

Planning for the future

With a struggling economy and the Chinese manufacturing industry growing by the day, Klaus Bergmann – Managing Director of renewable energy consultants BBB Umwelttechnik – explains why excellence at the planning stage has never been more crucial.

Thomas Latacz / BBB Umwelttechnik GmbH

PES: Welcome back to PES. Can you tell us about how the company's evolved since we last spoke, and what your on-the-ground assessment is of the state of the market?

Klaus Bergmann: During the last six months we kept on extending our team and our technological potential, in order to be able to meet the demands of the wind energy market which is still growing rapidly, particularly on the German market, which in the field of renewable energies is a kind of showroom for international trends. There is a new dynamic since the Fukushima disaster, and the subsequent withdrawal of the German government from the nuclear energy programme.

PES: BBB is a technical consulting firm with a wide variety of services. In which business field do you feel the new impetus?

KB: Mainly in the field of project development. We have seen that a lot of smaller public utilities are beginning to develop onshore wind energy projects of their own. They want to strengthen their portfolio of renewable energy sources and own generation facilities but are not willing to pay the actual prices for third party developments anymore, as these prices are reaching levels never seen before due to the over demand by strategic investors. As BBB offers the whole range of development services; from the feasibility study to project implementation we are often considered

to be the ideal partner for their business expansion strategies.

PES: When Chinese companies begin breaking out of the fast-growing Chinese market, do European wind companies have something to worry about?

KB: I don't believe so. We have heard the president of the Chinese Wind Energy Association talk about serious quality problems in their domestic market. Considering this, the demand for products and engineering services "Made in Germany" or "Made in Denmark" will remain strong and stable at least in the medium term. Taking into account that wind energy profits are significantly dependant on the performance and reliability of the turbines, European investors will stick with the traditional European suppliers, until Chinese companies can show a considerable track record of well-performing wind turbines.

PES: Similarly, we're hearing a lot about Brazil and the growth of the South American markets – what's your experience of this region?

KB: The government of Brazil is now calling to tender for wind energy capacity on a regular basis – that leads to an increase in demand. We have established cooperation with Mr Afonso Pacheco, who is an experienced strategic partner over there as



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he was head of DEWI Brazil for many years. In cooperation with Mr Pacheco we want to gain a higher share in the domestic market for our high quality consulting services.

PES: You mentioned that BBB recently extended its technological potentials. What did you mean by that?

KB: We bought a LIDAR measurement system lately, and we are proud to be able to offer this advanced technology to our customers.

PES: What are the advantages for your clients?

KB: Due to the increase of hub heights in the new generation of wind turbines it is getting more and more important to understand and measure reliably the situation between the Prandtl and the Ekman layer. Only the knowledge of the wind profile across the whole rotor area –

that means up to a height of 200 metres – is able to provide highly reliable statements about potential yields and the loads impacting on the turbines.

PES: At which development stage are LIDAR measurements of best benefit?

KB: LIDAR is the ideal tool to quickly execute measurement at great heights and to gain well-founded knowledge about a potential wind farm site, thus ideal for early stage developments. Installing a LIDAR in a first instance you can apply for the necessary permit to erect a “traditional” met mast. So you don’t lose time and data until the met mast is implemented. After a short parallel operation (for validation purposes) you can move the LIDAR system to another place on the site. This allows you to investigate the entire area thoroughly and accurately, for instance if the site is located in complex terrain, and particularly if dealing with high or ultra-high hub heights.

PES: BBB is an accredited testing laboratory – how can you integrate the new device for your work?

KB: We will definitely gain new insights for our work as wind assessors, which helps us to better validate our methods and models. This is particularly true in complex terrain or for wind energy sites in forest areas. It is getting more and more important to create a wind profile that comes as near to the reality as possible. With the rather simplistic existing models this is hardly possible.

PES: When will the LIDAR measurement devices be certified?

KB: Inside the wind sector it has already gained a high degree of acceptance and science has collected lots of information about the system. The first recommendation for the practical use of LIDAR has been issued by DNV (Det Norske Veritas) this year. I expect the certification within the next 12 to 24 months, which would then allow us to use the system officially for power curve measurements as well. We will be able to verify power curve warranties with much less effort, so that it will enable turbine owners to verify and trigger power curve warranties in more cases than at present. This might lead to some unpleasant surprises for certain manufacturers.

PES: Can the met mast measurements soon be replaced completely by LIDAR measurement systems?

