

► **Suddenly along comes a red kite**

Interview with Günter Ratzbor

► **Achilles and the Ninja Turtle**

The Renewable Energy Act 2017 threatens to run offshore wind energy aground

► **Invitation to WAB's stand party on 28 September 2016**

WAB joint trade fair stand at WindEnergy Hamburg

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WAB dates for 2017 in overview



A proper plan would be nice

No grid, no power. This simple yet inescapable fact is part and parcel of our industry. At the start there were lengthy discussions about whether, when it comes to offshore, the wind farm or the grid connection should be installed first. After reaching the agreement on unconditional grid connection commitment, the delay with high-voltage direct-current (HVDC) converters has caught us unawares.

Meanwhile, the original construction deadlines for connections have risen from 24 to 60 months. Now the expansion of renewable energies, in particular wind energy, is to be in line with grid expansion. For the first quarter of 2016, the Federal Network Agency came up with just six kilometres of new cable. Of the 6,000 kilometres mentioned in Germany's Federal Requirement Plan Act (the legislative plan for meeting Germany's needs regarding transmission power line projects), 65 kilometres have been completed and 350 kilometres have been given the go-ahead. As for the major SuedLink and SuedOstLink power highways, transmission grid operators are still at an early stage because underground cables have priority over overhead power lines because of their higher public acceptance.

This will no doubt please Bavarians and their state government, but certainly not landowners.



Andreas Wellbrock, Managing Director of WAB

Wide trenches will be cut through their land and property. From the perspective of agricultural associations, this drastic invasion of land and property will require compensation at an appropriate level. What this means for accelerated expansion on land is anyone's guess right now.

It could be done differently. A new study by Fichtner points out that HVDC converter projects could be considerably speeded up, cutting down realisation and approval times by 14 and 9 months respectively, with a cost reduction of 30 percent. Innovation combined with existing technology would at least relax grid bottlenecks on land and enable the best possible use of the grid. According to the study's authors, the preconditions for innovation and intelligent technology would be flexible and expert planning without rigid limitations. An interesting point, because our industry lives on encouraging innovation and not on stifling it.

Best wishes,
Andreas Wellbrock

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DATES

27–30 September 2016	Joint trade fair stand at WindEnergy Hamburg
28 September 2016	Stand party at WAB's joint stand, WindEnergy, Hamburg
3 to 9 October 2016	Delegation visit to Taiwan
19 October 2016	WAB social get-together, Bremen
19 to 20 October 2016	WAB Introductory Seminar, Bremen
19 to 21 October 2016	HUSUM Wind India Pavilion at Intersolar India, Mumbai
2 November 2016	WAB Legal Offshore Day, Bremen
7 December 2016	WAB members meeting, Bremerhaven



Suddenly along comes a red kite

Interview with Günter Ratzbor

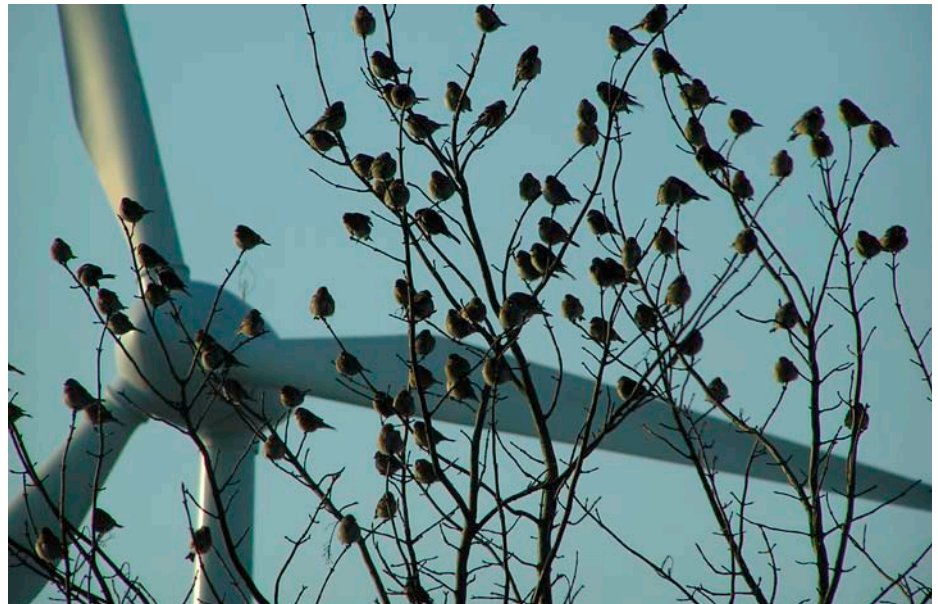
The ban on the killing of wild and highly protected animal life plays an important role in the protection of species. The risk of birds and bats colliding with rotor blades is a constant issue in the planning of wind farms. Günter Ratzbor calls for a different way of looking at the situation given that data is already comprehensible and that additional expensive research is of little value. As the managing director of Schmal + Ratzbor, an engineering firm for environmental planning, he would rather use the money spent on environmental assessment to be proactive in protecting species and in this way compensate for population losses as a whole.



