

# Wind Turbine Orders Monitoring

Q1 2024 statistics



# Scope

This report summarises wind turbine orders that were placed between 1 January 2024 and 31 March 2024.

WindEurope tracks announced wind turbine orders on the basis of publicly available information on commercial transactions and future deals, categorising them into firm orders and conditional orders.

**Orders of Enercon turbines are not included because they are not publicly available.**

For details of the methodology for estimating undisclosed orders see the Methodology slide at the end of the deck.

Analysis contained in this report relates to firm and disclosed orders only unless stated otherwise.

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# Content

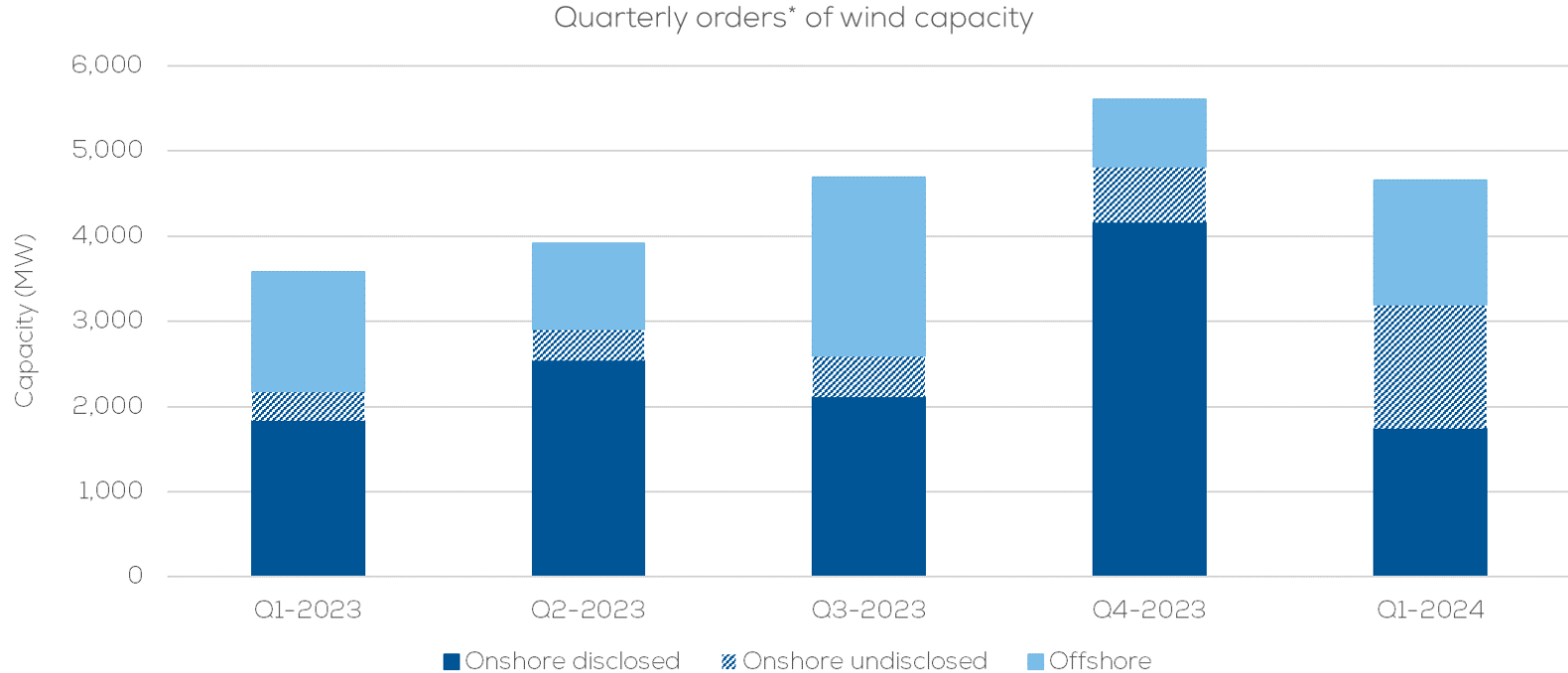
	Page
Highlights.....	4
Country overview.....	6
OEMs.....	9
Technology trends.....	17

# Q1 2024 HIGHLIGHTS

- There were orders for a total of 4.7 GW (of which 1.5 GW undisclosed) across 12 countries. There were orders from two offshore wind farms and one offshore turbine was ordered by a community in Denmark (1.5 GW).
- The total ordered capacity was down 17% on Q4 2023 but 30% up year-on-year.
- Poland led ordered capacity with 1.5 GW, followed by Germany (716 MW) and Lithuania (264 MW).
- Siemens Gamesa received 45% of all the disclosed ordered capacity, closely followed by Nordex (43%). Vestas received the remaining 12% of the disclosed ordered capacity.
- All disclosed orders in Q1 2024 featured an Operation & Maintenance (O&M) contract.
- We tracked firm orders for 53 wind farms in Q1 2024.

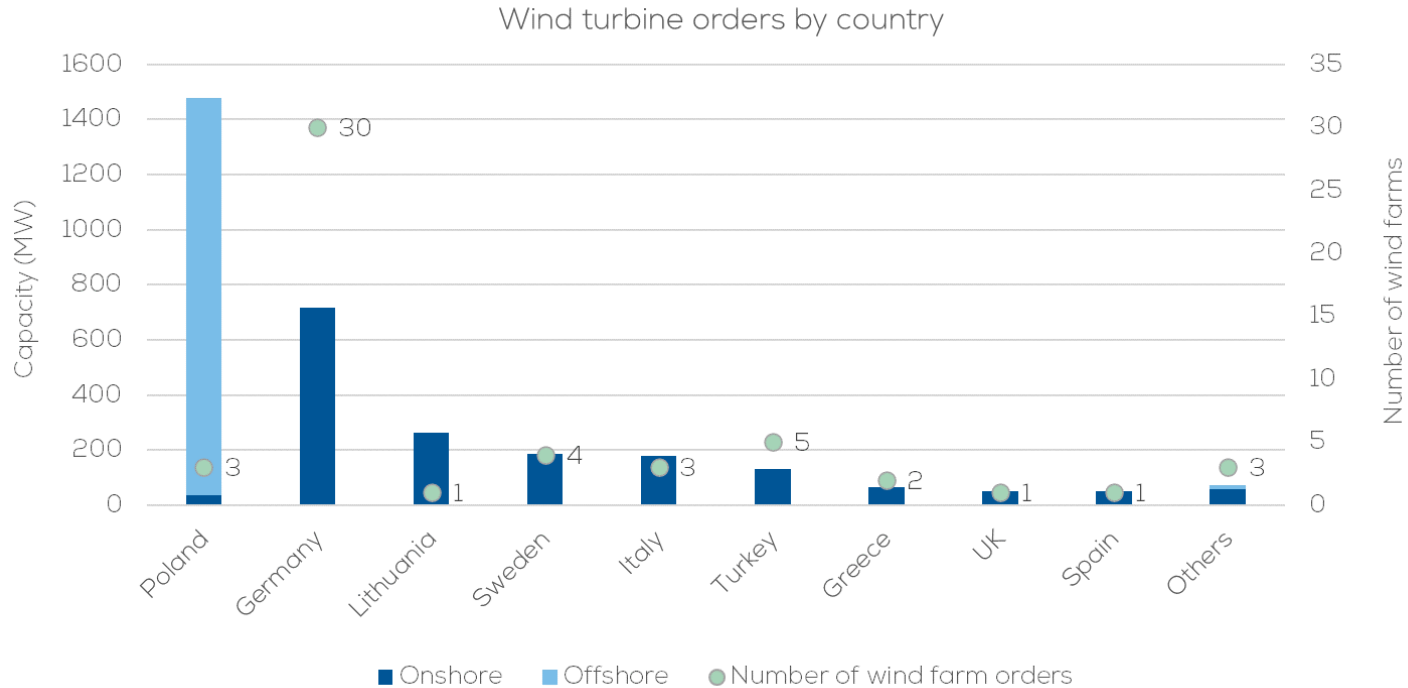
# With 4.7 GW of orders, Q1 2024 was 17% down on Q4 2023 but 30% up year-on-year.

