

Cold shower for a hot market

Bulgaria offers everything that would be expected from a booming wind energy market, for example a lucrative feed-in tariff and excellent sites. As is so often the case, however, the devil is in the detail.

Since Bulgaria joined the European Union in 2007 and adopted its climate goals, the young market has steadily grown. Wind energy has made impressive advances, rapidly growing from 40.7 MW in 2007 to a total installed capacity of 335 MW at the end of 2009. Among the numerous prospective domestic and foreign investors, the Black Sea coastline is particularly in demand and a hot spot for project developers. Here lines of wind measurement masts are currently cropping up. The region is one of the areas with medium to strong wind speeds and also promises to provide peak yields in European comparison.

These excellent prospects have triggered a veritable stampede. Other regions such as the south and west of the country, on the other hand, have hardly been explored. However, the appearances are decep-

tive, as the excellent conditions have currently reached a dead end. Of the 400 MW of installed capacity, 100 MW are currently not or only partly tied to the grid because the industrially weak northeast lacks an extensive grid and energy users. The 110 kV cable connection towards the west, which is currently under construction, will do little to change this situation because the already completed wind farms will stretch the cable connection to full capacity. In the northeast, there are grid connection agreements totalling around 800 MW of wind energy.

Land and forecast disputes

In addition to poor grids, political decisions are imminent that will have a substantial impact on how the Bulgarian wind market develops in the coming years. This mainly applies to land issues, which are being hotly debated. On the cards is a law that restricts or forbids renewable energies on agricultural land and only makes exceptions for public bodies. Critics claim that the use of land by wind energy represents a particular threat to agriculture and thus self-sufficiency, whereby figures of up to two hectares for a single wind turbine are being bandied about. The Bulgarian

Dispute about land: in Bulgaria, critics claim that the use of land by wind energy represents a particular threat to agriculture and thus self-sufficiency.

Photo: REE



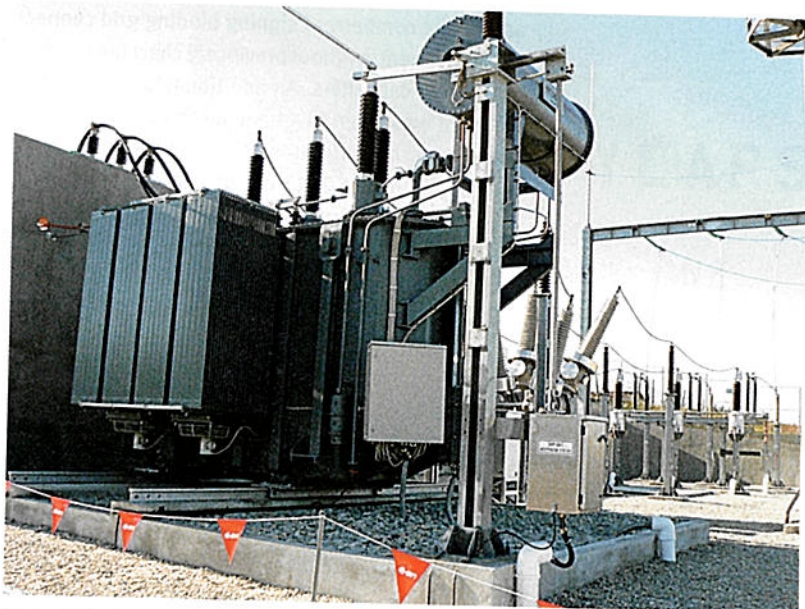
land area is in fact divided into eleven categories, whereby one third is pure arable land. Renewable energies are already forbidden there. There is now draft legislation for the remaining agricultural areas, for which the regional authorities were previously responsible for changes in use. According to the proposed bill, however, only the Ministry of Agriculture shall decide in the future. "We'll have to wait and see what happens and how the European Union reacts. This would contravene the promotion of renewable energies," believes Sebastian Noethlichs, Chairman of the Bulgarian Wind Energy Association (BGWEA). The organisation was founded at the end of last July only, in order to conduct lobby work and to intervene in the debate with facts. The organisation currently has 30 members, including manufacturers and domestic and foreign wind energy companies. "It's not clear how this political debate will turn out. That's why our association has submitted a petition," he adds.

