RESULTS

WINDENERGY

trend:index

MOOD BAROMETER FOR THE ONSHORE AND OFFSHORE WIND INDUSTRY SPRING 2025







INTRODUCTION OVERVIEW & PARTICIPATION



The online survey for the 15th edition of the WEtix was visited by 929 individuals, 454 of whom completed the questionnaire entirely.

#	Survey period	Visitors	Survey completed	Visitor participation rate	Visitor completion rate
1	Q2 2018 (16-03 – 19-04-2018)	1.952	674	61 %	35 %
2	Q4 2018 (25-09 - 09-11-2018; WEH)	2.414	958	69 %	40 %
3	Q2 2019 (02-04 – 13-05-2019)	2.299	817	55 %	36 %
4	Q4 2019 (23-10 – 30-11-2019)	1.582	712	65 %	45 %
5	Q2 2020 (17-03 – 29-04-2020)	1.867	782	62 %	42 %
6	Q4 2020 (27-08 – 16-10-2020, WEH)	2.517	865	51 %	34 %
7	Q2 2021 (23-03 – 04-05-2021)	1.384	334	36 %	24 %
8	Q4 2021 (09-09 - 28-10-2021)	1.459	322	34 %	22 %
9	Q2 2022 (14-03 – 14-04-2022)	1.477	608	59 %	41 %
10	Q4 2022 (26-09 - 03-11-2022, WEH)	1.360	518	62 %	38 %
11	Q2 2023 (13-03 – 28-04-2023)	986	443	55 %	45 %
12	Q4 2023 (05-09 - 12-10-2023)	640	278	92 %	43 %
13	Q2 2024 (14-03 – 19-05-2024)	815	500	96 %	61 %
14	Q4 2024 (16-09 – 11-11-2024, WEH)	1418	591	62 %	42 %
15	Q2 2025 (15.03. – 09.05.2025)	929	454	51 %	49 %

Representativeness was determined based on the following categories: Regional distribution, activities across the value chain, coverage of different production areas, onshore and offshore segments, position of respondent. The distribution of response rates (based on IP addresses) across countries and regions corresponds to the market volume of the respective country or region while accounting for the onshore and offshore segments. This ensures a high level of representativeness. The only exception is China which, due to its relatively isolated market and low response rate, is proportionally under-represented compared to the rest of the Asia region. This statement relates to existing onshore and offshore capacities as well as the importance, or rather, the market share of the wind industry (turbines, towers, foundations, projects, development, etc.). * From this point, another method is applied to calculate visit or numbers: We are only counting those who land on the first page of the survey, rather than all those who click the link. This logically results in a lower number of visitors while increasing the participation rates (significantly so).





INTRODUCTION OBJECTIVE, METHOD, PARTICIPATION



The WindEnergy trend:**index** (WEtix), the industry's mood barometer, has been prepared twice every year since 2018 by WindEnergy Hamburg, the global onshore and offshore wind energy event, in cooperation with wind**research**, the leading market research institute for the wind energy sector.

- The survey covers all onshore and offshore regions globally. The following market regions were defined: Germany, Europe (including Germany), North America, Asia, and Rest of World. In the diagrams, Germany is reflected individually; however, the results for all of Europe include Germany, as well.
- Around 21 per cent of respondents work in the offshore segment exclusively and roughly 38 per cent are
 primarily active in the onshore segment. About 36 per cent are involved in both the onshore and offshore
 segments. Companies identifying as "other" (3 per cent) often hail from industries such as hydrogen or
 photovoltaics.
- 36 per cent of respondents work in operation and maintenance. Furthermore, around 44 per cent are active in manufacturing, 40 per cent in planning and project development, and 21 per cent carry out installation-related work. Activities within manufacturing are mostly focused on production of wind turbines (18 per cent) and other components (31 per cent).
- 69 per cent of respondents primarily operate in Germany, 68 per cent in Europe, 33 per cent in Asia, and 32 per cent in North America. About 24 per cent operate in the rest of the world.
- Around 36 per cent of survey participants hold positions in business, corporate or operations management, followed by respondents from sales, services as well as R&D/design and other sectors (such as consulting, law).



INTRODUCTION

KEY FINDINGS -





The current WEtix survey reveals a declining mood in both the onshore and offshore segments, with some regions showing a massive drop. However, both market segments are generally still seen in a positive light (with the exception of North America).