Onshore + Offshore



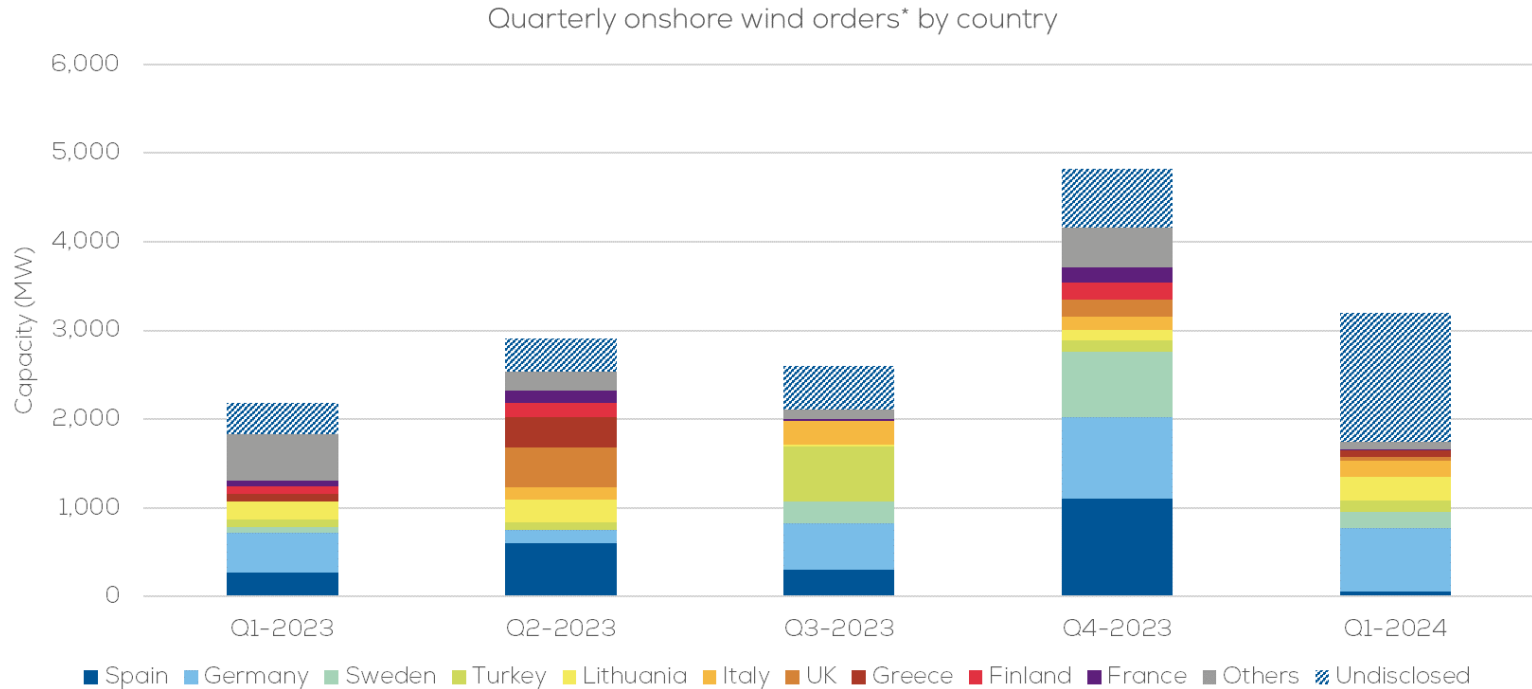
# Poland led ordered capacity with 1.5 GW, followed by Germany (716 MW) and Lithuania (264 MW).

Onshore + Offshore



# Onshore orders in Q1 2024 were 25% above the Q1-Q3 2023 average but 34% below Q4 2023 orders.

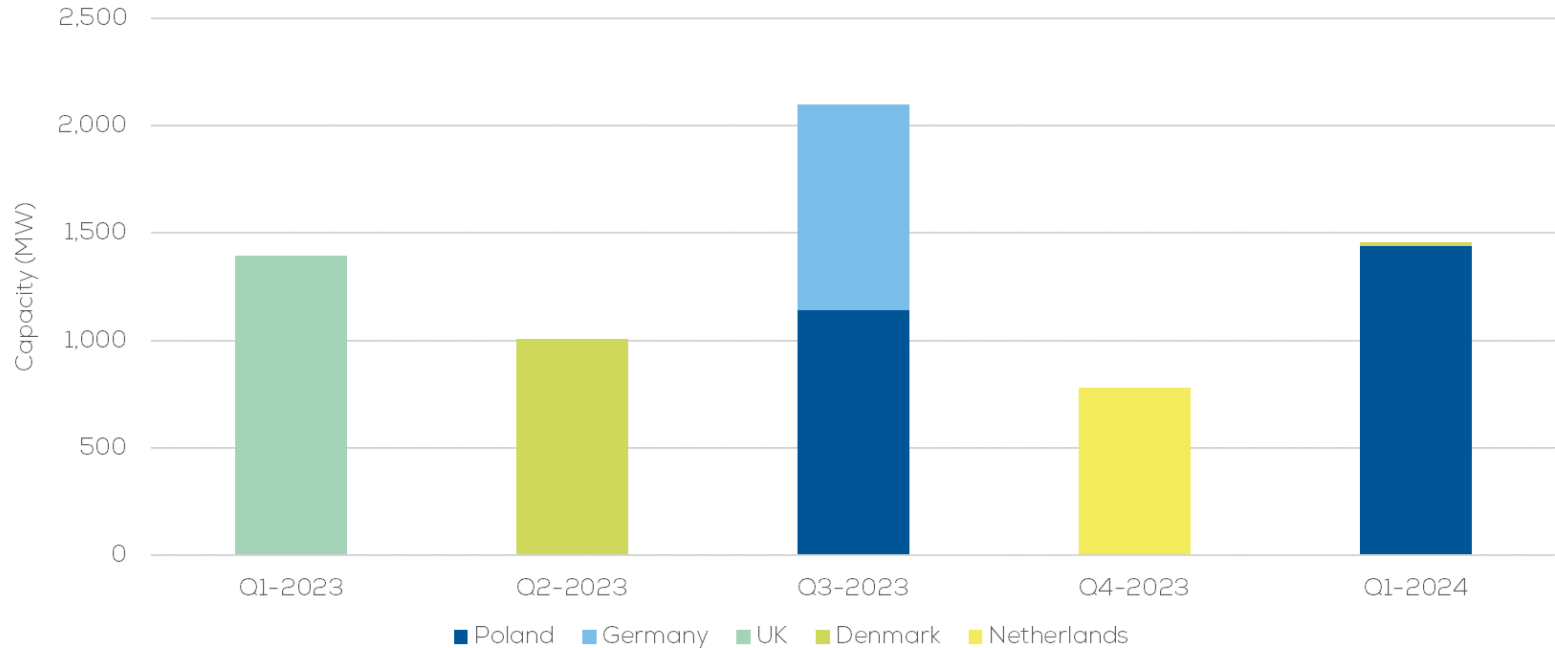
Onshore



In Q1 2024 there were two orders for offshore wind turbines, one from Poland and the other from Denmark.

