

Insights into the industry and the company // September 2024

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Colleagues of the wpd forestry team

## wpd understands "wind in woodlands" – professional expertise for successful projects

It is an unfortunate fact, only too clearly visible in many regions, that the effects of climate change are also endangering our precious woodland ecosystem. The urgent need for measures to combat the growing pace of the climate's impact on our living environment, also puts the spotlight on woodlands and forests as locations for capturing wind energy.

**It makes sense to construct wind farms in selected woodland areas as woods are frequently to be found on ridges where the wind conditions are better and more consistent than in the valleys.**

In addition, forested areas are usually less densely populated which makes the need to maintain certain distances from residential developments largely irrelevant. It should not be overlooked that lease payments to landowners may help to ensure that climate-adapted forest conversions and sustainable forestry can be subsidized.

This is also taken into account in the planning and construction of wind farms in woodland, e.g. by implementing corresponding compensation and replacement measures. Here wpd relies on the cumulative and constantly expanding expertise of an internal network. The forestry network unites all employees in wind energy project development who have a forestry background across departments and locations. Thanks to the concentrated forestry expertise at wpd, the intention is to develop even more wind projects in woodlands in the future. Whenever technical knowledge on the subject of "wind energy in woodlands" is required for a project, the forestry network can be contacted and involved.



Windfarms  
in woodlands  
realised by wpd

This is undoubtedly one reason behind the successful realisation of the projects in Helsen-Pessinghausen in northern Hesse with five turbines and a total capacity of 21 MW, and Laichingen in the Swabian Alb region with two turbines and a total output of 7.2 MW.

The Helsen-Pessinghausen wind farm situated in the woods forming part of the principality of Waldeck-Pyrmont between Helsen and Schmillinghausen brought two sides with extensive forestry expertise together. The Princely Waldeck central administration was able to count on the experience and technical knowledge of the wpd team involved in the realisation of the project. The revenues generated by operation of the wind farm also serve the sustainable reforestation of the Waldeck woodlands that have suffered massive damage from storms, drought and bark beetle infestation.

**To complement the construction work in the Laichingen project, wpd offered guided hikes for the nature conservation associations BUND and NABU, provided information on all issues relating to nature conservation legislation and explained the extensive compensation and replacement measures for the clearances undertaken.**

Here, too, wpd is relying on good relationships and consistently seeking an open dialogue – a path that leads to solutions which respect the wishes of those involved on all sides. This is the way in which wind and woodlands can be brought together.



## Drinking water and a cycling challenge

*wpd expands its green commitment*

With 66 offices around the world in 24 countries, wpd is playing an active part in the energy turnaround – and further facilities and countries will soon be added. Consequently, our carbon emissions are also climbing. Besides our wind and solar energy projects, we quickly expanded the focus of our commitment to climate protection to include registering, reducing and offsetting all carbon emissions caused by our activities. In the process, we regarded the subject separately from our actual business as we could offset our carbon emissions many times over simply by operating our in-house projects. Nevertheless, we have set ourselves the goal of offsetting our company-related carbon emissions separately.

We have already tackled the subject of acting sustainably at wpd in an earlier issue of wpd Inside. We have been in a position to offset 100 percent of our emissions since as early as 2019, and to do so, we have implemented various Corporate Social Responsibility projects (CSR) in collaboration with the German non-profit organisation atmosfair, e.g. in Nepal and Madagascar.

Our commitment to CSR is expanding in line with the company's growth. Last year, we supported a further project of our partner of many years' standing, atmosfair, in Togo in West Africa. Many sources of water accessible to broad swathes of the population prove to be unreliable, are often polluted and far away, especially in the dry season. The water has to be boiled before use which consumes a lot of wood or coal. So-called water kiosks which can provide the population with up to 1,000 litres of safe drinking water per hour 24/7 represent one solution to the problem.