- Following improved assessments in the previous survey (Q4 2024), the mood in terms of short- and longer-term expectations is trending downwards across all regions and markets, in some cases markedly.
- The mood in the Asian, European and German markets remains well in the positive quadrant, with assessments below those in the previous survey.
- The most striking outlier is the North American market where assessments are significantly more negative than in all other regional markets. In particular, the policies pursued by the recently-elected US President Trump can be assumed to have had a major impact. This is the most pronounced downturn of any assessment ever observed in a WEtix survey.
- The rest of the world continues to see positive ratings while approaching the neutral value of 0.
- Views of the global market are mixed across both segments (onshore and offshore) and all regions; however, all regions except North America remain in the positive quadrant.



INTRODUCTION

KEY FINDINGS — TURBINE SIZES — POTENTIAL



In terms of turbine size projections for 2030, the results of the 15th WEtix show only minor deviations from earlier surveys. Delays caused by grid bottlenecks are an issue in both the onshore and offshore segments.

- A comparison with the previous year highlights the potential as well as the technological progress of turbine sizes for both the onshore and offshore segments:
 - Compared to the previous edition of the WEtix report, respondents now expect slightly lower output ratings for new onshore turbines installed by 2030 – about 8.46 MW on average.
 - In general, future onshore wind turbines are predicted to be significantly more powerful, a fact that is reflected in the current survey: More than 45 per cent of respondents anticipate output ratings of at least 9 MW.
 - For the offshore segment, respondents are expecting the average rated output of newly-installed turbines to be 19.4 MW by 2030. This represents a slight increase from the last survey's outcome.
 - Nearly two thirds of respondents foresee ratings of at least 19 MW.
- Respondents are also expecting delays for new wind energy development projects due to grid bottlenecks. In the onshore segment, the expected delay is 2.8 years, in offshore 3.2 years.





OVERVIEW OF COUNTRIES STUDIED



The survey covers all onshore and offshore regions globally. The pre-defined market regions include Germany, Europe (including Germany), North America, Asia and Rest of World (RoW), the latter comprising Africa, Australia as well as Central and South America.





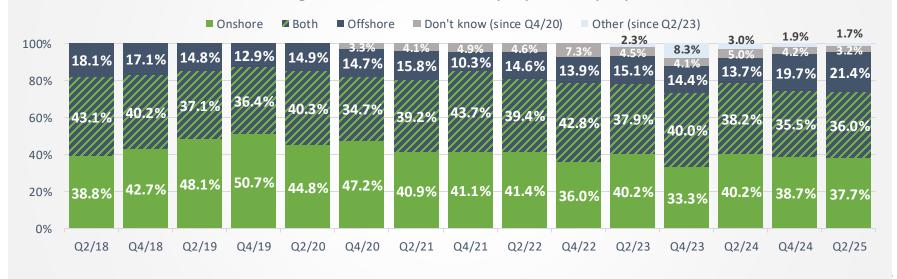


MARKET SEGMENTS



The share of participants whose companies focus on offshore wind energy is increasing further. Still, the share of companies with a primary focus on onshore wind, and the share of those who are active in both segments continue to be significantly greater.

On which segment of the wind industry is your company's focus?

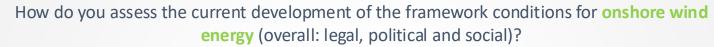


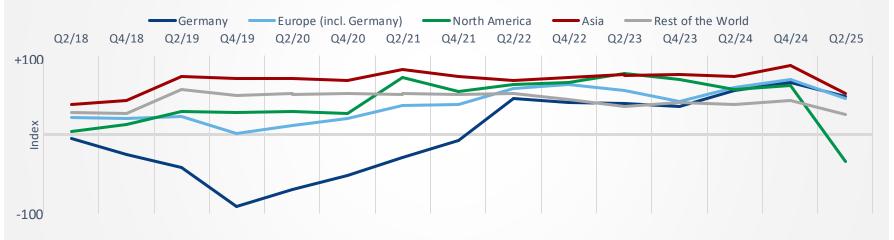


ASSESSMENT OF THE ECONOMIC ENVIRONMENT ONSHORE WIND



The share of participants whose companies focus on offshore wind energy is increasing further. Still, the share of companies with a primary focus on onshore wind, and the share of those who are active in both segments continue to be significantly greater.







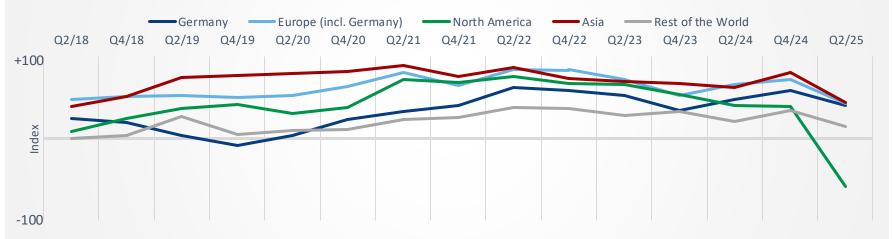


ASSESSMENT OF THE ECONOMIC ENVIRONMENT OFFSHORE WIND



Similarly, conditions in the offshore segment have received noticeably worse marks than in the previous survey. Respondents are especially pessimistic about the economic environment in North America, similar to the onshore segment.