Offshore

Quarterly Offshore wind orders\* by country

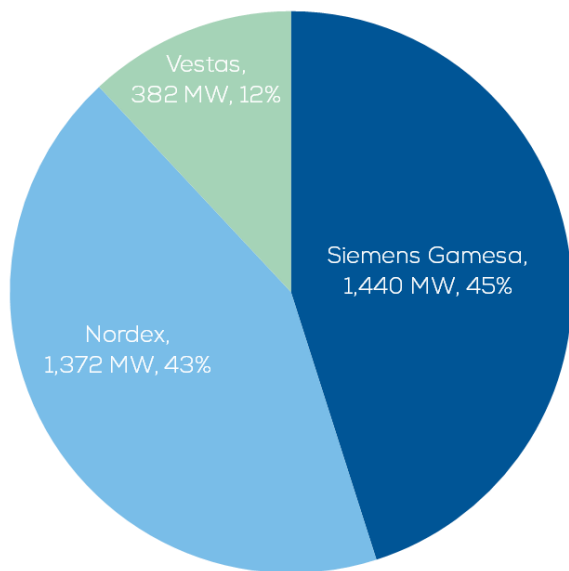




# Siemens Gamesa had the highest share of disclosed ordered capacity in Q1 2024, closely followed by Nordex.

Onshore + Offshore

Wind turbine orders by OEM



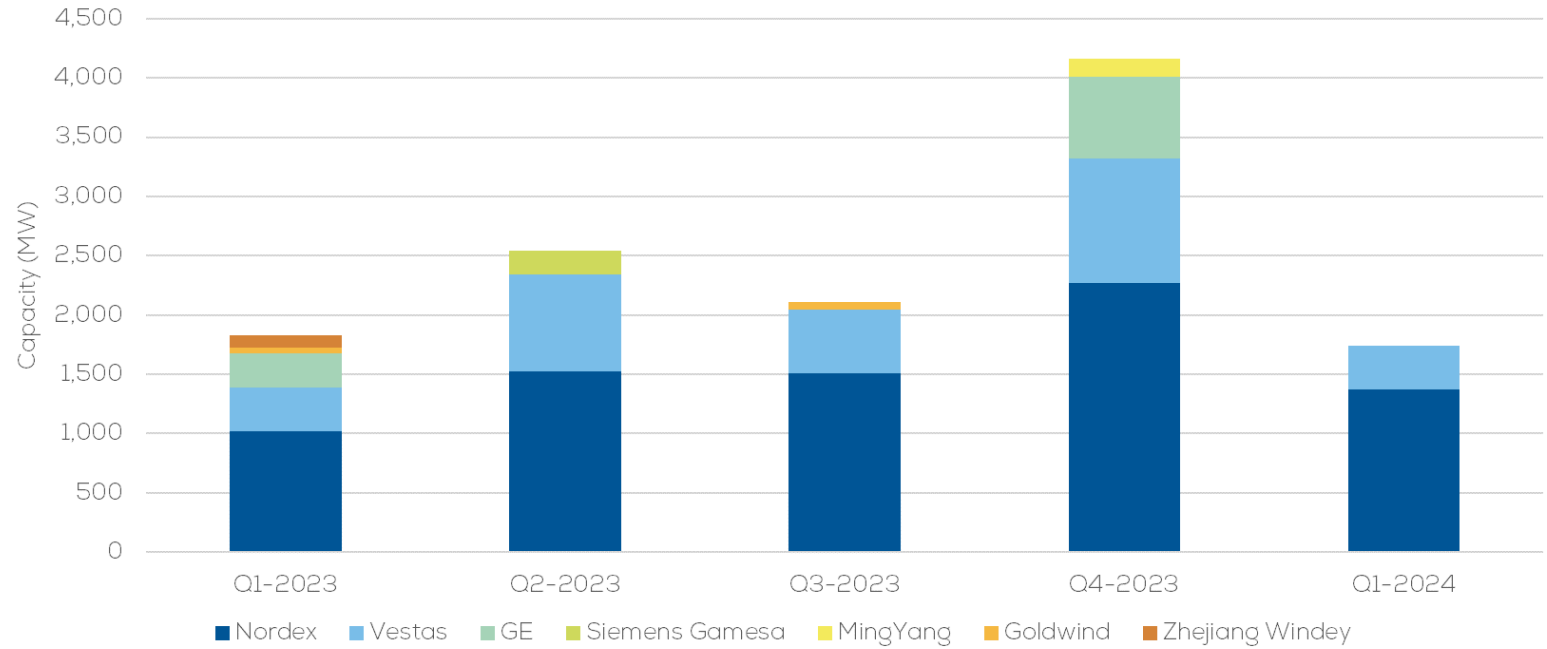
Top 5 ordered turbines

Turbine model	Ordered capacity	Number of turbines	Power rating configuration	
			Power rating	Count (%)
SG 14-236	1,440 MW	100	14.4 MW	100 (100%)
N163/6.X	792 MW	117	6.6 MW	40 (34%)
			6.8 MW	55 (47%)
			7.0 MW	22 (19%)
N163/5.X	299 MW	52	5.7 MW	38 (73%)
			5.9 MW	14 (27%)
N149/5.X	211 MW	37	5.7 MW	36 (97%)
			5.9 MW	1 (3%)
V162-6.2 MW	121 MW	19	6.2 MW	4 (21%)
			6.4 MW	15 (79%)

# In Q1 2024 two OEMs disclosed onshore orders totaling 1.7 GW, 58% less than in the previous quarter.

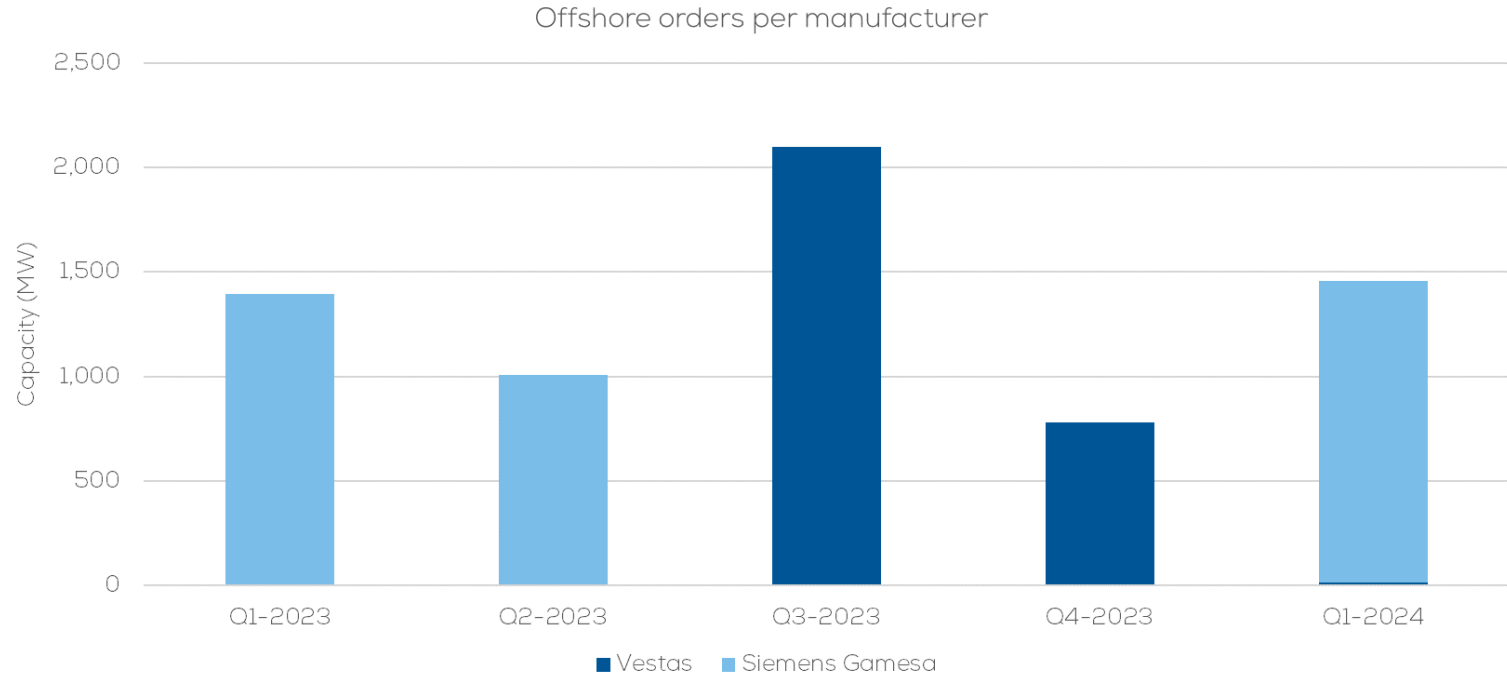
Onshore

Disclosed onshore orders per manufacturer



Siemens Gamesa received one order for the Bartyk II and III offshore wind farms. Vestas received an order for a single offshore wind turbine.