Günter Ratzbor calls for a re-think on the protection of species.

WAB: You've been in charge of the German League for the Protection of Nature (DNR) campaign called "Wind power in our sights" which, amongst other things, proposes an ecologically friendly expansion of wind energy in forests. At the same time, your planning firm writes expert reports on the animal life in locations where wind farms are being planned. So you're coming under a great deal of fire.

Ratzbor: That's true, but sometimes life gets very complicated. I'm at home in the nature conservation sector, for which I even do volunteer work. I regard wind energy as a topic of overriding importance. Like all the other major German associations engaged in nature protec-



Redpolls against the backdrop of a wind turbine. Photo: Denker

tion, the DNR has taken a clear position. It is for nature protection and the energy turnaround but against the use of nuclear power plants or fossil fuels. Many people see a dilemma here. As far as I'm concerned, the topics complement each other and this gives rise to very strong reservations.

WAB: At Friends of the Earth in Germany, for example, a heated debate on the expansion and environmental compatibility of wind power is ongoing. Are environmentalists and nature conservationists forming a new front?

Ratzbor: Yes and no. There's always been conflict. Any nature conservationist who wants to set standards for the wind energy industry will never be against environmental protection. But I do find the extremely high demands for an environmentally friendly expansion of wind energy totally legitimate. It just mustn't be perverted.

WAB: Planning is becoming more and more expensive in practice. There are no-go areas, minimum distance standards set to protect animals' living space, and higher demands made of expert reports.

Ratzbor: The cost of researching the impact on animal habitats can easily reach EUR 100,000 or much more. Planning generally starts with looking at regional plans and information on breed-

ing grounds that's often a few years out of date. They're used to determine the right distance to birds and designate suitable sites for wind energy. Then the investors then come along and commission experts like us to carry out more research at the sites and, all of a sudden, a red kite makes a nest there.

WAB: What could be the reason for that?

Ratzbor: Regional plans are valid for 10 or 15 years. But during this time, the population of breeding birds fluctuates a lot. Research into this phenomenon has been going on in Paderborn for six years now. It shows that the red kite population is increasing. There are a lot more new nests and animals now near wind farms than in other areas, which even include a bird protection zone. This example shows how important it is to look at a situation with hindsight.

WAB: Because animals don't always stick to the plans.

Ratzbor: Precisely. At first, areas were selected where there were no red kites. But nature is dynamic and changes happen as animals die and others migrate from elsewhere. Of course they seek out new nests where they don't have to compete with others. When it comes to wind farms in Paderborn, the red kites clearly have no

problem in choosing where to nest. We planners ask ourselves whether a wind farm is likely to have considerable impact on the environment and how great the danger is, compared to normal risk, of animals colliding with turbines and dying. The nature conservationist has to ask whether anything can happen. We might even reach the conclusion that collisions won't occur. But in the final analysis, what we find out can be misleading because we don't have objective and comparative standards to go by.

WAB: Would a minimum distance not ensure that accidents are avoided? That would be one criterion.

Ratzbor: That works the other way too. Distance standards for animal protection were first set out by the State Bird Observatory in Brandenburg and later also defined by observatories in Germany's individual states. Nobody quoting a particular distance is saying that a collision is the inevitable consequence of coming within the area set aside for safety. But this is the requirement for complying with the ban on killing birds as stipulated by the Federal Administrative Court. It always takes effect when the risk of collision significantly increases as an unavoidable consequence of an otherwise legitimate process. However, there are neither statistical nor empirical findings to prove that collisions do happen within the minimum distance or that collisions correlate with distance to a wind farm. Assumptions fill the gaps in the argument.

WAB: Nevertheless, birds do die where there are wind turbines. Is there more detailed research available?

Ratzbor: The State Bird Observatory in Brandenburg works hard to collect data on dead birds. Throughout one breeding period it did research with varying degrees of intensity at some 1,000 of 3,000 wind turbines altogether, 700 of these in 2011. Their systematic search found two dead red kites. The number for 2011 has since risen to six following further research. This matches the number of dead animals found at random and shows that there's no systematic pattern. Rather, collisions depend very much on chance.

WAB: So there's no correlation between a wind farm and its effects on bird populations?

Ratzbor: That's what I keep pointing out and getting criticised for. The research we do is on a large scale and expensive. In the end nothing much emerges because we can't interpret the information. What's more, ranking the types of birds that are frequent casualties says nothing about whether wind turbines are generally the cause of their death.

WAB: As for bird populations, it's sea eagles that most frequently collide with wind turbines.

