



The Story of Wind Power in Spain: Global Leader, Global Teacher

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There is a decades-old political dynamic in Europe in which environmental issues are perceived to be the traditional domain of some northern European nations, clashing with the economic needs of other countries from the southern and eastern parts of the continent. Whilst the economic benefits of environmental protection are becoming more obvious, the issue is easily polarised, for example in the recent conflict between the economic themes of the Lisbon agenda and environmental protection. Economics versus the environment is equally a core theme of global energy policy, notably in the current Kyoto debate.

To dismiss wind energy as an expensive green luxury, as many do, is to ignore what has happened in the world's number one wind market. The political drivers in Spain have largely been about economic development, especially in the regions - creating jobs, competing in world markets, and all against a background of surging energy demand, an increasing proportion of expensive energy imports, and recently a challenging Kyoto target. On all these points, wind is a winning choice.

Wind energy in Spain is now entering a dynamic phase where the serious challenges that arise when wind becomes one of the major energy supply technologies need to be met. These conditions are possible due to the broad cross-party political backing for wind, and especially among the 17 regional governments who create strategic planning frameworks. The policy support framework is both secure for large investors and is also evolving towards more market friendly attributes through the direct premium incentive linked to the average electricity tariff. In addition, the development of reasonable forecasting obligations is one way to encourage wind energy to act like conventional power, and thus reach higher penetration levels.

Predictability is key

This particular policy direction signals how an intermittent power source can be integrated into the electricity market in significant quantities, thus making a virtue of what is perceived to be wind's weakness - that it is variable. Predictability is the answer to addressing intermittency at large penetration levels. To move from 6.5% in 2004 to 15% of the country's power by 2011 (8 GW up to 20 GW), as the government is expecting, will require a strategic grid framework. This is currently being developed in

partnership with the transmission operators, utilities, wind players and regional governments.

The Spanish success story has not just encouraged 500 companies into the sector, employing 30,000 people, and creating a national industry that in some regions is the most economically influential, it has also produced internationally competitive companies successfully operating in markets from China to Canada to Cuba. Three of the world's top four wind developers are Spanish.

Destination of choice

Of all the energy choices that Spain can make, wind energy is popular, credible and with a proven track record. There are no realistic business or political plans to build more nuclear, coal or large hydro capacity, whilst at the same time there are emerging concerns over the rising fuel costs of imported oil and gas and the need to diversify sources of energy supply. It is a fact, not an aspiration or a green dream, that wind energy is on track to be amongst Spain's leading energy supply technologies. Installed wind capacity already exceeds nuclear and CCGT, and will this decade overtake coal and large hydro. As demand increases, wind and gas are the only two realistic energy options. Gas faces constraints due to political concerns about over-reliance on a single foreign energy resource. The greatest energy security benefit of wind is that the resource is abundant and inexhaustible, production costs are predictable and for many countries it provides a large scale domestic supply.

The limit on wind's overall contribution is constantly increasing. As a result of its continued success, the previous Spanish government target of 13 GW by 2011 has now been increased to 20 GW. In 1999 the target was for 8.9 GW in 2010, and that was considered ambitious at the time.

Spain is the destination of choice for anyone in the world interested in seeing wind energy working successfully. For critics it demolishes the view that wind power does not work in the mainstream energy world, because it is already doing so. For potential proponents it is where they can kick the tyres of experience. In the energy world with its seductive array of proposed solutions - from clean coal to carbon sequestration to nuclear fusion - what convinces most, and what wind delivers, is proof, not promises.