Offshore



# The top five disclosed buyers accounted for 67% of the Q1 2024 disclosed ordered capacity.

Onshore + Offshore

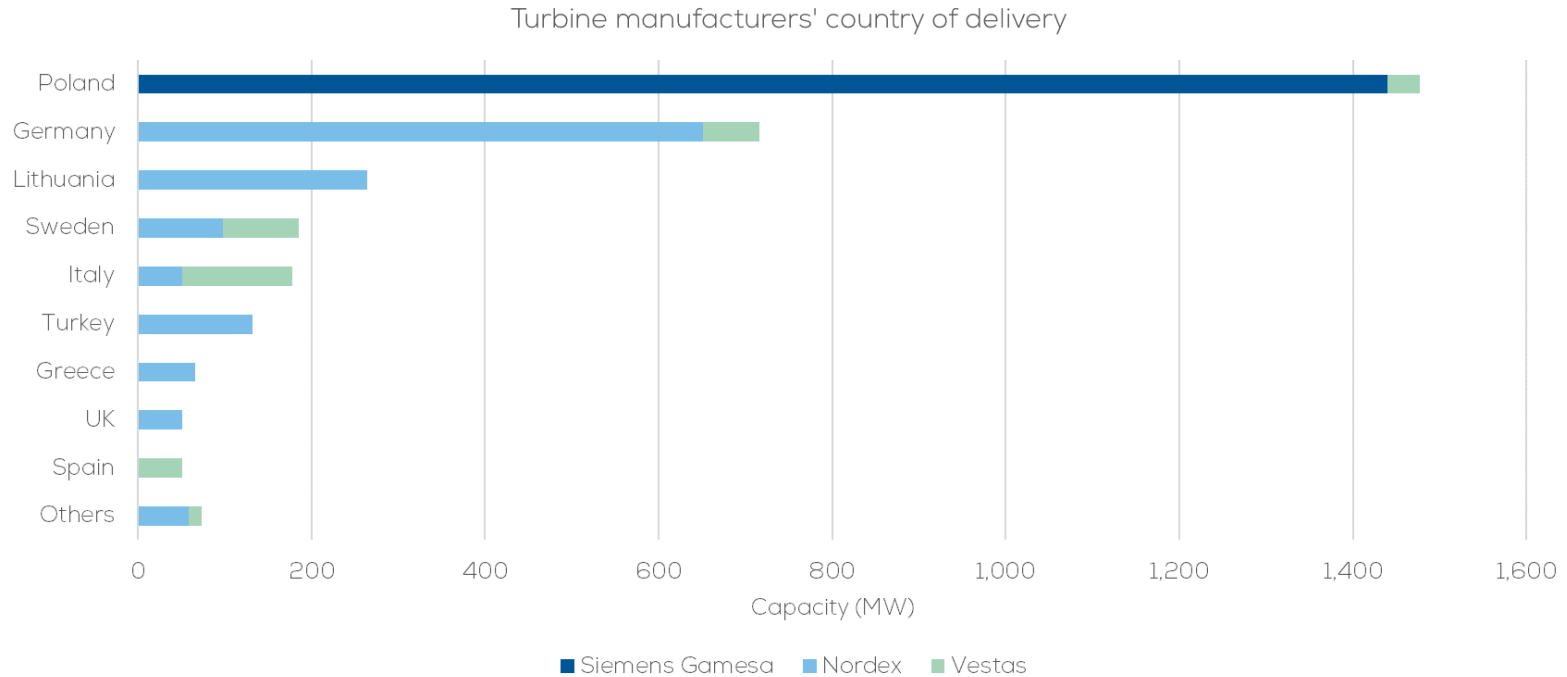
Top 5 buyers of disclosed orders

Buyer	Ordered Capacity
Equinor, Polenergia	1,440 MW
Achema Group	264 MW
UKA	253 MW
Holmen Energi	98 MW
Eolus	88 MW

■ Offshore      ■ Onshore

# In Q1 2024 Nordex disclosed orders in nine countries, Vestas in six, and Siemens Gamesa in one.

Onshore + Offshore



79% of ordered onshore wind turbines had a power rating above 5 MW; all offshore turbines ordered were above 14 MW.

Onshore + Offshore

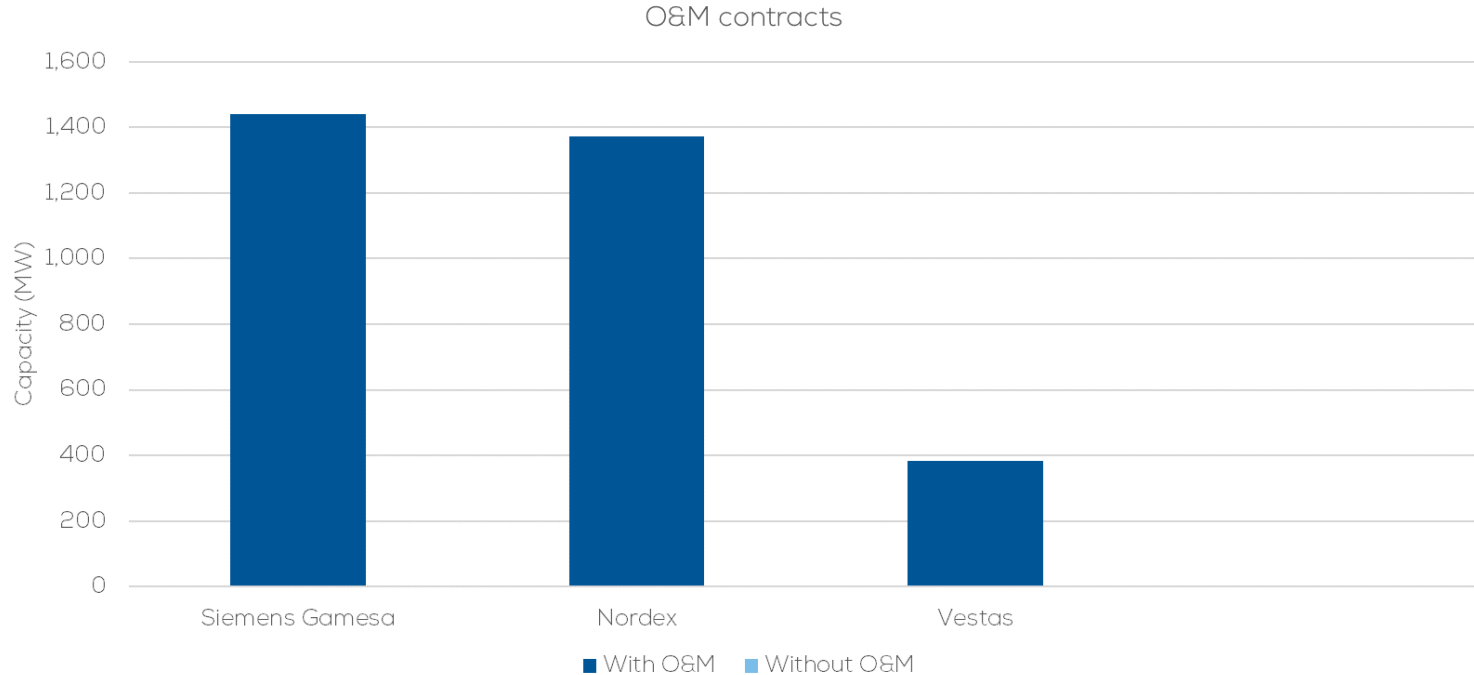
	2 to 4 MW	4 to 5 MW	5 to 6 MW	6 to 7 MW	7 to 8 MW	10 to 16 MW
Poland	17 turbines					100 turbines
Germany	3 turbines	4 turbines	48 turbines	45 turbines	15 turbines	
Lithuania				40 turbines		
Sweden		4 turbines		11 turbines	14 turbines	
Italy		28 turbines	9 turbines			
Turkey		3 turbines	18 turbines		2 turbines	
Greece			8 turbines	3 turbines		
UK			9 turbines			
Spain				8 turbines		
Austria				7 turbines		
Denmark						1 turbine
France	3 turbines					
<b>Total</b>	<b>23 turbines</b>	<b>39 turbines</b>	<b>92 turbines</b>	<b>114 turbines</b>	<b>31 turbines</b>	<b>101 turbines</b>