Ratzbor: That's right. However, if you take a look at the analyses of dead sea eagles that have been found you arrive at very different conclusions. Only three to seven percent of deaths can be traced back to wind turbines. Around 30 percent die from lead poisoning and the others die in road traffic, from contact with high-voltage cables, in territorial battles, or from poaching. The wind industry has very little influence over the circumstances under which animals die.

WAB: There are also similar developments regarding bats which are to some extent strictly protected.

Ratzbor: A few years ago we did six inspections, using detectors to record information. Nowadays up to 24 inspections are made, depending on the individual German state's requirements for determining animal activity. Because migratory species are not recorded in this process, some authorities are also calling for an even greater number of measurements. These investigations now cost around EUR 20,000. This is followed by a two-year monitoring period with detectors in nacelles and, in line with certain parameters, the turbines are always shut down when a high level of activity is expected. This costs even more money.

WAB: Nevertheless, operators want to do this.

Ratzbor: They have no choice because otherwise their licence application documents aren't complete. Despite all the measurements taken, it still isn't clear how many animals actually die. With bats we're trying to establish a correlation between their activity and the number killed in collisions. To determine turbine shutdown times you have to enter a figure into the assessment programmes for how many dead bats are

acceptable. At the start of a research project, Robert Brinkmann from the University of Hanover put the number at two. This became an accepted number, although there's absolutely no justification for it. In Brandenburg the number is three and the administrative court in Magdeburg considers two to three collisions at a time of high activity as insignificant. Wind farm inspections reveal there may be no or only a few dead animals found, whereas in the following year it could be 20.

WAB: And what is right?

Ratzbor: One point I'd like to make is that bats don't stick to measurement programmes and turbines are also shut down in phases when no collisions occur at all. Another factor is the bird populations. Amongst the species frequently involved in collisions, populations are so large that accidents have little impact on their numbers. This is highlighted in the guidelines for the protection of species in the State of North Rhine-Westphalia, for example.

WAB: What could alternatives look like given that in the end expensive research doesn't seem to count for much and animals don't stick to plans?

Ratzbor: Here a European Union paper on the application of the law to protect species is interesting. According to this law, the deaths of bats by wind turbines and in road traffic are examples of collateral killing. This is where it gets exciting. Anyone out driving can kill insects, birds or bats and the legal ban on killing will not apply at all. The law relates to animals being killed deliberately. EU law distinguishes between intentional and collateral killing. If building a wind farm is an intentional act this would also have to apply to road traffic.

WAB: But how does this difference affect the protection of species?

Ratzbor: If collateral killing has a negative effect on animal populations, then Member States must adopt measures to ensure that conservation status doesn't suffer despite collateral killing. This is how the EU Habitats Directive puts it, even if this ruling seems rather incomprehensible in German law on nature protection. One example of this is the dolphins caught

up in fishing nets that die. Although this isn't preventable, the use of nets isn't prohibited. Instead, living space is improved for example so that population losses are balanced out and the ecosystem remains stable. In principle, this is also the approach we are taking for intervening in the law on nature protection.

WAB: Could this approach solve problems in licencing procedures and nevertheless help to protect species?

Ratzbor: It would be the better way of maintaining nature's capability. I no longer have any problem with the fact that old regional or land-use plans describe situations that have changed or that animals settle on wind farms that didn't previously exist. What's more, only good comes out of the energy turnover for animal populations and species, even if occasional deaths occur. Of course ecological standards must be set. The current data situation shows that a share of

the money wasted because of forced shutdowns ought to be diverted into measures to protect species. This would create new habitats and food resources that the present-day agricultural and forestry industries can no longer allow for economic reasons.

WAB: That could also improve legal certainty for the planning of wind farms.

Ratzbor: There are cases where wind farms haven't been built because suddenly a black stork appears and licencing hasn't yet become legally binding because of pending lawsuits in the neighbourhood. There are also licencing procedures under way that have been suspended. There are other situations where wind farms are at a standstill during the breeding period although nests hadn't previously been there. Many licencing procedures also call for long-term mapping because at one point red kites or other birds of prey may have bred there.

If they then reappear, the facility must be shut down. As a result, doubt is now even being cast on existing sites.

WAB: Why doesn't a different way of protecting species gain ground amongst politicians?

Ratzbor: The bans relating to the protection of species are very important for nature conservation but they can't be applied as a legal requirement. Making changes is difficult because they face vehement opposition and a politician can barely afford to take that risk. Public officials find it difficult to support such positions within their own administrations or to represent them outwardly in lawsuits, courts are at the straining point, and as the proposer of a project you can't support this viewpoint either because of the licencing aspect. I'm just one of a few people saying this in public.

The interview was conducted by Torsten Thomas.

Achilles and the Ninja Turtle

The Renewable Energy Act 2017 threatens to run offshore wind energy aground

Are you familiar with the story of Achilles and the tortoise? Before Achilles can overtake the tortoise in a race he first has to make up the lead it has. During the time he needs to do this the tortoise, however, builds up a new if smaller lead that Achilles must also make up. The classical Greek paradox goes on and on like this and Achilles, the fast warrior, never catches up with the slow tortoise. In reality he would of course quickly leave it behind.

