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wpd think energy

A look at the government's legislative packages: remedial action required

Dr. Hartmut Brösamle, COO wpd AG

In the last few months, the federal government has worked feverishly on legislative packages to accelerate the expansion of wind energy in Germany. In the final sessions of the Bundestag before its summer break, groundbreaking changes were made in the form of the Wind Land Area Requirements Act and amendments to the Building Code and the Federal Nature Conservation Act (BNatschG) in order to provide the legal framework for the government's ambitious expansion targets.

The desire for change is as clearly discernible as a paradigm shift. Substantively, however, the laws fail to live up to the opportunities and necessities of an arrangement suitable for achieving the target.

As positive as the legal implementation of the nationwide target of 2% of land to be dedicated to onshore wind energy is at first sight, for example, the timetable for its implementation is disappointing. Both the unambitious interim goal of 1.4% by 2027 and the fact that the two-percent target is not projected to be achieved until the end of 2032 will unnecessarily slow down the expansion to 80% renewable energies in the electricity sector by 2030.

The fundamental problem is that acceleration measures will take too long before they have any effect and the exclusion effect as well as further preventive tools will largely remain in place. Simple, clear arrangements would have been needed. Unclear legal terms or the defining of interim land targets create unnecessary barriers.

For example, the EU approach of "go-to" areas according to which in areas without any separate species protection assessment, it is to be assumed that the construction of wind turbines does not breach the bans imposed under species protection laws, would be seen as a positive step. Any such arrangement would have great potential without having any sizeable adverse effect on the actual protection of endangered species. As we hear from Berlin circles, it seems entirely possible that this approach will be adopted in the federal government's "summer package" in the autumn.

It would also be vital to revise the planning law requirements for repowering which are responsible for the fact that as many of 50% of projects eligible for repowering fail to win approval. There must be a readjustment here as, besides the great potential of replacing old turbines with modern, more powerful turbines, this is also about the benefit of using locations already socially accepted. In this context, the priority defined in the 2023 Renewable Energy Act (EEG) which states that there is "overwhelming public interest" in the implementation of renewable energy projects, should now also be fixed in planning law.

There is also an urgent need for action with respect to the Federal Nature Conservation Act (BNatschG). The so-called habitat potential analysis which analyses a project area as a potential habitat for species of relevance to planning, would constitute one basic approach here. However, this analysis must be designed in such a way that it represents an objectively verifiable method with a clear evaluation scale. Probabilistic methods would be preferable here which offer a standardised evaluation framework for onshore wind energy to identify any significantly heightened risk of exterminating species. The aim must be to conduct species protection, not the protection of individual animals, and to create a clear, reliable legal framework.

If we want to achieve these expansion targets together which are important against the backdrop of climate protection, energy independence and the affordability of energy, the federal government must tackle further changes with significantly more courage.

Five years of tenders:
wpd successful after tough start



Photos from left to right: The Blender, Riede and Achim-Bollen wind farms are some of the earliest tender projects realised by wpd.

The introduction of tenders to determine the level of remuneration for electricity from wind turbines in 2017 is recalled by many actors in the wind industry as a seminal event. More than five years have now elapsed since the first round of tenders. Time to take stock.

The Renewable Energy Act (EEG) in 2017 made it mandatory for onshore wind turbines with an output of more than 750 kilowatts (kW) to participate in tenders from the turn of the year between 2016 and 2017. From that moment on, there were no more guaranteed feed-in tariffs. Among other things, tenders were supposed to bring companies closer to the market and generate more competition.

