

SUSTAINABLE FUTURE

Exploring innovations in wind technology for the
energy transition and circular economy



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AT A GLANCE

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FROM THE EDITOR

Welcome to the third edition of our Sustainable Future newsletter focussing on the vital role wind technology plays in achieving energy security.

Wind technology has a critical role to play in the energy transition and achieving energy security. With Net Zero scenarios demanding a rapid scale-up of wind generation, the sector is experiencing a new wave of investment, innovation and economic growth. In this special edition of Sustainable Future, we look at the industry's technology landscape, where patents serve as a critical tool for innovators seeking to secure a return on their investment. The climate crisis and recent geopolitical tensions mean that demand for renewable energy has never been higher. This is only set to increase as governments put in place policy incentives like the Inflation Reduction Act in the US and the EU's Green Deal Industrial Plan, which encourage investment in combating climate change.

The wind energy market has doubled in size in the last ten years, with further growth predicted. Frustratingly, however, ambitious clean energy targets for decarbonising the energy sector by 2035 are unlikely to be met due to a perfect storm of supply chain issues, grid connection delays and commodity cost inflation, which stand in the way of wind turbine manufacturers profiting from unprecedented demand for renewable energy. Some suggest that the wind sector faces enough challenges in providing installed wind capacity, without progressively moving the goalposts in pursuit of ever larger and higher rated wind turbines. However, innovation across the sector remains critical. As the world increasingly relies on renewable energy, expanding capacity and efficiency is paramount. Continued research into larger, higher power turbines is needed to enable more efficient wind farms, but should not block the installation of turbines already on the market.

Innovation is also critical to increasing capacity, whether this is improvements to make onshore turbines more acceptable to local residents, or floating platform technologies that enable wind turbines to

be deployed in deeper waters further offshore. Innovation in grid transmission and storage is also key. In May 2022, some UK turbines were asked to shut down temporarily when the network was unable to store the amount of electricity produced. Improved transmission and storage infrastructure is needed to capture excess energy and avoid falling back on fossil fuels in times of under supply. Patents are an important tool for innovators seeking a commercial return on their investment in innovation. Securing a patent allows the owner to exclude others from using their invention without permission. If the invention is attractive, a patent covering the invention gives the owner a commercial edge in the market or allows them to gain revenue from licensing. It is usually necessary to start the patenting process well before the innovation is ready to enter the market. However, the 20 year life span of a patent is a worthwhile reward for investing in patents, and an aspect which is of particular interest to investors looking to back the profitable technologies of the future.

In this edition, we take a deep dive into the wind sector to see how it is being shaped by innovative and intuitive patent strategies, as well as discuss some interesting avenues that our research has taken us down. Our work has revealed China's global dominance in wind patent filings, the potential for patents to drive the future of floating offshore wind, and the value of green hydrogen in overcoming problems at wind farms. Among other industry insights, we also comment on the policies that Intellectual Property offices globally have in place to support climate change innovation. If you would like us to expand on any of the topics discussed in Sustainable Future, or have some of your questions answered, please don't hesitate to reach out to our attorneys directly.

[Georgina Ainscow](#)

MEET THE TEAM...



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Georgina works across a range of technologies relevant to renewables with a special interest in sustainability and regularly reports in the media. Her technical expertise includes hi-tech electronics, software and AI, long and medium duration energy storage, power converters and power transmission, including AC-DC and DC-DC power conversion, HVDC circuit breakers and power transfer between DC systems.
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Nick is a fluent Japanese speaker with considerable experience handling EPO oppositions and appeals relating to a wide range of technologies, such as data centre equipment, optical communications equipment, medical devices, and wind turbines.

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Gillian has previously worked for a large multinational wind turbine manufacturer, assisting with drafting and prosecution of inventions relating to wind turbine blade materials and design, blade sensors and wind turbine construction. She has also worked with a smaller wind turbine start up to build a patent portfolio for their vertical axis turbines.

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Pete has worked for one of the largest wind turbine manufacturers in the world, protecting technology related to all aspects of the turbine. Particular areas he's worked on include blade structures, blade tilt and yaw control at the turbine and wind farm levels, emergency shutdowns, LIDAR for detection of wind speed, object detection and turbine control, tonal noise control and many more.

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Bruce's technical expertise includes electronic components, storage devices, AC and DC power converters, telecommunication systems, consumer electronics, software and AI. He has a strong interest in green tech and renewables and has recently supported a global leader in maritime decarbonisation with protecting improvements to electric drive trains and gear boxes.

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Jon has more than a dozen years' experience as a patent attorney and works across varied technologies, including electronics, sensor technology, software, and AI. Specifically, Jon has worked on wind power portfolios covering rotor control, load sensing and modelling, and also turbine blade fabrication.

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Andy has experienced in representing clients in EPO opposition proceedings, as well as on prosecution and drafting matters. He has previously worked as an in-house attorney for a multinational firm operating in the aviation sector, where he developed knowledge and experience on aerospace technologies including sustainable alternatives to the use of fossil fuels.