The new Renewable Energy Act 2017 seems to be written in exactly the same way of thinking that makes this paradox work. A paradigm change – called “synchronisation” – is supposed to take care of this now that the expansion of renewable energies must follow after grid expansion, regardless of how slow this might be. It was the other way round in the past. The success of renewable energies was indeed seen as such and deemed feasible due to grid expansion being obligatory.

The paradigm shift initially sounds reasonable because power does need to be transmitted to reach centres of consumption. But this presents a problem. Transmission grid operators (TSOs) face no competition in areas under their control and are not threatened with a fine if delays occur. Indeed, there can be a number of causes for hold-ups, not all of which are a TSO's responsibility. Answering the question of who is to blame does not provide a solution because there are not enough incentives for an accelerated expansion of the grid. And for their part, politicians are not exerting enough pressure. The government, grid operators, the Federal Network Agency and Germany's states are leaving each other to hold the baby. It

would be better for them to join forces to ensure that the tortoise runs on quickly ahead. For all intents and purposes: a Ninja Turtle.

At a political level, opponents of the energy turnaround are making an impact by spreading specifically targeted half-truths. Yet the woefully neglected expansion of transmission grids on land must be accelerated. It cannot stand as the reason why a brake is being applied on the expansion of offshore wind energy. There is evidence that the potential for substantial acceleration and cost reduction in connecting to the grid can be exploited with high-voltage direct-current transmission (HVDC). To overcome bottlenecks on land in the short term, improved processes and technological innovation should be used to make maximum use of the grid. In June, offshore organisations and associations published an industry study on this subject entitled “The potential for acceleration and cost reduction in HVDC offshore grid connection projects” as well as an opinion on the preliminary test results of the Federal Network Agency on the second TSO draft for a 2025 offshore grid development plan.

The expansion of offshore wind energy is proceeding at a moderate rate right now. The level of expansion in Germany is expected to be 700 megawatts in 2016. From 2017 to 2019, the rate will also be less spectacular than in 2015 but expansion will be continuous and reliable until 2020 when the designated capacity limit of 7.7 gigawatts is reached. The paradigm shift will then really kick in. 2020 will be a year of no expansion and in each of the two following years expansion will be a maximum of 500



megawatts: barely enough to keep body and soul together. The effect this will have on the production capability of Germany's offshore wind industry ought to become clear fairly soon on account of very long lead times. What is more, we cannot see yet what the consequences of Brexit will be – for the time being our biggest export market remains very uncertain.

Is the game up for offshore wind energy in Germany? Surely not! Technology continues to be at the leading edge and is indispensable for the energy turnaround as a whole. This is particularly so because the "electrification of life" brought about by sector coupling is unstoppable and demand for electricity is rising. We cannot afford to neglect a carrier of technology.

Ensuring that the expansion of offshore wind energy continues to forge ahead must be our highest priority. Cost reduction as a result of economies of scale can only be achieved in the end through market volume. Dutch tenders illustrate opportunities for cost reduction even if conditions are not transferable to Germany on a one-to-one basis: for projects awaiting a final investment decision in 2020, the target of ten cents per kilowatt hour is

achievable when calculated over a period of 20 years and exclusive of grid connection. After all, the Netherlands, a relatively small country, is putting out tenders for 700 megawatts per year.

Offshore wind energy in Germany continues to be a shop window where the whole world can see what this technology can do. In recent years we have

provided impressive proof of our achievements. Little by little, substantial cost reduction is now being seen. In future we will be able to look back and say that reform in its present guise was wrong because it was too faint-hearted. But policies are not irreversible and during this short breather for Achilles, all players involved have the opportunity to transform the tortoise into a Ninja Turtle.



- ▶ Study
- ▶ Press release
- ▶ Statement on preliminary test results of Germany's Federal Network Agency
- ▶ Preliminary test results of the Federal Network Agency
- ▶ Second TSO draft for a 2025 offshore grid development plan

WINDFORCE 2016 attracts more than 400 participants – a review

WINDFORCE

Wind sector presents the performance capability of Germany's offshore wind industry

From 7 to 9 June 2016, more than 400 participants learned of current developments in Germany's offshore market during some 60 talks. The will and potential of the industry to make a major contribution to the success of the energy turnaround were evident both during the sessions and in conversations. Coming as it does against the backdrop of the much-criticised decision on the Renewable Energies Act, this was a clear signal from the industry to members of Germany's Bundestag to provide reliable, long-term framework conditions for the offshore sector.

WINDFORCE recorded overall positive development. WAB again succeeded in organising an extremely interesting and diverse event. The figure of 400 participants also surpassed last year's total.