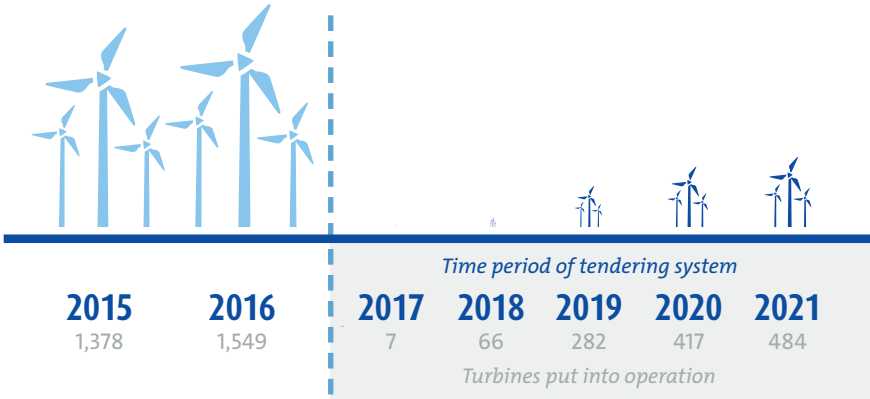
Lawmakers intended to make it easier for citizen-owned wind farms to take part in tenders thanks to economic benefits and certain privileges. In the early days of tenders, citizen-owned energy cooperatives dominated the scene, winning over 90% of the projects awarded. However, the benefits and privileges led to a problematic effect, with a not inconsiderable number of the major project developers setting up their own citizen-owned energy companies in order to win more profitable contracts using this "cover". A stop was put to this practice at the start of 2018. Although many of the privileges were abolished, "genuine" citizen-owned energy companies continued to enjoy economic benefits.

Almost 15,800 MW of output were auctioned on the 22 bidding deadlines between May 2017 and May 2021. However, nearly all the auctions since 2018 have been undersubscribed with the result that ultimately contracts were only awarded for a total of 11,500 MW. At the end of June 2021, the thousandth turbine was commissioned since the introduction of the permit system. In the ten years preceding its introduction, there were six occasions on which a thousand turbines joined the grid within one calendar year alone. As the chart below shows, the trend is on the up. At wpd, too, it's all systems go for growth. In the previous round of tenders for 2022 and 2023, we recorded the largest volume of contracts awarded among our competitors.

wpd has participated in nearly every tender and during these five years, it has experienced all the ups and downs associated with a change of system. In 2017, we were unable to win a single contract. However, we never gave up on a project and we also ruled out taking part in tenders as a "bogus" citizen-owned energy company. In total, between 2017 and the most recent tender in May 2022, we were successful with 50 projects totalling 687 MW and 168 turbines.

This makes us one of the most successful project developers in Germany. Not only do we want to consolidate this achievement but also to expand on it which will require many smart minds and willing hands. From commercial project developers to implementation managers and electrical or civil engineers, wpd has a constant need for reinforcements. For new projects that we will navigate through the tender process for the energy turnaround.

The end of June 2021 saw the 1,000th turbine commissioned since the introduction of the permit system in 2017 for wpd's Gerbstedt project.



Professional future: wpd invites students

Students from the University of Bremen gain insights into renewable energies at wpd

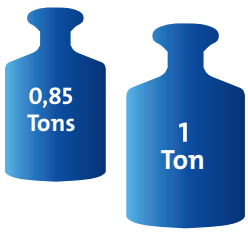
wpd nurtures its contacts with students. Recently, students at the Universities of Bremen and Osnabrück embarked on an excursion in the early summer of this year to wpd's headquarters in Bremen to acquire knowledge about renewables but also about design, operational management and the maintenance of wind turbines.

wpd's Polish team organised a highly interesting panel discussion in Poznan on the status of Poland's energy turnaround. And wpd even has one employee in its ranks in the shape of Ekkehard Darge who is himself a lecturer. Good connections that may inspire students to work in the field of the energy turnaround.

"Green September" at wpd

September is an important month for two "green" wpd campaigns. Firstly, the end of the month marks the finishing line for a bet undertaken by the wpd team from Osnabrück: The team is aiming to achieve 40,000 km in 213 days by bike. Every CO^2-free kilometre counts. If the team makes it, it will receive a new bike stand at the Osnabrück facility. If the bet is lost, everyone will come to wpd's next party by bike.

In addition, wpd facilities around the world will again be joining the "Clean up the world" campaign in mid-September. After collecting 870 kg of refuse last year, this time we want to make it a ton and reach 1,000 kilos.