The previous feed-in tariff is also being debated. This year wind turbines will receive 9.7 €-ct for each kWh. The price, which is based on 80 % of the average electricity price from the previous year and 20 % from a bonus, is recalculated each year; the government's regulative authorities can deviate from the bonus by up to 5 % in either direction. "The feed-in tariffs for wind energy previously applied for 15 years. However, there are several draft bills that are looking to reduce this to a maximum of 8 years. Nobody wants to commit themselves on this yet. Nevertheless, all those involved agree that a feed-in tariff fixed across the entire duration is better than the previous model where the reimbursement could theoretically decrease by 5 % each year, which can represent a financial risk for the project financing," explains Noethlichs.

A new regulation, which is scheduled to come into effect from April 2011, is also causing disquiet. This obliges all operators of renewable energy generating systems to submit daily, monthly and annual forecasts about the expected electricity amounts to the regulative authorities. If the production deviates by more than 20 % from the forecast, this will turn out to be expensive. Operators will then have to either shut down their systems or pay half the cost for the balance energy. This is bought by the regulative authorities on the spot market when too little energy is supplied. The catch in the Bulgarian model is that there is still no software available for the demanded forecast calculations.

Completed wind farms without grid connections

Apart from the bureaucratic and political upheavals, it is the grid problems that are particularly taking the wind out of the sails of wind energy. Wind farms with a capacity of 50 MW are currently not connected to the grid. And this applies not just to small projects. According to the BGWEA, AES Wind Generation is also affected by this. The subsidiary of the American AES



Project developers accuse the medium voltage grid operator, E.ON Bulgaria, of signing binding grid connection agreements without previously checking the grid connection capacities.

Photo: E.ON Bulgaria

Corporation is currently the financially strongest private investor in the Bulgarian energy market and at the beginning of the year completed what is, with 156 MW, the largest Bulgarian wind farm to date directly on the Black Sea. Because of a lack of grid capacities, this is also only running at half throttle. The limited feed-in possibilities are not only due to the lack of connections. In Bulgaria, contracts for grid feed-in and connection licences are concluded with the distribution grid operators at the medium voltage level or with the state-owned transmission grid operator, the National Electricity Company (NEK). The procedure is divided into two stages: a preliminary contract is first of all concluded in which the grid operator verifies the technical feasibility of the project and submits it to the responsible NEK division. This is followed by the final connection agreement, which includes the costs and deadlines for the grid connection.

In the northeast, the medium voltage grid operator E.ON Bulgaria is responsible. Project developers

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accuse the company of signing binding grid connection agreements without previously checking the grid connection capacities. An additional large fly in the ointment was when NEK announced in May that it is postponing the grid connection in northeast districts such as Dobrich to 2013 or 2014 because the grids will not be modernised prior to this. E.ON Bulgaria admits that electricity will at times only be fed into the grid to a limited extent, but points out that this is legally approved and that NEK is responsible as the owner of the high voltage grid. The preliminary contracts would also state that the final grid connection depends on the coordination and capacity of NEK as the transmission grid operator.

It's getting crowded on the Black Sea

Until now, Danish investor Global Wind Power has remained untouched by the difficulties with the grid access. The company has been represented in the country with its own office since 2007 and has handled several successful business projects. To date it has installed 50 MW in the northeast of the country and a further 30 MW are planned for this year that are scheduled to be implemented by 2011. "Bulgaria is a good market for wind energy and to date the remunerations from the feed-in tariff are still rising. In particular, everything along the Black Sea works well together. But we have also been lucky with the connections," says Michael Skov, the company's Executive Advisor, awarding the country high grades. The fact that the subsidies until now have been limited to 15

years and the operator has to pay for the grid connection himself was bearable. "In return the profits in Bulgaria are considerably greater than in Germany, for example," he says. Global Wind Power specialises in developing wind farms and then selling them on to investors. Only the technical management and the accounting remain in the company. Skov believes there is fundamentally still plenty of potential for further business projects. "In Bulgaria the land is not leased but purchased, and the prices are not so high yet. However, it is getting crowded along the Black Sea. Measurement masts have to be used to take a much closer look for good sites," he explains. He believes that an installed capacity of between 1,500 and 2,000 MW is certainly feasible within the next few years: "That very much depends on the grid expansion and the political response to utilising land for renewable energies," according to Skov.