- ▶ Interview in Morgenmagazin (ZDF) with WAB managing director Andreas Wellbrock
- ▶ Press release on WINDFORCE
- ▶ Talking about WINDFORCE 2016
- ▶ The industry talks about the Renewable Energies Act

Further information and registration (soon): www.windforce.info



Impressions of WINDFORCE 2016

SAVE THE DATE WINDFORCE 2017 from 9 to 11 May 2017



Photos: Jens Meier / WAB

WAB at the NRW Wind Energy Industry Day 2016

Tenders are a central issue

Held this year for the eighth time and shortly before the summer break, the North Rhine-Westphalia Wind Energy Industry Day again lived up to its reputation as an industry meeting place. More than 450 participants from over 200 businesses and 45 exhibitors took part in this congress. Next year it will be held in Düsseldorf from 28 to 29 June, again with WAB providing intensive support. The event is being initiated and organised by Lorenz Kommunikation. Upcoming tendering procedures and service and maintenance issues were central themes. Johannes Rimmel, North Rhine-Westphalia's environment minister and patron of the event,

called for a renewable energy policy at the European level. Andreas Wellbrock highlighted the significance of North Rhine-Westphalia in particular as an important location for the wind industry.

[Registration](#)



North Rhine-Westphalia environment minister Johannes Rimmel (L.) and WAB managing director Andreas Wellbrock during the press conference on the NRW Wind Energy Industry Day 2016.

Photo: Lorenz Kommunikation

New Renewable Energies Act market screening 2015/2016

20 percent reduction for WAB members

The market for renewable energies is in a constant state of flux. The players involved are faced with wide-ranging changes and challenges – not just since the 2014 Renewable Energies Act and the amended Act that was recently passed. The Society for Applied Market Research in the Energy Industry (G.A.M.E.) will be publishing its

study on this subject in September 2016. The study contains the results from around 1,000 qualified interviews conducted in June 2015 and March 2016 with participants from eight industry sectors (wind energy included).



20 % DISCOUNT FOR WAB MEMBERS!

Our WAB members receive an exclusive discount of 20 percent – either on the price of the complete study or on individual chapters.

[Further information](#)

Travel more economically to the next WAB event with Sixt

Successful collaboration with Sixt for almost a year now

Since 1 October 2015, WAB has been offering its members an attractive perk. WAB and Sixt have collaborated to provide all WAB members with a 15 to 25 percent discount (depending on model) on the basic price of a hire car.

A large number of members have already taken up this offer. If you too are interested in benefiting from the special rates for car hire, you will find further information under the following link.

[Further information and registration](#)

15-25 % DISCOUNT FOR WAB MEMBERS!



Comprehensive database with offers of cooperation

Enterprise Europe Network and WAB expand their collaboration

The primary aim of the collaboration between Enterprise Europe Network and WAB is to promote the innovation and internationalisation of Bremen's businesses and research facilities. An effective instrument for cooperation between businesses and research institutes is the comprehensive and collaborative database developed by Enterprise Europe Network.

Here are some topical examples of offers for international cooperation and requests for cooperation from the wind energy sector.

Further information

 **A DANISH COMPANY IS SEEKING INNOVATIVE PRODUCTS FOR WIND TURBINE MAINTENANCE.**

Reference no.: BRDK20150914001

 **A LATVIAN RESEARCH INSTITUTE HAS DEVELOPED A NEW TYPE OF GENERATOR FOR WIND TURBINES AND IS LOOKING FOR COOPERATION PARTNERS.**

Reference no.: TOLV20160602001

 **A JAPANESE COMPANY IS SEEKING SALES/DISTRIBUTION PARTNERS FOR PROTECTIVE FILMS FOR ROTOR BLADES.**

Reference no.: BOJP20150327001

Enterprise Europe Network Bremen will gladly help you produce your own profile for the collaborative database. Please direct any questions to:

Contact partner: M.A. Patrick Rodenberg
Enterprise Europe Network Bremen/DD Die
Denkfabrik Forschungs und Entwicklungs GmbH

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Email: p.rodenberg@een-bremen.de
Web: www.een-bremen.de



International cooperation exchange at WindEnergy in Hamburg

WAB and Enterprise Europe Network invite you to WindEnergyMatch

Enterprise Europe Network and WAB invite exhibitors and visitors to take part in WindEnergyMatch, to be held in Hall 7 from 29 to 30 September 2016 at the WindEnergy event. Whether for business cooperation or an interest in marketing, technology transfer or ideas for projects, WindEnergyMatch offers an ideal forum for bilateral conversations with potential new cooperation partners. Participation is free and all that industry visitors need is a ticket for the trade fair.

Reasons for taking part

WindEnergyMatch is an effective forum for getting to know potential cooperation partners in an informal atmosphere.

