

Rising Dragon



There are hardly any wind turbines in Vietnam, although the meteorological conditions are ideal. The introduction of a feed-in tariff may bring new life to the market in this emerging Asian economy.

Without dragons Vietnam would probably not exist as we know it. The winged creatures are closely linked with the mythological roots of the ancient culture in this country on the South China Sea. The old name of the capital Hanoi, Thang Long, does not mean “rising dragon” for nothing. Small wonder then that the children in modern Vietnam still joyfully fly their fanciful paper dragon kites. But aside from the legends, there is a concrete meteorological reason why dragons can fly so well in Vietnam. The country has wind speeds not present in most other South-East Asian countries, says a World Bank study of the wind conditions in Cambodia, Laos, Thailand and Vietnam. According to the data, “more than 39 % of Vietnam’s total area is estimated to have an annual average wind speed of greater than 6 m/s at a height of 65 m, equivalent to a wind power capacity of 512 GW,” explains Nguyen Quoc Khanh, Director of project developer wpd vietenergy from Hanoi. “Although the World Bank’s estimates might be too high, the wind potential is nevertheless huge.”

Unfortunately, concrete measurements are still rare. There are “about 150 meteorological stations today (that) provide the main wind data,” wrote Khanh in a study on wind energy in Vietnam that he conducted in 2011 for the Ministry of Industry and Trade (MoIT) and the German development agency

GIZ (Gesellschaft für Internationale Zusammenarbeit). But these stations are mostly located in towns, and are therefore of little use for evaluating the wind energy potential. “We are currently evaluating wind conditions ourselves in two locations in southern Vietnam,” says Khanh. Thereby, wpd hopes to have the chance to get into the Vietnamese wind business in the future.

Still a niche existence

Those making technological use of this wind potential are still only eking out a niche existence. Nationwide only around 38 MW are installed. This includes, says Khanh, all the small installations in the country and those on islands. So far there is only one wind farm connected to the national power grid. It lies in the southern province of Binh Thuan, around 200 kilometres east of Vietnam’s largest metropolis, Ho Chi Minh City (previously Saigon). It is equipped with twelve turbines from the German manufacturer Fuhrlander with a capacity of 1.5 MW each. The owner is the Vietnam Renewable Energy Joint Stock Company (REVN), a market-orientated subsidiary of the state utility company Electricity of Vietnam (EVN). But since there is no feed-in tariff, the farm can hardly operate economically through electricity sales alone. To

International: the biggest customer for the towers made by CS Wind in Vietnam is the USA. China is not an export market.

Photos (3): Oliver Ristau



Happy New Year: wind and solar energy are just getting started in Vietnam. Demonstration project at the central Ben Thanh Market in Ho Chi Minh City.

finance it, REVN registered it as a CDM project (Clean Development Mechanism, international climate protection project).

Such possibilities alone are not sufficient to drive wind power forward in Vietnam. The Communist leadership in Hanoi is aware of this and is currently laying the tracks for a new energy policy. It has little choice: because of the strong economic growth in the last ten years – an average of 7 % annually according to the World Bank – increasing energy production is essential, especially as electricity demand has risen by 14 % per year over the same period, according to Khanh. So far Hanoi is mainly banking on coal. The government's energy plan envisages that coal's share of energy production will rise from the current 10 % to 50 % by 2030.

Oliver Massmann hopes that this won't happen. The lawyer from the American business consultancy Duane Morris in Hanoi is counsel to the German Embassy in the capital and, in cooperation with the German GIZ, advises the Vietnamese government on regenerative energy policy issues. "Economic growth has led to increasing environmental problems, for instance in the cities in the form of extreme air pollution," he said in an interview with S&WE. Expanding electricity generation from coal "based on outdated Chinese technology" would only exacerbate the problems. "Awareness is slowly growing in the government of the need to work on clean alternatives."

Feed-in tariff law planned

The government is taking action. At the end of July 2011, Prime Minister Nguyen Tang Dung introduced

the first feed-in tariff especially for wind power. The utility EVN is thereby obliged to buy wind power at approximately 7.8 US\$-ct/kWh for 20 years, reports wpd Director Khanh. "This is the first time there has been special treatment for wind energy," he says, although the level is too low to unleash a boom. "Prices from cheap Chinese turbine producers were used in the calculation." Khanh hopes new feed-in tariff legislation will include higher tariffs.

Lawyer Massmann confirms the plans for a feed-in tariff. "Such a legal framework is necessary if banks are to put up the capital to finance wind farms in Vietnam. The government is currently working on a revision of the electricity legislation in which the promotion of wind energy is a fundamental aspect."

