



WIND POWER'S CONTRIBUTION TO EUROPE'S ENERGY INDEPENDENCE

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As Europe looks to break away from its dependence on Russian fossil fuels, renewable energy, like wind power, could be part of the answer. EU countries are keen to increase their renewable energy capacity.

However, slow permitting procedures and issues in the industry's supply chain could cause problems as Europe looks to increase its fleet of wind turbines.

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Securing its supply of raw materials: the wind industry's next challenge

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By Kira Taylor | EURACTIV.com



Wind power is one of the energy sources that could help Europe break free from Russian fossil fuels, but the industry is warning about high prices in the supply chain [Steppinstars / Pixabay]

Europe's wind power industry faces a new challenge as while the EU wants to build up its renewable energy capacity and break free from Russian fossil fuels, problems in the industry's supply chain could hamper that.

The outbreak of war in Ukraine and the ongoing energy crisis have forced Europe to reassess its reliance on fossil

fuels, particularly from Russia.

While increasing the EU's renewable energy capacity seems an obvious solution, high prices and uncertainty in the supply chain are a growing concern for the wind industry, which often puts in bids for projects several years before development.

Renewables, particularly wind

power, can play a crucial role in providing energy security in Europe, Sven Utermöhlen, the CEO of offshore wind at RWE renewables, told EURACTIV.

"The challenge is that, at least in the short to medium term, the war has led to disruptions in the supply chain and those increased raw material prices. That obviously makes the faster

delivery of even more renewables capacity an even greater challenge," he said.

SOARING PRICES

Over the last few weeks, the price of certain materials used in wind turbines, like steel, aluminium and nickel, has shot up.

"Prices are significantly higher at the moment – the raw material prices in particular and the price of certain components, such as cast iron parts – and price predictions have become significantly more uncertain," Utermöhlen told EURACTIV.

"At this time, it is very difficult for companies in the supply chain to predict where prices will go, which means that, if they are asked to make offers for delivery in four or five years from now, it's very difficult to predict their costs," he added.

Russia and Ukraine are major steel producers, which make up the bulk of a wind turbine, but since the war, imports of finished steel into the EU have dropped by a fifth.

Alongside this, the price of hot-rolled coil steel has increased by 40%. Steelmakers in Spain, such as ArcelorMittal and stainless steel producer Acerinox, have reduced their production, while Germany's Lech-Stahlwerke has stopped output completely.

Aluminium is less relevant for the wind industry but is still used for several components, including rotors and cabling. Again, there are visible price increases in the supply chain.

Russia is also the leading global supplier of nickel, another essential component of wind turbines.

"Our competitive position depends on the affordable raw

material prices and a stable supply chain. Currently, like many other industries, we're confronted with high steel and other raw material costs," said Jochen Eickholt, the CEO of Siemens Gamesa Renewable Energy, at the opening of WindEurope's conference last week.

A NEW GEOPOLITICAL REALITY

Even before the invasion of Ukraine, there were security concerns about the supply of raw materials needed for the energy transition.

As the world looks to transition away from fossil fuels, there is increasing demand for resources like nickel, cobalt, copper, lithium and rare earths used to make renewable energy technology, like wind turbines and electric vehicles.

As a result of the massive deployment of wind and solar technology needed to meet future energy demands, the consumption of such materials is expected to increase "drastically" in the coming decades, according to a [report published by the European Commission in 2020](#).

"The EU's transition to green energy technologies, according to the current decarbonisation scenarios, could be endangered by weaknesses in future supply security for several materials," it warns.

The high demand for these materials marks a change in geopolitics from a focus on hydrocarbons to a focus on transition materials, said Samuel Leupold, the chairman of Wind Energy at Macquarie Green Investment Group, at the WindEurope conference.

"The world is increasingly going to be, from a geopolitical perspective, distinguished between the haves and the have nots in transition materials,"

he told attendees.

[Ukraine is a resource-rich country](#), with deposits of rare earths used in wind turbine generators and lithium, a critical raw material used in batteries. There is a cluster of lithium reserves in the country, close to Mariupol, one of the areas where the fighting has been most intense.

