Kansas is home of the Gray County Wind Farm. According to EIA-906 data reports, this wind farm had the 5th largest wind production in 2003 of all reporting US Windfarms or 364,288 MWh.

Given its location, Gray County would have displaced mostly NGCC and some oil fired generation. Using the average 2003 NGCC heatrate for the sub-powerpool (7,478 Btu/kWh) and the average CO2 content of natural gas (116 #CO2/MMBtu), the project may have displaced only 158,000 tons of CO2 in 2003 (0.00207% of 2003 US estimated emissions according to the USDOE report entitled Emissions of Greenhouse Gases in the United States, 2003 (issued December 13, 2004). (Note in 2002, the output was less and it would have displaced only 140,000 tons).

What is the value of these emission reductions? The Chicago Climate Exchange provides a market for trading CO2 emission credits and a measure for what CO2 emission reduction credits are valued. The posted CO2 trading value for November 2004 was $1.64/ton of CO2. This means that the Gray County Windfarm displaced CO2 credits that had a market value of $259,000 or roughly equivalent to $0.71/MWh for its output. To create these credits, the Federal taxpayer subsidized the project by providing them roughly $6.6 million in production tax credits in 2003 and also allowed them accelerated tax depreciation. Kansas exempted them from paying property taxes on their wind production equipment.

In addition, ratepayers also pay more for wind power than from other conventional sources. I am aware of no current green power purchasing programs in Kansas. However, there are several existing voluntary programs in Iowa in which customers can purchase wind power for between $10 (IA Coops) -30 (Dairyland)/MWh premium above their conventional power costs to cover their higher wind power procurement cost. Assuming that these prices are also reflective of Kansas premiums, the Kansas ratepayers paid roughly $3.6-10.9 million more for the wind power from Gray County windfarm in 2003. I would suggest that you try to confirm the premium by calling Aquilla directly (or PUC) and ask how much they pay for Gray County wind power since they do not publicly disclose these prices in a FERC Form 1 data filing.

Assuming that this estimate is close to correct, then in 2003

- Ratepayers paid $3.6-10.9 million more for wind power from the Gray County Windfarm than from a conventional power source.
- FPL paid no property taxes on their roughly $134 million in wind production equipment (Kansas Statutes 79-201(11)).
- FPL was able to take $6.6 million in production tax credits that increased the federal deficit

In return,

- Reduced CO2 emissions by 158,000 tons CO2 that has a market value of $259,000

- Small reduction in natural gas demand

Was it worth the investment?

Tom Hewson