**Thanks to our support for one such project, this solar-based concept for supplying water is now guaranteeing access to five litres of drinking water per person on a daily basis for 910 schoolchildren and 15 teachers.**

In this way, we are able to make a contribution to fair access to clean, affordable drinking water and at the same time replace the boiling of water using firewood or charcoal with solar-powered water treatment systems.

Our internal "Green Office" competition is also delivering great suggestions for greater sustainability in the company. This year, we are already putting one idea from this competition into practice for the second time: all employees around the world can take part in our "Global Bike Challenge".

**Over a period of a year, all wpd offices or departments compete against each other to collect as many kilometres as possible which have to be cycled in their leisure time and everyday lives – on a racing bike, a traditional roadster bicycle or an e-bike.**

Every kilometre not driven in a car represents a valuable contribution. At the end we also donate to a charitable organisation chosen by the winners for every kilometre cycled.



**Leipzig office:  
winner of the  
"Global Bike  
Challenge"**



*wpd promotes "green" steel production in Bremen*

wpd is collaborating with steel producer ArcelorMittal in order to advance the subject of the energy turnaround in Bremen. The two collaboration partners are planning a total of 10 wind turbines on the site of the Bremen steelworks belonging to ArcelorMittal which are intended to support the decarbonisation of steel production at the location. Together with members of the Management Board of ArcelorMittal Bremen, wpd's Managing Director Björn Nullmeyer provided information on the project in the course of a press event at the start of June.

## Young academics from Turkey hosted by wpd



After March 2023, wpd was able to welcome another group of young Turkish scientists as its guests at its Bremen location. For 16 years, the Istanbul office of the Heinrich Böll Foundation has been awarding scholarships to young academics studying issues related to the climate crisis, energy turnaround, urban planning, rural development and similar topics. Part of the scholarship programme is also a subject-related educational trip to Germany in order to provide important insights and benefit from networking opportunities.



## Even more solar energy in Baden-Württemberg

A good year since the inauguration of the Wiernsheim solar park, the wpd team from Bietigheim-Bissingen successfully connected the next PV project to the grid in mid-May: the Amstetten solar park situated north-west of Ulm in Baden-Württemberg's Alb-Donau district. After construction work

commenced in February 2024, the project was completed within four months. 18,960 PV modules with an output of 10.94 MWp are now likely to generate 12 GWh of green electricity per year on a site measuring 9.6 hectares.



## Participating in numerous sporting activities all year round

wpd keeps moving – not just in the development of the company but also in the wide variety of sporting activities which fellow workers indulge in.

Whether on the ski slopes in winter in northern Europe, on the numerous company runs that are back in vogue, in rowing regattas, racking up the kilometres in our "Global Bike Challenge" (see also page 3) or hunting goals in our popular wpd Cup: our employees always take part!



wpd Cup 2024

## Interna

*Dear Readers,*

In the last few months, we have been working intensively on rejuvenating our design. We have reworked the look of the magazine to make it **fresher and more modern**.

This issue of wpd Inside gives you an impression of our new corporate design.

We hope you like it ...



## wpd seeks constructive dialogue with Chile's government

wpd has been operating in Chile since 2009 and with the three wind farms of Lomas de Duquenco, Negrete and Malleco, it has developed and commissioned projects with an installed capacity totalling 368 MW.

The challenges in the Chilean market have recently increased. The challenge is to convert the electricity market to a sustainable, fair remuneration system in which renewables participate in the pricing process. Previous approaches are not sufficient, and wpd is seeking an intensive dialogue with political circles in order to draw up joint solutions here, also with the support of the German government. For example, representatives of the company met with the Chilean Finance Minister for talks. The focus remains on establishing a targeted, constructive dialogue.

