Global Offshore Wind Report

1st 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

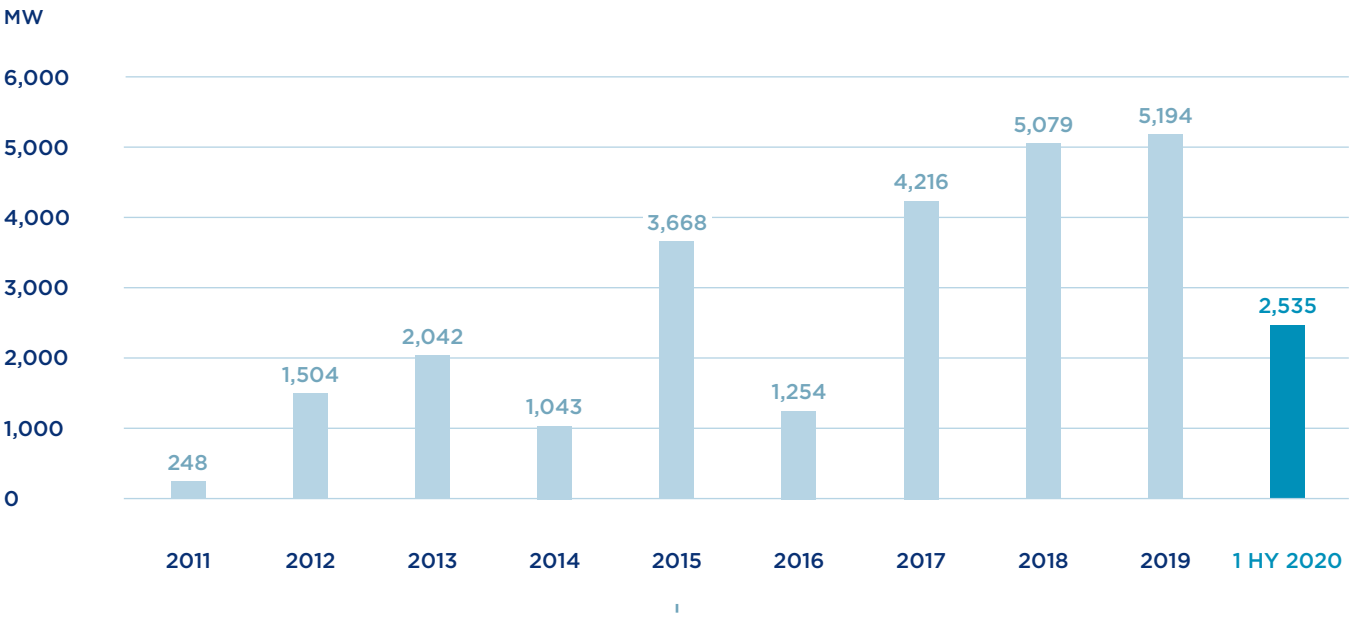
Global setup
offices in Hamburg
and Singapore

Core activities
1. Networking & Events
2. Information & Reports
3. NGO & Government Adivsory

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.

1st 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[1] 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