Collecting kilometres for the bike bet

wpd looking for reinforcements: Recruitment day at WindEnergy in Hamburg

WindEnergy Hamburg

WindEnergy Hamburg is considered the world's leading trade fair in the wind energy industry. From 27 to 30 September, the focus will not only be on swapping notes, networking, technical developments or potential new projects at Hamburg's Exhibition Centre but also on the wind sector as a highly attractive jobs motor with a rich future.

wpd will be using the final day of the fair on 30 September as a recruitment day. You will be able to gain in-depth knowledge of wpd in Hall A1 on Stand 231 and talk to colleagues from the Human Resources Department about your professional prospects. You can also find the latest career news at: www.wpd.de/wpd/karriere/

Hall A1
Booth 231

wpd booth

Celebrating success and acceptance: wpd's wind farm parties in 2022

Wind farm celebration in Achim-Bollen

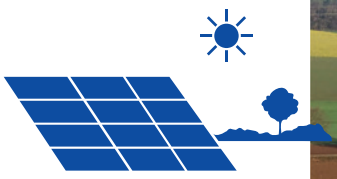
In the storyline of a project, approval, the tender and construction are followed by the ceremonial commissioning of a wind farm. The wind farm celebrations organised for the occasion are also significant from another perspective. Not only do they mark the successful realisation of a project, they also bring all the parties involved together, from the company's employees, to politicians and local residents. These celebrations also constitute interesting and inspiring experiences for families and children. They are therefore also a sign of local acceptance.

This year, we were able to celebrate the successful commissioning of the following projects: Schlüsselburg, Achim-Bollen, Jeetze II, Biegen and now Oldendorf-Kuhla and Wilstedt Süd in September.

Class 4b at the Mahndorf Elementary School have been studying climate change and wind energy. A visit to the Achim-Bollen wind farm produced numerous pictures on the subject which were then exhibited at the celebration.

Sun on the "plate": wpd project delivers 10 MW for the energy turnaround!

Photo montage of the Wiernsheim solar farm in Baden-Württemberg



17,884 solar panels will be installed in the Wiernsheim solar farm!

17,884 solar panels will in future be converting the energy from the sun into electricity on a site near Iptingen in Baden-Württemberg. The project under development here will have a planned installed capacity of 10.01 MWp and a yield of 12.1 GWh.

This area which was formerly farmed intensively lies in the municipality of Wiernsheim, around 17 km East of Pforzheim, on the so-called "plate" above the Enz valley. This is where the wpd team is going to build the Wiernsheim solar farm. This PV project is the first to be realised by wpd following the restructuring of the division in Germany.

After implementations on an international level enjoyed favourable outcomes and following recently successful projects in France and Taiwan, it is now time for a project to be successfully realised in Germany in the shape of the Wiernsheim project. With a strong and growing pipeline in the PV sector, wpd's solar teams are looking forward to rich prospects. Not least in the domestic German market.

For the Wiernsheim project, it took a mere 16 months from the initial idea for the project until obtaining a resolution to adopt the construction plan in mid-February of this year. The award of the contract in the solar energy tender was celebrated as early as March 1. For this planned project, wpd was able to count on strong support from environmental associations and local politicians. The resolution was passed by the Wiernsheim borough council by a large majority. Construction of the solar farm is to start in the autumn of this year, and the farm is due to join the grid at the end of the year.

The solar farm will promote the species diversity of local fauna and flora. It will create hideaways for small animals, birds and insects. The land will no longer be fertilised and no pesticides will be used – thereby no longer posing a threat to groundwater or running water. The soil will also be able to regenerate. Part of the area is to remain for agricultural use and geese will be kept by way of a trial.

Construction of the solar farm is also linked to the setting up of a compensatory area. Two flowering strips, each 1,000 m² in size, are to be created in Wiernsheim as well as four so-called lark windows. These will be gaps in the wheat fields, areas around 20 m² in size where nothing will be planted, thereby attracting larks but also partridges and yellowhammers and giving them a place to land. Here too, the project will further enhance the natural environment.

In the last few years, wpd has restructured its solar energy division in Germany. Projects in almost every state are in development from four offices. There are many projects in the pipeline, and we are confident that further PV projects will follow in the coming years. The new targets set by the federal government, especially in the PV sector, will give the energy turnaround in Germany further impetus. We are also hoping for a brisk tailwind for the solar energy division of wpd.

wpd wind projects in Taiwan:

Logistics under own management

Chuangwei II, Leadway II and Hsinyuan: three onshore wind farms which wpd is realising in Taiwan, with several challenges already mastered. These included, above all, logistical tasks in the port of the industrial town of Taichung on Taiwan's west coast.

This year, for the first time, turbine components were unloaded there from heavy cargo vessels, and put into storage in the port, with all the work organised and carried out by wpd under its own steam. To achieve this result, the procurement team from wpd Asia solutions had been negotiating intensively with local and international service providers since the middle of last year. The Taiwanese company Giant was contracted for port handling, in other words all the deployment of machines for unloading, transporting and interim storage prior to onward transportation.

