, etc.,
- significant errors or a number of cumulative errors,
- other relevant changes, e.g. sourcing or outsourcing.

We will recalculate the base-year emissions if the above exceeds a significance threshold of 10% of the base-year emissions.

## 2.9 Avoided carbon emissions

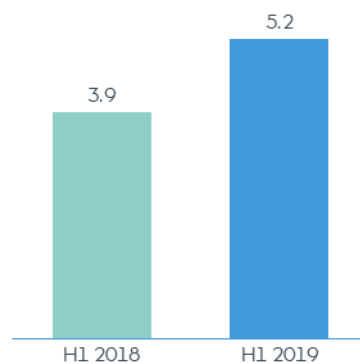
Indicator	Unit	H1 2019	H1 2018	%	2018	2017
<b>Avoided carbon emissions</b>	Million tonnes CO <sub>2</sub> e	<b>5.2</b>	<b>3.9</b>	<b>33%</b>	<b>8.1</b>	<b>6.7</b>
- Avoided carbon emissions from wind generation, offshore	Million tonnes CO <sub>2</sub> e	3.4	3.0	13%	6.3	5.3
- Avoided carbon emissions from wind generation, onshore	Million tonnes CO <sub>2</sub> e	1.1	-	-	0.4	-
- Avoided carbon emissions from biomass-converted generation	Million tonnes CO <sub>2</sub> e	0.7	0.9	(22%)	1.4	1.4
<b>Accumulated avoided carbon emissions</b>	Million tonnes CO <sub>2</sub> e	<b>39.4</b>	<b>30.1</b>	<b>31%</b>	<b>34.2</b>	<b>26.1</b>
- Accumulated avoided carbon emissions, offshore wind generation	Million tonnes CO <sub>2</sub> e	34.0	27.4	24%	30.6	24.3
- Accumulated avoided carbon emissions, onshore wind generation	Million tonnes CO <sub>2</sub> e	1.5	-	-	0.4	-
- Accumulated avoided carbon emissions, biomass-converted generation	Million tonnes CO <sub>2</sub> e	3.9	2.7	44%	3.2	1.8
<b>Carbon emissions from heat and power generation</b>						
Carbon emissions from heat and power generation	Million tonnes CO <sub>2</sub> e	1.1	2.1	(48%)	3.4	3.9
Accumulated (2006 to present year)						
Carbon emissions (from heat and power generation)	Million tonnes CO <sub>2</sub> e	122	120	2%	121	118

Compared to H1 2018, the avoided emissions increased by 33% due to the increase in wind-based power generation.

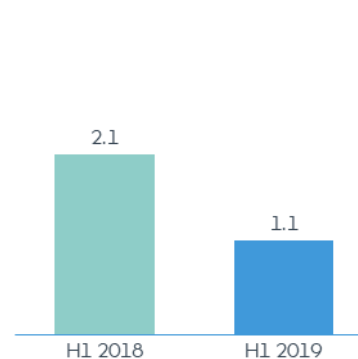
The lower heat generation in H1 2019 compared to H1 2018 resulted in a decrease in avoided emissions from biomass-converted generation.

By H1 2019, we have avoided an accumulated total of 39 million tonnes carbon dioxide since 2006. This is the result of our wind-based and biomass-converted energy generation and corresponds to 32% of the accumulated carbon emissions from thermal energy generation at Ørsted since 2006.

Avoided carbon emissions, million tonnes CO<sub>2</sub>e



Carbon emissions, million tonnes CO<sub>2</sub>e



# 2.10 Greenhouse gas indicators

Indicator	Unit	Target	Q2 2019	Q2 2018	%	H1 2019	H1 2018	%	2018	2017
<b>Greenhouse gas emission intensity</b>										
Greenhouse gas intensity, Ørsted total *	g CO <sub>2</sub> e/kWh	≤10 (2025)	71	123	(42%)	80	141	(43%)	131	151
Greenhouse gas intensity, thermal generation	g CO <sub>2</sub> e/kWh		169	250	(32%)	146	209	(30%)	222	226
CO <sub>2</sub> e per revenue, Ørsted	g CO <sub>2</sub> e/DKK		21	27	(22%)	35	59	(39%)	47	68
CO <sub>2</sub> e per EBITDA, Ørsted	g CO <sub>2</sub> e/DKK		97	161	(40%)	135	253	(47%)	121	180

\* Additional target 2023: ≤20

Ørsted's greenhouse gas emission intensity decreased by 43% from H1 2018 to H1 2019. The decrease was due to higher generation from offshore and onshore wind farms, lower thermal heat and power generation, as well as the continued shift from coal and gas to biomass and the lower use of gas following the divestment of the Enecogen power plant. The greenhouse gas intensity from thermal generation decreased by 30% because of the changes to the fuel usage as described above.

