

# Global Offshore Wind Report

1<sup>st</sup> half 2020



August 2020



WORLD FORUM  
OFFSHORE WIND

# Top 5 facts about WFO

## WFO: 100% Offshore Wind



**Non-profit**  
organisation  
founded in 2018



**Initiatives**  
Floating Offshore  
Wind Committee



**40 + global**  
member  
organisations



**Global setup**  
offices in Hamburg  
and Singapore



**Core activities**

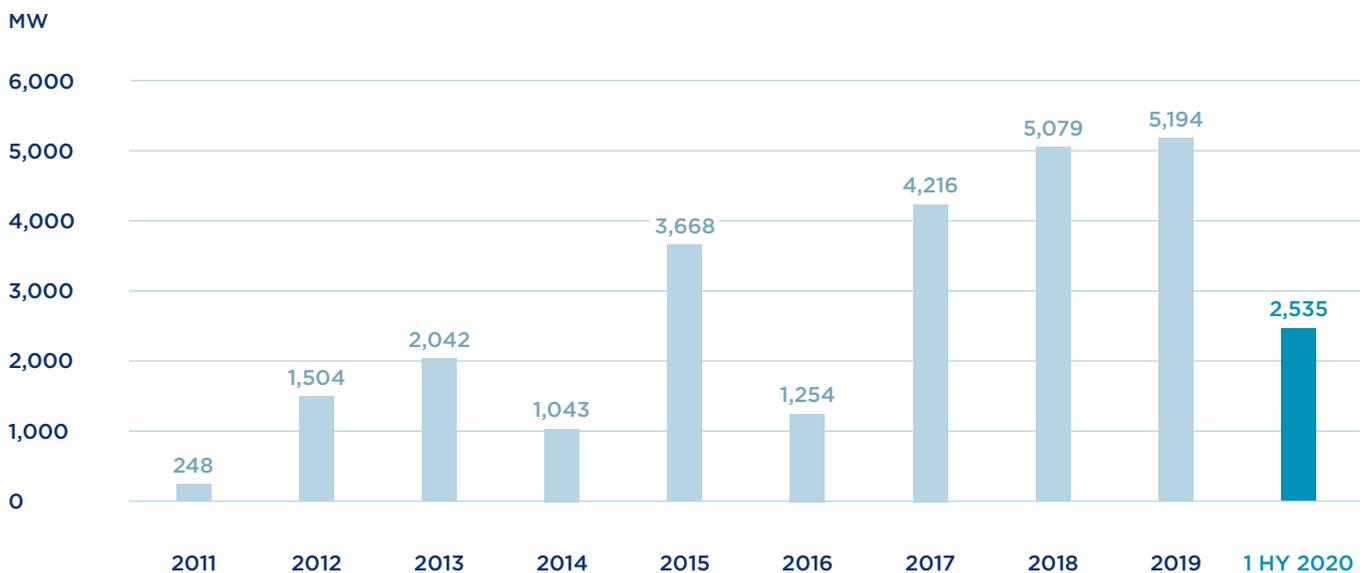
1. Networking & Events
2. Information & Reports
3. NGO & Government Advisory

**World Forum Offshore Wind (WFO)** is the world's first organisation 100% dedicated to fostering the global growth of offshore wind energy. WFO's international members represent the complete offshore wind value chain including utilities, manufacturers, service firms and non-profit organisations.

# 1<sup>st</sup> half 2020

## Continued offshore wind growth despite COVID-19

### Annually added global offshore wind capacity



- With more than **2.5 GW** of globally added capacity during HY1 2020, the offshore wind industry continues to grow despite COVID-19
- Globally **10** new offshore wind farms went into operation<sup>1</sup> in UK, China, Germany, Portugal, Belgium and USA
- The average size of a newly added offshore wind farm during the first half of 2020 was **254 MW** compared to **325 MW** in 2019

<sup>1</sup> In operation: all turbines installed and first electricity being generated



# 2.5 GW

1<sup>st</sup> HY 2020: globally added offshore wind capacity

# Global expansion

## Offshore wind capacity reaches nearly 30 GW

### Global offshore wind capacity in operation<sup>2</sup> — cumulative



<sup>2</sup> In operation: all turbines installed and first electricity being generated

- Globally installed offshore wind capacity reached nearly **30 GW**<sup>3</sup> by the end of June 2020
- Second half of 2020 expected to see **continued global build-out** of offshore wind capacity
- Worldwide **157** offshore wind farms<sup>4</sup> are currently in operation: 105 are located in Europe, 50 in Asia, two in USA

<sup>3</sup> In total 38.5 MW of offshore wind capacity have already been decommissioned

<sup>4</sup> Definition: project consisting of at least two offshore wind turbines



