A HUSUM Wind DSICCE

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Dialogue and transparency: the hallmark of wind project in Chile

Fig.: Photo montage of the Malleco wind farm

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To a good relationship between conservation and climate protection

There were only around 60 sea eagle pairs in the sixties in Germany. Since then the number has multiplied more than tenfold.

Nature conservation and protecting living species has always been an integral part of planning wind farms. It's obvious that wind farms make a vital contribution to climate protection. But to ensure that adequate attention is paid to conservation and species protection, wpd has set up its own in-house department which supports the creation of wind farms during the entire project and planning phase. A total of 15 specialists devote themselves exclusively to conserving nature and protecting species, a subject that is becoming increasingly important in everyday planning with the environmental studies associated with it.

This department works hand-in-hand with four colleagues from the Compensation and Substitution team which focuses specifically on securing results and implementing concepts in this field. One major strength is the interdisciplinary make-up of the departments, consisting of landscape planners, landscape ecologists, forestry experts, landscape architects and agricultural ecologists.

However, their everyday working lives have changed dramatically in the last few years. "Because we can see that nature conservation and species protection is becoming an ever greater barrier to obtaining permissions", explains Henrike Schröter, Head of Nature Conservation and Landscape Planning. "As a result of misinterpretations in implementing european requirements emanating from the Fauna and Flora Habitat Directive and the Bird Protection Directive in national law, we now find ourselves facing overfulfilment of species protection legislation for which the authorities and the courts are responsible. In particular, this was triggered by a ruling handed down by the Federal Administrative Court in 2008 to bypass Bad Oeynhausen which cemented the concept of significance together with an imputed assessment prerogative bestowed on authorities in the evaluation of concerns pertaining to species protection legislation. "Since then, wind energy planning has been operating in the vacuum engendered by the theory of significance which in 2017 even infiltrated the Federal Nature Conservation Act", Schröter explains. "As a result, permissions have been rejected with reference to a forecast "significant increase in the risk of killing individuals" without any definition of the threshold between the "general risk to life" and the "significant increase" in the risk to be expected. It was therefore to be welcomed that the Federal Constitutional Court in its most recent ruling on this situation clarified not only that an official assessment prerogative has no basis as an instrument but also that legislators have a clear responsibility to establish non-legislative standards or at least to define more precise rules as to how authorities have to reach decisions when confronted with several conflicting, reasonable views", the landscape planner continues.

wpd's Nature Conservation Department is currently, therefore, working hard to explain the need for practical, contemporary legislation – e.g. through countless presentations and participation in expert committees. "Government has ratified guidelines for achieving climate protection targets, and now the challenge is to create the framework conditions for expanding renewable energies without playing nature conservation off against climate protection", Henrike Schröter demands.

Together for the long haul – Malleco wind farm in Chile taking shape

Chile in South America has set itself some ambitious targets. According to the "Agenda de Energía", the country intends to generate a total of 70 percent of its electricity from renewables by 2050. wpd has therefore been active in this Andean country since 2009 and has been developing wind farms in the country with its own team.

In the spring of this year, wpd started construction of the Malleco wind farm, currently the largest wind farm project in Chile and one of the largest in South America. With 77 wind turbines, Malleco will achieve an installed output of 273 MW and it will therefore be able to provide 350,000 families with power. The first roads have now been completed and work has begun on the infrastructure for the farm. Commissioning is scheduled for 2021.

The project is located in the La Araucania region, 15 kilometres south east of the town of Collipulli. The outstanding wind conditions at this site, good infrastructure and the existing direct connection to the grid were the decisive criteria behind the decision to choose this location. The indigenous population plays an important role in the region, and the neighbouring communities are still dominated by the Mapuche.

As with all wpd's projects, the Malleco wind farm is also embedded in a local concept to ensure that local conditions and needs can be met. As part of this concept, the company is collaborating with the German Agency for International Cooperation GIZ and has developed a model to enhance social acceptance. Since planning began six years ago, wpd has therefore been working with the surrounding Mapuche communities, and there have been informative events and many discussions which formed the basis for collaboration contracts signed with eleven of these neighbouring communities. For example, these contracts focus on projects to upgrade living conditions such as the electrification of rural areas as well as on support for the development of new methods of cultivation and the renovation of an old Mapuche cemetery.

Six years after wpd's arrival in Collipulli, our overall experience has been positive. We have succeeded nearly everywhere in establishing a lasting, respectful relationship with the local communities. The lines of communication remain open as we are very keen to include and involve people at a local level, and to realise a good project for all concerned.