### New expanded scope of the greenhouse gas intensity target

We have expanded the scope of our greenhouse gas intensity indicator and target from:

- Greenhouse gas emissions from the chimneys of our thermal energy generation plants.

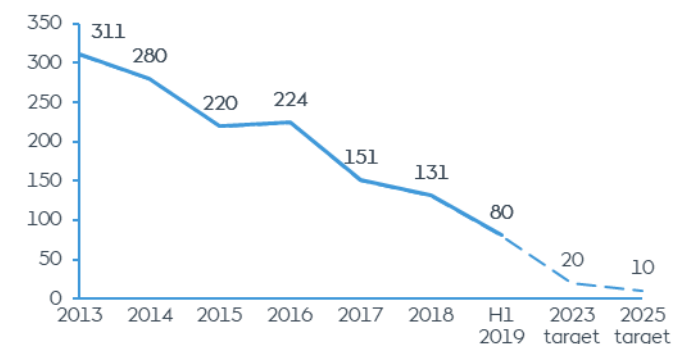
To:

- All direct carbon emissions from our entire operations (scope 1) and from the energy we source to our operations (scope 2).

We will not change the published data for the indicator from before 2019 as the difference historically is less than 3% on an annual basis. We will use the new scope from 2019 and forward.

We maintain our target of 10g CO<sub>2</sub>e/kWh in 2025, which corresponds to a 98% reduction from 2006.

Greenhouse gas intensity, g CO<sub>2</sub>e/kWh





## 2.11 Energy consumption

Indicator	Unit	Target	Q2 2019	Q2 2018	%	H1 2019	H1 2018	%	2018	2017
<b>Greenhouse gas scope 1, energy consumption</b>										
Fuel used in thermal heat and power generation	GWh		2,489	2,787	(11%)	9,434	13,649	(31%)	21,827	24,827
- Biomass	GWh		1,487	1,287	16%	5,855	6,647	(12%)	10,675	10,432
- Coal	GWh		667	1,185	(44%)	2,555	4,784	(47%)	8,201	7,460
- Natural gas	GWh		302	189	60%	957	2,119	(55%)	2,770	6,741
- Oil	GWh		33	26	27%	67	99	(32%)	181	194
Other energy usage (oil, natural gas and diesel for vessels and cars)	GWh		65	65	0%	116	111	5.0%	227	202
<b>Greenhouse gas scope 2, energy consumption</b>										
Power purchased and consumed by Ørsted	GWh		162	130	25%	348	299	16%	595	493
Heat purchased and consumed by Ørsted	GWh		7	4	75%	8	12	(33%)	21	22
<b>Share of fuels in thermal heat and power generation</b>										
- Biomass	%		60	50	10%p	62	49	13%p	49	42
- Coal	%		27	43	(16%p)	27	35	(8%p)	38	30
- Natural gas	%		12	7	5%p	10	16	(5%p)	13	27
- Oil	%		1	1	0%p	1	1	(0%p)	1	1
<b>Coal used in thermal heat and power generation</b>	<b>Thousand tonnes</b>	<b>0 (2023)</b>	<b>104</b>	<b>185</b>	<b>(44%)</b>	<b>385</b>	<b>712</b>	<b>(46%)</b>	<b>1,206</b>	<b>1,100</b>
<b>Certified renewable woody biomass sourced *</b>	<b>%</b>	<b>100 (2020)</b>	<b>94</b>	<b>76</b>	<b>17%p</b>	<b>94</b>	<b>80</b>	<b>14%p</b>	<b>83</b>	<b>72</b>
Total woody biomass sourced	Thousand tonnes		331	365	(9%)	1,281	1,471	(13%)	2,326	2,131
- wood pellets	Thousand tonnes		246	249	(1%)	927	1,097.0	(15%)	1,721	1,688
- wood chips	Thousand tonnes		85	116	(27%)	354	374.0	(5%)	605	443
Certified renewable woody biomass sourced	Thousand tonnes		310	279	11%	1,206	1,180	2%	1,921	1,539
- wood pellets	Thousand tonnes		230	203	13%	879	909	(3%)	1,462	1,168
- wood chips	Thousand tonnes		80	76	5%p	327	271	21%p	459	371

The fuel consumption decreased in H1 2019 compared to H1 2018.