The crunch is how the state, which is strapped for cash, can shoulder the financial burden. "A 'Renewable Energy Law' like in Germany, which transfers the costs to the users, is unlikely because the government does not want to raise the electricity price. Subsidized energy prices in Vietnam are seen as being in the public interest." At an average of 5.5 US\$-ct, the electricity in Vietnam is amongst the cheapest in South-East Asia. Massmann is advising Hanoi to set up a fund that would be financed through payments from polluting industries. A decision is expected in 2012.

At least the project developers are raring to go. "There are 42 wind power projects with a total capacity of 3,906 MW in various stages of development," calculates wpd Vietnam boss Khanh. "Foreign investors from Germany, Canada, Switzerland and Argentina are participating in a third of the projects." Reality has long overtaken Hanoi's current plans, which

allow for the development of just 1,000 MW by 2020, and 6,200 MW by 2030.

Foreign capital is available to finance these projects. A few months ago, the US Export-Import Bank agreed to a credit programme of US\$ 1 billion with the Vietnamese Development Bank (VDB) for the construction of wind farms in the Mekong Delta. Only US firms such as the wind turbine manufacturer General Electric are likely to profit from this.

Beyond the accusations

This comes at a time when US wind turbine tower builders are up in arms against Vietnam. The US Wind Tower Trade Coalition has launched an anti-dumping legal claim against Chinese and Vietnamese competitors because of alleged state subsidies (see S&WE 4/2012). This move has been met with incomprehension by the Vietnamese. According to investigations by S&WE, at the end of February the companies were busy drafting a response to the queries from the USA, but they unanimously rejected the dumping accusations.

The largest Vietnamese producer is CS Wind Vietnam, a fully owned subsidiary of the Korean CS Wind Corporation. Sup Keun Jo, Project Manager of the company from Phu My, about 100 kilometres south of Ho Chi Minh City, didn't want to comment on the anti dumping campaign. Talking to S&WE, he said: "We don't receive any special benefits from the government." The Koreans have been in Vietnam since 2004 and in that time have built and delivered more than 3,000 towers. Since 2007, CS Wind has also produced in China. The yearly capacity of both factories under optimal conditions is 900 towers. The company's most important customers include Vestas, Siemens and GE, primarily for onshore parks. Talks are also underway with Suzlon and Gamesa, confides Jo.

When discussing the cost competitiveness of the factory in Vietnam, Jo cited productivity improvements, low labour costs and the nearby port. The company is located in the delta of the Saigon River, with its network of waterways, and is just a few kilometres from the open sea. "It is an ideal location. The port is just 1.5 kilometres away from our factory." The short distance reduces the cost of logistics. The colossal steel constructions, which can weigh up to 250 tons, are simply trucked from the factory to the harbour.

You won't find a CS logo on the towers, just the name of the customer. "The company is strictly orientated to the requirements of their customers and doesn't employ an engineering department itself to design the towers," says Jo. The customers are apparently very satisfied with the work of the steel processor. In 2011 Vestas named the Vietnamese company "supplier of the year". The company from Randers said this was due to the reliability of the cooperation during the financial crisis and the "spending (of) tremendous resources on process and quality improvements".

Europe in the shadow of the USA

Regarding the regions CS Wind exports to, Denmark, and Europe in general, are clearly in the shadow of the USA. More than 50 % of its towers landed in American harbours. India and the UK were next in line. This orientation towards the US is also visible in the factories. Because the US tax credit for wind power is due to expire at the end of the year, the factories are running at full speed, reports Jo. China, on the other hand, is not a target for the Vietnamese export strategy: "Neither our Vietnamese nor our Chinese factory produce for the Chinese market. They have enough tower producers themselves."

Conversely, Chinese companies have so far been unsuccessful in their attempts to get a foothold in the market of their small neighbour. Because of its experience with close to a thousand years of Chinese domination, Vietnam prefers to orientate itself towards Europe and its former adversary, the USA. China's companies, unlike those from Korea or Japan, are not particularly welcome, and are considered to be second-rate in terms of quality. For these reasons, the Asian economic giant has so far played no role in either towers or specific wind farm projects in Vietnam. Jo expects that wind power in Vietnam will boom even without Chinese help: "I think the Vietnamese wind power market will increase rapidly. The power is needed. Even our factory suffers power shortages at times." The wind itself is already there, and has been since the time of the dragons.

Oliver Ristau



Colossal: each of the tower sections weighs up to 60 tons, making a total of up to 250 tons of steel in each tower.



Huge demand: Vietnam's appetite for electricity grows by more than 14 % per year. These cables in Saigon are one of the results.

Photo: Axel Wagener