■ Onshore

■ Offshore

# All disclosed ordered capacity in Q1 2024 featured an Operation & Maintenance (O&M) contract.

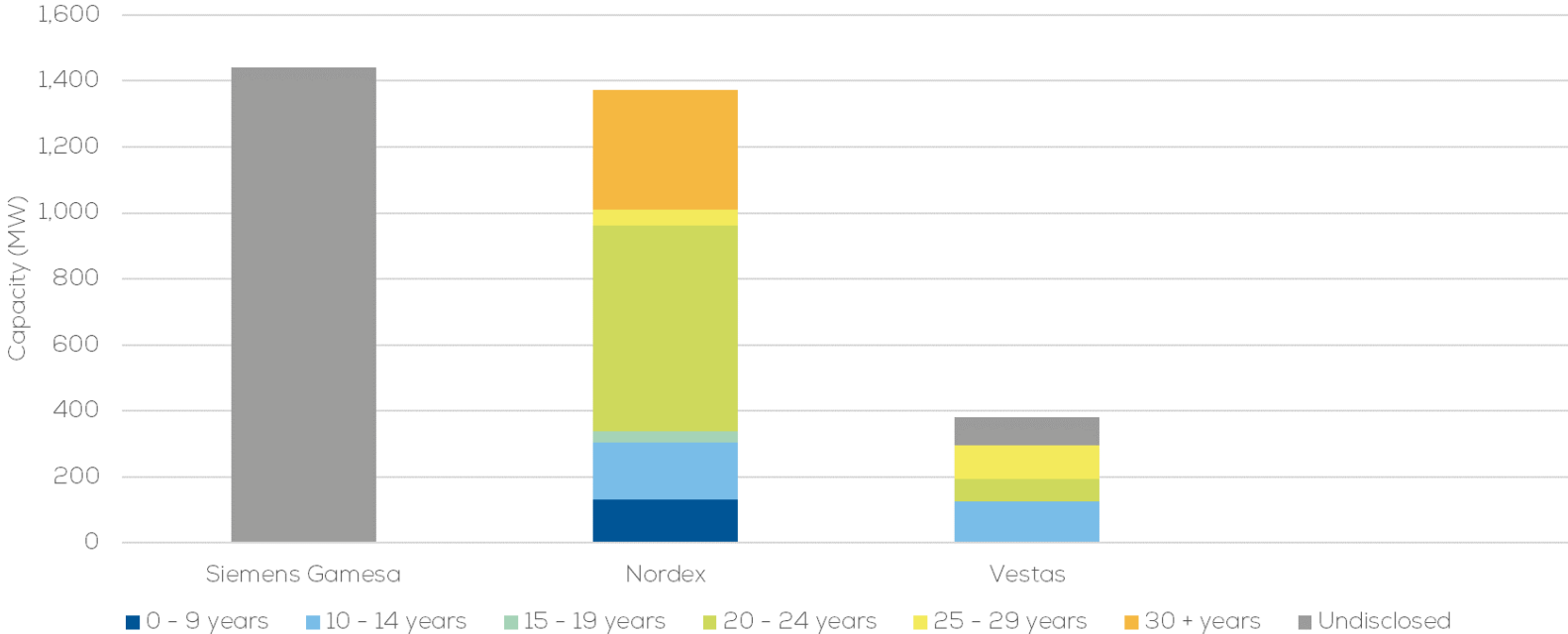
Onshore + Offshore



1.7 GW of ordered capacity featured an O&M service agreement whose length was specified. 72% of this capacity was covered for at least 20 years.