The decrease in biomass and coal consumption was due to a lower generation of heat and power in H1 2019.

The lower gas consumption was due to the divestment of the Dutch power plant Enecogen and bioconversion of Skærbæk Power Station.

The certified share of renewable woody biomass increased from 80% in H1 2018 to 94% in H1 2019. The suppliers are still in the process of introducing certifications in their produc-

tion and supply chains, and many suppliers are still working on getting their entire production certified. We expect the suppliers to continually increase their share of certification.

Our target is to source all woody biomass as certified renewable by 2020.

The power purchased and consumed by Ørsted increased by 17% from H1 2018 to H1 2019.

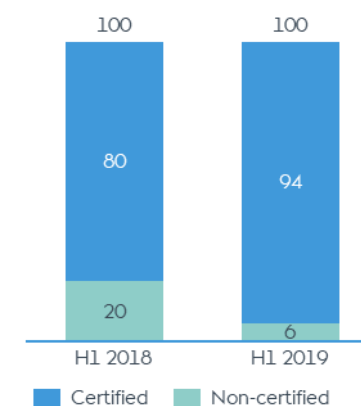
The main driver for the increase of power consumption was power used for heat generation in electric boilers. The electric boilers

are used in situations with simultaneous high power generation and high district heating demand.

The power purchased and consumed for the electric boilers and for our leased gas storages was not sourced as green power. All other power purchased and consumed by Ørsted is purchased as green power.

The heat consumption was 31% lower in 2019 because H1 2019 was warmer than H1 2018.

Sourced woody biomass, %



# 3.1 Human capital

Indicator	Unit	H1 2019	H1 2018	%	2018	2017
<b>Number of employees</b>						
Total number of employees (end of period)	Number of FTEs	6,312	5,741	10%	6,080	5,638
<b>Employees by countries</b>						
Denmark	Number of FTEs	4,497	4,341	4%	4,454	4,307
The United Kingdom	Number of FTEs	1,015	890	14%	964	898
Germany	Number of FTEs	204	202	1%	202	200
USA	Number of FTEs	165	39	323%	115	24
Taiwan	Number of FTEs	51	26	96%	35	20
Other *	Number of FTEs	380	243	56%	310	189
<b>Employees who have left the company</b>						
- Voluntary resignation	Number	338	303	12%	631	740
- Redundancy	Number	215	183	17%	398	405
- Mutual agreement	Number	92	83	11%	162	249
- Retirement	Number	21	24	(13%)	42	54
- Retirement	Number	5	8	(38%)	22	26
- Miscellaneous	Number	5	5	0%	7	6
<b>Turnover, 12 months rolling</b>						
Total employee turnover rate	%	11.4	12.5	(1.1%p)	11.2	13.2
Voluntary employee turnover rate	%	7.3	6.8	0.5%p	7.1	7.2

\* Poland 180, Malaysia 167, the Netherlands 26 and Sweden 7

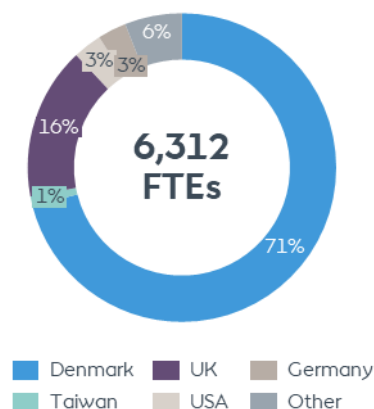
The number of employees was 10% higher at the end of H1 2019 compared to H1 2018 due to growth in existing and new markets.

The total employee turnover rate was 11.4%, which was 1.1 percentage points lower than the same half year last year.