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GLOBAL WIND POWER OUTPUT AND PATENT FILING TRENDS

Assisted by the record 55% growth in wind power capacity worldwide between 2020 and 2021, wind energy is eclipsing the growth of all other renewable power technologies. As a result, the industry is on track to supply more than one-third of total electricity demand by 2050. As it stands, China dominates the other global players, with a mammoth 70% share in wind generation growth in 2021, followed by the US and Brazil who stand at 14% and 7% respectively. China's large land mass and long coastline is an exceptional resource for wind generation. The Gansu Wind Farm Project alone, found in gusty desert regions outside the city of Jiuquan, accounts for one-seventh of the country's capacity with a total reserve of 200 million kilowatts. Again, US projects are overshadowed. Texas had the most installed wind power capacity of any US State at the end of 2019, with 28,843 MW of capacity, about 16.8% of its total electricity usage. Of the total worldwide installed capacity in 2021, 93% were onshore systems, with the remaining 7% offshore wind farms. Unprecedented, however, was the fast development of offshore technology, with a record high 22% growth in total wind capacity in 2021. Despite this, offshore technology is still only present in 19 countries compared to 115 countries globally that are active with onshore, but expansion is expected in the coming years.

Global offshore wind energy in 2021 had a record year for deployment with over 17 thousand megawatts in new projects commissioned. This growth was largely attributed to China, which commissioned nearly 14 thousand megawatts more capacity in one year than the rest of the world has installed in any single previous year. The UK had the next largest annual deployment. As of 2020 there were nearly 2,200 wind turbines across 35 offshore windfarms off the coast of England, Scotland and Wales, contributing to 13% of the UK's electricity needs. Despite the clear signs of growth, Net Zero success relies on 8 million megawatts wind power capacity by 2030, equal to doubling 2020's record growth in average annual capacity. This can be realised with a global push to accelerate innovation. Bigger turbines with higher power ratings are needed, as are solutions for either anchoring or floating offshore energy. A greater obstacle will be overcoming the variability issue with research into low-speed turbines and energy storage. These questions will be answered by R&D investment and with innovation, a strategy for intellectual property protection must follow. Patents provide commercial reward when technology is ultimately deployed and patent filing trends provide a useful lens to view the direction of innovation in wind energy.

WIND ENERGY: PATENT FILING TRENDS

PUBLISHED PATENT FINDINGS

By region, China, again, ranks first in the statistics (Figure 2), reflecting their large share in wind generation growth. Following China is Europe – which in this context covers the EU countries and notable others including the UK, Switzerland and Norway – then the US, Korea and Japan.

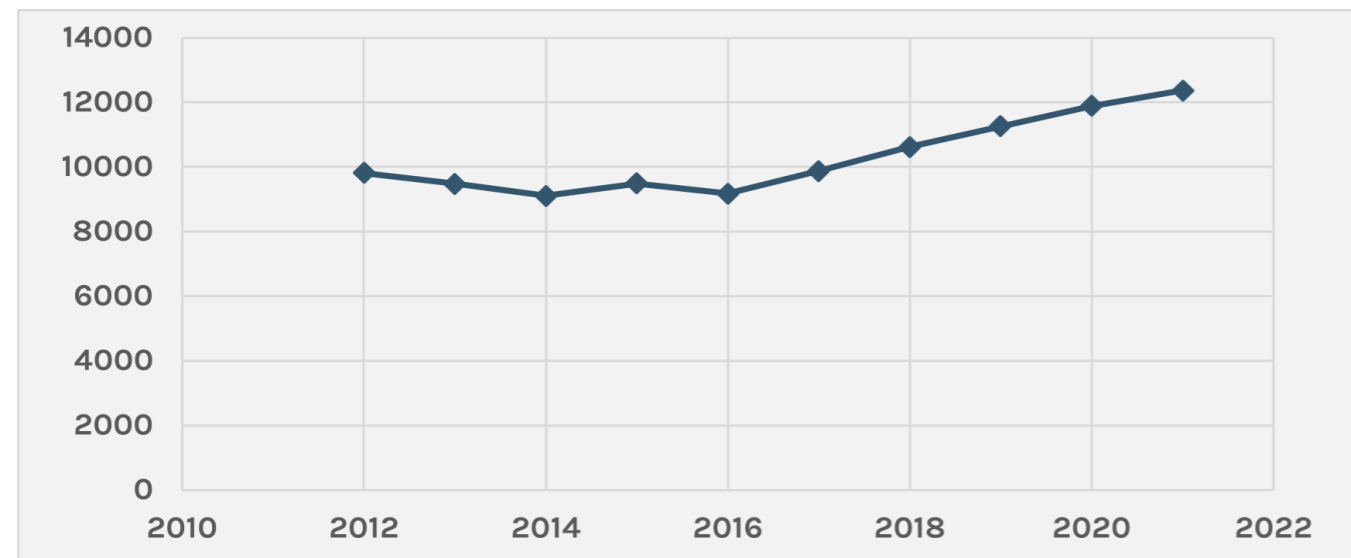


Figure 1 – global patent filing numbers within the recent 10 years (2012 to 2021)