- Targeted choice of conversation partners from the online catalogue before the event
- Added value and efficient organisation of participation in the trade fair whether for exhibitors or industry visitors
- Development and consolidation of international business contacts in 30-minute bilateral conversations in an informal atmosphere

Further information and registration



Invitation to WAB's stand party on 28 September 2016



WAB joint trade fair stand at WindEnergy Hamburg

The WAB lounge provides a comfortable place for you to meet with other visitors in a relaxed atmosphere. WAB cordially invites you to its stand party on 28 September 2016, starting at 5 p.m. Be our guest and finish off a successful day at the trade fair with a glass of wine or a beer and a little snack.

Event dates

Date: 28 September 2016

Time: from 5 p.m.

Venue: Messe Hamburg, Hall B7, stand number 301

With the kind support of:



**A kicker tournament starts
at 6 p.m. – win a fun prize!**

Our member exhibitors:



Early booking discount for Offshore Wind Energy in London and the HUSUM Wind event

>10 % DISCOUNT FOR WAB MEMBERS!

Comprehensive service package for joint exhibitors at WAB's joint stands

– NEW: EARLY BOOKING DISCOUNT FOR REGISTRATIONS MADE BEFORE 31 OCTOBER 2016 –

At the request of many WAB members the network is being represented at a joint trade fair stand at both Offshore Wind Energy, formerly EWEA Offshore, being held in London from 6 to 8 June 2017, and the HUSUM Wind event from 12 to 15 September 2017. Take this opportunity to present your company in conjunction with WAB. WAB is offering you a comprehensive service package, sophisticated stand design and maximum marketing impact – both in the size of the stand as well as in our accompanying activities.

Become a joint exhibitor now

WAB members benefit from the reduced prices of modules. Registrations made before 31 October also receive an early booking discount. When members book early they also support us and all our member businesses by helping us plan with greater certainty. The links to stand plans provide the most important details for member participation.

▶ **Booth plan for HUSUM Wind**
(early booking discount
until 31 October 2016)



▶ **Booth plan for Offshore Wind Energy**
(early booking discount
until 31 October 2016)



Event dates

Offshore Wind Energy, London
6 to 8 June 2017

HUSUM Wind
12 to 15 September 2017

Contact

Lisa Flißikowski, lisa.flissikowski@wab.net

WAB – the network for wind energy

All skills on board



Get to know our powerful wind energy network
at WindEnergy Hamburg from 27 to 30 September

Our member exhibitors



Hall B7
Booth B7.301



- ◉ **WAB LOUNGE:** meet business partners in a relaxed setting
- ◉ **WAB RECEPTION:** 28 September at 5 p.m.
- ◉ **BECOME A WAB MEMBER** and benefit from many offers
- ◉ **WE LOOK FORWARD TO SEEING YOU!**



Delegation visit to Taiwan

WAB members benefit from reduced participation fees

In collaboration with the Bremen Economic Development Company (WFB) and WAB, the Senator for Industry, Labour and Ports is organising a delegation visit to Taiwan, to take place from 3 to 9 October 2016. Its focus will be offshore wind energy.

Taiwan has ambitious plans for offshore wind energy and would like to install a capacity of 4 gigawatts by 2030. Some initial demonstration projects have been completed and others are currently being implemented. Taiwan presents good prospects for German companies in the offshore wind industry, and now is a favourable time to find out about opportunities for market entry.

Itinerary plans include

- General information about Taiwan and offshore wind energy in Taiwan
- Visits to various suppliers

- Visit to the Taipower energy provider
- Visit to the Bureau of Energy, which holds key responsibility for the development and expansion of offshore wind energy
- The holding of a Taiwan-German offshore wind energy summit (presentation of the market in Taiwan, framework conditions and players, and presentation of German competences along the value creation chain)

In addition, Bremen will take part as co-host in a reception at the Taipei German Institute (diplomatic representation for Germany in Taiwan), at which around 400 to 500 German and Taiwanese guests from industry, science, politics and cultural life are expected. Delegates taking part are given the opportunity to invite two guests (business partners, clients) to the reception. There is also the opportunity for delegates to present themselves and their organisation to

guests within the context of a "Bremen Lounge". Managing director Andreas Wellbrock will be accompanying the visit on behalf of WAB.

Participation conditions

There are a limited number of places for the visit so early registration is recommended. The organisational package for participants is EUR 600 (plus VAT). WAB members benefit from a reduced participation fee of EUR 450 (plus VAT).

To register, contact Christian Gutschmidt at the Senator for Industry, Labour and Ports (Tel: +49 (0)421 / 361 6919; Email: christian.gutschmidt@wah.bremen.de)

► Registration

(Registration deadline: 26 September 2016)

Platform for the Indian market at Intersolar India

Cooperation between HUSUM Wind India and WAB

The wind energy market in India is booming. The Indian government is creating clear incentives in order to achieve new annual installation figures of 5,000 megawatts. Many Indian investors are expressing an interest in both solar and wind energy and, at India's leading solar trade fair, have been looking in vain until now for providers from the wind energy sector. In 2016 things will change: the HUSUM Wind India Pavilion (19 – 21

October 2016) at Intersolar India is designed to facilitate access to service providers and manufacturers from the wind energy industry as well.