"This may not be the main reason for the invasion, but undoubtedly Ukraine's mineral wealth is one of the reasons why this country is so important to Russia," [said Rod Schoonover, former director of the Environment and Natural Resources Section of the U.S. National Intelligence Council](#).

EUROPE AMONG THE HAVE NOTS

While no country has a concentration of all the raw materials needed for the energy transition, resources are concentrated in only a few, some of which have governance issues, risking the security of supply and environmental and social problems.

China dominates the market. It is a leading producer, refiner and user of the majority of transition materials, including rare earths, of which it has a 60% market share. Meanwhile, the Democratic Republic of Congo has around a 70% market share in cobalt, and Chile has just under a 30% market share in copper.

In contrast, the EU is mainly dependent on imports for many raw materials and, in some cases, is exposed to vulnerabilities in its supply, [warned the European Commission](#).

"The EU's dependency on China is certainly a risk factor, and one which needs to be seriously taken into account when planning the future of

renewables in Europe and working towards the long-term climate-neutral goals," its report adds.

PREPARING FOR AN UNCERTAIN FUTURE

There is no easy solution to the wind industry's supply chain woes. According to Utermöhlen, they are unlikely to disappear with the end of the war in Ukraine because the infrastructure will be damaged, and sanctions against Russia are unlikely to be lifted quickly.

The issues will remain for the medium-term, he warned. Because of this, he called on governments to look at how this uncertainty is reflected in their auctions for wind projects rather than putting the burden on the industry.

"We need to think about mechanisms that allow us to take investment decisions, even though those cost uncertainties are much

higher now," explained Utermöhlen.

Investment and stimuli are also needed to expand the supply chain and grow an industrial base in Europe, he told EURACTIV.

In 2018, the wind industry body WindEurope called for research and innovation into substitutes for rare earths and more support for research into recycling these. It added that there should also be an improvement in trade policy to balance China's market power.

In Brussels, the European Commission is monitoring the disruptions and working on a request made by EU leaders at the end of March to reduce strategic dependencies in sensitive areas like critical raw materials.

The EU executive is also helping the industry identify alternative sources of raw materials and is negotiating partnerships with

resource-rich countries, including one already established with Canada and others under negotiation with countries in Africa and the EU neighbourhood.

Alongside this, the European Raw Material Alliance has suggested a pipeline of projects to boost domestic production and international cooperation. If all of these were to be implemented, by 2030, over half of the EU's annually installed wind capacity could rely on EU-made rare earth magnets, and 20% of the EU's nickel demand could be sourced domestically.

INTERVIEW

Permitting and supply chain issues must be tackled to boost wind sector, says industry

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By Kira Taylor | EURACTIV.com



"Renewable energies in general are very important for energy security and wind power is one of the two big pillars of that, the other being solar. If you look at the potential for renewable energy across Europe, then probably wind energy has the single largest role," said Sven Utermöhlen, chair of WindEurope and CEO of offshore wind at RWE [David Plas Photography / WindEurope]

This article is available in [French](#).

Wind energy will play a key role in helping Europe break away from Russian fossil fuels and increase its energy independence, but slow permitting and strains on the supply chain need to be tackled if Europe wants a fast rollout of wind power, according to Sven Utermöhlen.

Sven Utermöhlen is the CEO of offshore wind at RWE Renewables. He spoke to EURACTIV's Kira Taylor during the WindEurope conference in Bilbao.

The European Commission aims for at least 60 gigawatts (GW) of offshore wind production by 2030. What are RWE's plans to increase offshore capacity in Europe? How much investment are you putting in, and

when do you expect those investments to start generating electricity?

We are investing €50 billion gross in our core business by 2030 – that is €50 billion for climate protection. Offshore wind is one of our focal points in our growth strategy: by 2030, we intend to triple our pro-rata offshore wind capacity from 2.4 GW to 8 GW worldwide.

We will be announcing the completion of our Triton Knoll Offshore wind farm in the UK soon, and we have recently started the offshore construction works for Kaskasi, off the German coast. These offshore wind farms will have a total installed capacity of 1,200 MW. In addition, we are progressing with the 1.4 GW Sofia Offshore Wind Farm in the UK.