How do you assess the current development of the framework conditions for **offshore wind energy** (overall: legal, political and social)?







ASSESSMENT OF THE ONSHORE WIND INDUSTRY WORLD-WIDE – NEXT TWELVE MONTHS



Not only the economic climate but also the short-term global market for onshore wind energy (over the 12 coming months) has received significantly worse ratings than in the previous WEtix. It should be noted however that the values for all markets except North America are still in the positive quadrant.



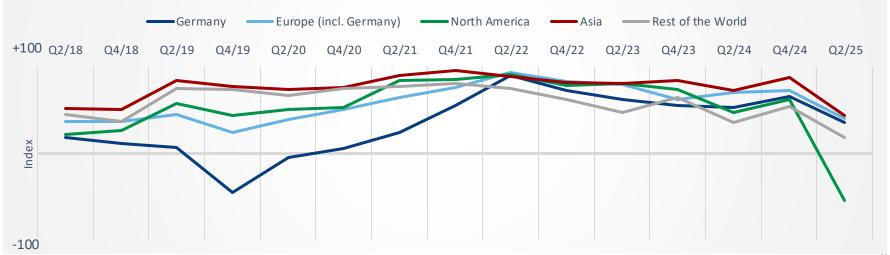


ASSESSMENT OF THE ONSHORE WIND INDUSTRY WORLD-WIDE – NEXT TWO YEARS



The long-term view of the global onshore market is more pessimistic than the short-term view. Assessments of the Asian market have dropped from +87 to +43. Here again it is important to emphasise that all in all, the ratings continue to be at a very positive level. The same applies to Germany, Europe and the rest of the world. North America has dropped to a very low -55.

How do you assess the global market for the **onshore wind industry** in two years?

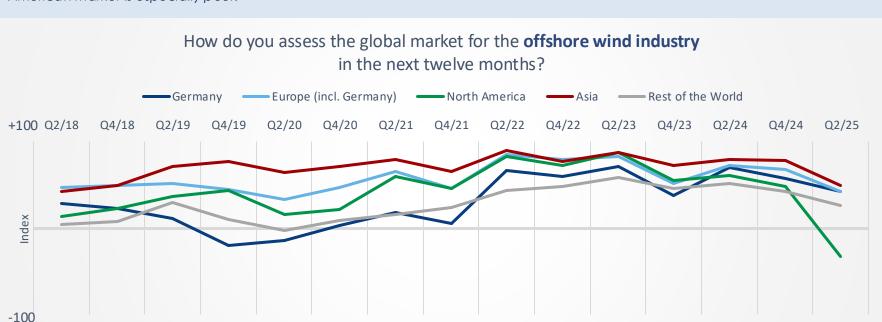




ASSESSMENT OF THE OFFSHORE WIND INDUSTRY WORLD-WIDE – NEXT TWELVE MONTHS



Assessments of the offshore market are declining at similar rates as those of the onshore market. Again, the result for the North American market is especially poor.

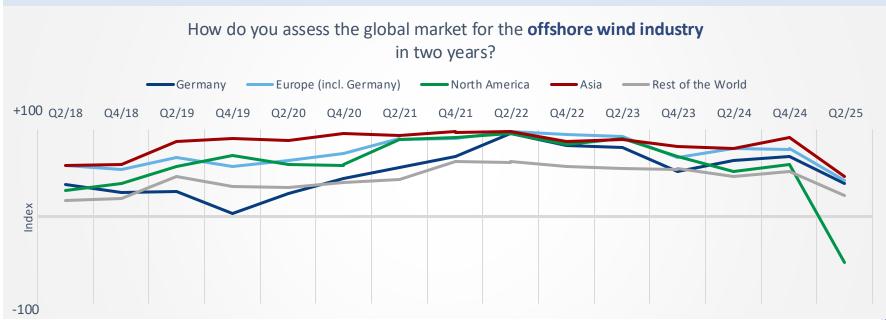




ASSESSMENT OF THE OFFSHORE WIND INDUSTRY WORLD-WIDE – NEXT TWO YEARS



Assessments of the offshore market in two years are even poorer than those for twelve months from today. North America again sets a negative record.