Onshore + Offshore

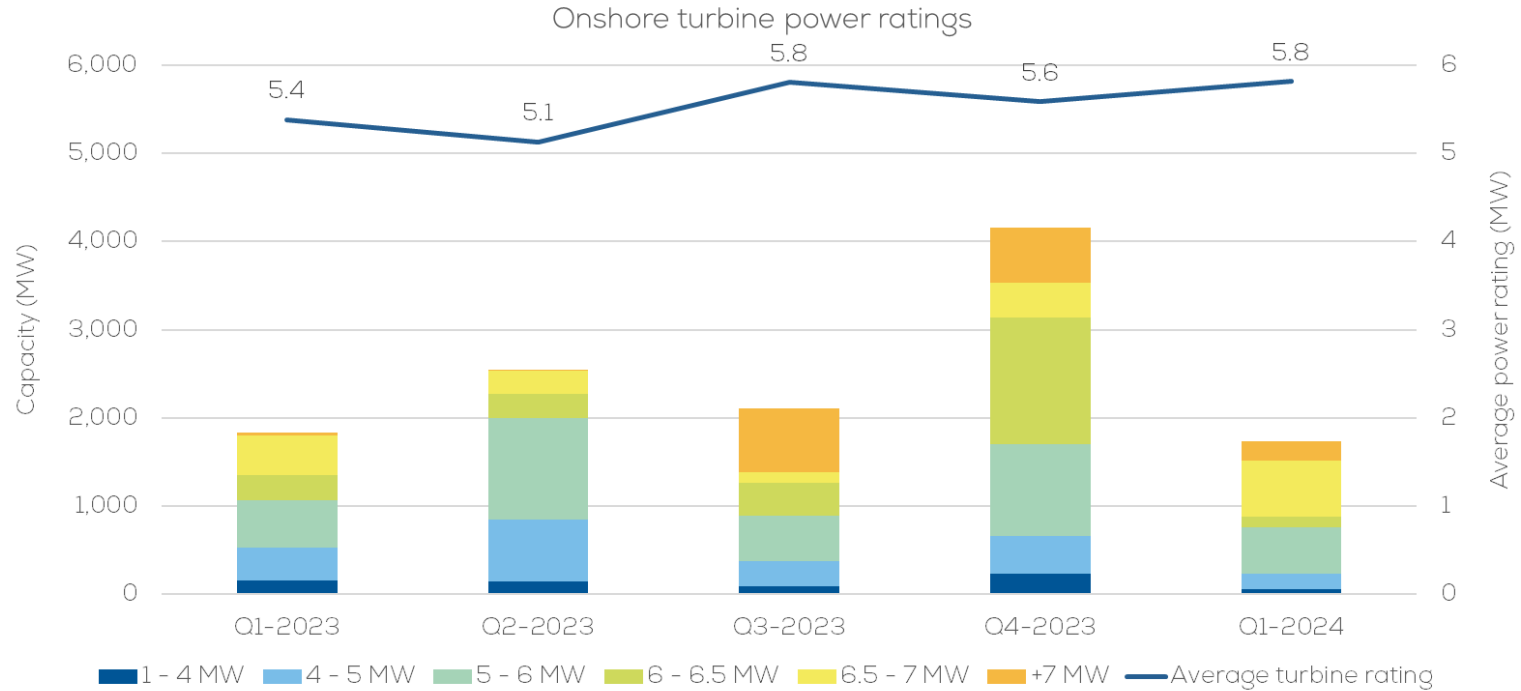
Length of O&M contracts



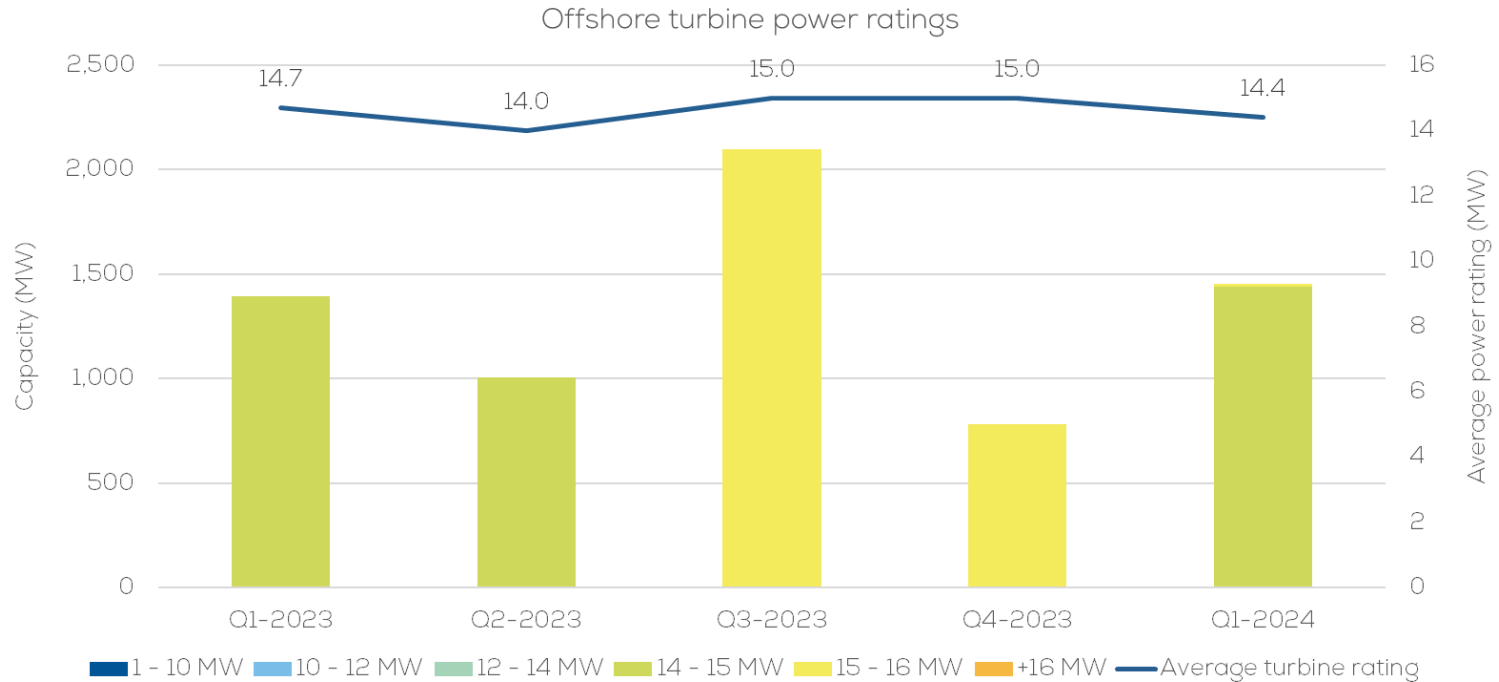


# The average onshore turbine size ordered in Q1 2024 was 5.8 MW, up from 5.6 MW in Q4 2023.

Onshore

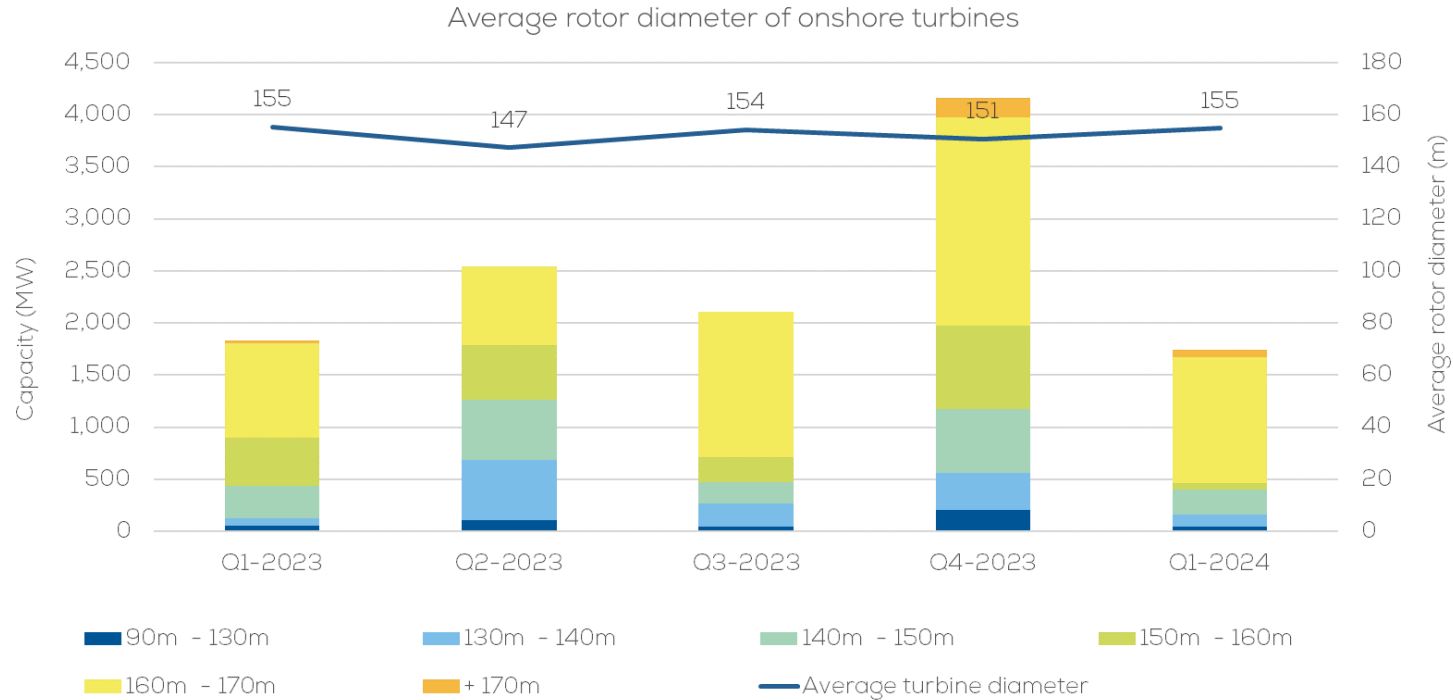


# The average offshore turbine size ordered in Q1 2024 was 14.4 MW, slightly down from 15 MW in Q4 2023.



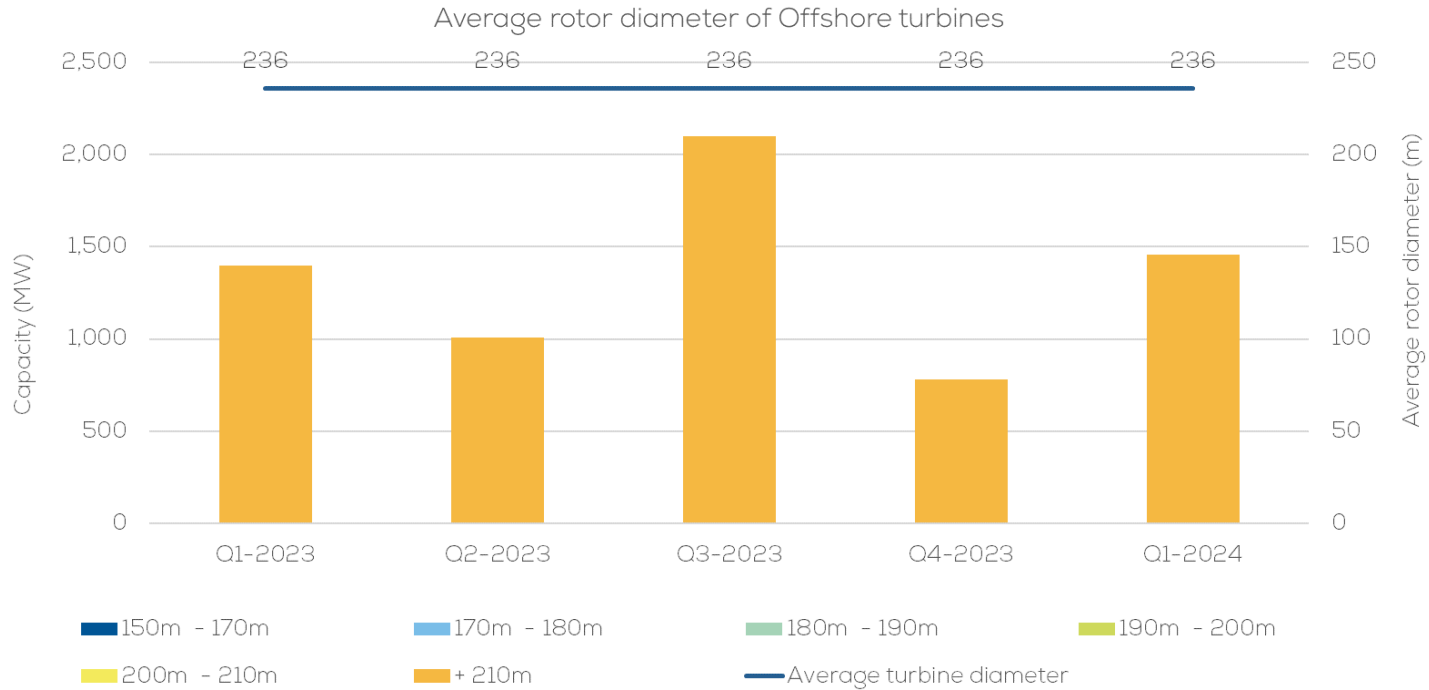
# The average rotor diameter of onshore turbine orders in Q1 2024 was 155 metres, up 4 metres from Q4 2023.