Voluntary employee turnover rate increased from 6.8% in H1 2018 to 7.3% in H1 2019.

We monitor the voluntary employee turnover rate closely to ensure that it continues to stay at a reasonable level.

Geographical distribution of FTEs, %



## 3.2 Safety

Indicator	Unit	Target	H1 2019	H1 2018	%	2018	2017
<b>Number of lost-time injuries (LTIs)</b>	<b>Number</b>		<b>18</b>	<b>18</b>	<b>0%</b>	<b>31</b>	<b>32</b>
- own employees	Number		7	9	(22%)	12	7
- contractor employees	Number		11	9	22%	19	25
<b>Total recorded injuries (TRIs)</b>	<b>Number</b>		<b>42</b>	<b>52</b>	<b>(19%)</b>	<b>98</b>	<b>125</b>
- own employees	Number		19	22	(14%)	37	44
- contractor employees	Number		23	30	(23%)	61	81
<b>Hours worked</b>	<b>Million hours worked</b>		<b>10.5</b>	<b>9.9</b>	<b>6%</b>	<b>21.0</b>	<b>19.6</b>
- own employees	Million hours worked		5.2	4.7	11%	9.7	9.4
- contractor employees	Million hours worked		5.3	5.2	2%	11.3	10.2
<b>Number of lost-time injuries (LTIs), 12M rolling</b>	<b>Number</b>		<b>31</b>	<b>39</b>	<b>(21%)</b>	<b>31</b>	<b>32</b>
- own employees	Number		10	13	(23%)	12	7
- contractor employees	Number		21	26	(19%)	19	25
<b>Total recorded injuries (TRIs), 12M rolling</b>	<b>Number</b>		<b>88</b>	<b>120</b>	<b>(27%)</b>	<b>98</b>	<b>125</b>
- own employees	Number		34	43	(21%)	37	44
- contractor employees	Number		54	77	(30%)	61	81
<b>Hours worked, 12M rolling</b>	<b>Million hours worked</b>		<b>21.6</b>	<b>19.4</b>	<b>11%</b>	<b>21.0</b>	<b>19.6</b>
- own employees	Million hours worked		10.1	9.4	7%	9.7	9.4
- contractor employees	Million hours worked		11.5	10.0	15%	11.3	10.2
<b>Lost-time injury frequency (LTIF), 12M rolling</b>	<b>Per million hours worked</b>		<b>1.4</b>	<b>2.0</b>	<b>(30%)</b>	<b>1.5</b>	<b>1.6</b>
LTIF, own employees, 12M rolling	Per million hours worked		1.0	1.4	(29%)	1.2	0.7
LTIF, contractor employees, 12M rolling	Per million hours worked		1.8	2.6	(31%)	1.7	2.5
<b>Total recordable injury rate (TRIR), 12M rolling</b>	<b>Per million hours worked</b>	<b>3.3 (2020)</b>	<b>4.1</b>	<b>6.2</b>	<b>(34%)</b>	<b>4.7</b>	<b>6.4</b>
TRIR, own employees, 12M rolling	Per million hours worked		3.4	4.6	(26%)	3.8	4.7
TRIR, contractor employees, 12M rolling	Per million hours worked		4.7	7.7	(39%)	5.4	7.9
<b>Fatalities</b>	<b>Number</b>		<b>1</b>	<b>0</b>	<b>n.a.</b>	<b>0</b>	<b>0</b>
<b>Permanent disability cases</b>	<b>Number</b>		<b>0</b>	<b>0</b>	<b>n.a.</b>	<b>0</b>	<b>0</b>

On 1 May 2019, Ørsted experienced a fatal accident at Avedøre Power Station where a contractor was buried under coal during work in a silo. An independent investigation has been completed to identify the root causes, and a number of mitigating and/or preventive actions have been initiated.

Apart from the fatal accident, the safety performance indicators developed positively from H1 2018 to H1 2019, with both LTIF and TRIR decreasing.

The number of total recorded injuries decreased by 19%. However, the number of lost-time injuries remained the same as in H1 2018.

Compared to H1 2018, the total number of hours worked in H1 2019 increased by 0.6 million hours or 6%. The contractor hours at the Hornsea 2 project increased by 0.4 million as the project has ramped up. This was offset by Borkum Riffgrund 2 which was commissioned in December 2018, and consequently, the number of man hours has decreased.