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ASSESSMENT OF THE ONSHORE AND OFFSHORE WIND INDUSTRY IN GERMANY



COMPARISON: NEXT TWELVE MONTHS VS. NEXT TWO YEARS

After the Q4/2024 survey recorded slight increases in assessments of the German market, all markets are now seeing poorer ratings for both, the next twelve months and the next two years.







ASSESSMENT OF THE ONSHORE AND OFFSHORE WIND INDUSTRY IN EUROPE (INCLUDING GER)



COMPARISON: NEXT TWELVE MONTHS VS. NEXT TWO YEARS

Assessments of the onshore and offshore market in Europe are similar to those of the German market. Short- and long-term expectations for both the onshore and offshore segments have received slightly more negative marks than last time.







ASSESSMENT OF THE ONSHORE AND OFFSHORE WIND INDUSTRY IN NORTH AMERICA



COMPARISON: NEXT TWELVE MONTHS VS. NEXT TWO YEARS

Compared to the last quarter of 2024, assessments of the North American market have seen an unprecedented drop, in some cases by as many as 90 points. This is the most drastic change ever measured in a WEtix survey. In particular, the changed energy and climate policy priorities of the US government could be a key driver of this evaluation downturn.





ASSESSMENT OF THE ONSHORE AND OFFSHORE WIND INDUSTRY IN ASIA



COMPARISON: NEXT TWELVE MONTHS VS. NEXT TWO YEARS

The Asian market continues to receive the most positive assessments but cannot escape the slightly downward-pointing trend seen in the overall market. The result for onshore wind energy in the next twelve months is the worst since 2020.





ASSESSMENT OF THE ONSHORE AND OFFSHORE WIND INDUSTRY – REST OF WORLD



COMPARISON: NEXT TWELVE MONTHS VS. NEXT TWO YEARS

In a comparison of all markets, the rest of the world continues to receive relatively low marks which are gradually nearing the neutral level of 0. However, it is still in the positive quadrant.





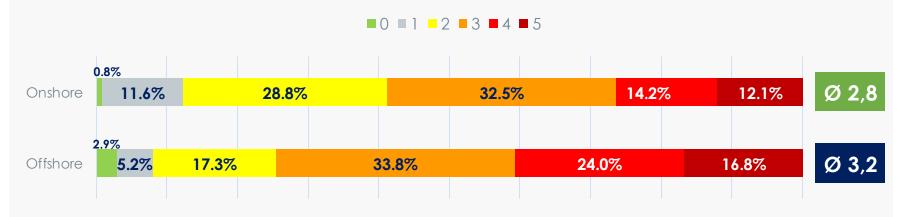
DELAYS CAUSED BY GRID BOTTLENECKS (GLOBALLY)



In this survey, expected delays due to grid bottlenecks are averaging at 3 years for both, onshore and offshore projects.

Differentiating by segment, the average delay anticipated for onshore wind energy projects is 2.8 years, and for offshore 3.2 years.

How many years do you estimate that grid bottlenecks will delay the construction of new wind energy projects? (Please provide a value between 0 and 5 years)





SAVING POTENTIAL IN WIND ENERGY DEVELOPMENT



The potential for cost savings enabled by advanced technologies continues to be seen in a positive light, if noticeably more muted than in Q4/2024. Ratings are now roughly at the same level as one year ago (Q2/2024).

How do you assess the further potential for **savings through technology** (e.g. larger turbines, floating foundations)?



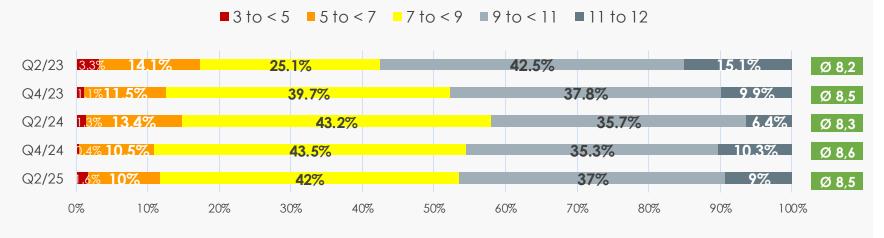


ASSESSMENT FOR ONSHORE TURBINES



Compared to the previous edition of the WEtix report, respondents expect slightly lower output ratings for new onshore turbin es installed by 2030 – about 8.5 MW on average. In general however, the trend towards higher output ratings continues, as the survey shows: More than 45 per cent of participants anticipate output ratings of at least 9 MW.