We are also driving a global offshore wind development pipeline of 10 GW with secured offshore rights. For example, the 1,000 MW project Thor in Denmark or FEW Baltic II in Poland.

Our offshore development activities are focused on North America, the Asia Pacific region and especially attractive markets in Europe.

The European Union and the member states are increasing their own national targets and providing further growth opportunities. Countries like Germany, the UK and the Netherlands have raised their offshore targets and will also raise their auction volumes. I understand Belgium and Ireland are talking about that as well.

All this will provide further growth opportunities, and that means that we will also expand our renewables pipeline and, particularly, our offshore wind business further.

In total, the EU aims for 40% of its energy mix to be provided by renewables by 2030 – the European Parliament even wants to aim even higher, at 45%. What support is needed in terms of policy from the EU and national governments to achieve these targets?

What is vitally important is

that mechanisms are being put in place that continues to stimulate investments. Especially in the current situation with the war in Ukraine, there are stresses and strains on the supply chain and raw material prices. How to reflect that in policy and auction regimes to ensure the investment signals remain in place needs to be considered going forward.

Generally speaking, it is essential that, firstly, the auctions happen fast because the lead times are relatively long in offshore wind. With the lead times in offshore wind usually being somewhere between five and 10 years, those additional volumes need to be auctioned in the next two to three years at the latest, or none of those additional volumes will be in operation by 2030.

Then there is another very important aspect: auction designs and regimes should not only be based upon financial or price criteria, but they should also consider qualitative criteria, such as sustainability, the capability of the players, their ability to deliver on these projects, and their contribution to the European economy. This is crucial to make sure that the projects will be delivered. The one thing we see in a critical light would be negative price components, especially if they are uncapped. This will lead to price increases on the consumer side.

Let's have a deeper look into the latest developments in Germany. The German government's so-called "Easter Package" is another step towards a faster energy transition. Significantly higher expansion targets for onshore and offshore wind power as well as for photovoltaics, more speed in grid expansion and a new, high priority for renewable energies: the German federal government is thus continuing what it announced in the coalition agreement.

But there need to be improvements when it comes to the conditions of offshore expansion. In particular, the planned negative bidding component would simply increase the cost of green power for industrial consumers – the opposite of what we need. And also, the "Contract for Difference" route for pre-surveyed areas without inflation indexation and restrictive bid ceilings will clash with currently unpredictable cost development in the area of raw materials.

In addition, according to the current status, green electricity from pre-surveyed areas for offshore wind farms cannot be marketed to the industry because it remains trapped in the "Contract for Difference" system. Large quantities of green electricity would then not be available to industry at all.

A closer look at other best practice models within Europe could be helpful. Decarbonisation of the industry is one of the biggest challenges on our way to reaching the European climate targets and making the energy transition happen. Offshore wind power should play a central role in this.

During this conference, we heard a lot of concerns about the supply chain. What are you looking for from the European Union and national governments to fix this?

The wind industry is determined to deliver, even in challenging times. But we need the right government policies more than ever.

Prices are significantly higher at the moment – the raw material prices in particular and the price of certain components, such as cast iron parts – and price predictions have become significantly more uncertain. At this time, it is very difficult for companies

in the supply chain to predict where prices will go, which means that if they are asked to make offers for delivery in four or five years from now, it's very difficult to predict their costs.

So governments need to look at how that uncertainty on the cost side can be reflected in auction systems and potentially on the revenue side because simply putting the risk on developers also won't work. We need to think about mechanisms that allow us to take investment decisions, even though those cost uncertainties are much higher now. And we definitely need to look at this as a medium-term topic – it's not going to be a short term issue.

Regarding the supply chain, it needs to expand. It needed to do so beforehand, even without the Ukraine war, to deliver the much bigger volumes of wind that we want to deliver. And it probably needs to grow even further now because of the disruptions due to the war in Ukraine. What the supply chain needs are investment and stimuli to expand the industrial base in Europe.

Aside from these concerns, what are the biggest challenges facing your industry at the moment, and what solutions are you looking for?

Ensuring the security of supply and diversifying energy supplies are the top priorities – particularly through the expansion of renewables. To accelerate the build-out of wind energy, key decisions need to be made now.