"We have built up a very good, respectful relationship with wpd. In the last few years, the company has always given us an insight into its planning processes and provided all the relevant information. The wind farm will be – and is already – an enrichment for Collipulli, one of the poorest towns in Chile."

José Sandoval Cortés – President of the Small Grocer Committee oj the Groove and Seed Organisation

> "From the very start, the company listened to us and understood what we need as people and as a community. The farm is also an opportunity for us to find work. wpd has shown commitment to us from day one and has always kept its word."

Mariela Reinado – Resident of Juan Ahilla Varela II (Mapuche community) wpd talking to citizens in the neighbourhood



"We have a very good relationship with wpd as the contact people in the company took a lot of time to explain to us how construction of the farm would proceed, what it means and what compensatory measures will be put in place for its intervention in the natural world. They also supported us in upgrading our houses."

María Llanca Ahilla – Member of the local borough council of Juan Ailla Varela (Mapuche community)

Malleco wind farm

Installation of tower segments in a wind farm in the Torozos portfolio



On track: Torozos wind project in Spain and Kuuronkallio wind farm in Finland

First implementation phase for Torozos wind project – Spain

Number of turbines: 39

Type: SG 3.4-132

Rated output: 135 MW

Wind farm Kuuronkallio – Finland

Number of turbines: 14
Type: Vestas V-150 4.2
Rated output: 60 MW

With its Torozos portfolio, wpd is currently developing wind farms with an installed output of up to 300 MW in the vicinity of the largest transformer substation in north east Spain. The company has already reported financial close for two farms in the portfolio and it is now working on the finance for a third farm. At the same time, the first implementation phase for the three projects is already running with a total of 39 Siemens Gamesa turbines of type SG 3.4-132 and a rated output of 135 MW. In March, wpd started work on construction and installation, and exceptionally good progress is being made; almost half the 39 turbines have now been erected. Construction work for all the turbines in the first part of the portfolio will be completed by the end of the year.

The 60 MW Kuuronkallio (Kannus) project in Finland is also due for completion by the end of the year. We finished the last of the 14 foundations in May of this year. All other work, such as laying the underground cables and installing the transformer substation, were right on schedule with the result that Vestas was able to start installing the turbines of type V-150 4.2 MW at a hub height of 155 m at the beginning of August. Commissioning is scheduled for the end of November.

wpd's Polish team growing and pleased to report new projects

In November 2018, wpd successfully participated in Poland's first gigawatt tender for wind projects and is now facing the task of implementing four projects with a total capacity of 102.5 MW in two years. In order to master this challenge, the team in Poland has now grown to a total of ten. Since April 2019, the business has been run by the new Managing Director Agnieszka Plaska (34) who can already look back on eight years of industry and management experience with a Polish competitor.



Selfies with Ailton and autographs were in high demand during the tournament.

158 times – that's how often the ball found the back of the net at this year's wpd Cup at the end of June. No wonder as 22 teams were fighting for the cup with equal vigour and ambition. However, getting a foot on the podium was not the top priority in this friendly tournament. Instead, the participants used the opportunity to get to know each other better outside the business world. The highlight of this year's cup: Aílton, winner of the double with Werder Bremen in 2004, also took part in the tournament and played as a guest of honour in a friendly match. He was also present at the subsequent presentation ceremony and handed the teams their certificates and cups to the three winners.



Björn Nullmeyer is a member of wpd AG's Management Board

The Supervisory Board of wpd AG has appointed Björn Nullmeyer (45) as the fourth member of the Management Board and he has been running the Finance Department in this role for half a year. This is the company's response to strong growth in the onshore wind, offshore wind and solar business units in its existing core markets of Europe, America and Asia and the expansion of its business activities, especially in Japan and South Korea. Björn Nullmeyer has been working for the wpd Group since 2017 and in recent months he managed the finances for the Yunlin offshore wind farm, among other projects.

wpd at HUSUM Wind and WindEurope Offshore in Copenhagen

There is probably no more authentic location in Germany for the industry than the North Frisian town of Husum – the birthplace of the wind industry. The trade fair HUSUM Wind is being held from 10 to 13 September and wpd AG, too, will be there as usual. wpd AG: Hall 4, Stand B06; wpd windmanager: Hall 4, Stand A06.

A little more than two months later, from 26 to 28 November, you will also be able to find us at the WindEurope Conference & Exhibition in Copenhagen. First and foremost, our offshore colleagues will also be available on our stand C3-C19.