Take the opportunity to present your business at the HUSUM Wind India Pavilion in Mumbai. Make valuable contacts at a stand in conversations amongst the 11,000 or so visitors and/or at the accompanying one-day congress also being held.



DISCOUNT FOR WAB MEMBERS!

Contact

Lars Kessler, sales director
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+49 (0)176 / 9608 5427

► Further information

Fourth WAB Legal Offshore Day in Bremen

Optimised format for the event for those with a high level of expertise in the legal field

On 2 November 2016, the WAB Legal Offshore Day will be held for the fourth time. The event, organised jointly with the Working Group on Law, offers those interested the opportunity to exchange practical experience and current legislative developments within a wider audience.

To make this even more useful, this year we have optimised our format for the event, complementing talks from three theme sessions on "2016 Renewable Energies Act/Law on Wind at Sea", "Back to Back Agreements: Subcontractor structures and compensation claims against the grid operator" and "O&M Contract Structures". For the first time there will be a number of workshops running in parallel (three per theme

session), in which questions from individual participants will be addressed.

Event dates

Date: Wednesday, 2 November 2016
Time: 9.30 a.m. to 5.30 p.m.
Venue: ATLANTIC Grand Hotel Bremen
Bredenstrasse 2, 28195 Bremen

Event fees

WAB members: EUR 149
Non-members: EUR 299
(All prices given are subject to 19 % value-added tax)



Further information and registration
(Registration deadline: 14 October 2016)

Entertaining, compact and competent

Next introductory seminar in October about being "Fit in Wind Energy"

The introductory seminar is compact, entertaining and peppered with examples taken from everyday practice. Providing a rapid overview of the most significant theme areas of wind energy, the seminar is an ideal introduction to the industry in terms of content and also points out important interfaces.

It is particularly suited to those new to the industry, suppliers and all those seeking to gain a comprehensive overview of wind energy from A to Z, for example, workers in administration.

While the first day of the seminar programme is mainly given over to issues of onshore wind energy use, the second day is devoted to offshore wind energy.

The WAB social get-together will be held on the evening of the first day of the event. All

participants are cordially invited to attend. WAB organises transfers to the event venue for participants.

Event dates

Date: 19 and 20 October 2016
Time: 10 a.m. to 5 p.m.
and 9 a.m. to 4.30 p.m.
Venue: Courtyard Marriott Hotel Bremen
Theodor-Heuss-Allee 2
28215 Bremen

Registrations are still being taken until 5 October 2016. As a WAB member you benefit from reduced participant fees and an early booking discount until 21 September 2016.

Further information and registration



Meet your business partners in a convivial atmosphere

Next WAB social get-together on 19 October 2016

More than 200 industry experts regularly meet at the WAB social get-together to find out what is new and make new contacts. Non-members in particular find this an effective way of accessing the WAB network. The last WAB social get-together of 2016 will take place at the Radisson Blu Hotel in Bremen on 19 October.

The evening's sponsors and WAB would like to take this opportunity to invite you to this regular information exchange held in a relaxed atmosphere.



Sponsors benefit in particular from an attentive specialist audience.

WAB would once again like to thank here most sincerely this evening's sponsor of the social get-together:



The Wölfel Group comprises three businesses with more than 90 employees engaged in finding sophisticated solutions for vibrations and acoustics. In the field of wind energy, Wölfel Wind Systems specialises in series production, the supply and installation of SHM and CMS systems as well as systems for reducing vibration and structure-borne noise for wind turbines – both onshore and offshore.

www.woelfel.de



WAB's new managing director Andreas Wellbrock converses with members.

Present your business to a large wind industry audience

Take this opportunity to present your business, your new product or project within the framework of a sponsoring activity. It is still possible to secure your place as a sponsor.

Those interested need simply send an email to:
lisa.flissikowski@wab.net

Further information on the social get-together concept

Event dates

Date: 19 October 2016

Time: from 6 p.m.

Venue: Radisson Blu Hotel,
Böttcherstrasse 2, 28195 Bremen

Theme: to follow

Registration

(Registration deadline: 17 October 2016)

SAVE THE DATES

WAB dates for 2017 in overview

To coincide with WindEnergy Hamburg (27 to 30 September 2016), WAB will be making available a calendar for 2017 and distributing it at its joint stand as well as sending it to members.