Bioenergy has increased contractor working hours by 1.1 million compared to H1 2018 due to a rise in construction activities, primarily for the Asnæs biomass conversion project. The acquired Onshore business activities added 0.3 million hours.

# 4.1 Responsible Business Partner Programme

Indicator	Unit	H1 2019	H1 2018	%	2018	2017
<b>Screenings</b>						
Pre-qualification screenings in high-risk countries	Number	7	15	(53%)	22	n.a.
Risk screenings (all contracts above DKK 3 million)	Number	175	80	119%	160	157
Extended risk screenings	Number	42	25	68%	66	56
<b>Assessments</b>						
Self-assessments	Number	16	5	220%	13	10
Comprehensive assessments	Number	14	6	133%	11	13
<b>Improvement areas</b>						
Opened improvement areas	Number	73	67	9%	93	51
- Sustainability management	%	56	45	11%p	45	37
- Labour and human rights	%	38	37	1%p	37	35
- Environment	%	0	4	(4%p)	4	22
- Anti-corruption	%	6	13	(7%p)	14	6

Screenings and assessments are subject to the time schedule of the individual projects and the procurement priorities from year to year.

Fewer pre-qualification screenings were conducted in H1 2019 compared to H1 2018, due to the completion of the screenings related to the Taiwan project in Q1 2019.

The number of risk screenings and extended risk screenings increased, mainly because of increased business activities (signed contracts) in H1 2019.

Both the number of self-assessments and comprehensive assessments has increased in H1 2019, mainly due to the pre-contract assessment of a large number of potential suppliers in high-risk areas, such as the Asia-Pacific region.

# Accounting policies

## 2.1 Renewable capacity

### Installed renewable capacity

The installed renewable capacity is calculated as the cumulative renewable gross capacity installed by Ørsted before divestments.

For installed renewable thermal capacity, we use the heat capacity, as heat is the primary outcome of thermal energy generation, and as bioconversions of the combined heat and power plants are driven by heat contracts.

### Decided (FID) renewable capacity

Decided (FID) capacity is the renewable capacity for which a final investment decision (FID) has been made.

### Awarded and contracted renewable capacity

The awarded renewable capacity is based on the capacities which have been awarded to Ørsted in auctions and tenders. The contracted capacity is the capacity for which Ørsted has signed a contract or power purchase agreement (PPA) concerning a new renewable energy plant. Typically, offshore wind farms are awarded, whereas onshore wind farms are contracted. We include the full capacity if more than 50% of PPAs/offtake are secured.

## 2.2 Generation capacity

### Power generation capacity

Power generation capacity from wind farms is calculated and included from the time when the individual wind turbine has passed a 240-hour test.

The Gunfleet Sands and Walney 1 and 2 offshore wind farms have been consolidated according to ownership interest. Other wind farms and CHP plants are financially consolidated.

### Heat and power generation capacity, thermal

The thermal heat and power generation capacity is a measure of the maximum capability to generate heat and power.

The capacity can change over time with plant modifications. For each power station, the capacity is given for generation with the primary fuel mix. Overload is not included.

Fuel-specific capacities measure the maximum capacity using the specified fuel as primary fuel at the multi-fuel plants. Therefore, the total sum amounts to more than 100%.

Power stations which have been taken out of primary operation and put on standby are not included.

## 2.3 Energy generation

### Power generation

Power generation from wind farms is determined as sold generation. The Gunfleet Sands and Walney 1 and 2 offshore wind farms have been consolidated according to ownership interest.

Thermal power generation is determined as net generation sold based on settlements from the official Danish production database. Data for generation from foreign facilities are provided by the operators.

### Heat generation

Thermal heat (including steam) generation is measured as net output sold to heat customers.

## 2.4 Energy sales and distribution

### Sales and distribution

Sales of power and natural gas are calculated as physical sales to retail and wholesale customers and exchanges. Sales of power and gas are based on readings from Ørsted's trading systems. Internal sales to Bioenergy are not included in the statement.

Power distribution is determined on the basis of data from the official system in Denmark which measures and calculates total area consumption.

