

NRG Expert Wind Energy Report

Edition 1, 2011

Market Intelligence

2010 was a weak year for the wind industry with only 37 GW installed. Once again growth was led by the Chinese market, which accounted for around one of every two wind turbines installed. Consequently, China overtook the US to become the number one wind market. The top three Chinese manufacturers, Sinovel, Dongfang and Goldwind, all increased their world rankings in terms of installed capacity, and secured more international contracts for turbines.

Chinese manufacturers have also started to enter the offshore sector to compete with Vestas and Siemens, the two top manufacturers for wind projects. Sinovel is the main Chinese manufacturer as thirty four of its 3 MW turbines were installed off the coast of Shanghai in late 2010. Furthermore, the Chinese government recently awarded 1 GW of offshore projects to Chinese developers that plan to use turbines from domestic manufacturers.

There has also been an increase in companies that are launching gearless turbine models, but supply of the rare earth metal neodymium is still an issue. Manufacturers of both these turbines with permanent production facilities in China have a clear advantage in the market. As China accounts for the bulk of neodymium production and continues to limit export quotas for the metal.

The price of turbines in China and elsewhere has decreased due to lower commodity prices from earlier highs and the production of more efficient wind turbines, which produce more energy per kg of turbine.

Also in Asia, growth in offshore and onshore projects in South Korea is expected. The sector should also take off in Japan in anticipation of a feed-in tariff for wind and the fact that the country's wind turbines withstood the recent earthquake and tsunami.

In Europe growth was driven by the offshore sector with over 1 GW of added capacity. A lack of onshore land due to space and regulatory restrictions has prompted offshore growth. However, as with last year, very little has been done to overcome supply chain barriers, namely lack of cabling and offshore vessels, and the formation of the European offshore grid has gained momentum but is still a long way off. Despite this, wind farm developers have invested heavily in offshore projects and have a strong portfolio, and several turbine manufacturers have announced plans to open facilities in the UK to meet anticipated offshore demand.

Strong growth in the onshore market in Europe has been reported in Eastern Europe, for example Romania, and in other countries with a small installed capacity e.g. Finland. In established European markets instead of new turbines at new sites, the market is expected

to be driven by replacement of old, inefficient wind turbines with more efficient higher megawatt models, known as repowering, due to the limited available good onshore sites.

In the US offshore projects are only starting to attract interest, with most of the focus still on onshore projects as there are not the land constraints observed in Europe. A total of 5,115 W of new capacity was installed constrained by difficulties in obtaining power purchase agreements and a general lack of access to financing.

Further south the Brazilian market is a strong area for growth following two wind projects in 2010 and planned auctions for 2011. Several wind turbine manufacturers have announced plans to set up manufacturing facilities in the country such as GE and Gamesa, to meet domestic demand and the growing South American market.

Highlights

The top five wind markets, China, the USA, Germany, Spain and India, are expected to remain the same in 2015 and 2020, with India swapping places with Spain in 2017 to become the fourth largest market. However, the top five markets will lose their market share as other existing and new markets install more capacity.

NRG Expert expects the installed capacity to reach 398 GW in 2015 and 667 GW in 2020. We anticipate that Europe (including non EU countries) will represent some 38% of capacity, Asia 34% and North America 22% and remaining regions will count for 6%.

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