For onshore wind, the permitting challenges are very severe – across most countries. The timelines for permitting need to be shortened significantly, and some of the frameworks can certainly also be simplified – the new German

government has just published proposals to simplify permitting for onshore wind. Several of their proposals sound very promising. Similar measures need to be taken across Europe to simplify permitting processes for onshore wind. Of course, this also has to do with raising local acceptance. We as an industry need to work hand in hand with the local communities and municipalities in which we operate.

For offshore wind, local acceptance from people living nearby is not the issue. But we do have challenges with regard to permitting due to the ambitious build-out plans. We need to intensify dialogue with stakeholders for the same or adjacent offshore areas. That includes the topic of nature protection and the coexistence between offshore wind and other users of the sea, like fisheries or shipping.

On the one hand, we need to clarify and simplify some of the rules and procedures to ensure shorter timeframes for environmental impact assessments and consultation with the various stakeholders. We also need to have a dialogue around the very positive effects of offshore wind on the environment. For example, some studies show that, where offshore wind farms are in operation, after only a very few years, the population of certain marine species increases in the vicinity of these wind farms.

What has been the impact of the war in Ukraine on the rollout of renewables? There is concern about how it might impact the industry, but there is also more of a push for renewable energy. What's your take?

There is an even louder call for a faster and bigger rollout of renewables because the topic of security of energy supply and

independence has taken on such a significant priority. And indeed, it is true that renewables and wind can play a very important role in providing energy security.

The challenge is that, at least in the short to medium term, the war has led to disruptions in the supply chain and those increased raw material prices. That obviously makes the faster delivery of even more renewables capacity an even greater challenge. However, the wind industry is determined to deliver. And we at RWE are continuing to expand our green core business at full speed.

How important is wind power as an energy source in Europe, given the war in Ukraine?

It's vitally important. Renewable energies, in general, are very important for energy security, and wind power is one of the two big pillars of that, the other being solar. If you look at the potential for renewable energy across Europe, then probably wind energy has the single largest role.

Obviously, it varies country by country, some countries have a very favourable solar resource, but then, of course, there are other countries in the north and northwest of Europe where wind energy plays an even bigger role.

Meanwhile, the North Sea and the Baltic Sea in Europe are the best places to build offshore wind anywhere in the world. The combination of relatively shallow waters and outstanding wind speed is unique. That is something that we absolutely have to utilise as Europe because it is a unique opportunity.

The European Commission has outlined its plan to reduce Europe's

dependency on Russia, called REPowerEU. What is your view of that? Do you think it's good? Do you think more is needed? And what can your contribution to it be as RWE?

We definitely welcome that initiative by the EU Commission. We believe it's the right direction to go in. What we can do as RWE is to deliver on the Growing Green strategy that we published last year with our €50 billion investment until the end of this decade.

The vast majority of that will go into renewables, especially wind energy, both on and offshore. Another important cornerstone for us is the ramp-up of hydrogen projects as soon as possible. Delivering on that strategy is our contribution. Obviously, with the increased targets for wind power and renewables in the EU, we will certainly seek to participate in those additional growth opportunities.

You mention RWE's plan to invest in renewables. What do the next ten years look like in terms of investments? What renewable energy technology are you focusing on?

The focus on renewable energy is mainly split into the offshore and onshore wind. There is also a significant element on solar photovoltaic. Together, those account for 90% of the overall investments in the growing green strategy. The remainder is on flexible power generation, hydrogen and storage.

And what does the ratio of renewable and fossil fuel projects in RWE's portfolio look like in 2030?

At RWE, we are driving the energy transition more rapidly than most other companies, targeting net-zero by 2040. We have a clear path to climate neutrality: we are responsibly phasing out nuclear and coal and continue to invest in green growth, including flexible generation, which will be switched to green hydrogen as soon as possible.

With our extensive investment and growth strategy, we will expand our powerful, green generation capacity to 50 GW internationally by 2030. Our growth is sustainable: more than 90% of our investments until 2030 will flow into sustainable projects according to the EU

taxonomy.