## Customer satisfaction

Customer satisfaction for residential customers (B2C) in Denmark is measured according to interaction between the customer and Ørsted. The score is therefore not an expression of customers' overall satisfaction with Ørsted, but is rather related to a given situation. The score is calculated as a weighted score based on a number of different types of touch points. The current touch points are customer service for gas and power, outbound sales and web. An external supplier conducts interviews.

## 2.5 Green energy share

### Green energy share

The green (renewable energy) share of our heat and power generation and the distribution of the generation on the individual energy sources and fuels are calculated on the basis of the energy sources used and the energy generated at the different energy plants.

Wind and solar-based generation is computed as the input from the individual plant (wind and solar), as there is only one source of power for each plant. For CHP plants, the share of the specific fuel (e.g. biomass) is calculated relative to the total fuel consumption for a given plant/unit within a given time period. The specific fuel share is then multiplied with the total heat and power generation for the specific plant/unit in the specific period. The result is the fuel-based generation for the individual unit – for example the biomass-based generation of heat and power from the CHP plant unit within a given time period.

Energy generation based on fuel, wind and solar is added up to a total which tallies with total generation. The percentage share of the individual energy sources is calculated by dividing generation from individual energy source with the total generation.

The following energy sources and fuels are considered renewable energy: wind, solar and biomass.

The following energy sources are considered fossil energy sources: coal, natural gas and oil.

## 2.6 Energy business drivers

### Availability

Offshore: The production-based availability (PBA) is calculated as the ratio of actual production to the possible production, which is the sum of lost production and actual production in a given period. PBA is impacted by grid and turbine outages, which are technical production losses. PBA is not impacted by market requested shutdowns and park curtailment, as it is deemed not to be reflective of site performance but due to external factors.

Onshore: The time-based availability factor is calculated as the ratio of the number of hours the wind farms are available for power generation to the total number of hours in a given period. Total availability is determined by weighting the individual wind farm's availability against the capacity of the wind farm. Availability is not commercially adjusted nor impacted by market-regulated factors.

### Load factor

The load factor is calculated as the ratio between actual generation over a period relative to potential generation, which is possible by continuously exploiting the maximum capacity over the same period. The load factor is commercially adjusted. Commercially adjusted means that, for Danish and German offshore wind farms, load factor is adjusted if the offshore wind farm has been financially compensated by the transmission system operators in situations where the offshore wind farm is available for generation, but the output cannot be supplied to the grid due to maintenance or grid interruptions. Wind farms in other countries are not compensated for non-access to the grid.

New wind turbines are included in the calculation of availability and load factor once they have passed a

# Accounting policies continued

240-hour test.

## Wind speed

Wind speeds for the areas where Ørsted's offshore wind farms are located are provided to Ørsted by an external supplier. Wind speeds are weighted on the basis of the capacity of the individual offshore wind farms and consolidated to an Ørsted total.

Onshore wind speed is based on wind speed measurements from anemometers on the wind turbines.

## Degree days

Degree days are a measure of how cold it has been and thus indicate the amount of energy needed to heat a building. The number of degree days helps to compare the heat demand for a given year with a normal year. The number of degree days expresses the difference between an average indoor temperature of 17°C and the outside mean temperature for a given period. The need for heat increases with the number of degree days.

## Energy efficiency, thermal generation

Energy efficiency is calculated as total thermal heat and power generation divided by total energy content of fuels used in the generation of thermal heat and power.

## 2.7 Greenhouse gas emissions (GHG), scope 1 and 2

Scope 1 and 2 greenhouse gas emissions are reported based on the Greenhouse Gas Protocol.

### Direct GHG emissions (scope 1)

The direct scope 1 emissions are all direct emissions of greenhouse gases from Ørsted.

The direct carbon dioxide emissions from the thermal heat and power plants are determined on the basis of the fuel quantities used in accordance with the EU Emissions Trading System (ETS) scheme. Carbon dioxide emissions outside the EU ETS scheme are calculated as energy consumptions multiplied by emission factors.

Methane and nitrous oxide emissions from combustion of fuel at thermal power plants are calculated based on the fuel consumption and a standard factor. The emissions of methane from Fredericia Oil Terminal are calculated based on a specific on-site emission factor and the oil flow. For both methane and nitrous oxide, the emissions are converted into carbon dioxide equivalents.