PUBLISHED PATENT FINDINGS

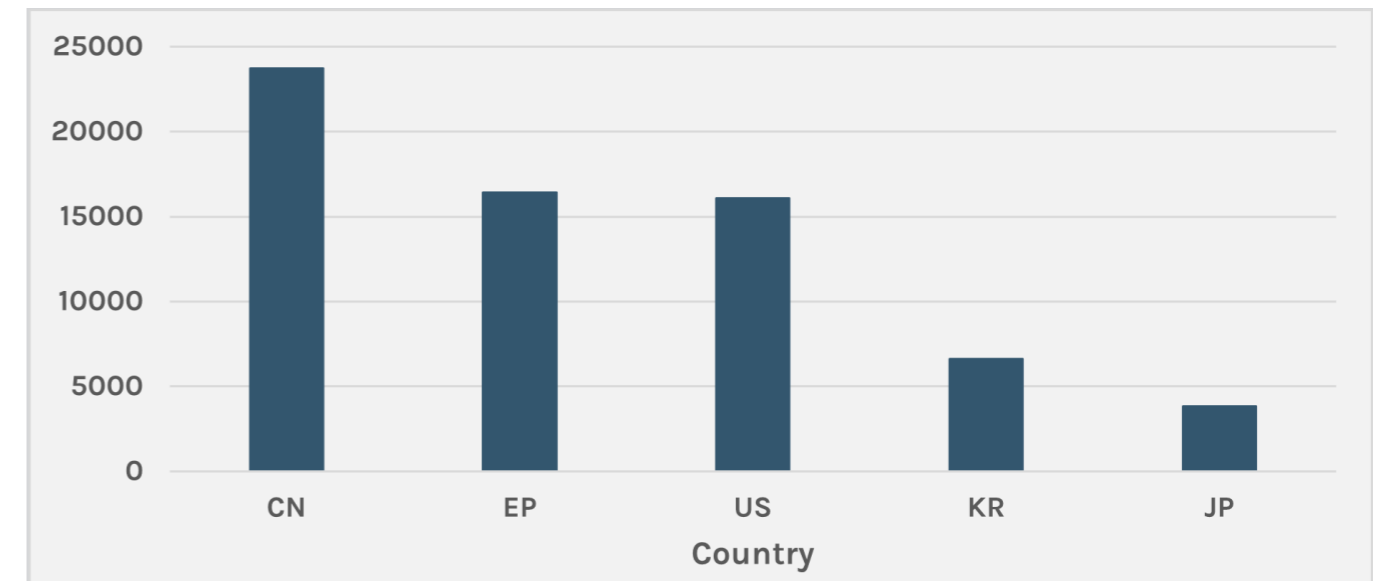


Figure 2 - patent filing numbers by regions within the last 10 years (2012-2021)

Patent trend analysis in this space also shows a clear correlation between patents and commercial success, with the top 10 patent filers (Figure 3) largely overlapping with the top 10 wind turbine manufacturers as listed by BloombergNEF. These companies include Vestas, GE, Siemens Gamesa, Goldwind and Nordex – a key example being Denmark-based wind turbine company Vestas, which has the highest volume of patents filed and is also recognised as the world's largest wind turbine manufacturer and supplier in 2022.

PUBLISHED PATENT FILINGS

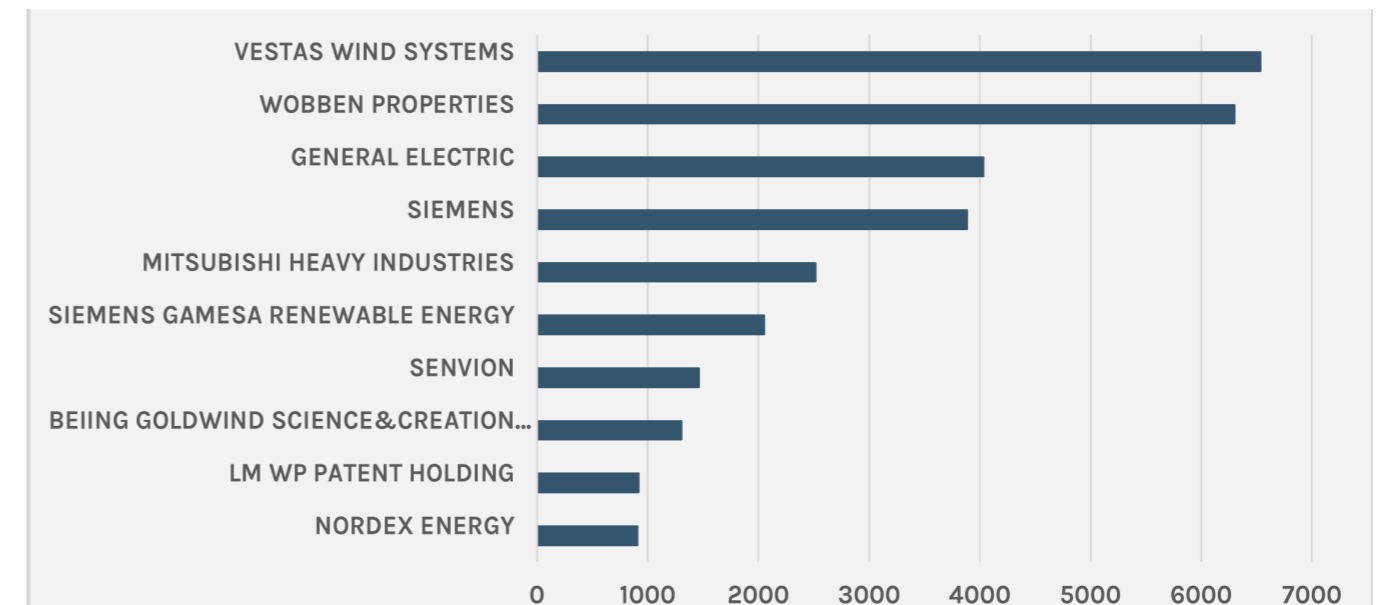


Figure 3 - top 10 filers in wind energy within the recent 10 years (2012-2021)

According to BloombergNEF, the top 10 world's largest wind turbine companies account for over 75% of the total global installed capacity every year. Their market success is irrefutably linked to a comprehensive patent strategy that protects innovation and ensures that their technology is desirable, and cannot be mimicked, when decisions are made on wind energy projects. Their dominance is expected to continue as their technology is utilised to meet the industry's Net Zero targets.