[1] In operation: all turbines installed and first electricity being generated

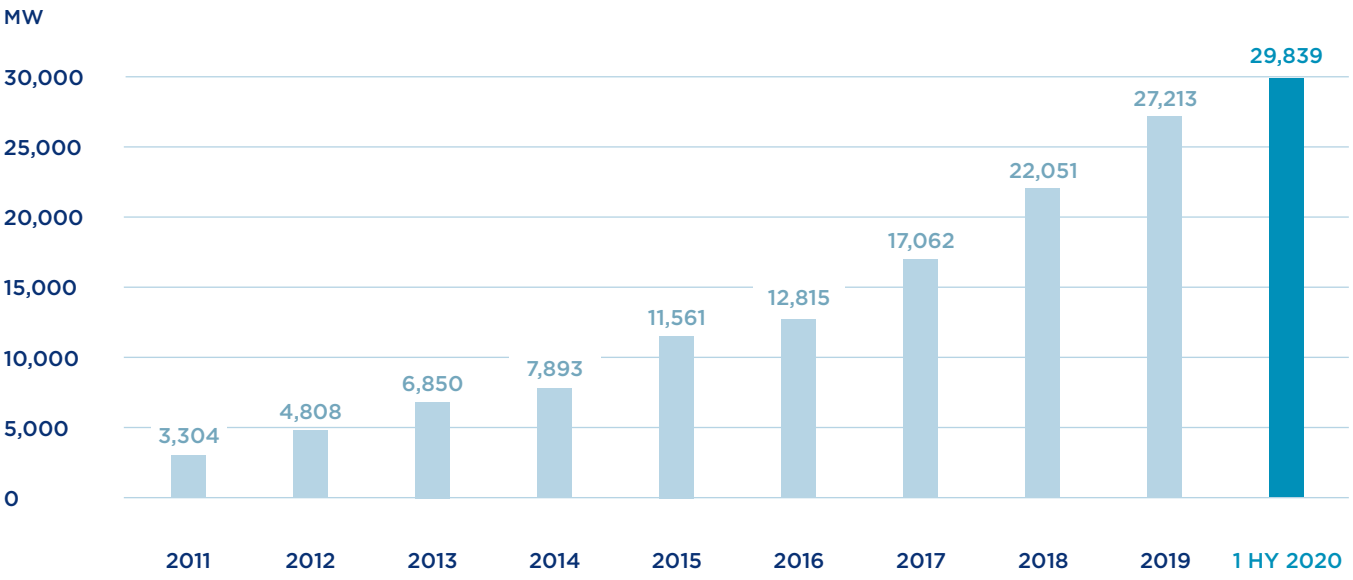
2.5 GW

1st HY 2020: globally added offshore wind capacity

Global expansion

Offshore wind capacity reaches nearly 30 GW

Global offshore wind capacity in operation[2] — cumulative



[2] In operation: all turbines installed and first electricity being generated

- Globally installed offshore wind capacity reached nearly **30 GW**[3] 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[4] are currently in operation: 105 are located in Europe, 50 in Asia, two in USA

[3] In total 38.5 MW of offshore wind capacity have already been decommissioned
[4] Definition: project consisting of at least two offshore wind turbines