Sulphur hexafluorides are measured as kilogrammes refilled sulphur hexafluoride gas at substations operated by Radius. For Offshore, the sulphur hexafluoride gas consumption is calculated based on the generation capacity and a standard factor.

### Indirect GHG emissions (scope 2)

The scope 2 emissions include the indirect GHG emissions from the generation of electricity, heat and steam purchased and consumed by Ørsted. The calculation uses the volumes purchased and consumed, multiplied by country-specific factors for calculating carbon dioxide equivalents. Location-based uses country-specific average grid-mix emissions factors. Market-based accounts for green low-carbon energy purchased and subsequent residual non-green country-specific emission factors.

## 2.8 Greenhouse gas emissions (GHG), scope 3

### Indirect GHG emissions (scope 3)

The scope 3 greenhouse gas emissions are reported based on the Greenhouse Gas Protocol which divides the scope 3 inventory into 15 subcategories.

GHG emissions from purchased goods and services are calculated based on spend reports from our SAP system. All spends are divided into categories where relevant emissions factors are used to calculate the GHG emissions from each spend category.

GHG emissions from capital goods include upstream GHG emissions from installed wind farms. We calculate the emissions based on GHG life-cycle data from one of our wind turbine suppliers. Carbon emissions are included from cradle to operation and

maintenance for single wind turbines. Wind farms are included in the month where the wind farm passes commercial operation date.

GHG emissions from fuel- and energy-related activities are calculated based on actual fuel consumption and power sales as reported in our ESG consolidation system. The fuel consumptions are multiplied with emissions factors to calculate the upstream GHG emissions from extraction, mining, forestry, transportation etc. for the fuels. We include all power sales to end-customers and use separate emission factors for green and non-green power sales.

GHG emissions from upstream transportation and distribution are included in the emissions factors we use for purchases and sale and are therefore not reported separately.

GHG emissions from waste generated in operations are calculated based on actual waste generated as reported in our ESG consolidation system. Waste amounts are multiplied with the relevant emissions factors.

GHG emissions from business travel are calculated based on km allowances for employee travel in own cars. GHG emissions from airplane travel is provided by our travel agent.

GHG emissions from employee commuting are calculated based on estimates for distance travelled and travel type (e.g. car and train).

GHG emissions from downstream transportation and distribution are calculated based on actual volumes of residual products generated from our thermal energy plants. The transportation of the residual products is estimated based on end-user locations, and the volumes and distance transported are multiplied with relevant GHG emissions factors for transportation.

GHG emissions from use of sold products are calculated based on actual sales of gas (to both end-

users and wholesale) as reported in our ESG consolidation system. The total gas sale is divided into natural gas, LNG gas and biogas which have specific up- and downstream emission factors.

## 2.9 Avoided carbon emissions

### Avoided carbon emissions

The avoided carbon emissions due to generation from offshore and onshore wind farms are calculated on the basis of the assumption that the generation from wind farms replaces an equal quantity of power generated using fossil fuels.

The carbon emission factor from fossil fuels is calculated based on an average fossil fuel mix in a specific country. Data is extracted from the International Energy Agency, IEA. Power generation at a wind farm does not directly emit carbon dioxide, and no secondary effects from either power plants or offshore wind farms are included. The avoided carbon emissions are calculated as the offshore wind farm's generation multiplied by the emission factor.

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

The following secondary carbon emissions are included in the calculation:

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

The accounting policies for avoided carbon emissions follow the principles of the GHG Project Proto-

# Accounting policies continued

col and the United Nations Framework Convention on Climate Change (UNFCCC) methodology.

## Carbon emissions

Accounting policies are described under 2.7 'Greenhouse gas emissions (GHG)'.

## 2.10 Greenhouse gas indicators

### Greenhouse gas emission intensity

Greenhouse gas intensity is defined as the scope 1 and 2 greenhouse gas emissions divided by the total heat and power generation.

Greenhouse gases comprise greenhouse gas emissions in accordance with the GHG Protocol.

Carbon dioxide equivalents per revenue and EBITDA are calculated using the sum of emissions from scope 1 and market-based scope 2 and Ørsted's financial revenue and EBITDA (business performance).