[Georgina Ainscow, Dr Xiaoxi Zhu](#)

INNOVATION IN GREEN HYDROGEN AND WIND POWER

At a time when climate change mitigation and energy security are more critical than ever, the production of 'low carbon' hydrogen has been identified as a key element in the UK government's energy security strategy. With its potential to provide a clean, homegrown source of fuel for a wide range of applications, the UK has ambitiously doubled its target for low carbon hydrogen production capacity from 5GW by 2030 to 10GW. In this article, we look at developments in technology related to 'green hydrogen' – the cleanest form of low carbon hydrogen – and how these developments might be harnessed to address challenges faced by wind power.

What is green hydrogen?

Hydrogen is often given a colour label which indicates the way in which it was produced. 'Grey' hydrogen is referred to as 'high carbon' hydrogen, generated from natural gas or methane. 'Blue' hydrogen, a form of low carbon hydrogen, is generated from natural gas, with its production involving carbon capture. Finally, 'green' hydrogen, being the cleanest, is produced using electrolysis powered by renewable energy. The UK aims for at least half of the aforementioned 10GW of hydrogen production capacity to come from electrolytic hydrogen.

Patent activity related to green hydrogen

Looking at patent publications assigned the Cooperative Patent Classification (CPC) code Y02E60/36, which covers 'hydrogen production from non-carbon containing sources, e.g. by water electrolysis', gives us an insight into how interest in low carbon hydrogen innovation is developing.

Figure number 1 illustrates the number of relevant publications per year from the start of 2010 to the end of 2021, with the numbers showing a 252% increase over this period of time.

Y02E60/36

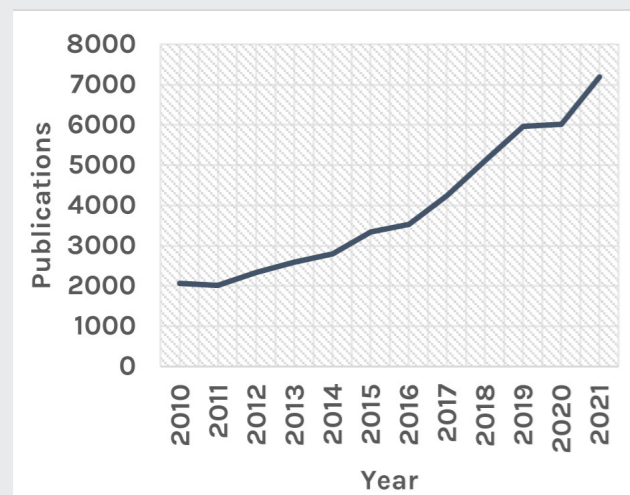


Figure 1

Y02E10 + Y02E60/36

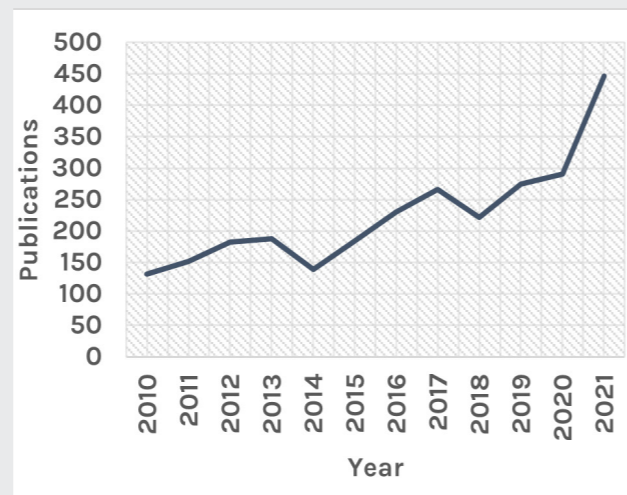


Figure 2

Interestingly, if we limit our search to publications which are additionally assigned the CPC code Y02E10, which relates to 'energy generation through renewable energy sources', we see a growing number of patent filings which we can assume specifically relate to renewable energy powered production of hydrogen.

This innovative use of hydrogen would represent a disruptive change for the renewable energy industry, allowing wind and solar farms to operate independently of grid connection, and providing on-site energy storage to reduce the need for curtailment.



Brande Hydrogen Project

Leading the way in the development of innovation in green hydrogen production is one of the renewable energy industry's major players, wind turbine producer Siemens Gamesa, who began their pilot project connecting a wind turbine to an electrolyser in 2021. So far, the Brande Hydrogen Project has been successful in producing hydrogen using electrolysis powered by an onshore wind turbine, with the resulting fuel having been used to power taxis in Copenhagen. One of their key takeaways from the project thus far is that it is indeed possible to produce green hydrogen at sea off-grid.

As with many successful innovators, Siemens Gamesa's early stage innovation is underpinned by patent applications, which puts the company in a strong position to reap commercial reward from their technology when it comes to market. If we look at Siemens Gamesa's recent patent publications, we see a number related to green hydrogen production powered by wind turbines, which coincide with the Brande Hydrogen Project, such as:

- EP4056884A1, which relates to an offshore pipeline system for transporting hydrogen back ashore; and
- EP4056461A1, which relates to fuelling ships with hydrogen.