## Green energy from East Lapland – wpd celebrates wind farm party in Finland

Wind farm parties are also celebrated in Finland in order to officially inaugurate a project and hand it over for its intended purpose. wpd's Nuolivaara project is located in East Lapland, around 730 km north-east of Helsinki and almost 210 km north-east of wpd's Oulu facility. The total of 17 turbines completed in 2023 with a total capacity of 100 MW represent the green future of the country, also bringing important revenues to the municipality of Kemijärvi. More than 300 interested parties came together in magnificent sunshine to celebrate a successful party that will not have been the last of its kind for the team of wpd Suomi Oy in view of further successful projects.



# From farm to grid

*wpd applies its wealth of expertise to the construction of transformer substations*



*Transformer substation Hansen (Klein Süstedt)*

**The German energy turnaround continues to pick up pace which is reflected in a multiplicity of new projects as well as ever larger system outputs running hand-in-hand with technological progress. The requirement for transformer substations which facilitate connection of wind farms to the overhead power lines of high-voltage grids, is thus also on the rise. This is the only way to ensure that the carbon-free generation of electrical energy gets to where it is needed by companies and private households.**

Market demand is proving correspondingly high, making it harder on occasion to quickly construct planned new transformer substations. Added to this are long lead times for the special components needed and in some cases also complex approval processes. Those with the requisite staying power enjoy a clear advantage here. wpd has thus been delighted to obtain a full six building permits for transformer substations since the start of the year.

While the receipt of permits for the construction of the following transformer substations (TS for short), Massenhausen (Nordwaldeck wind farm), Machtolsheim (Laichingen wind farm), Hansen (Klein Süstedt wind farm), Abbendorf (Elsdorf III wind farm), Feldatal (Feldatal wind farm) and Sallgast (Sallgast solar park), paved the way for the next steps, wpd was able to celebrate the connection of a special transformer substation project to the grid in February.

This marked the successful conclusion of the second construction phase of the Bankewitz TS situated in the district

of Uelzen in Lower Saxony which is thus able to receive the energy produced by the Flinten and Müssingen wind farms. One transformer substation, two construction phases. The part of the substation completed in the first construction phase was already able to accept the green electricity from the Bankewitz wind farm while the second phase was still under construction. This was made possible by the deployment of a temporary auxiliary pylon via which the cable connection was established. It was finally possible to connect both construction phases to the grid in February 2024 as the grid operator Avacon replaced the suspension tower with an anchor tower with crossbeam at the same location. The auxiliary pylon was dismantled accordingly. As a result, 16 turbines are connected to the Bankewitz TS with an output of 88 MW, with further plans to fill the remaining free TS capacity of 48 MW in the future. A planned solar park represents a sensible complement to the energy source of wind which will result in a hybrid grid connection point.

A small masterstroke in logistical and planning terms which the teams involved have achieved with great know-how and excellent collaboration.

**Construction work on no fewer than eight transformer substations is scheduled for 2025. In this way, the proportion of green electricity in the energy transported in German transmission grids can continue to rise.**



*Construction site Massenhausen*

## energy grid service in Ganderkesee: *measuring, controlling, regulating and inventing*

"Actually, we're all kind of electrical engineering nerds here", says Tom Pichelmann, deputy office manager of energy grid service (egs) in Ganderkesee with a wink of the eye in response to the question of what his colleagues do exactly. The office was created from the OLTEC Group founded by Josef Marl which was taken over by wpd windmanager two years ago. After the takeover of OLTEC and Deutsche Windtechnik (DWT) Umspannwerke, the company was then renamed in 2022 and wpd windmanager technik became egs.

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**Actually, we're all kind of electrical engineering nerds here**

Tom Pichelmann,  
deputy office manager of  
energy grid service (egs)



Tom Pichelmann and  
Naman Hasam (from left to right)

In its twelve-year history, OLTEC installed over 1,000 measurement, control and regulation systems for direct electricity sellers and grid operators, thereby establishing a strong market position. "The demands of grid operators and direct electricity sellers have become ever more extensive – think of "KRITIS", ISO certification, securing grid stability, etc. – with the result that the Ganderkesee facility had to be integrated into the egs world even faster with rapid knowledge transfer to enable us to handle the multiplicity of new enquiries," Pichelmann explains. The seven employees at OLTEC at the time of the takeover have now become 19 – and the trend is still rising.