Finally, you've just been elected chair of WindEurope. What are your main goals for this?

I am honoured to be elected to represent the full value chain of wind energy in Europe – an industry contributing to building a low-carbon future.

I want to help the wind industry manoeuvre through these challenging times, which are indeed characterised by the conundrum of the growth outlooks, which are bigger than ever and arguably bigger than we ever dreamed of. At the same time, there are parts of this industry and parts of the supply chain whose situation, given the Ukraine war, has become even more complicated.

WindEurope, as an association, needs to help the industry get through this situation by having the right dialogue with policymakers, stakeholders and society and providing the right arguments, the right information, the right education around our industry so that we meet the goals

PROMOTED CONTENT

DISCLAIMER: All opinions in this column reflect the views of the author(s), not of EURACTIV Media network.

REPowerEU: This is where wind energy gets serious

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Giles Dickson



[WindEurope]

In every crisis it's easy to make mistakes. The same applies to Europe's current energy crisis. The EU wants to urgently reduce its dependence on Russian energy. But we have to be super careful that in doing so we avoid creating new lock-ins to fossil fuels and investments in fossil infrastructure that'll be incompatible with the Green Deal goal of climate neutrality by 2050.

Giles Dickson is the Chief Executive Officer of WindEurope.

Today Europe imports 58% of its energy – mostly fossil fuels, and

often from countries posing serious geopolitical risks. The Russian invasion of Ukraine has revealed just how vulnerable these dependencies make us. The images from Mariupol, Kyiv and elsewhere are a grave reminder that we urgently need to increase Europe's energy security. Energy policy is now security policy.

Even before the current crisis it was clear that Europe needed to rapidly expand renewables. Today's high energy prices only amplify this need. They are feeding inflation, hurting low-income households, undermining Europe's economy and potentially

slowing its post-COVID recovery.

Now is not the time to panic and rush into misled investment decisions or hasty changes to Europe's proven electricity market design. Instead is the time to kick-start the electrification of Europe's industry, buildings and transport. Most processes that currently rely on fossil fuels can transition to renewable electricity with existing technologies.

Now is the time to ramp up deployment of electric heat pumps, EV charging points, electricity storage and renewable hydrogen. Now is the

time to invest in Europe's electricity interconnector capacities. And now is also the time to make full use of the flexibility options that digitalised and smart power grids can offer.

But most of all it's time to massively scale up renewables. They are the cornerstone of every decarbonisation strategy aimed at increasing Europe's energy security. Investing in renewables now is a no-regret option. Renewables are the cheapest form of new energy production in Europe. They generate electricity locally and reduce Europe's fossil fuel import dependencies. And they generate tax revenues which can be used to curb the current rise in energy prices.

The European Commission's REPowerEU agenda – its response to the energy crisis – clearly recognises this. But the necessary expansion of wind energy is currently stalled. Europe is building only half of what it needs to reach its 40% renewables target by 2030 – not least now that the European Commission's REPowerEU aims to further frontload wind energy build-out.

Europe needs to act now to ensure its wind energy ambitions can be delivered by European companies and European workers. The solutions are clear: simplify the permitting, invest more in innovation and ensure Governments reward the industry in their auctions for the value that it brings to society, the environment and energy sector integration.

Above all, permitting procedures for new wind farms (and the repowering of existing ones) are too drawn-out and complicated. They can easily take up to five years and more. That's poor, not least when EU law says 2 years max... Ambitious wind energy expansion targets and powerful quotes of renewables as "freedom energies" remain academic

if Europe does not get real about solving the insufficient permitting of new wind farms.

The wind industry will use the [WindEurope Annual Event 2022 in Bilbao](#) from 5-7 April to discuss all this with high-level EU policy makers and national ministers. In light of the recent geopolitical developments, the event itself and the [conference programme](#) will have a very clear focus – energy security in Europe, and how we can deliver it.



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Contact us

Frédéric SIMON

Senior Editor, Energy & Environment
frederic.simon@euractiv.com
tel. +32 (0) 2 788 36 78

Marco VENOSTA

EU Affairs Executive
marco.venosta@euractiv.com
tel. +32 (0) 2 226 58 19