The most important WAB dates for 2017



DATES 2017

23 January	WAB Working Group Market & Logistics
26 January	WAB Working Group Law
1 February	WAB social get-together, Bremen
8/9 February	WINDFORCE Baltic Sea, Tallinn (EST)
2 February	WAB Working Group Service & Operation, Bremerhaven
23 February	WAB Working Group Foundation Structures & Steel Construction, Bremerhaven
29 March	WAB social get-together, Bremen
29/30 March	WAB Introductory Seminar, Bremen
24 April	WAB Working Group Market & Logistics
27 April	WAB Working Group Service & Operation, Bremerhaven
9–11 May	WINDFORCE, Bremerhaven
1 June	WAB Working Group Law
6–8 June	WAB joint trade fair stand at Offshore Wind Energy, London
22 June	WAB Working Group Foundation Structures & Steel Construction, Bremerhaven
7 August	WAB Working Group Market & Logistics
10 August	WAB Working Group Service & Operation, Bremerhaven
23 August	WAB social get-together, Bremen
31 August	WAB Working Group Law
12–15 September	WAB joint trade fair stand at HUSUM Wind, Husum
21 September	WAB Working Group Foundation Structures & Steel Construction, Bremerhaven
18 October	WAB social get-together, Bremen
18/19 October	WAB Introductory Seminar, Bremen
6 November	WAB Working Group Market & Logistics
9 November	WAB Working Group Service & Operation, Bremerhaven
16 November	WAB Working Group Law
23 November	WAB Working Group Foundation Structures & Steel Construction, Bremerhaven
6 December	WAB members meeting, Bremen



Offshore Wind Consultants

Offshore Wind Consultants (OWC) is a globally focused specialised consultancy providing independent services to the offshore wind industry. OWC are specialised in providing consultancy services to the offshore wind industry, developers and investors in offshore wind projects. OWC has an unrivalled reputation for providing quality service and delivering innovative and reliable solutions, being able to draw upon extensive technical knowledge and practical experience in offshore wind that goes back more than 25 years.

Offshore Wind Consultants was established in 2011 and acquired by Aqualis ASA in 2014. OWC has offices in London (UK) and Hamburg (DE).

www.offshorewindconsultants.com



Unterweser Reederei (URAG)

With its fleet and experienced crews, Unterweser Reederei (URAG) has stood for professional towage services since 1890. For the offshore sector the shipping company provides traffic control ships and emergency tugs, carries out the transport of components and materials and assists crane and installation ships. The fleet comprises 20 ships that are also deployed for oil spills, fire-fighting or for providing platforms.

www.urag.de



F. A. Kruse jun. ESL

F.A. Kruse jun. Energy Services + Logistics is an innovative medium-sized company headquartered in Brunsbüttel. It also has offices in Bremerhaven and the Berlin area. We serve clients' needs competently, effectively, quickly and flexibly in line with ISO 9001 and SCCC standards. A main focus of our work is the complete or partial packing of components of every size to protect them from environmental influences or to protect the environment from emissions. This includes the "shrinkwrapping" of scaffolding with permanently welded and flame-resistant film that is far superior to simply using tarpaulin. Another specialty is custom-made metal products, for instance racks for the storage and transport of machine parts.

www.spedition-kruse.de



FKC Management-System-Beratung

FKC Management-System-Beratung is one of the leading consultancy companies in North Germany. As a bank-independent medium-sized company with managing partners, FKC represents trustworthiness and reliability. Consulting engineers and specialist staff are complemented by a large number of occupational physicians and professional experts from different fields. These specialist employees and partners enable the company to offer an extensive package of services, their main aim being to implement clients' assignments and requirements in both a targeted and punctual manner. Main emphases are industrial and health and safety protection, management and process support (QHSE-Consulting Offshore Wind), data protection and IT security and training.

www.fkc-gmbh.de



CONSENZUM® Managementberatung Bremen

CONSENZUM Management Consultancy Bremen has set itself the task of providing clients with state-of-the-art support and consultancy in all essential questions of business and project organisation and optimisation. We work in collaboration with independent business advisors who are committed to our common brand for uniform advisory standards. CONSENZUM® is specialised in performance optimisation in sales and marketing and long-term business safeguarding. In Bremen one of its main points of focus is the special requirements of the offshore wind industry.

www.consenzum.com



VOYANTEE

VOYANTEE has built up a good reputation as a problem-solver for difficult questions and technical obstacles. The private engineering consultancy is a UK company belonging to the country's Association for Consultancy and Engineering. The work of the consultancy focuses on onshore and offshore energy, renewable energies, oil and gas, as well as on infrastructure projects. The company's specialists endeavour to come to a holistic understanding of clients' requirements before seeking a solution.

www.voyantee.com

**Ocean Team Windcare A7S**

Ocean Team is an internationally oriented specialist provider of systems and services for the cleaning of hydraulic, lubricating and fuel systems. Over the course of many years, the company has become a specialist for offshore wind turbines. It has customised its cleaning systems in line with client demands and also provides this service in the traditional energy, heavy industry and maritime sectors, indeed wherever hydraulic and lubricating systems are required.

www.oceanteam.eu

Legal notice

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