KB: Not at present. For power curve measurements for instance, which we provide in Romania’s Fantanele wind farm at the moment, it is not yet allowed to use LIDAR as a standalone device. Generally speaking, I think in the future we will still find met masts on the sites under development as well as on wind farms in operation, being complemented by LIDAR measurements.

PES: Could you tell us about some of the current projects you are working on?

KB: We are involved in a lot of feasibility studies in Germany right now which include wind measurements, wind resource assessments and development services. Being our customer’s partners we are looking forward to accompanying them all along the road of project development. In southern Germany – practically on the doorstep of BBB’s wind testing laboratory – there is still a huge backlog in the installation of wind turbines. Here the industry’s foundations have still to be laid, that means the establishment of a secure data basis for wind resource and the identification of the best sites in the specific communities. Internationally we are working on a number of projects in Turkey at the moment. Unfortunately we had to find out in the past that in Turkey wind measurements and basic project designs didn’t meet the quality requirements, which are necessary to provide impulses for a dynamic development on a brought basis and securing project finance at reasonable terms. Nevertheless, I see our company and our customers on the right track towards the implementation of the best strategy for each individual project.

PES: To what extent are siting and planning issues coming into play in your projects?

KB: As already mentioned with respect to Turkey or Germany; the basis for each project is the search for suitable areas by means of wind resource investigations and Geo-Information-System analysis. The experience of 20 years in the wind energy business and our wide range of expertise – particularly in project development – enables us to consider right from the beginning what is important for the development of a wind project, having in mind the entire 20 years of operation.

PES: The last time we spoke, you mentioned further expansion into Italy, Romania or possibly even Turkey. Do you believe you’ll realise these plans?

KB: Our entry in the Turkish market is stepping ahead, though we still have to make some adjustments to match Turkish price levels. Therefore we are about to transfer our know-how to Turkey with the aim of establishing local expertise that will help us to offer our services at more competitive prices. This process will take some time, but to us it seems worthwhile.

PES: In general, what do you think is the greatest challenge, or set of challenges, facing our industry today? Why do you think these issues are so important?

KB: The wind industry must not forget that the main issue is not short-term profit but sustainability.



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A successful wind project has to be planned properly and above that needs acceptance and involvement of the local population. This might be cumbersome but it is highly important for the industry as a whole. On a higher level Fukushima is certainly helping a lot at present, but the industry needs stable and reliable political support, which in many countries has not been the case during the last 10 years.

PES: What about offshore wind energy? Does BBB have a share in this internationally fast growing industry? Which services can you offer?

KB: We are experienced in providing technical due diligences (TDD) for offshore projects. We provided our first offshore project assessment back in 2004. Last year we assessed two major transactions for Munich utility (Stadtwerke München) in the

Irish Sea and the North Sea: Dan Tysk and Gwynt y Môr. Furthermore we have just finished another offshore TDD which cannot be named for confidentiality reasons. So we have the expertise for offshore project assessments in-house and above that we are cooperating successfully with our partners. One of those partners is “ep4-offshore”, a German specialist for offshore logistics, with whom we worked for quite some years already.

PES: What about German offshore project developments in general?

KB: German offshore is now finally facing a serious kick-off. Up until 2015 we will see several important and big projects going online, which will help us to catch-up with countries like the UK.

PES: Will you attend the EWEA-Offshore-

Event in Amsterdam in November this year?

KB: Yes, we are there for the first time and we are really looking forward to it. We will have a stand there together with our partner “ep4-offshore”. We want to position ourselves in the offshore market as independent experts for Technical Due Diligence.

PES: What do you expect: will onshore wind development suffer from the fast growing offshore wind industry in the years to come?

KB: No. I think we will have to use all potentials – onshore as well as offshore – in order to reach our goals of carbon emission reduction. Here in Germany the pressure is especially high now because of our retreat from nuclear power. As offshore wind projects need such huge investments attracting a completely different type of investors, there will always be a chance for onshore wind.



Now that turbine manufacturers are adapting technology more and more to the mainland wind conditions, it will still be a competitive way of producing energy.

PES: Europe, in particular, has been buffeted by another economic storm this year – does this threaten the industry?

KB: In some situations that might be the case, because financing could be at stake. In general there is a need for clean, safe and affordable energy in every country, and what could be more favourable than exploiting domestic energy resources? Considering recent developments in the near-East, my expectation and certainly my hope is that this will be the case, but I don't have a crystal ball, unfortunately! ■

For more information, please visit:
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