At the end of April, the first large heavy cargo vessel carrying turbine components arrived at the port of Taichung. On board were large components from the production factory of the turbine manufacturer, Vestas in India: nacelles, hubs, drivetrains and tower segments. Tons of loads were lifted off the vessel and transported and offloaded into the port storage area. Finally, at the beginning and end of June, the rotor blades, which ranged in length from 57 to almost 67 meters, were delivered from production facilities in Italy (for the V117 turbines) and Mexico (for the V136 types). It is a tribute to the organisation and excellent collaboration with the service provider that everything went without a hitch.

Installation of the Vestas turbines, with four turbines of type V117 for Chuangwei II, two further V117 turbines for Leadway II and six V136 turbines for Hsinyuan was then scheduled for the end of July. The Taiwanese company Chi Deh, an experienced partner, was engaged for the transport to the construction sites as well as for crane work and installation services.

Chi Deh received training from Vestas in how to erect the turbines, with teams from wpd and Deutsche Windtechnik also taking part. Deutsche Windtechnik will be responsible for the technical maintenance of the turbines. Before the turbines could be erected, however, the components still had to be transported from the port to the construction sites at the various turbine locations. Again, wpd planned the deployment of a blade lifter to transport the rotor blades for the first time in Taiwan by itself. Finally, the deployment of what is currently one of the largest cranes available in Taiwan, an "LR1800" from the German-Swiss manufacturer Liebherr, was a further highlight. The dimensions of this crane, whose main boom can be extended to heights of up to 180 meters, were a prerequisite for achieving the hub height of 112 meters.

Whether heavy loads or great heights: the experienced teams from wpd Asia solutions and wpd Taiwan mastered all the challenges single-handedly, getting three projects off the ground that will supply the country with energy generated carbon-free. And one thing is certain: further projects will follow them.

Transporting a rotor blade from quayside into storage after unloading

What lasts long ...

wpd gets permits in Sweden

Photo: The Swedish wpd team from the Stockholm site with three colleagues from Germany

Sweden has set itself both ambitious and necessary targets for achieving the energy turnaround in the country. By the year 2040, the north european kingdom wants to generate 100 percent of its electricity from renewable energies. At the same time, it is also evident here that the demand for electricity is not a fixed quantity, but is constantly rising due to the growing demand of the various energy sectors such as industry, private households or transport. According to the Swedish Energy Agency, in order to achieve the ambitious targets and meet the rising demand by 2040, electricity generation from renewable energies will have to be expanded by around 100 TWh per year. For comparison: In 2021, more than 112 TWh of electrical energy was generated from renewable sources in Sweden.

By the year 2040, Sweden wants to generate 100 percent of its electricity from renewable energies.

This makes the importance of each project clear, especially when two wind farms alone can account for over 1 TWh of electricity production. Sweden cannot afford any delay here, otherwise the roadmap for the implementation of the formulated climate targets is also in danger of being disrupted.

In Sweden, wpd had to learn that obtaining permits does not mean that the lights are set on green. In 2016, approval was granted for a total of 115 wind turbines to be installed in the two neighboring wind projects Broboberget (80 turbines) and Lannaberget (35 turbines). What followed was a nearly six-year long course through the instances involved. The permit was appealed several times on nature conservation reasons, so the process became extremely protracted. Finally, wpd Scandinavia was granted permission to build the two wind farms by the Land and Environment Court of Appeal.

The Swedish team invested a lot of time, commitment and know-how in the development of the two projects, whose potential speaks for itself. The high-altitude sites offer very good wind conditions, are far away from settlements and are located in an area primarily used for forestry. The staying power that wpd has shown in this case is therefore more than worthwhile.

With over 1 TWh of energy expected to be generated, Broboberget and Lannaberget will make an important contribution to achieving the goal of 100 percent renewable electricity by 2040 for Sweden. Located in the province of Dalarna, in the municipalities of Rättvik and Ovanåker, the two projects will form an important piece of the puzzle to meet the growing demand for green electricity in the region from local industry in particular. With up to 115 turbines, the combined project consisting of the two neighboring wind farms will be the largest in Mid-Sweden.

The team of wpd Scandinavia has started with the detailed planning and further optimization of the wind farms after the successful approval process. According to the current status, the commissioning of the first part of turbines is scheduled for 2027.

