



Texas Study: Benefits of Wind Transmission Outweigh Costs

A long-awaited study identifying the transmission infrastructure needed to link wind-rich areas in western Texas with population centers in the central and eastern parts of the state concludes that such transmission could be built at modest cost to ratepayers.

The report by the Electric Reliability Council of Texas (ERCOT), the organization responsible for transmission planning in the state, explores scenarios that would make it possible for the state to integrate 5,100 MW; 11,600 MW; and 18,000 MW of new wind energy. For comparison, at the end of 2007, the U.S. had a total installed wind energy capacity of 16,800 MW, with almost 4,400 MW of that capacity installed in Texas. The report concludes that the infrastructure needed for this new wind development could be built at a very low cost to Texas consumers, especially considering the economic, environmental, and energy security benefits provided by wind energy.

ERCOT's report determines that the money saved by decreasing fossil fuel use with new wind energy would drastically outweigh the cost of the new transmission. The smallest transmission investment plan would bring enough new wind energy online to save \$1.2 billion per year in fuel costs—enough savings to cover the \$3.8 billion cost of the transmission infrastructure in a little over three years. The new wind brought online by the next largest transmission plan would save \$1.7 billion per year in fuel costs, repaying the \$4.9 billion cost of the investment in 2.9 years. Fuel savings were not estimated for the 18,000-MW scenario.

Bringing new wind energy online is critical to protecting Texas consumers from increases in the price of fossil fuels, wind energy advocates point out. Texas currently depends on natural gas to generate 49% of its electricity, and natural gas plants make up 71% of the state's generating capacity. From 1998 to 2006 natural gas prices in the state tripled, which caused the price of electricity for the average residential consumer to increase from 7.6 cents per kWh to 12.9 cents per kWh—an increase of \$64 monthly, or over \$750 per year, for the average household.

In contrast, the transmission investments identified in ERCOT's report would cost the average Texas household around 30-40 cents per month, less than the cost of a postage stamp. The price of natural gas is likely to continue increasing in the future, as electric utilities continue to increase their reliance on natural gas. Investing in infrastructure that will allow Texas to reap zero-fuel cost wind energy for generations to come will build a more balanced energy portfolio for the state, wind energy advocates say.

“This investment will pay for itself in two years and will displace more expensive energy, offering a savings to Texas consumers of about \$3 billion per year,” said Wind Coalition Executive Director Paul Sadler. “There is no question this type of investment is exactly what the state should be doing, and when you look at the numbers it is clear ratepayers come out ahead. Every wind-generated megawatt added to the system is good for the economy, environment, and electricity customers. Transmission costs will be more than offset by the savings realized from lower fuel costs as we bring additional wind capacity onto the grid.”

Wind energy provides a number of environmental benefits and can create new jobs in the state. Emissions of carbon dioxide (CO₂) from Texas’s electricity generation sector fell by 2% from 2000 to 2006, during which time wind energy grew from producing 178 MW to 3,000 MW. In contrast, CO₂ emissions from the electric sector increased by 25% from 1990-2000, before wind energy became a major part of Texas’s generation mix. Based on the results of recent studies by ERCOT and GE, adding 11,600 MW of wind energy in Texas would reduce CO₂ emissions by 22 million tons per year, sulfur dioxide emissions by 18,000 tons per year, and nitrogen oxide emissions by 8,000 tons per year.” A study by the Union of Concerned Scientists estimates that adding 10,000 MW of new renewable generation in Texas would create 20,000 new jobs and \$628 million in tax revenue for Texas’s schools.

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