



Speeding up the build-out of wind energy is Europe's best defence

Words: Giles Dickson, CEO of WindEurope

Wind power has made great strides in a very short time. It is now a cornerstone of Europe's energy system, and at the heart of its long-term ambitions. It makes up 17% of all electricity consumed in Europe today, and the European Commission wants that figure to grow to 43% by 2030. But the wind energy supply chain is struggling. The EU is leveling up its game, with three new policy initiatives that will have a big impact on the future of wind energy manufacturing in Europe.



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The recent struggle of Europe's wind energy supply chain

As an industry, wind energy has become a vital component of the European economy. Wind employs over 300,000 people in Europe today and adds €37bn to European GDP. Wind energy manufacturing is spread over 250 factories. And each new turbine represents around €10m of economic activity.

However, the wind energy supply chain is struggling. The prices of key materials, commodities and components have gone up significantly. Both COVID-19 and the war in Ukraine have contributed to this. A wind turbine built in Europe today is now 25 to 40% more expensive than it was two years ago. Turbine manufacturers cannot always pass these additional costs on their customers, the wind farm developers. Stuck with these higher costs, the five European turbine manufacturers are struggling to make a profit. As is the wider supply chain.

This struggle for profitability comes at the wrong time. It's good that the industry is working to get out of the red and to improve its product offering. But what it should really do now is invest in new factories and hire more skilled workers to get ready for the big expansion of wind energy ahead of us.

REPowerEU and wind energy's contribution to energy security

Today, the European Union has 205 GW of wind turbine capacity. And the need to expand wind energy has only been accelerated by the new geopolitical reality

The shift towards wind energy is a success story that wouldn't have been possible without the rapid improvements we've seen in wind turbine technology, both in onshore and offshore wind. The most powerful turbines being built and tested in Europe today have nameplate capacities of 15 MW. Twenty years ago, we were installing 1 MW turbines onshore, and offshore wind was only at an experimental stage.

Our yields have shot up in the meantime, and modern turbines are breaking new records for size and efficiency. Wind energy is an increasingly stable form of power. Capacity factors for modern turbines range from 30 to 45% onshore to over 50% for floating offshore wind, matching or even surpassing the values for fossil fuel power sources.

Flexibility has improved as well. Modern turbines can operate at lower wind speeds and can align more smoothly with electricity demand. And digitalisation is improving predictability and increasing the lifespans of our turbines. Meanwhile, the industry is taking rapid steps towards 100% circular wind turbines. The first recyclable blades are being tested in European offshore wind farms already.

As it stands, wind is one of the cheapest energy sources in Europe, certainly much more affordable than new fossil fuels. With this competitive advantage, and with

technology boosting yield and reliability year on year, wind will have a key role in driving the energy transition and in strengthening Europe's energy security. Today, wind is 17% of all the electricity



since the Russian invasion of Ukraine. REPowerEU, the European energy response to the war in Ukraine calls for 440 GW of wind power in Europe by 2030, and 1,300 GW by 2050.

Crucially, REPowerEU acknowledges the fact that electricity produced from wind is home-grown. This makes all the difference; as the share of wind increases, so too does Europe's energy security. The war in Ukraine has been a painful reminder of our overreliance on imported fossil fuels. Russia's blackmailing and the resulting spike in electricity prices have shown the value of securing our own domestic sources of energy. The energy transition isn't just an environmental imperative; it's a matter of strategic importance, and vital to Europe's future security needs.

But the wind industry in Europe is not growing as quickly as it should. Europe is only building half the volumes of new wind it needs to meet the new REPowerEU targets. Despite this growing support for a wind-based energy system, and Russia forcing Europe's hand on the question of energy security, we still have many hurdles to clear. If the energy transition is to succeed, then support for wind needs to go further.

Firstly, Europe's planning and permitting regime is not fit for purpose.



The cumbersome permitting procedures have led to many wind energy projects being delayed. As much as 80 GW of wind energy is currently stuck in permitting procedures. Unlocking those volumes would be a big step forward in meeting our climate and energy goals. We've seen big progress here in recent months with the EU's new emergency measures, as part of REPowerEU and national

initiatives, as for example in Germany, but there's still a long way to go.

Secondly, the wind energy supply chain is struggling. Inflation, access to raw materials, a lack of clear project pipelines and increasing competition from non-European manufacturers are all putting pressure on the wind industry's ability to deliver.





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European Commission President Ursula von der Leyen and Heads of State of Baltic Sea Countries before signing the Marienborg Declaration on offshore wind development in the Baltic Sea

Meeting the sector's targets for 2030 means bringing the supply chain back to health. With that in mind, the EU's industrial strategy needs to take a leaf out of America's book. Their recent Inflation Reduction Act has been a huge boon to renewables, boosting clean energy through new sources of funding.

Our third big priority is addressing Europe's electricity market design. In response to the energy crisis, national governments brought in a raft of emergency measures last year to soften the blow. But this has led to an uncoordinated patchwork of measures, which in turn has dampened investor confidence in Europe. We need to see an urgent reversal of these measures across the board.

Finally, we need the right grids infrastructure to support all this growth, delivering this clean energy to where it's most needed. The EU wants us to double the rate of grid investments over the next three years. Transmission and distribution system operators will be crucial here, making use of cutting-edge grid integration technologies such as energy islands, interconnectors and other hybrid solutions.

Three new initiatives to boost renewables in Europe

The European Commission has fully understood the need to strengthen its wind

energy supply chain in this challenging period, to improve its international competitiveness and to make it fit to meet the new REPowerEU targets. To this end the Commission has put forward three proposals in March: a revision of the EU electricity market design, a Critical Raw Materials Act and a Net Zero Industry Act.

The Commission's proposal for the electricity market design goes in the right direction. It makes Contracts for Difference the new norm in supporting renewables. But crucially it allows for PPAs and merchant projects as well. And it aims to contain the fragmentation of national emergency measures. Member States are not allowed to unilaterally prolong national revenue caps beyond June 2023.

The Critical Raw Material Act wants to tackle Europe's over dependence on raw materials that are critical to the energy transition of a handful of exporting countries. The Act is structured around three principles: diversifying the sourcing of raw materials, increasing the circularity of used materials and ramping up mining and refining capacities within Europe.

The Net Zero Industry Act aims to strengthen Europe's industrial base for clean tech manufacturing. For wind, it sets an annual manufacturing capacity target of 36 GW. It also allows for more flexible state aid rules. But it fails to sufficiently

underpin this target with investments in the supply chain. Reusing the Innovation Fund for wind energy manufacturing is not good enough. The expansion of wind energy is now a volume game. Europe needs to act quickly and decisively. Otherwise, investors will continue to turn their back on Europe and invest their money in the US, Australia or elsewhere.

These three initiatives are crucial to the future of wind energy manufacturing in Europe. The Council and the European Parliament will further discuss them over 2023. Crucially, the European Union needs to send a clear signal to renewables investors that Europe will become an attractive place for investments again.

In spite of all current challenges wind power in Europe remains a bargain. With the political steps we can put wind and other renewables on the path to growth and finally give ourselves control over our own energy security and our long-term sustainability.

<http://windeurope.org>

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Author bio

Giles Dickson has been Chief Executive Officer of WindEurope since 2015. He previously worked for the French engineering company Alstom and before that was a civil servant in the UK Government.

WindEurope is the voice of the European wind energy industry. It represents the whole value chain of onshore and offshore wind across Europe with more than 500 members.

It engages governments and other stakeholders on policy and regulation and the role of wind in Europe's climate and energy security.

It organises industry exhibitions, conferences and workshops. And it coordinates publicly-funded R&D in wind.