Onshore



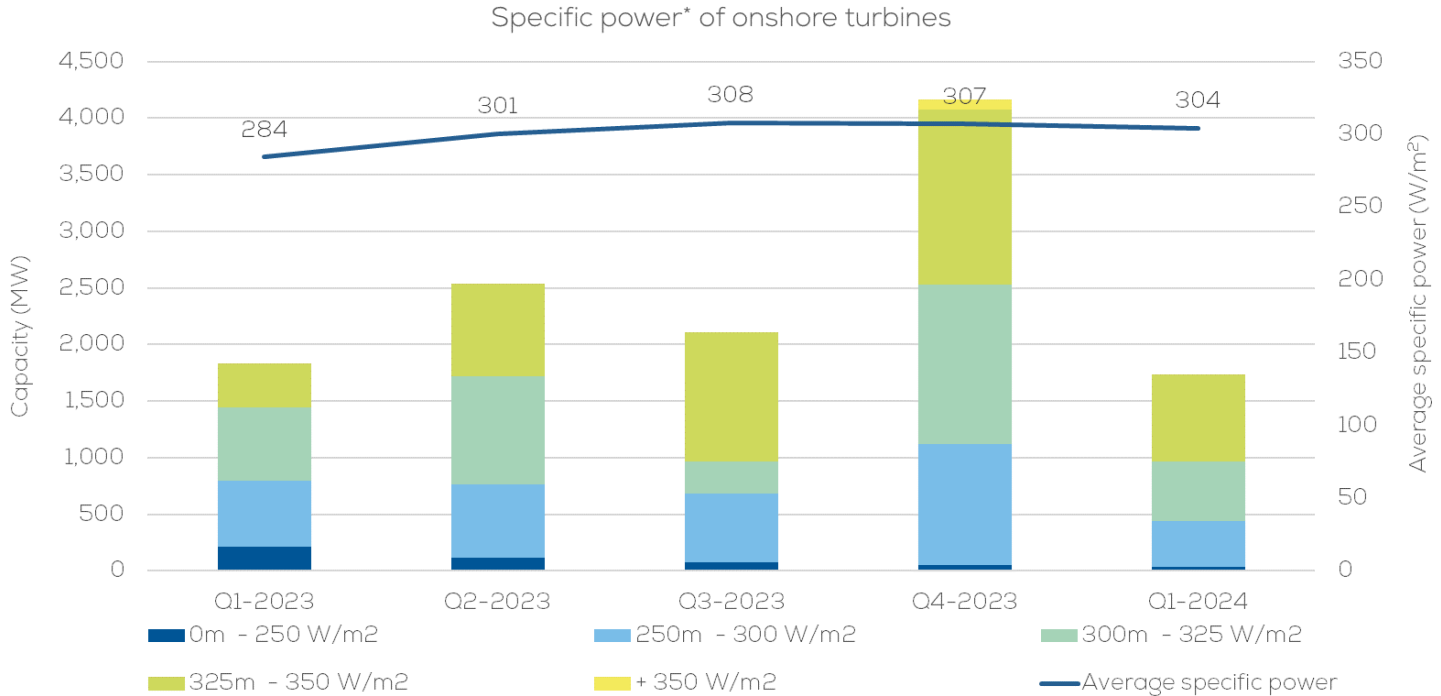
# All offshore wind turbines ordered in Q1 2024 had a diameter of 236 meters, same as in Q1-Q4 2023.