Specifically, how do you estimate the future development of turbine sizes: **How much power will newly installed onshore turbines have on average in 2030? (in MW)**



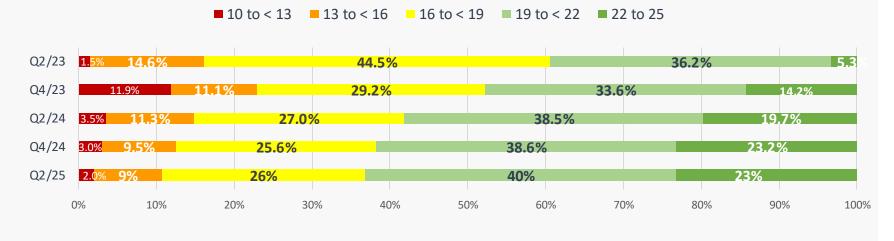


ASSESSMENT FOR OFFSHORE TURBINES



As in the previous edition of the WEtix report, the average expected output rating is approximately 19.4 MW. Market pressure persists, as reflected in the survey: 23 per cent of respondents are expecting turbine output ratings between 22 and 25 MW.

Specifically, how do you estimate the future development of turbine sizes: **How much** power will newly installed <u>offshore</u> turbines have on average in 2030? (in MW)



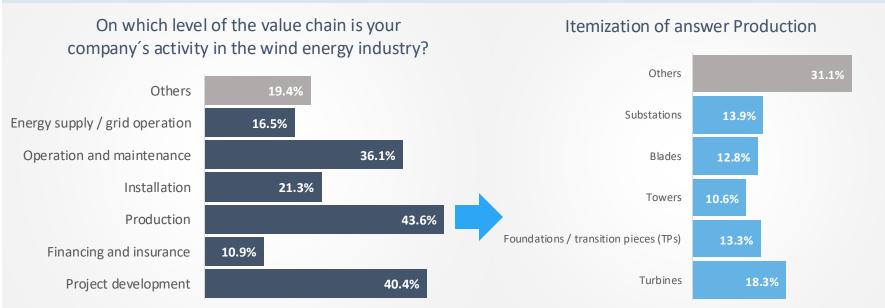


ACTIVITIES WITHIN THE VALUE CHAIN

(MULTIPLE RESPONSES ALLOWED)



Most of the companies participating in this survey are from the "Manufacturing" sector, with roughly 44 per cent identifying with this stage of the value chain. The "Others" stage of the value chain denotes companies active in fields such as consulting.



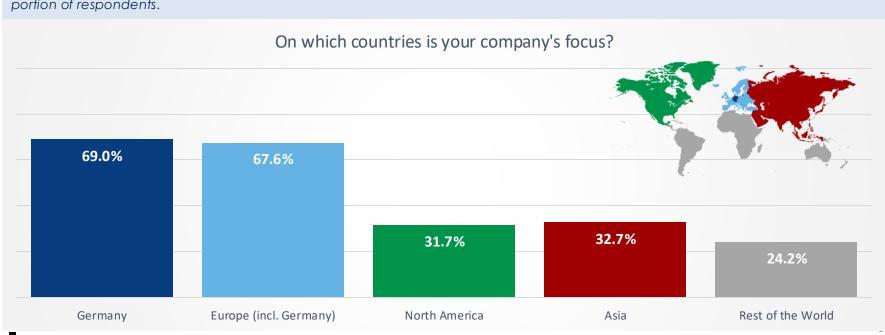




REGIONAL FOCUS (MULTIPLE RESPONSES ALLOWED)



Nearly 70 per cent of companies mainly operate in Germany, and nearly two thirds in Europe, the latter representing the largest pool of respondents approached for the survey. With slightly over 30 per cent, Asia and North America each contribute about the same portion of respondents.





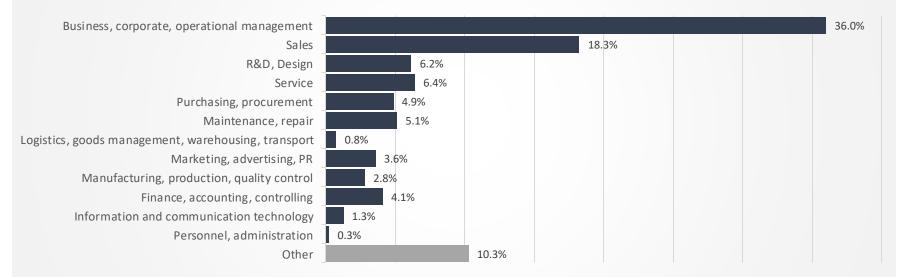


RESPONDENTS' FIELDS OF ACTIVITY



As in earlier editions of the WEtix, the largest group of respondents have leadership positions in their companies; this time, a share of 36 per cent fit this description. Another substantial portion of almost 20 per cent work in sales.

What is your area of responsibility?







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