Patents are an important tool in driving forward the innovation that is needed to meet climate change and energy security goals, providing a commercial reward in return for investment in the development of new technology. If you are an innovator in the renewable energy field, our team of attorneys at Reddie & Grose have technical knowledge and experience covering the full range of technologies contributing to the energy transition, and are on hand to assist you with our commercially aware approach drafting and filing patent applications, and protecting innovation.

[Olivia Buckingham](#)

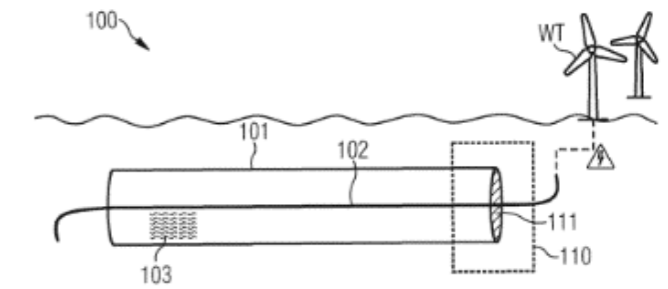


Figure 3: EP4056884A1

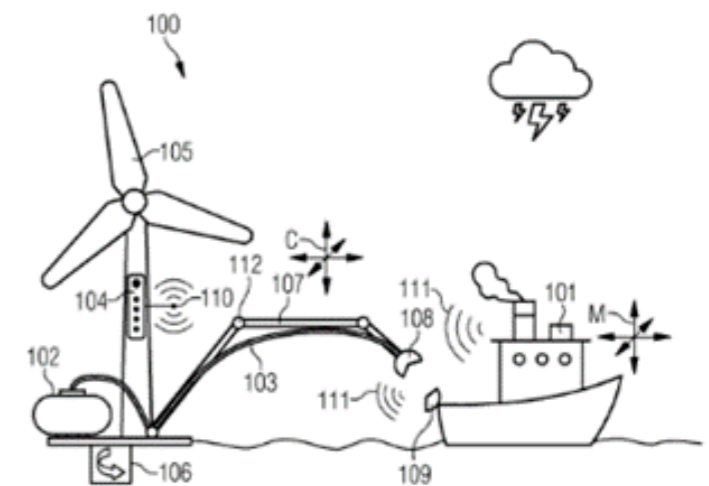


Figure 4: EP4056461A1

A SECOND WIND

HOW TURBINES ARE GOING CIRCULAR

The shift away from fossil fuels to renewable energy sources is well underway, albeit slowly. In 2020, a record 47.1 percent of the electricity generated in the UK came from renewable sources, and this doesn't even include nuclear power. The majority of this renewable energy comes from wind power; something the UK is becoming rather good at. The North Sea is home to the World's two largest offshore wind farms, with construction of even larger farms already underway in Thames estuary. This is positive because wind power has the lowest lifetime carbon cost of any power source other than large scale nuclear power. Lifetime carbon emissions for wind power are 99 percent lower than for coal-fired power stations, 98 percent lower than gas power stations, and even a surprising 75 percent lower than solar power.

A Lot of Hot Air?

But how sustainable are these giant windmills? Clearly generating the electricity itself does not rely on burning fossil fuels, but what do we do with them once they reach the end of their useful life? While the steel towers can be recycled using existing recycling pathways, what to do with the blades at the end of their lives remains a challenge. Wind turbine blades are typically made from lightweight fibre reinforced plastic, and sadly most end up in landfill; composite materials being notoriously difficult to recycle. The European Composites Industry Association estimates that by 2025, decommissioned wind turbine blades will account for 10 percent of the global thermoset composite waste. Today, a limited number of used blades are cut-up and used as filler in concrete. Slightly more creative solutions have been tried in Denmark where old blades have been used to construct bike shelters. Similarly, in Ireland there are plans to use old blades to form attractive foot bridges. Intriguing as these plans are, they will not be enough to account for the sheer number of decommissioned blades currently heading for the scrap heap.

“WIND POWER HAS THE LOWEST LIFETIME CARBON COST OF ANY POWER SOURCE OTHER THAN LARGE SCALE NUCLEAR POWER.”

Winds of Change

To deal with this growing mountain of used blades, Aker Offshore Wind has collaborated with The University of Strathclyde to develop a novel process to separate the glass-fibre and resin components from composite turbine blades to allow the glass-fibre to be reused. This collaboration has led to the construction of the UK's first turbine blade recycling plant. If successful, this