**Our egs colleagues are especially proud of their many in-house technical developments and software solutions.**

In particular, the implementation of so-called hybrid controllers (for wind, solar and biogas) enabled egs to quickly establish itself in the market. This has made it possible to create control solutions even for larger players such as



Energy generation system controllers developed by egs

Energy. egs is also working on subjects such as optimising the control of effective and reactive power as well as measuring the temperature of oil transformers. All these special subjects ultimately serve to boost the efficiency of wind and solar farms.

ISO 9001 certification is due to be completed by the end of 2024 as is the equipment certificate for the newly developed energy generation system controller (P6 Energy-ControlSystem 3.1) in accordance with VDE 4110 & 4120. This latest technical development plays a key role in the control and regulation of the various renewable energies and it guarantees grid stability and security of supply through controllability at the grid connection point. It enables wpd, wpd windmanager and energy grid service not only to plan and construct energy generation systems but also to offer technical and commercial management as well as regulation and control in medium-voltage and high-voltage grids. The Group's position as a leading supplier of energy solutions is significantly strengthened as a result.

**This means, therefore, that the egs "boffins" in Ganderkesee will also have their hands full in the future - we will be there to report on the latest developments.**



Projects realized by wpd Polska to date

Jarocin Park (2024): 12 MW

Słupca-Kołaczkowo (2021): 45 MW

Jarocin-Koźmin (2021): 42,5 MW

Krotoszyn (2021): 10 MW

Jarocin-Ost (2021): 5 MW

Bielice (2014): 5 MW

Koźmin Pilot (2014): 4,8 MW

Czyżewo (2011): 6 MW

## A fresh breeze

*Poland's wind energy picks up speed*

Four years ago, we reported in our "Inside" that Poland's energy transition was picking up speed. The regulation in the "Wind Energy Investment Act" at the time stipulated that wind turbines had to be located at a distance from residential buildings equivalent to ten times the total construction height ("10-H regulation"). This effectively brought the expansion of wind energy in Poland to a standstill. At the time, however, an amendment to the current distance regulation was due to be implemented by the end of 2020. In the end, it took almost four more years before the abandonment of the 10-H regulation actually became official in August 2023.

**Now the Polish energy transition can actually pick up the much-needed pace again, because now project developers like wpd Polska sp. z o. o. can finally develop projects in a targeted manner again.**

It seems almost emblematic of this positive development that the Polish team is currently building the Jarocin Park wind farm with six Vestas V110 turbines, each with an output of 2 MW. The entire infrastructure of the project has now also been completed and with the grid connection, the final stage is now in sight. What follows is the test phase carried out by the grid operator and the pending receipt of the concession for energy generation. Jarocin Park will then become the eighth project successfully implemented by wpd Polska to drive forward the energy transition in the country.

This also requires a reform of the Polish energy market. In mid-June, a change to the billing of energy generation services became legally binding on the Polish energy exchange TGE. This is intended to provide a better energy price mechanism for the real-time billing of generated energy, shorten billing times and eliminate existing imbalances in the calculation of balancing energy, i.e. the energy capacity required by the grid operator to compensate for fluctuations in the electricity grid. The department of experts for power purchase agreements (PPAs) at wpd in particular will be keeping a close eye on how this is implemented and develops.

The conditions for wind energy in Poland are therefore improving significantly, both in terms of project planning and the economic viability of projects. For wpd Polska, this is also the starting signal for further growth. By the end of 2024, the team should have grown to 30 employees, and the company will also expand its business focus to southern Poland in order to achieve greater strategic proximity to the industry, which is strongly represented there. Thanks to wpd's strength and experience as a partner for PPAs, there are promising prospects for a close alliance between industry and renewables in the implementation of the energy transition. After a long run-up, Poland now seems to be really picking up speed ...



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