WindEnergy Hamburg

Hall A1
Booth 237

wpd windmanager technik: Always wired

SF6 service unit being used to check the gas level

New companies and new services: There's a lot happening at wpd windmanager technik. By 2020, wpd windmanager technik had only taken on around 25 sales staff from psm, but now two further companies have been added in the shape of Oltec Service and Deutsche Windtechnik Umspannwerke. "We are steadily expanding our electrical engineering services and refining them to form a separate pillar of the company", explains Oliver Klausch, Managing Director of wpd windmanager technik. "With the new members of staff, their expertise and the new services, it's almost as if a new company were emerging."

Nils Brümmer, Oliver Klausch, Torsten Stoll and Frank Lorenzen are now bringing their many years of experience to bear in the management team. Around 95 employees are now deployed across Germany. A further new facility was recently inaugurated in Ganderkesee, including 240 sqm of warehousing space – for the storage of used spare parts, among other things.

Digital access technology, OLC, SF6 gas, hybrid farm controllers and much more besides

And the service portfolio is also growing – from the wind energy or PV system to the transfer station and the transformer substation. This year, for example, the development of digital access technology will be added. There are currently field engineers deployed across Germany, installing OLC systems. "We also test for and dispose of SF6 gas that is used as an insulating medium in medium-voltage switching systems and is 23,000 times more potent than carbon dioxide in terms of its greenhouse effect", states Oliver Klausch, emphasising the breadth of the company's services.

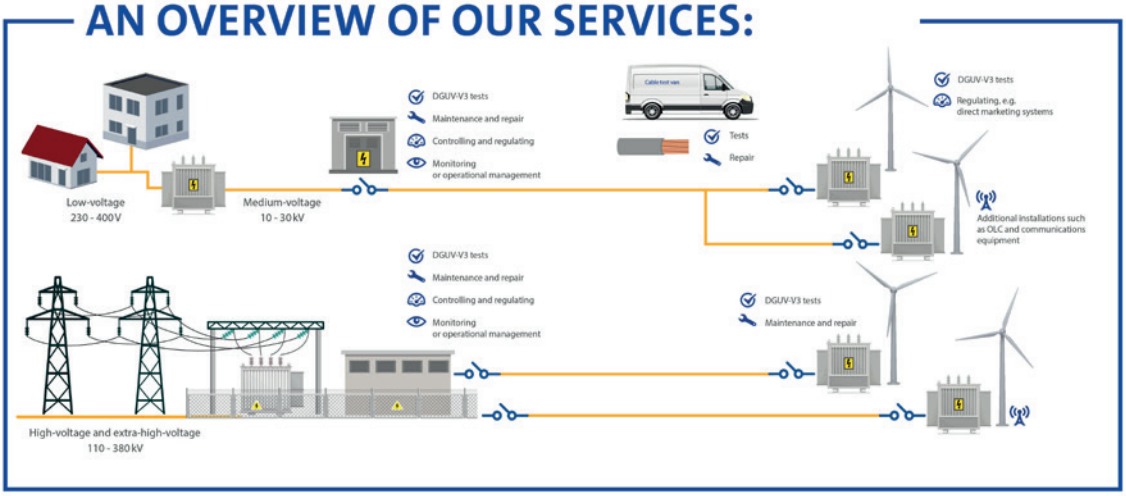
From low-voltage to medium-voltage to high-voltage

Thanks to the integration of Oltec, assignments in the field of communications connections are also growing – for example, the company is now producing switch cabinets for remote control equipment. Armed with the know-how of Deutsche Windtechnik Umspannwerke, wpd windmanager technik now also covers the high-voltage area – besides low and medium-voltage systems – and is taking on the operational management of transformer substations, for example.

Ultimately, the company deals with all electrical engineering issues. For example, it maintains and repairs transformers, transfer and transformer compact stations, transformer substations, switch systems or remote control, control and protection technology. "But we also conduct mains protection or DGUV-V3 tests, measure foundations or perform gearbox inspections with endoscopes", Klausch adds. "And thanks to our cable test vans, we can also offer wind farm and solar farm operators every service to do with cabling – from testing and diagnostics to location and repair."

So there's a lot happening at the "new" wpd windmanager technik. Our motto is "Always wired" – regardless of whether it's a wind farm, PV system, transfer station or transformer substation.

AN OVERVIEW OF OUR SERVICES:



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