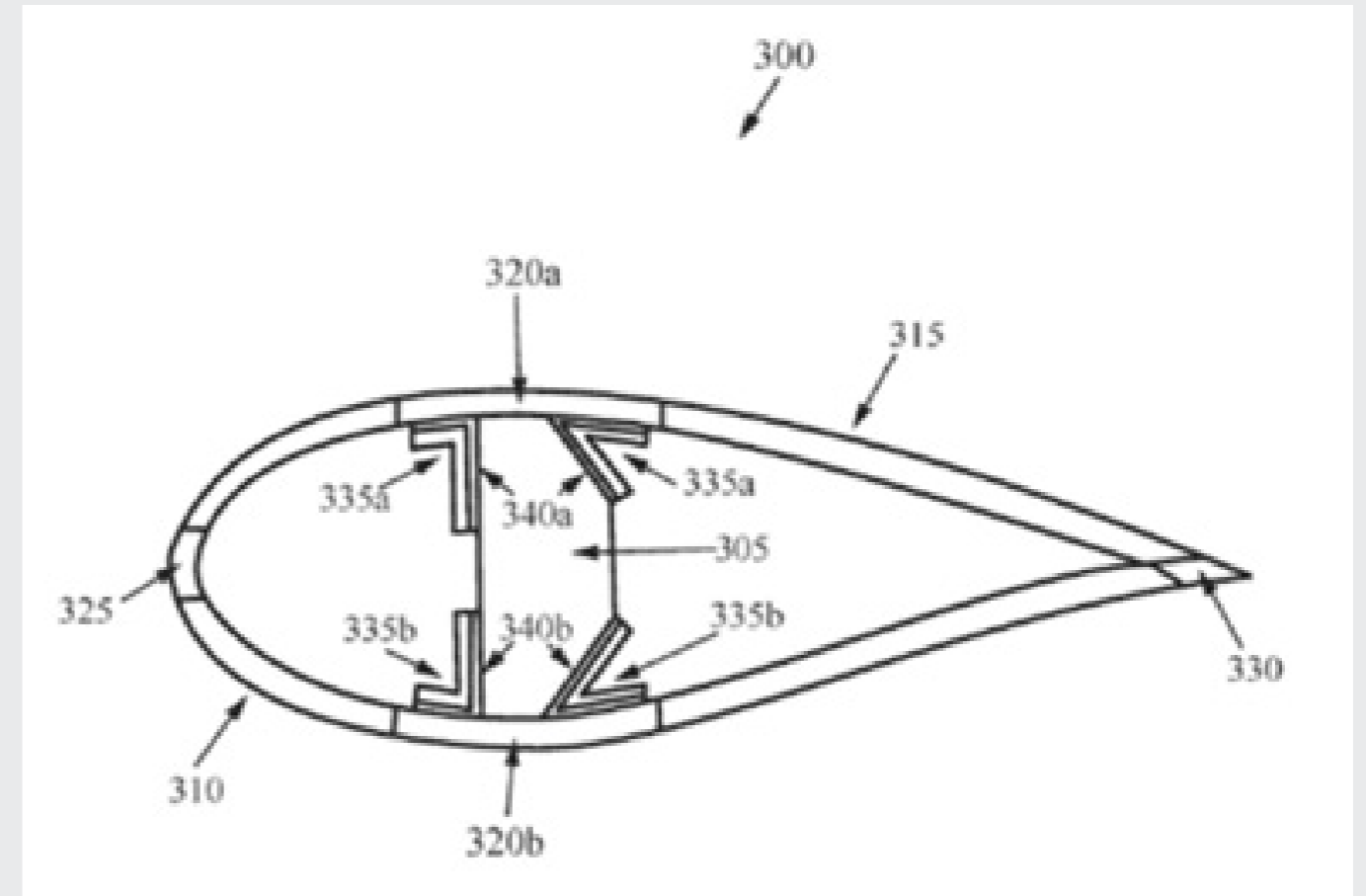


Figure 1

technique could represent a key step towards the circular supply chain model needed to keep turbine blades out of landfill.

Others are planning to make turbine blade more sustainable from the get-go. Sustainable energy contactor Alliance for Sustainable Energy, LLC which works for the US National Renewable Energy Laboratory has developed a thermal welding process which allows turbine blades to be manufactured from recyclable thermoplastic rather than the traditional non-recyclable thermosetting plastic. The process, described in patent application number WO 2020/117801 A1, includes providing copper heating elements between thermoplastic components to facilitate thermal welding, the heating elements remain embedded in the joint once the blade is constructed. Not only does this technique allow the blade to be formed from a more recyclable material, but it also eliminates the need for adhesives which can extend the life of the blade. In Europe, specialist materials company Arkema has teamed up with the Zero waste Blade ReseArch (or ZEBRA)

consortium in an effort to develop blades which are more readily recycled. As described in patent application number WO 2018/115342 A1, Arkema has developed a new liquid thermoplastic resin material known as Elium® which may be recycled using either mechanical or chemical processes. In March 2022, the company announced the completion of the world's largest fully-recyclable turbine blade, having a length of 62 metres.

A Breath of Fresh Air

The outlook for wind power seems relatively positive. What to do with the wind turbine blades remains a problem, but innovative solutions are being found. A bridge here or a bike shelter there may be a novelty, but the real step-change will come from designing the blades with the end-of-life in mind. As with so many industries, this is the only way to close the supply chain loop and make wind power truly sustainable.

[Adam Kelvey](#)

OFFSHORE DRILLING: AN UNLIKELY ALLY TO FLOATING WIND

ORIGINALLY PUBLISHED IN ENERGY VOICE

The Scottish Government has set a target of becoming a net zero carbon nation by 2045 and is aiming to more than double its current renewable electricity generation by 2030. Its big bet to achieve this is wind power, given its low cost and the large potential for viable installations in North Sea waters.

One barrier to success is how turbines can be securely fastened to the seabed so that the turbine has the strength and stability to remain correctly positioned in rough seas. Up until now, most wind farms have been positioned close to shore so the depth to the seabed has not been a challenge. This changes dramatically further out to sea. As wind farms begin to be built in deeper waters, the resulting stronger winds mean that the challenges of anchoring them to the sea floor become increasingly complicated. These challenges will need to be addressed by innovative solutions. But the wind industry may have found a shortcut by using solutions already established in the offshore drilling industry.

