

## Renewable energy: Sun and wind are fuelling record levels of investment

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At first glance, Spain looks disadvantaged when it comes to guaranteeing primary energy supplies to feed its electricity grid.

The country's own production of hydrocarbons is negligible, meaning most of the gas used to fire its expanding stock of combined cycle generators has to be shipped or piped in from abroad.

The recent expulsion of Repsol (NYSE:REP), the main oil and gas group, from a project in Algeria, a country which supplies more than 30 per cent of Spain's gas, highlighted the risks of dependence on sometimes difficult neighbours.

Desert covers large swathes of Spain, limiting the reach of hydraulic electricity production, while a moratorium on new plants will, in theory, eventually eliminate nuclear power from the mix.

However, what Spain does have in abundance - sunshine, wind and space - give it an edge in the global race to cut the emission of greenhouse gases.

"In a world trying to wean itself of hydrocarbons, Spain has an advantage," says Carlos Galdón, chief executive of Avanzalia, a solar energy group.

Spurred by government incentives such as wholesale price guarantees, and driven by domestic and foreign investors looking for steady returns, these natural elements have made the country a hothouse of renewable energy projects.

It needs to do better: rapid population and economic growth have put the country behind schedule in its goal of cutting emissions to 15 per cent above 1990 levels by 2010.

However, in absolute terms, the country scores high, and is one of the most attractive for investment, according to [Ernst & Young's Renewable Energy Indices](#).

With 12,000MW of installed capacity, wind turbines account for about 12 per cent of the total generation mix, making Spain the world leader in per-capita production of wind power. A further 8,000MW are in the pipeline.

Consolidation of a highly-fragmented industry has helped position [Iberdrola](#), the country's largest electricity group, and [Acciona](#), a family-controlled construction-to-energy company, among the world leaders in wind-generated power. Gamesa, the Spanish turbine maker, ranks in the world's top five manufacturers.

Investors have also been turning to the sun, spending an estimated €2bn (\$2.85bn, £1.4bn) in the past seven years on land, licences, photovoltaic panels and generators in a drive that is starting to produce results.

From 44MW of installed capacity at the end of 2005, Spain is expected to boast about 350MW by the end of this year, according to the [Industry Ministry](#). This would represent at least 15 per cent of the global total. This rapid growth has outstripped official estimates, forcing the government to reset its targets and extend a €44 per MW price guarantee at least until September next year.

Independent consultants predict the country will have more than 900MW of installed photovoltaic capacity by 2010, when the government is expected to begin scaling down its subsidies to generators.

Investors and operators are generally happy with the pricing regime, which follows the successful German model and allows long-range average returns above 7 per cent.

However, many say the long-winded approval process - which often involves dealing with three tiers of government - is inflating costs and allowing opportunists with political contacts or legal know-how to cash in on the sector.

Many see this as part of the business: some large foreign investors are happy to leave the bureaucracy to the locals, buying into projects when all the paperwork has been dealt with.

Others say the speculators are clogging up the pipeline for genuine investors. "A lot of virtual solar projects have been registered with the various authorities," says Mario Armero, head of GE for Spain and Portugal.

"If the bureaucracy were less complex, then there might be more transparency in the licensing process."

When you are a small operator, plugging generators into distribution networks run by large companies can also be burdensome. A mixture of inefficiency and self-interest - the generators that control distribution are competitors, after all - can hold up connections for more than a year, say project operators.

On the plus side however, project financing is rarely a problem, even for small operators.

Spain's embrace of clean technologies has fomented specialist expertise among the country's financial institutions, allowing small regional cajas, or savings banks, and home-grown private equity groups to diversify their lending and investment portfolios.

**One example is Eolia, a renewable energy fund that groups 43 wind and solar farm projects, controlled by 160 investors representing 22 registered businesses.**

**The company grew out of private equity firm Nmas1, a pioneer in investment in the sector. With strong financial backing and sector know-how, Eolia has also joined larger Spanish groups on the world stage.**

**It has 324MW of installed wind power in Mexico and is studying opportunities in Europe, the US and India.**

**"Spain has shown itself to be good at tourism, infrastructure, and services such as banking," says Miguel Salís, managing partner at Eolia. "Now it is proving itself a global leader in alternative energy."**