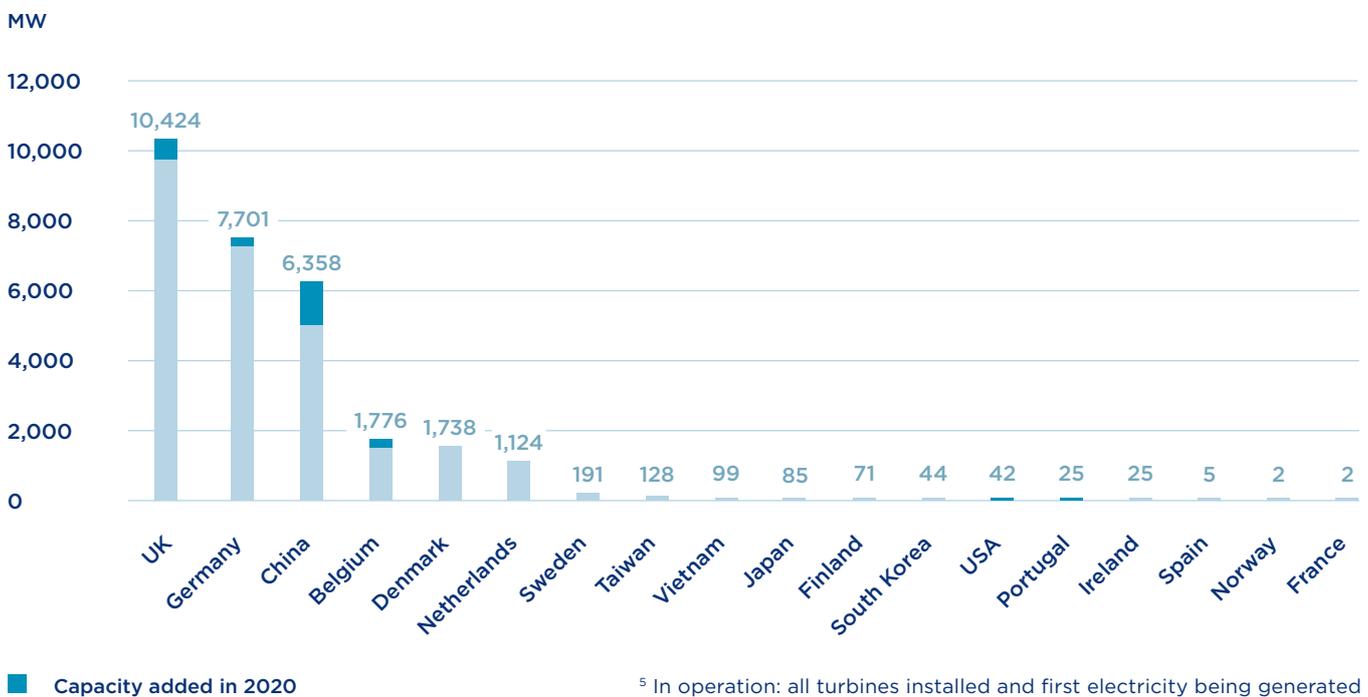
# 30 GW

Global offshore wind capacity in operation

## Top markets

China is growing rapidly and Belgium overtook offshore wind pioneer Denmark

### Global offshore wind capacity in operation<sup>5</sup> – by country



- The **UK** remains the world's biggest offshore wind market with more than **10 GW** of installed capacity of which **714 MW** were added during the 1<sup>st</sup> half of 2020
- **Germany** retains its second place with a total of **7.7 GW**, but only **203 MW** of new capacity were added during the first 6 months of 2020
- **China** is growing rapidly with **1.4 GW** of newly installed capacity during the first half of 2020 increasing the total installed capacity to **6.4 GW**