Offshore drilling has already established a number of anchoring techniques for securing large superstructures to the seabed in deep waters. While there are obvious differences between offshore rigs and windfarms, it is apparent from recent patent filings that floating wind is taking a leaf from the oil rigs' book to solve these installation challenges.

For example, floating pontoons anchored with cables have been proposed to support multiple turbines. Alternatively, the turbines can be secured using tension leg platforms, which use steel rods to reduce vertical motion. Finally, SPAR-type platforms have been proposed that enable the turbine to float without needing a superstructure. The use of these methods in floating wind is still in its infancy, and none represent a golden solution to the numerous challenges with installing and maintaining a wind farm many miles out to sea.

The North Sea is a very promising testbed for innovation in floating wind farms, and the organisations that provide the best technical solutions stand to profit handsomely – not just from UK projects, but potentially from licensing their patented technology worldwide over the next two decades. However, in doing so, companies will have to tread lightly. Collaboration and sharing of technology is not as simple as loaning blueprints. Companies will need to know whether their own patented improvements nevertheless infringe existing IP, or else face a potentially costly dispute.

Of course, the leading players might not emerge from the UK. Norway and Japan have sizeable coastlines, while the US also has the Gulf Of Mexico on its doorstep. China is an emerging player in the wind sector with a thriving onshore wind infrastructure and thousands of miles of coastline. In this truly global market, the potential payoff for providing viable technical solutions could be enormous.

Whichever company is first in the water with a viable solution will undoubtedly gain a commercial advantage and, in the race for a workable, scalable method of creating floating wind farms, it is highly likely we will see exploration of solutions from sister industries. But it's not sink or swim for companies who are further behind, as they can seek a licence to use the existing technology at significantly less cost than building their own solution from scratch. Collaboration, even between competitors and industries, will be needed to achieve global sustainability goals.

Whatever happens, it cannot be understated how important it will be for companies to understand how they can leverage, or improve upon, the existing IP landscape if they are to keep their floating turbines above water.

[Bruce Torrance](#)

SIEMENS GAMESA V GE

In March this year, General Electric Co. (GE) and Siemens Gamesa Renewable Energy (SGRE) settled all outstanding wind turbine technology disputes in the US and Europe, each regarding high value patents owned by both companies.

In a significant blow to GE, a Boston federal judge issued an injunction in 2022 barring GE from making and selling its flagship Haliade-X wind turbines in the US, on the grounds that they infringe SGRE's US patent no. 9,279,413. SGRE's patent concerns the bearing which couples a turbine's rotor and blades to its main shaft. The bearing is provided as part of an annular member which protrudes into the interior of the rotor hub, "axially inwards into the interior from a side of the hollow shell configured to face, when the wind turbine is assembled, the stationary main shaft of the wind turbine". This arrangement, according to SGRE, allows for larger turbine blades to be supported so the wind turbine can generate more energy.

But the UK High Court tipped the balance in GE's favour, subsequently finding SGRE's related European patent to be invalid and, even if it were valid, not infringed by GE's Haliade-X wind turbines. Also in GE's favour are its own valuable patents, and that fact that they themselves have simultaneously asserted their own rights against SGRE.

As per the settlement, both companies will receive cross-licences for the patents in question, removing some barriers to meeting a rapidly growing demand for wind generated electricity. The settlement is also a win for the wider wind industry. The technology covered by SGRE's '413 patent appears to be the only currently known way to scale up wind turbines to achieve 12MW+ power ratings, meaning that the US injunction was, and potentially still is, highly relevant to other wind farm operators seeking to maximise their power output. While the judge ordered a carve out that allowed for installation of GE's Haliade-X turbines at two wind farms that were already under construction, this provision was strictly limited and subject to steep royalty fees. SGRE have their own 14MW wind turbine, the SG 14-222 DD, so the industry does have an alternative. However, reliance on a single manufacturer can drive up costs, with a knock-on effect on energy prices, negatively impacting consumers. And without the Haliade-X, prospective wind farms might have to delay their launch or pivot to smaller wind turbines with lower power ratings.



"BOTH COMPANIES WILL RECEIVE CROSS-LICENCES FOR THE PATENTS IN QUESTION, REMOVING SOME BARRIERS TO MEETING A RAPIDLY GROWING DEMAND FOR WIND GENERATED ELECTRICITY."

With the potential for infringement disputes to cause lengthy delays that are not compatible with an increasingly urgent need for clean, home-grown energy to combat the climate crisis and dependence on Russian oil and gas, it's tempting to regard patents as a bad thing. However, though not perfect, the patent system was established to drive forward technological progress. Patents reward innovators with a limited term monopoly to exploit their technology if they can prove that it is new and inventive. We cannot achieve Net Zero by

2050 with currently available technology, meaning that continued investment in innovation is critical.

Moreover, used effectively, patents are an invaluable tool in establishing a clear demarcation of who has invented what, which encourages companies to collaborate in combatting climate change. A company's own patents also provide leverage when negotiating the licences needed to use other people's patented technology and should therefore stimulate progress rather than hold it back.

