



 Print now  Close window

Ireland's Don Quixote

Wind energy company Airtricity plans to construct an off-shore wind farm.

July 24, 2002

You could call him Ireland's Don Quixote. Like the character in the Cervantes novel of the same name, Eddie O'Connor has spent years chasing windmills. But this former chief of the state-owned fossil fuel company Bord na Mblna (or Board of Turf) has been looking to build, not slay, them. He believed there was no future in turf (a substance also known as peat, which is found in Ireland's bogs and marshlands), because it's only half as efficient as coal, though every bit as dirty.

In the mid-'90s, Mr. O'Connor lobbied the government to build a wind farm in the shallow sand banks of Dublin bay, near the capital. But his superiors opposed the idea. So he quit his government job in 1997 and founded Airtricity.

The wind might be changing for Mr. O'Connor. The Irish government needs wind: the European Union has made it clear that Ireland needs to reduce its high levels of greenhouse gases, so the government is no longer in a position to give ideas like his the cold shoulder.

Early next year, Airtricity will begin construction on the Arklow Banks project: the same 200-wind turbine plant in the Irish Sea that Mr. O'Connor proposed earlier. It will be the largest offshore wind farm in the world, generating 520 megawatts--enough power for more than half a million homes. Its location, off the coast of Arklow in County Wicklow, is ideal because it's shallow, only 4 miles from the shore, and just some 20 miles from Dublin.

Airtricity has already built two wind farms and has planning permits for six others, each capable of generating 400 MW of power. These wind farms dwarf those of other wind-energy providers in the region. The company has already won 14,000 business customers and has sales in excess of \$35.9 million per year. "This year the company will be profitable," says Mr. O'Connor.

But building Ireland's first private--and only--green utility company hasn't been easy: he needed to convince Dublin's business community that wind energy is not only good for the environment, but is a good moneymaker as well.

The economics of wind farms is straightforward. It costs approximately \$1 million to install 1 MW of capacity. Electric power fetches about \$0.035 per kilowatt, so a 1-MW tower can earn around \$35 per hour, or \$314,000 per year. So theoretically, such a tower can pay for its own construction within four years. But the wind doesn't blow all the time, so the yield rates in each region vary. Areas with more wind yield more power than their less-blustery counterparts do.

"On mainland Europe, the typical yield would be in the region of 25 percent," says Sheila Layden, managing director for Gaoithe Saor Teoranta, an engineering company that designs, builds, and manages wind farms in

- ADVERTISEMENT -

Ireland. So a 1-MW wind turbine actually produces only about 250 kW of power. "But here in Ireland," she adds, "the yield is about 35 percent on land." Therefore, wind farms in Ireland produce more electricity than those on the Continent.

Moreover, according to Ms. Layden, offshore wind farms typically have higher yields than their landlocked equivalents because there are no physical obstructions to seaborne wind currents. If the Arklow Banks yield runs as high as 40 percent, it will earn \$125,900 per MW per year. But other costs must also be factored in: maintenance runs roughly \$9,000 per year, and site rental is 2.5 percent of project revenue. All things considered, it will take about ten years for Airtricity to see a profit from the Arklow Banks. However, after the recuperation period, wind farms typically begin to yield significant profits, according to Andrew Ennis, an analyst with the Dublin-based financial services firm NCB Stockbrokers, who is compiling a report on the energy industry for the Irish government.

GAEL FORCE WIND

Wind energy isn't new to Ireland: records of windmills date back to the 12th century. And in the 19th century, more than 2,000 windmills dotted the landscape. In 2001, however, renewable energy sources, like hydroelectric and wind energy, accounted for only 2 percent (about 1 percent each) of the country's 4,800-MW power consumption.

Currently, Ireland is a very small player in the field. Denmark, the per-capita wind-energy capital of the world, has an installed capacity of 2,400 MW of wind-generated power; Ireland has a total installed capacity of only 125 MW. But if all the available wind power in Ireland were harnessed, 20 times that amount could be delivered, according to Sustainable Energy Ireland, a government-funded agency that researches and develops new energy efficiency policies. "We have enough wind energy available in the North Atlantic to provide power for the whole of Europe," says Mr. O'Connor.

A few years ago this would have merely sounded like the rhetoric of a fervent environmentalist. But Mr. O'Connor has proven wind power's profitability. After starting with just \$449,000 in private seed capital, Airtricity's last share placement in January (albeit a private one) valued the company at \$65.7 million.

Airtricity's success is due partly to Ireland's newly deregulated electricity industry, which in 2000, gave renewable-energy companies free rein to sell power directly to the consumer. The impetus for this policy change came from the EU. After many of the world's governments agreed to the environmental guidelines of the Kyoto Protocol, the EU pressured the Irish government to become less dependent on imported fuels.

Ireland's expected increase in energy consumption, a function of the country's well-publicized economic boom in the '90s, is likely to force the country to exceed the Kyoto limits on greenhouse-gas emissions by more than 30 percent prior to the protocol's 2010 deadline, according to a survey conducted by Ireland's Department of the Environment and Local Government. In fact, the country is on track to displace Luxembourg as the largest per capita emitter of greenhouse gases in Europe. That will mean heavy punitive fines. Currently, Ireland imports more than 86 percent of its fuel. "This is all good news for the renewable-energy sector," says Mr. Ennis.

That isn't to say Airtricity will have an easy time. The company is taking a massive risk to build its Arklow Banks project, which will be 13 times bigger than the world's largest offshore wind farm, in Middelgrunden, Denmark, which belts out 40 MW of electricity. The first phase of Arklow Banks, due to begin construction in early 2003, will generate 58 MW.

PRIME THE PUMP

Unlike such European neighbors as Great Britain, which is pumping \$144 million into wind energy this year, the Irish government has done little to encourage renewable-energy suppliers. Rather than offer subsidies, Ireland has given 21 approved wind providers 15-year guaranteed fixed-purchasing contracts. These contracts guarantee a fixed income for the operator, but if energy prices increase, potential profits will drop. To make matters worse, the Irish government has also subsidized the cost and operating expense (up to one cent more per unit) of an ecologically unfriendly peat-fired plant.

Mr. O'Connor's long-term objective is to cover the costs of connecting Arklow Banks to Ireland's national electricity grid--a tab typically footed by the government--thus saving the government the cost of building and managing new power plants.

Whether or not he meets this objective, Mr. O'Connor says his project will proceed. Pessimistic visionary or Don Quixote, Mr. O'Connor probably fits somewhere in that category of impractical idealists who champion hopeless causes.

© 1993-2006 Red Herring, Inc. All rights reserved.