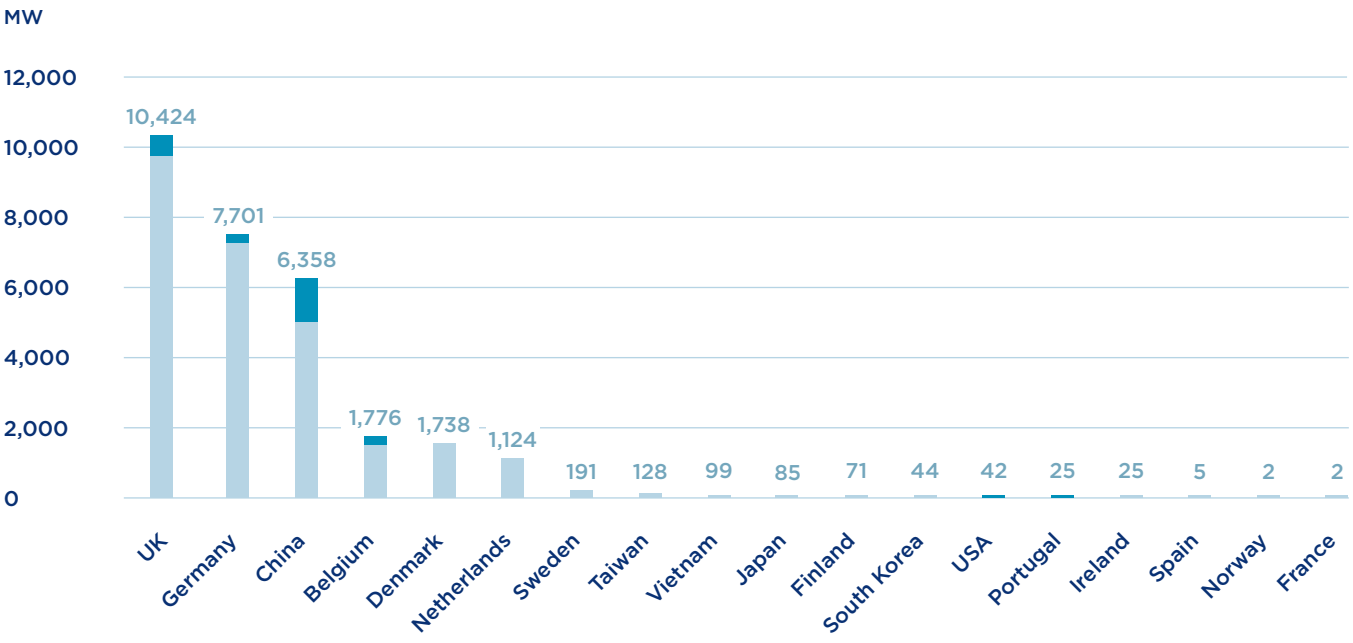
30 GW

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[5] — by country



[5] In operation: all turbines installed and first electricity being generated

- 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 1st 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**

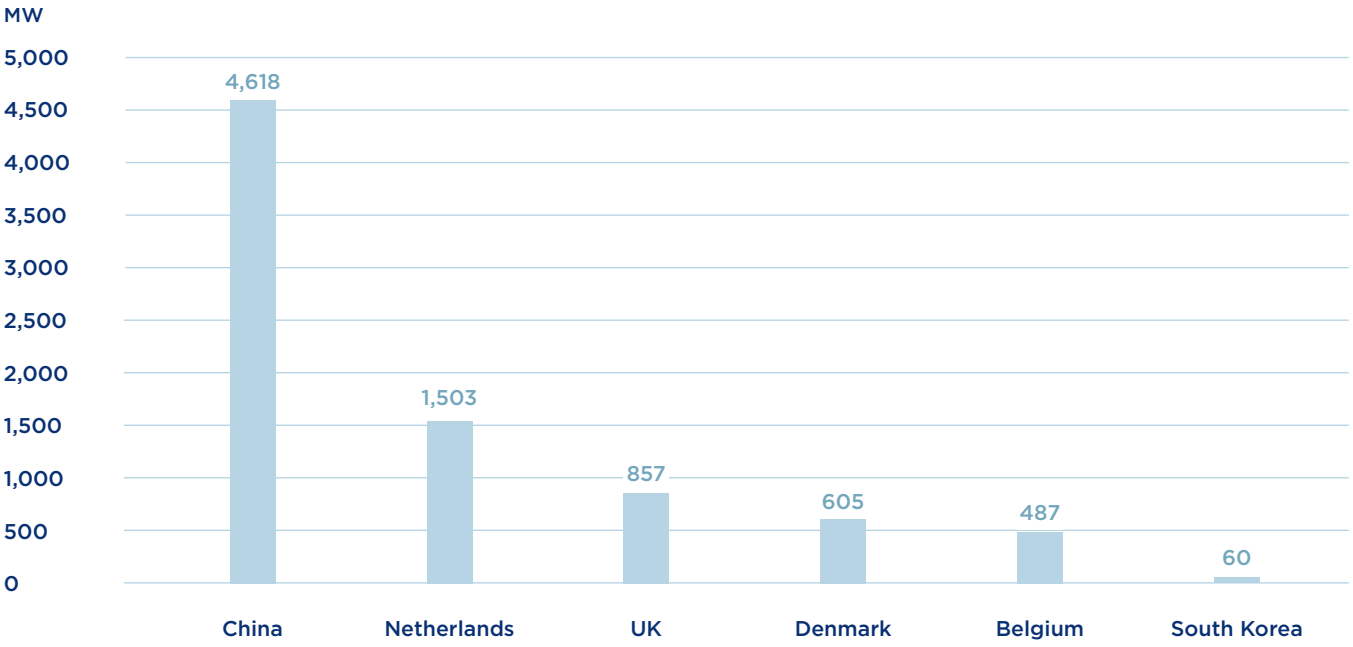
1.4 GW

Chinese offshore wind capacity added in 1st HY 2020

Construction

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

Global offshore wind capacity under construction[6] until end of HY1 2020



[6] 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 1st 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
	Total [7]	8,130				

[7] 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**

Photos: Bigstock Halberg, rie, Nightman 1965, ssuaphoto

JOIN US!

World Forum Offshore Wind e.V.
Gunnar Herzig | Managing Director
Phone +49 40 611 991 25
Mobile +49 162 639 67 14

gunnar.herzig@wfo-global.org
Twitter: @WFO_global
LinkedIn: World Forum Offshore Wind e.V.
www.wfo-global.org