Offshore

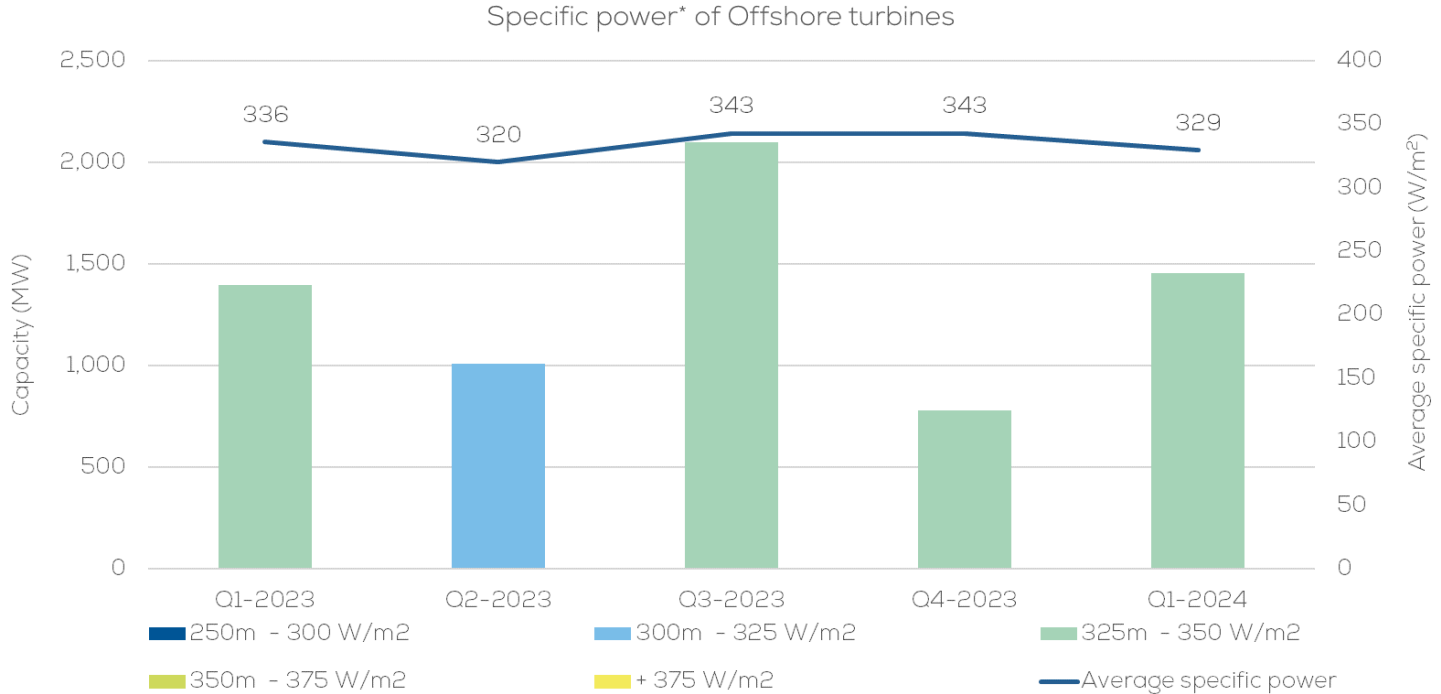


# The average specific power of onshore turbines ordered in Q1 2024 was 304 W/m<sup>2</sup>, 1% lower than in Q4 2023.

Onshore



# The average specific power of offshore turbines ordered in Q1 2024 was 329 W/m<sup>2</sup>, 4% lower than in Q4 2023.

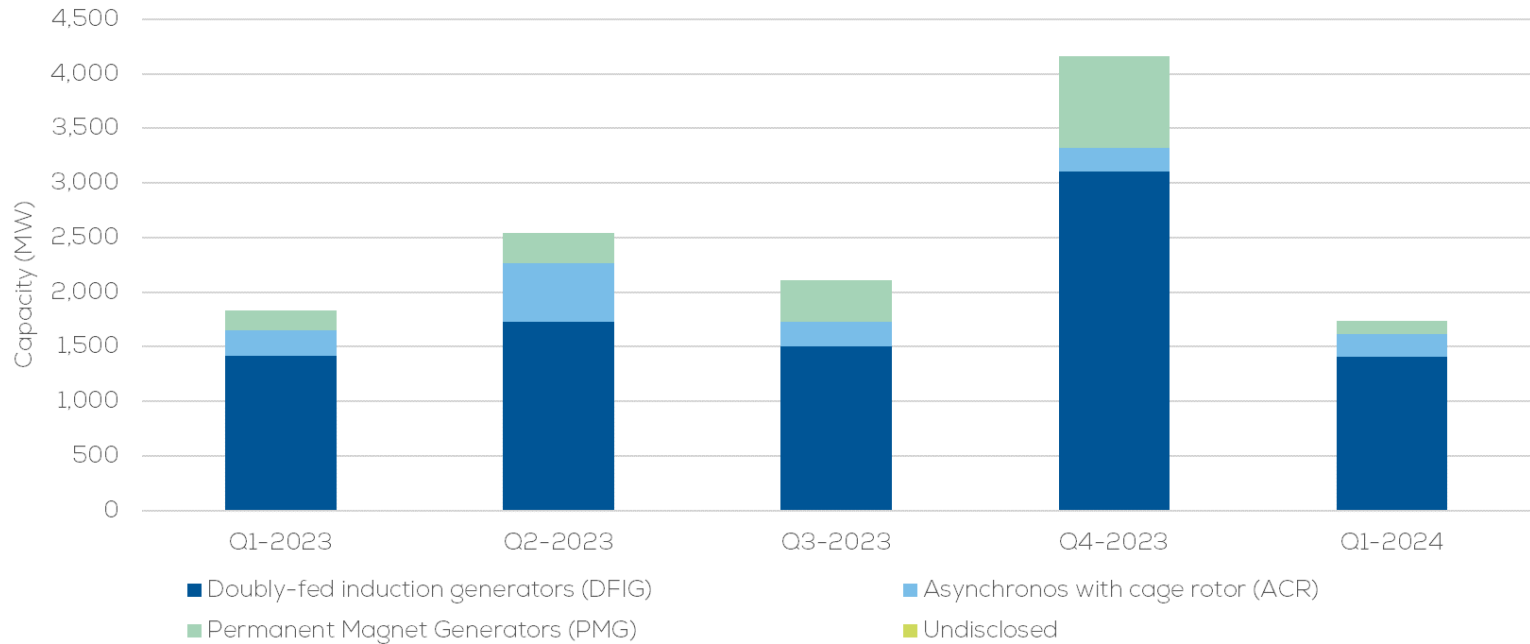


\*See Annex (slide 25) for an explanation of the concept of specific power

# Most onshore ordered capacity in Q1 2024 was for doubly-fed induction generators, as in Q1-Q4 2023.

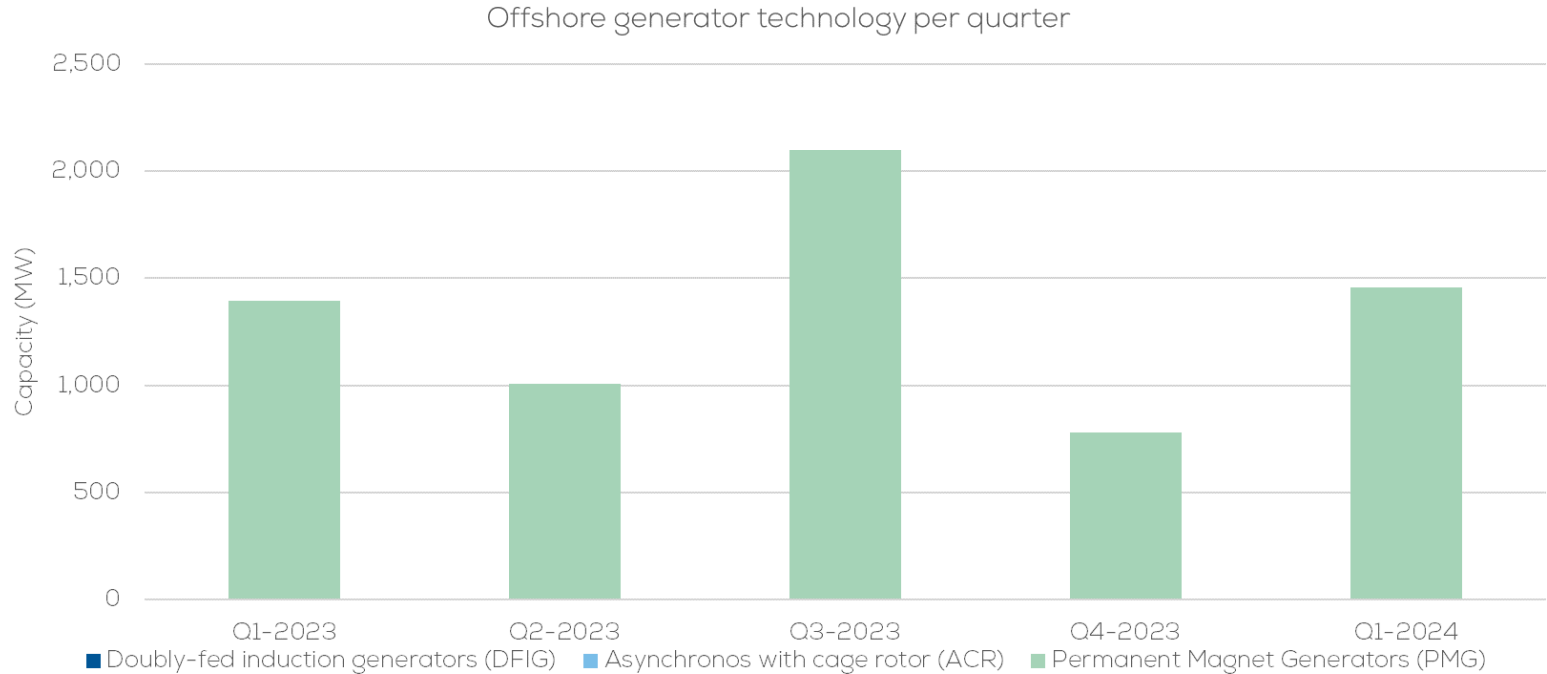
Onshore

Onshore generator technology per quarter



# All offshore ordered capacity in Q1 2024 was for permanent magnet generators, same as in Q1-Q4 2023.

Offshore





# ANNEX - SPECIFIC POWER:

The relation between generator capacity and rotor area can be referred to as specific power ( $\text{W}/\text{m}^2$ ). Lower specific powers can lead to greater capacity factors for the same wind conditions. Thus, the evolution of specific power is a factor worth monitoring.

# Methodology

WindEurope counts wind turbine orders on the basis of publicly available deals and distinguishes between firm orders and conditional orders. From Q2 2022, undisclosed orders are estimated by deducting firm orders from the total capacity reaching a Final Investment Decision (FID) for the quarter. In Q4 2023 undisclosed orders were updated impacting past estimates.

All types of orders are tracked but analysis per country and company is carried out on firm orders alone, unless specified. We do not track Enercon's orders because they are not publicly available. Furthermore, we do not track small-scale turbines (i.e., those smaller than 1 MW).

Orders are tracked by relying, among others, on:

- [offshorewind.biz](https://offshorewind.biz)
- [rechargenews.com](https://rechargenews.com)
- [renewablesnow.com](https://renewablesnow.com)
- [renews.biz](https://renews.biz)
- [windpowermonthly.com](https://windpowermonthly.com)
- [cleanenergypipeline.com](https://cleanenergypipeline.com)

Results are then cross-checked with companies' officially released information on their websites:

- GE [www.ge.com/renewableenergy](https://www.ge.com/renewableenergy)
- Goldwind [www.goldwind.com/en/](https://www.goldwind.com/en/)
- MingYang Smart Energy [www.myse.com.cn/en/](https://www.myse.com.cn/en/)
- Nordex Acciona [www.nordex-online.com/en](https://www.nordex-online.com/en)
- Siemens Gamesa Renewable Energy [www.siemensgamesa.com/en-int](https://www.siemensgamesa.com/en-int)
- Suzlon Wind Energy A/S [www.suzlon.com/](https://www.suzlon.com/)
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