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THE RENEWABLES PORTFOLIO STANDARD: RECENT EXPERIENCE

What is the Renewables Portfolio Standard?

The Renewables Portfolio Standard (RPS) is a policy that requires each electricity supplier or generator to obtain a minimum percentage of its electricity from renewable energy sources. Renewable energy companies bid against each other competitively to provide the electricity needed.

For the past three years, the American Wind Energy Association (AWEA) has supported the Renewables Portfolio Standard (RPS) in state and federal utility restructuring discussions.

Why is the RPS needed?

AWEA believes that the RPS offers the **least-cost and most market-friendly method** of ensuring that the renewable energy industries continue to develop despite the changes in the market that restructuring will bring. It requires no subsidies or bureaucracy to implement.

The Texas Experience

In 1999, the Texas legislature approved, and Gov. George W. Bush signed into law, an RPS requiring that Texas utilities install, or contract to buy power from, 2,000 megawatts (MW) of new renewable generating capacity by Jan. 1, 2009. (2,000 MW is equal to about 3% of Texas' generating capacity, and is enough to serve roughly 400,000 Texas households with 1 million people.)

The impact of that law has been substantial and immediate. In recent weeks, Texas utilities have made headlines with the announcement of plans for some of the world's largest wind farms:

- * **Reliant Energy**, based in Houston, said Aug. 24 that it will buy power from the **208-MW King Mountain Wind Ranch**, to be built next year south of Odessa, Tex. The plant will consist of 160 wind turbines, each with a generating capacity of 1.3 MW.
- * Dallas-based **TXU Electric & Gas** announced July 19 that it would purchase electricity from a **160-MW wind farm**, also scheduled for construction next year, that is to be developed by the nation's largest wind energy producer, FPL Energy LLC.
- * On September 12, **National Wind Power**, the U.K.'s largest wind farm developer, said it has completed a deal for a \$73-million wind plant, the **82.5-MW Indian Mesa Project** in Pecos County. Power purchase agreements have been signed with the **Lower Colorado River Authority (LCRA)** and **TXU Electric & Gas**.

In addition, a major diversified manufacturer located has benefited directly from the surge in new wind development:

* **Trinity Industries**, of Dallas, said in mid-August that it has received a major order for wind turbine towers, and that it is creating a new subsidiary, Trinity Structural Towers, Inc., to compete for business in the wind industry. It commented, "Wind turbines are a significant component in renewable energy and worldwide capital expenditures for this market in 2001 are expected to be strong."

Factors Behind the Texas Success

A combination of factors have come together in Texas to make the RPS successful:

**A strong wind resource.*

**A long-term downward trend in the cost of wind energy:* The cost of wind energy has dropped by more than 80% since the early 1980s, to a level of 3-6 cents per kilowatt-hour (kWh) today.

**A well-crafted renewable energy requirement:* Wind energy advocates and industry members in Texas worked closely with legislators to develop a provision that is workable and fair.

**Nondiscriminatory transmission rules:* Wind energy is an intermittent resource, and frequently encounters discriminatory pricing and access problems in a utility transmission system that was designed for coal and nuclear power plants. Texas' rules are more open than most.

What is the added cost of an RPS?

An RPS can involve some added cost to consumers, because renewable energy sources in New York are currently more expensive than fossil fuels. However, the added cost is very small. A recent study commissioned by the Massachusetts Division of Energy Resources recently of that state's RPS found that it would add only 0.4% to consumer bills by 2003 (40 cents on a monthly bill of \$100), rising to 2.2% in 2012 (\$2.20 on a monthly bill of \$100). And this cost is for a fairly aggressive RPS, almost twice the size of the one in Texas--the Massachusetts legislation calls for 6% of the state's electricity to come from renewables by 2012. In Texas, the cost of electricity from new wind farms is lower than that of electricity from new natural gas power plants.

What are the primary benefits of the RPS for New York?

Wind energy provides both environmental and economic benefits. Windy counties in central and western New York can be expected to profit from wind development through:

**Tax Payments:* Every 100 MW of wind development generates about \$1 million in property tax revenue. New York could see 2,000 MW by 2010 with aggressive RPS and SBF policies. This would mean \$20 million annually in tax revenues to rural communities.

**Jobs:* Every 100 MW of wind development creates about 500 job-years of employment. Installation of 2,000 MW in New York would result in 10,000 job-years.

**Payments to landowners:* The development of 2,000 MW in New York would mean annual payments of approximately \$4 million to farm and forest landowners.

**Stable electricity prices:* A recent study (January, 2000) found Iowa's electric utility customers could save over \$300 million over a 25-year period if a proposal to meet 10% of the state's electric demand through wind energy is adopted. The savings result because the cost of fossil fuels is expected to rise over time, while wind's costs decline.

**Reduced emissions of pollution and greenhouse gases:* A single 1.65-MW wind turbine will displace emissions of 2,700 tons of carbon dioxide (the leading greenhouse gas), 14 tons of sulfur dioxide (the leading component of acid rain), and 9 tons of nitrogen oxides (the leading component of smog) every year, based on the U.S. average utility fuel mix. A forest measuring 1.5 square miles would be needed to absorb the same amount of CO₂.