

Wind Industry enjoyed its second-best year but scaling-up for Net Zero requires policy breakthrough

Record years for several regions and offshore wind reflect strong market growth, but installations must still quadruple by the end of the decade to meet a net zero pathway.

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- Nearly 94 GW of new capacity is the second-best year ever for the wind industry
 - Europe, Latin America, and Africa & the Middle East had record years for new installations
 - The best year ever for offshore wind, with huge numbers in China and growing floating offshore deployment in the UK
 - Auctioned capacity was up 153% with 88 GW awarded globally
 - CAGR for wind installations for the next five years is 6.6%, which equates to 557 GW forecast installations from 2022-2026
 - Despite two years of record numbers, this simply isn't enough to stay on course for 1.5C and net zero by 2050.
 - The current global situation means energy policy is in flux, but new policy initiatives must rapidly increase the trajectory for wind installations for both net zero aims and energy security.

4 April | The wind industry enjoyed its second-best year ever in 2021, with almost 94 GW of capacity added globally despite a second year of the COVID-19 pandemic. This is just 1.8% less than the year-over-year wind energy growth rate in 2020. This is a clear sign of the incredible resilience and upward trajectory of the global wind industry. However, as the Global Wind Report 2022 [link] from the Global Wind Energy Council [link] makes clear, this growth needs to quadruple by the end of the decade if the world is to stay on course for a 1.5C pathway and net zero by 2050.

Global capacity increased by 93.6 GW to bring total cumulative wind power capacity to 837 GW, which is year-over-year growth of 12%. While the world's two biggest markets, China and the US, installed less new **onshore wind** capacity last year - 30.7 GW and 12.7 GW respectively - other regions enjoyed record years. Europe, Latin America and Africa & the Middle East, increased new onshore installations by 19%, 27% and 120%, respectively.

The **offshore wind** market enjoyed its best-ever year in 2021, with 21.1 GW commissioned. That represents three times more than the previous year. China's mammoth year of offshore installations accounted for 80% of that growth, helping it pass the UK as the world's largest offshore wind market in cumulative installations.



The impact of COVID-19 was clear, with a slowdown in project commissioning in markets such as the US, India and Taiwan, for example. However, auction activities in 2021 demonstrated that growing wind deployment was a key strategy for many countries. Auctioned capacity was up 153% on 2020, with 88 GW awarded globally. Onshore wind makes up 69 GW (78%) of that, with offshore counting for 19 GW.

Wind is on a positive growth trajectory, but wind energy is not growing nearly fast or widely enough to realise a secure and resilient global energy transition. At current rates of installation, GWEC Market Intelligence forecasts that by 2030 we will have less than two-thirds of the wind energy capacity required for a 1.5°C and net zero pathway, effectively condemning us to miss our climate goals.¹

Ben Backwell, CEO of GWEC, said: “The wind industry continues to step up and deliver, but scaling up growth to the level required to reach Net Zero and achieve energy security will require a new, more proactive approach to policy making around the world.

“Decisively addressing issues such as permitting and planning will unlock economic growth and create millions of jobs by letting investment flow, while allowing rapid progress on our climate goals. If we carry on with “business as usual”, however, we will miss this unique window of opportunity.”

Backwell added: “The events of the last year, which has seen economies and consumers exposed to extreme fossil fuel volatility and high prices around the world, are a symptom of a hesitant and disorderly energy transition, while Russia’s invasion of Ukraine has exposed the implications of dependency on fossil fuel imports for energy security.

“The last 12 months should serve as a huge wake-up call that we need to move decisively forward and switch to 21st century energy systems based on renewables.”

Xabier Viteri Solaun, Managing Director of Iberdrola Renewables, said: “I would like to congratulate the Global Wind Energy Council for this year’s Global Wind Report. The message is clear: the wind industry must grow very fast this decade to comply with the decarbonization targets around the world. To do that, policymakers must guarantee regulatory stability as well as overcome permitting bottlenecks and further develop grids. The wind industry stands ready for a massive deployment of renewable capacity; national and regional policy must clear the path for this”..

About the report

The report explores how the industry and policymakers can prepare for the next era of wind energy growth, as the sector rapidly scales up to meet net zero demands. As the industry gains scale and mass, its impacts will reverberate in the political, socioeconomic and environmental settings in which it operates. As it grows, the industry will also confront old and new frontiers like supply chain geopolitics, social impacts, disinformation and system resilience.

Ten takeaways from the Global Wind Report, explained in greater detail in the report:

¹ The IEA Net Zero by 2050 Roadmap sets out a global electricity generation mix of wind (35%), solar (33%), hydropower (12%), nuclear (8%), bioenergy (5%), hydrogen-based (2%) and fossil fuels with carbon capture utilisation and storage (2%). The IRENA World Energy Transitions Outlook: 1.5° Pathway report sets out a global electricity mix of two-thirds wind and solar (comprising 8,174 GW of wind and 14,878 GW of solar by 2050, with wind generating a slightly higher overall share of global electricity) and the remainder comprising hydropower, bioenergy, geothermal, tidal/wave and hydrogen-based generation.

1. **Scaling up to 2030:** There needs to be a four-fold increase in new wind energy installations this decade to keep on track for a 1.5°C world.
2. **The energy system is increasingly complex and interconnected:** Countries and communities must work together for an effective response to climate change.
3. **System design is struggling to meet the pressures of the transition:** The current energy crisis is the consequence of energy markets built around fossil fuels.
4. **The wind industry faces higher costs amid perverse market design:** Policymakers need to re-evaluate markets to align with economic and social objectives.
5. **Wind energy must be a custodian of the energy transition:** The industry must ensure that social and environmental values are synonymous with wind power.
6. **Cut the red tape for a green future:** Without streamlining the procedures to grant permits, including land allocation and grid connection projects will remain 'stuck in the pipeline'.
7. **Public-private cooperation is needed to confront the new geopolitics of the wind supply chain:** There must be a stronger international regulatory framework to address the increased competition for commodities and critical minerals.
8. **The demise of baseload:** Flexibility will be the chief currency of a renewables-led system, and policymakers must send signals to the market that they will invest in the tools for this.
9. **Unprecedented grid investment is needed to keep pace with renewables:** Investment in grids must treble from current levels through to 2030.
10. **The wind energy industry has a primary role in a just and equitable energy transition:** Workforce planning for large-scale renewables deployment should be an early policy priority.

About GWEC

Global Wind Energy Council (GWEC) is a member-based organisation that represents the entire wind energy sector. The members of GWEC represent over 1,500 companies, organisations and institutions in more than 80 countries, including manufacturers, developers, component suppliers, research institutes, national wind and renewables associations, electricity providers, finance and insurance companies. Find out more: www.gwec.net

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