## 2.11 Energy consumption

### Fuels used in thermal heat and power generation

Fuels used in thermal heat and power generation at the power stations are the total of each fuel type used for both heat and power generation.

Biomass covers all kinds of biomass-based fuels used in thermal generation, including wood pellets, wood chips, straw, bio oil and sunflower husk pellets.

### Certified renewable woody biomass sourced

Certified biomass is defined as woody biomass, i.e. wood pellets and wood chips. Biomass is measured as sourced woody biomass delivered to the individual combined heat and power plants within the reporting period.

Certified sustainable woody biomass sourced must be certified within at least one of the claim categories accepted by the Danish industry agreement on certified biomass. Accepted claim categories are: FSC 100%, FSC Mix, PEFC 100%, and SBP compliant. Certified biomass is calculated as the amount of sourced woody biomass compared to the total

amount of sourced woody biomass delivered to individual power stations within the reporting period.

### Fuels used in thermal heat and power generation

Fuels used in thermal heat and power generation cover all fuels used at the power stations.

### Share of fuels in thermal heat and power generation

The share of the different fuels in thermal heat and power generation is calculated as the share of the individual fuel consumption in GJ relative to the total fuel volume in GJ.

### Other energy usage

Other energy usage covers usage of oil, natural gas and diesel. This consumption covers, for example, oil for small power generators at building sites, gas consumption for heating, and diesel for vessels and cars. Consumption of natural gas, flaring and venting carried out for safety or similar purposes are included. For gas treatment and gas storage facilities, the amounts are calculated on the basis of pressure and the dimensions of the process equipment that is emptied as well as by means of accredited measuring of the continuous safety flaring.

## 3.1 Human capital

### Employees

Our reporting covers contractually employed employees in all Ørsted companies where Ørsted holds an ownership interest of more than 50%. Employees in associates are not included.

Employee data are recognised based on records from the Group's ordinary registration systems. The number of employees is determined as the number of employees at the end of each month converted to full-time equivalents (FTEs).

Employees who have been made redundant are recognised until the expiry of their notice period, regardless of whether they have been released from all or some of their duties during their notice period.

### Turnover

The employee turnover rate is calculated as the

number of permanent employees who have left the company, relative to the average number of permanent employees in the financial year.

## 3.2 Safety

Occupational injuries are calculated according to operational scope. Data from companies wholly or partly owned by Ørsted, and where Ørsted is responsible for safety, is included. Occupational injuries and lost-time injuries are calculated for both our own employees and suppliers. Data from all Ørsted locations are recognised.

The lost-time injury frequency (LTIF) is calculated as the number of lost-time injuries per one million hours worked. The number of hours worked is based on 1,667 working hours annually per full-time employee and monthly records of the number of employees converted into full-time employees. For suppliers, the actual number of hours worked is recognised on the basis of data provided by the supplier, access control systems at locations or estimates.

LTIF includes lost-time injuries defined as injuries that result in incapacity to work for one or more calendar days in addition to the day of the incident. In addition to lost-time injuries, TRIR also includes injuries where the injured person is able to perform restricted work the day after the accident as well as accidents where the injured person has received medical treatment.

Fatalities are the number of employees who lost their lives as a result of a work-related incident. Permanent disability cases are injuries resulting in irreversible damage with permanent impairment which is not expected to improve.

## 4.1 Responsible Business Partner Programme

The Responsible Business Partner Programme (RPP) has been integrated into our procurement department's supplier contract screenings from 2015. The programme applies a risk-based due diligence framework to identify areas within our Code of

Conduct where relevant suppliers need to improve their adherence to the code.

## Screenings

We do risk screenings on all sourcing contracts above DKK 3 million. Based on the risk screening evaluation, we conduct extended risk screenings of selected suppliers where additional parameters are included. Furthermore, additional extended screening procedures take place for all fuel suppliers as well as for top-spend suppliers.

## Assessments

Based on the results from the extended screenings, several suppliers are asked to complete a self-assessment questionnaire, and/or we decide to conduct a comprehensive assessment which often includes a visit to their production facilities.

## Improvement areas

Based on the results of the assessment, an improvement plan is developed, covering all findings from the assessment.

## Other responsible business partner programme procedures

A pilot approach has been implemented where suppliers in new markets are screened as part of the pre-qualification phase.