

Study takes air out of wind power's sails

FINDS WINDMILL GENERATORS IN EUROPE HAVE PROBLEMS WITH CREATING ELECTRICITY WHEN IT IS NEEDED

BY MARK HARRINGTON
Newsday Staff Writer

A sharp increase in wind-power capacity in Europe is challenging utilities to stabilize their electric grids in the face of sometimes wildly fluctuating wind-energy levels, while calling into question some of the greenhouse-gas reducing claims of windmills, according to a recent study.

Based upon a breadth of data drawn from European utilities in half a dozen countries and other reports, the study by ABS Energy Research in London puts a different spin on an energy source being hailed from Long Island to Lisbon as the possible savior from global warming and dependence on foreign oil.

In one of its more dramatic illustrations, the study notes that western Denmark, which has several thousand wind turbines on land and offshore, was forced in 2004 to export some 85 percent of the wind-energy its mammoth turbines generated, often at a loss. That happened despite the fact that wind-power represents only 20 percent of the country's total power production, ABS said.

Worse, the carbon-emissions reducing potential of that power was compromised

because two of the countries it exported to - Norway and Sweden - reduced their hydropower production sources to accommodate cheaper wind power. Meanwhile, Denmark's primary power was still delivered by fossil-fuel plants, ABS said, effectively "nullifying" wind power's chief benefit.

"I think the actual savings in emissions is very low," said Euan Blauvelt, research director at ABS who conducted the study and has written the report for the past three years.

At bottom is the elemental reality of wind power that all power companies must come to grips with as they build more turbines.

"You can't alter the fact that wind blows at the wrong times and it blows intermittently," said Blauvelt. But because power systems demand a steady, balanced power source at all times, utilities must carefully monitor and regulate the grid - often with energy from fossil-fuel burning plants - to counter the wind's fickleness.

Load-balancing "caused serious problems in Germany, Denmark, Spain and Portugal and has drawn complaints

from system operations in the Netherlands and Poland [that] have been affected by variable exports of wind-generated electricity," the report says.

Gordian Raacke, executive director of Renewable Energy Long Island, a proponent of the wind farm proposed for the South Shore of Long Island, agreed that intermittency is an inherent problem of wind energy. But for the Long Island Power Authority-proposed project here, the number of turbines - 40, for a total peak output of 140 megawatts - is relatively small compared to LIPA's peak system capacity exceeding 5,000 megawatts.

"At this point, we're not even getting near to the saturation point they are in in Denmark," said Raacke.

Raacke agrees that wind-power alone won't solve any region's energy woes or global warming. "We've always said there's not one single technology that's the panacea ... It's not solar or wind or energy efficiency. It's all of the above."

ABS Research takes it a step further. "Given that experience is showing that savings in carbon emissions due to wind power may be considerably less than claimed, this calls into

question the importance of wind power in environmental terms," it concludes.

It does, however, see wind turbines as part of a portfolio of generating sources, "with clean conventional [fossil-fuel-based] providing base load, and a range of renewables contributing different proportions at different times."

Copyright 2006 Newsday Inc.