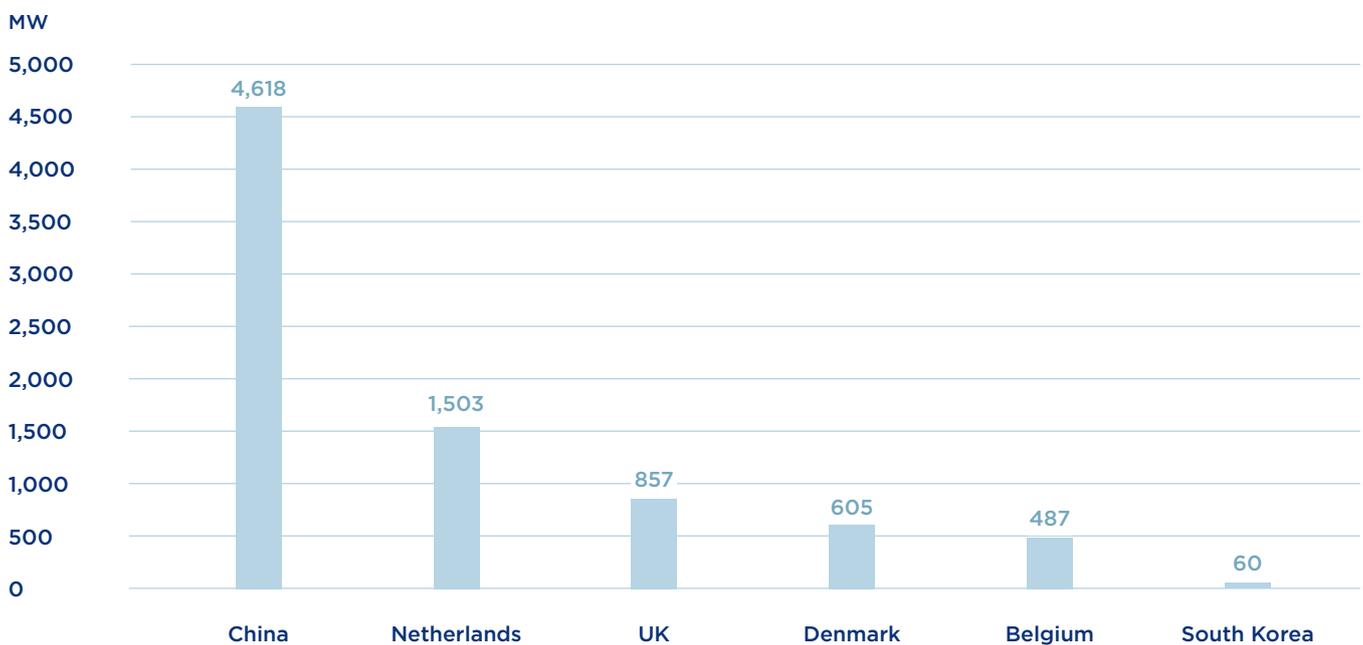
# 1.4 GW

Chinese offshore wind capacity added in 1<sup>st</sup> HY 2020

## Construction

57% of offshore wind capacity currently installed in China, none in Germany

### Global offshore wind capacity under construction<sup>6</sup> until end of HY1 2020



<sup>6</sup> Under construction: first offshore wind foundation installed

- **China's** offshore wind sector continues to grow rapidly with a total capacity of **4.6 GW** currently under construction, poised to overtake Germany soon
- **Belgium** continues its steady offshore build-out and adds another **487 MW** of offshore wind capacity which will take Belgium across the 2 GW threshold
- **Germany's** disruptive regulatory changes are reflected by **zero construction** activities in Germany during the 1<sup>st</sup> HY 2020



# 4.6 GW

Chinese offshore wind capacity under construction

# In detail

## Global offshore wind farms under construction

Wind Farm	MW	Units	MWunit	Turbine	Location
1 Borssele 5	19	2	9.5	MHI-Vestas V164-9.5	NL
2 Southwest Offshore Demonstration Phase 1	60	20	3.0	7 WinDS 3000/100, 13 WinDS 3000/134	KR
3 Longyuan Putian Nanri Island Phase 1	200	50	4.0	Siemens Gamesa SWT-4.0-130	CH
4 Fujian Putian City Flat Bay (Zone F)	200	29	7.0	Siemens Gamesa SWT 7.0-154	CH
5 Pingtan Changjiangao	204	37	5.5	Mingyang MYSE5.5-155	CH
6 Daishan 4	234	54	4.3	18 SG 4.0-130, 36 EN148-4.5	CH
7 Fuqing Xinghuawan Offshore Wind Phase I	280	35	8.0	Goldwind GW 175-8.0	CH
8 Datang Jiangsu Binhai	300	95	3.2	MingYang SCD 3MW	CH
9 Laoting Bodhi Island	300	75	4.0	Siemens Gamesa SG 4.0-130	CH
10 Tangshan Area 6 Phase 2	300	75	4.0	Siemens Gamesa SG 4.0-130	CH
11 Sheyang H1	300	67	4.5	Envision EN148-4.5	CH
12 CTGNE Yangjiang Shapa Phase 1	300	55	5.5	Mingyang MYSE5.5-155	CH
13 Yangjiang Nanpengdao	300	55	5.5	Mingyang MYSE5.5-155	CH
14 CGN Yangjiang Nanpeng Island	400	73	5.5	Mingyang MYSE5.5-155	CH
15 Jieyang Shenquan	400	73	5.5	Mingyang MYSE5.5-155	CH
16 Three Gorges Renewables YangXi II	400	73	5.5	Mingyang MYSE5.5-155	CH
17 SeaMade	487	58	8.4	Siemens Gamesa SG 8.0-167 DD	BE
18 Shanwei Houhu Offshore Wind Phase I	500	91	5.5	Mingyang MYSE5.5-155	CH
19 Kriegers Flak	605	72	8.0	Siemens Gamesa SG 8.0-167 DD	DK
20 Borssele 3 & 4	732	77	9.5	MHI Vestas V164-9.5	NL
21 Borssele 1 & 2	752	94	8.0	Siemens Gamesa SG 8.0-167 DD	NL
22 Triton Knoll	857	90	9.5	MHI-Vestas V164-9.5	UK
<b>Total <sup>7</sup></b>	<b>8,130</b>				

<sup>7</sup> Moray East (950 MW, UK) installed the first offshore foundation in early July 2020

- More than **8 GW** of offshore wind capacity under construction **worldwide**
- **57%** of the global offshore wind capacity currently being installed in **China**
- The **average size** of projects under construction worldwide is **370 MW**

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