"You need to be patient"

Raiffeisen's Austrian leasing subsidiary, Raiffeisen Energy & Environment (REE), also remains upbeat. In Austria, REE has been operating 40 wind turbines for many years and in 2009 it expanded its portfolio to 25 wind turbines in Bulgaria. "That's also very good capital for our parent company in order to professionally support the financing customers. As an investor, the company knows not only about the investment business but also something about the operations and technology. That makes things a lot simpler," is how Reinhard Pitzer explains this rather unusual combination. He is responsible at REE for the wind

Bulgaria at a glance

Officially, a wind energy capacity of 400 MW is currently connected to the grid in Bulgaria. In 2005 it was just 7.5 MW. Opinions vary widely as to the potential, ranging from 1,500 to 3,000 MW. The northeast of the country is currently very much in demand and overcrowded. Here the excellent wind conditions along the Black Sea are particularly attractive. However, the grids there are poor because the energy consumers are found in the western part of the country.

The conditions for renewable energy are essentially good. Bulgaria has accepted the EU's climate goals and has to increase the proportion of its electricity generated from renewable energies to 11 % by the end of 2010 and to 16 % by 2020. Bulgaria will be laying out how this goal shall be attained in a national action plan to be published still this year. In 2009, the lion's share of renewables was provided by hydroelectric power (2,100 MW) and wind (335.3 MW).

Since 2007 there has been a law promoting renewable energies and a fixed feed-in

tariff that applies for 25 years for solar energy and 15 years for all other renewable energy sources. The energy has to be purchased by the grid operators. There are three grid operators at the low voltage level with E.ON Bulgaria, EVN Bulgaria and CEZ Bulgaria. The high voltage and transmission grid belongs to the state-owned NEK EAD. The feed-in tariff is determined each year on 1 March by the State Commission for Energy and Water Regulation (SKEWR).

In Bulgaria, systems for generating electricity and heat generally have to be licensed if they have an output of 5 MW or more. So far, licences for an impressive 14,000 MW have been applied for from the responsible SKEWR, although only a maximum of 2,000 MW are realistic. To date there is still no process for sifting out questionable projects without sufficient funding. Here the wind industry demands funding commitments from the banks as well as completed wind reports and environmental impact assessments before even concluding licence

contracts. These licences and thus also the grid connections have to be applied for from the distribution grid operator or transmission grid operator. In accordance with the Energy Act, forecasts for the generated electricity volumes have to be submitted in order to be able to assess the economic feasibility of the project. In addition, the legislator stipulates an extensive approval procedure in order to examine the impact in regional planning terms.

In Bulgaria, the market rates for loans are high and the country has not yet introduced the euro. This means that the project funding is often reliant on a second bank. However, the financial institutions and state-owned development banks in Bulgaria place high demands and have only financed a few projects to date. Alternatives are, for example, the International Finance Corporation (World Bank Group), the European Investment Bank (EIB) and the European Bank for Reconstruction and Development (EBRD).

Torsten Thomas

energy division and considers Bulgaria to be a very interesting market in Eastern Europe. "Unfortunately it is not without its difficulties," regrets Pitzer. From the operator's point of view, he finds it more than "sad" that wind farms are standing in the Bulgarian countryside without any grid connections: although the grid operators were long aware of the problems with the cable connections through the preliminary contracts for the grid connections, the expansion did not take place at the same pace as the realisation of the wind farms. The bottleneck resulted from the silence that has long prevailed between NEK and E.ON Bulgaria. "That represents a burden for investors and is anything but conducive for future investments," he says, frustrated about the current situation in the country. He believes there is little chance of success in suing for damages. As a whole, however, Bulgaria has still considerable potential in reserve. "It's a wonderful country that has both excellent wind conditions and irradiance values for photovoltaics. The fact that the market is currently somewhat cooling off is a shame for the industry and a shame for the environment," he says. However the current hurdles are no reason to bury your head in the Bulgarian sand: "You have to wait and be somewhat patient. We hope that a sensible compromise can be found, particularly in regards to the use of land. The Bulgarian market is and will continue to remain interesting for some years to come," Pitzer forecasts.

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Sebastian Noethlich, Executive Director of the Bulgarian Wind Energy Association (BGWEA), hopes that the law for restricting and/or forbidding renewables on agricultural land will be overturned.

Photo: BGWEA

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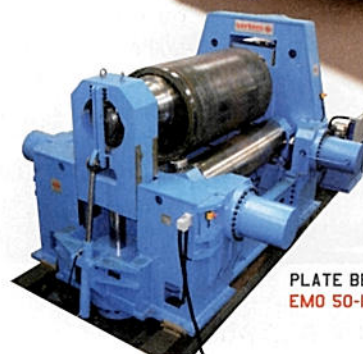


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