Offshore wind farm capacity

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Most offshore wind farms employ fixed-foundation wind turbines in relatively shallow water. Floating wind turbines for deeper waters are in an earlier phase of development and deployment. As of 2022, the total worldwide offshore wind power nameplate capacity was 64.3 gigawatt (GW). [3]

Globally installed offshore wind capacity reached 67.4 GW by the end of 2023, almost 47% of which is now installed in China. The average size of a newly added offshore wind farm in 2023 was 392 MW com-pared to 225 MW in 2022. Worldwide, 282 offshore wind farms are currently in operation, 158 of which are in Asia, 122 in Europe and 2 in the USA.

o The planning targets total 115,130 MW of offshore wind capacity by 2050. The mandated procurement totals 45,730 MW of offshore wind capacity by 2040. o As of May 31, 2024, 15 offtake agreements have been signed, which are associated with 12,378 MW of contracted capacity. State Planning Goals, Mandated State Procurements, and Offtake

The global leaders in offshore wind such as China, Germany and the UK are committed to strong growth, data from the International Energy Agency shows. China expects to add an average of 2.8 gigawatts of offshore wind power annually for the next three years.

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Offshore wind is poised for truly global growth after 2023 saw the second-highest annual installations as well as key policy developments that set the foundations for accelerated expansion of the industry over the next decade.

The real growth story is found behind the numbers, however. We are in an important moment in the history of offshore wind where the technology has proven itself as a maturing, competitive, globally diverse and scalable industry.

2023 was the second best year ever for the global offshore wind industry.

New capacity increased 24% on the previous year, a growth rate the Global Wind Energy Council expects to see continue up to 2030, if the present increase in policy momentum continues.

The next wave of offshore wind markets has arrived as governments across Asia-Pacific, Latin America and Europe are embracing offshore wind as a solution to providing clean, affordable power to their people and industries

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“2023 was a turbulent year for the offshore wind industry on both sides of the Atlantic Ocean. Challenges such as inflation, increased capital costs, and supply chain constraints created uncertainty in the sector… Despite the headwinds experienced in 2023, governments and developers remain committed to developing offshore wind and the global offshore wind market outlook in the medium term remains resolutely promising.

“Annual offshore wind installations are expected to triple in 2028 from 10.8 GW in 2023. By 2033, they are expected to reach 66 GW, bringing the offshore share of new wind power installations from today"s 9% to at least 25%. ” Feng Zhao, Chief Intelligence Officer, GWEC