Following advice from the presiding Judge Young in the US decision, it is encouraging to see that the parties reached a global settlement to cross-licence their patents. Both parties will gain commercial reward for their patents, while retaining the freedom to install and develop their own products. The settlement also protects both companies' position in the wind turbine market, against competition from Vestas, with their V236 15MW prototype, and from Chinese OEMs, who are gaining an increasing foothold in

the western market. The settlement also serves the interests of the wind industry. It removes legal uncertainty and avoids unnecessary delays. Diversity in the market should also drive down costs.

In conclusion, patents, used properly, are of benefit to their owners and to the industry they serve. If you are interested in how patents can be used to protect your innovation and reinforce your position in the market, please get in contact with one of our attorneys.

[Georgina Ainscow](#)

IP POLICIES TO SUPPORT INNOVATION COMBATTING CLIMATE CHANGE

The UK government's recent 'Powering up Britain' policy paper, outlining their plan to deliver a Net Zero economy by 2050, reminds us all of the importance of championing advances in climate change mitigation technology. It, therefore, feels appropriate to present how intellectual property offices around the world encourage green innovation.

WIPO (the World Intellectual Property Organisation) has demonstrated its support for addressing climate change by launching 'WIPO GREEN' in 2013. WIPO Green is an online platform for technology exchange that supports global efforts to address climate change, and represents an important commitment to promoting green innovation. The EPO (European Patent Office), among other initiatives, have introduced a new patent classification scheme which allows climate change mitigation technologies to be tagged and affording valuable insights into the growth of different green technology areas.

Perhaps of more direct interest for patent applicants, however, is a range of similar initiatives implemented by intellectual property offices around the world, which speeds up the patenting process for those seeking protection for green inventions.

UK Green Channel

The UKIPO's (UK Intellectual Property Office) 'Green Channel' for accelerated processing of patent applications is now well established, having been launched the best part of 15 years ago. Using this service, applicants can request accelerated search, examination, combined search and examination, and/or publication. As a result, a patent application filed under the green channel could be granted in as little as 9 months. To qualify for the green channel, applicants will have to justify how their invention is 'environmentally friendly'. The bar is not particularly high, though, with applicants only having to make a 'reasonable assertion'



of 'environmental benefit'. This, naturally, will not act as much of a barrier to innovators in the wind energy sector. Indeed, the database of published Green Channel applications is populated with wind-related entries, such as applications describing 'offshore wind turbines' (GB2604943) and a 'floater for a wind energy power plant' (GB2587750).

US Climate Change Mitigation Pilot Program

In a similar vein, the USPTO's (US Patent and Trademark Office) 'Climate Change Mitigation Pilot Program' was launched in 2022, offering special status to 'applications involving technologies that mitigate climate change by reducing greenhouse gas emissions'. The program is open until the earlier of 5th June 2023 or the date at which 1000 applications have been granted said special status.

“THE UK GOVERNMENT’S RECENT ‘POWERING UP BRITAIN’ POLICY PAPER... REMINDS US ALL OF THE IMPORTANCE OF CHAMPIONING ADVANCES IN CLIMATE CHANGE MITIGATION TECHNOLOGY.”

‘Green-related applications’ – JPO (Japan Patent Office)

The JPO enables accelerated examination and accelerated appeal examination for applications/appeals that fall under one of a list of categories. One such category is 'green-related applications' covering 'green inventions', which are defined as inventions 'having an energy saving effect and contributing to CO2 reduction'.



Elsewhere

A number of other patent offices around the world afford similar accelerated processing to 'green' applications. For example, the Canadian Intellectual Property Office and IP Australia.

In a system that suffers from patent office backlogs, such that obtaining a granted patent can take several years, accelerated processing offered by patent offices around the world is an important advantage for applicants seeking a quick grant. It is worth remembering, however, that a quick grant is not always in the interest of the applicant. At Reddie & Grose, our attorneys are skilled at understanding our client's unique circumstances and providing tailored advice for navigating the system.

[Olivia Buckingham](#)

HERE TO HELP

At Reddie & Grose, our Energy & Natural Resources and Sustainability teams are dedicated to green innovation in all of its aspects. Our patent and design attorneys have extensive experience of advising research and development departments and a deep understanding of the key issues in an often complex legal and business environment. We help businesses in their due diligence and analysis of whether they are free to launch their products. We protect their innovations by preparing and prosecuting patent applications – building portfolios of rights to protect their commercial interests. We are also skilled in assisting clients to enforce their patents and designs, filing oppositions and cancellation/ revocation proceedings against third party rights, helping to defend our clients’ position in infringement proceedings and defending clients’ rights in oppositions and cancellation proceedings brought by third parties.

Our support of multinational clients is more than just managing their global patent portfolio and defending crown jewel IP rights. We understand that every stage of a product’s development offers a unique challenge and our experience of working in established and emerging markets enables us to think beyond the law and devise patent strategies tailored to the commercial objectives of our clients.

In our support of start-ups and SMEs we have the commercial expertise to protect their innovation, ensure that their businesses are attractive to investors, ready for an IPO or perfectly placed to bring the next blockbuster to market. We pride ourselves on listening to our clients and offering expert and pragmatic advice that is tailored to our clients’ needs. Avoiding a ‘one size fits all’ approach has allowed us to build up many valued long-lasting client relationships. We would be delighted to provide you with further information about our services and to organise a free initial consultation.



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At the start, it can be difficult to decide whose expertise is most appropriate for a project. Please contact our team leads who can build a team tailored to your needs.

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