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wpd in Asia – On course for success with almost 2,800 MW

Asia has now become one of the largest growth markets for wpd. What began in 2005 with a local cooperation in Taiwan, has grown steadily into a success story: The company now has its own offices in Taiwan, Japan, South Korea as well as in the Philippines and has a pipeline totalling 640 MW onshore, 2,000 MW offshore and 140 MWp photovoltaic.

Taiwan still constitutes the core market in Asia. In mid-September, wpd will commission a PV project with a total capacity of 2.2 MW. The solar farm in the mid-West of the country, thereby forms a solid launchpad for further solar projects in Taiwan which are already at the planning stage.

However, the focus is currently on the two major offshore projects "Yunlin" and "Guanyin". Just recently, wpd announced the financial close for "Yunlin" with 640 MW and an investment volume of EUR 2.7 billion. "The project is therefore one of the largest investments in the renewable energies segment in the APAC region (Asia Pacific) that has ever been made", says Achim Berge Olsen, Management Board member of wpd AG responsible for Asia. The implementation phase of the project is now beginning: "We are now manufacturing the main components, and the two transformer substations are already under construction", Berge Olsen explains. The first half of "Yunlin" will go into operation in the coming year and the second in 2021.

At the same time, wpd is developing a second Taiwanese offshore project: "Guanyin". The 360 MW are to be completed in 2021/22. "There was a recent change to the environmental permission process with the result that it is now possible to erect larger and therefore fewer turbines at the location. On this basis, we now have to make a final decision on the type of turbine", states Berge Olsen, summarising the status quo of the project.

However, wpd is supporting Taiwan's energy turnaround not only with wind projects on the high seas but also on land. Two onshore wind farms will go into operation this year. They are located in the Linkou district (New Taipei City) and Zhunan township (Miaoli County) in the North of the island state. Following on directly from these projects, wpd will implement two further projects with up to 60 MW which will be completed in the coming year.

wpd onshore wind farms will also be built further north – in South Korea. After opening an office in the capital of Seoul at the end of 2018, the company has secured a project pipeline with five farms and a total capacity of more than 160 MW. Planning is progressing in close cooperation with a local developer.

"Our APAC growth strategy has long since proved itself", Berge Olsen concludes. "We took the risk of moving into Asia at exactly the right time, and thanks to our experience and coherent local concepts, we have quickly made an impression on the market. The focus will now shift to Japan and the Philippines where some projects await us."

Representatives of the companies participating in the "Yunlin" offshore wind farm at the Financial Closing Dinner in Taipei



When the wind always blows – Operational management worldwide



From Kuolavaara-Keulakkopää to Changbin – wpd windmanager looks after wind farms around the world with a total output of over four GW

Climate factors

"The challenges in global wind farm management vary enormously, of course – depending on the location of the wind farm", emphasises Moritz Regehr, International Manage-

Double digits below zero in Lapland, Finland. wpd windmanager GmbH & Co. KG's field service team has just completed its inspection of the Kuolavaara-Keulakkopää wind farm in Oulu. The service team travels back to the service base through the metre-deep snow on snow mobiles. The control room in Bremen has been informed. The wind farm continues to run.

Such temperatures are unimaginable in Taichung. The Changbin wind farm is also due for inspection. What's the weather like? Outside temperature of over 35 degrees and humidity at over 70 percent. With every extra metre, climbing the E-70 becomes a real sporting challenge to members of the service team. The temperature in the nacelle is around 40 degrees. Nearly there.

The wind farms around the world are managed at the main facility in Bremen. Contacts responsible for the international facilities coordinate the work. All missions to the turbines are coordinated with the central Bremen control room. The roughly 2,000 turbines under its management are monitored here. Large time differences between Bremen and colleagues in Canada or Taiwan? No problem. The control room is manned 24 hours a day, 7 days a week. ment at wpd windmanager. "For example, climatic demands can be a factor for technical management. It makes a big difference whether a farm is in Finland or Taiwan."

International framework conditions

"The political framework and changes in the law also play a crucial part," explains Philipp Baierl, International Management at wpd windmanager. "After several years of stagnation, the Polish government began to promote wind energy again at the end of last year. At the same time, we took over the management of a Polish wind farm for an investor. In this way, Poland has again become a very promising market for us, and we have been able to expand our facility in Posen."

With over four GW under management, wpd windmanager is now represented in Belgium, France, Canada and Croatia besides Germany, Poland, Taiwan and Finland. Spain will become a further market for wpd windmanager in the course of the year, to be followed by Chile and Sweden. "With new markets and locations, we also become of interest to other international investors and operators as operational managers", states Till Schorer, Sales Director at wpd windmanager, emphasising the point. In this way, our international portfolio continues to grow steadily.

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