

## Renewable Energy

### The Issue

Wind, water, biomass, and the sun are the oldest energy sources used by mankind. The inherent limitations of these sources motivated people to seek more efficient and reliable fuels to power society.

The 1930s and 1940s saw the peak use of windmills. Farmers stopped using them because rural electrification provided power far more reliable and often less expensive than wind. Yet today, we are turning back to this expensive and inefficient energy source because of government mandates and subsidies, which are driving up electricity costs for Texas consumers.

In 1999, Texas adopted a Renewable Portfolio Standard (RPS) mandating that the state's competitive electric providers buy a minimum 2,000 MW of qualifying energy by 2009. In 2005, the Texas Legislature increased the RPS to 10,000 MW by 2025. Texas met the RPS target for installed wind capacity in 2010, a full 15 years ahead of schedule. Subsidies from the RPS flow to generators through renewable energy credits (RECs).

In addition to the Texas' RPS, generous federal subsidies and favorable wind conditions in the vast open plains of west Texas have encouraged wind production. In fact, the federal tax credits for renewable energy may be the driving force behind the rapid growth of Texas' wind generation; when the federal credits briefly lapsed, new wind installation in Texas dried up, despite the fact that no change had been made in Texas' RPS.

Texas' wind farms are concentrated in the panhandle region. While this makes sense insofar as this is where there is the most wind to capture, this area is far from the focus of Texas' highest electrical demand, which is mostly within the "Texas Triangle" of Austin-San Antonio, Dallas-Fort Worth, and Houston. The long distance of wind generation from population centers has led to large subsidies through the construction of the Competitive Renewable Energy Zone (CREZ) transmission lines.

Chapters 312 and 313 of the Texas Tax Code provide incentives for economic development that benefit renewable developers. These incentives consist of property value limitations (resulting in a lessened property tax obligation) and tax abatements. Developers are supposed to create a minimum of 10 jobs in rural areas and 25 in urban areas to qualify, but more than 50% of the agreements are granted waivers to the jobs requirement, with 87% of those waivers going to wind development.

The total cost of subsidies for wind is tremendous. The federal Production Tax Credit alone is estimated to cost \$17.1 billion for the period 2008-17. The CREZ lines cost Texas taxpayers about \$6.8 billion, while all Chapter 313 incentives cost another \$7.1 billion, 22% of which went directly to wind. All of these costs are borne by consumers and taxpayers.

For wind and solar power, the difference between installed capacity and actual net generation is often substantial, because of

the intermittent nature of those energy sources (the sun doesn't shine at night or when it is cloudy, and the wind does not blow hard enough or often enough to utilize a turbine's full capacity). The capacity factor, a measure calculated by dividing the generated capacity by the installed capacity, of United States wind energy was around 36.7% in 2017 and even lower at 31.1% in Texas. Solar performed even worse at 27%. This is substantially below other sources, such as nuclear, that stay near or above 90% every year.

Wind also incurs costs as renewables are integrated into the electrical grid. Because they are intermittent, use of wind and solar power requires continual back-up generation to replace this electricity on the grid at a moment's notice. Typically, natural gas-fired generating units are used in an interruptible mode similar to idling a car. The cost of back-up generation is a hidden and wasteful cost of renewable energy. These costs are not paid for by the investors in wind generation—as in the case of generation from traditional sources—and thus traditional market incentives cannot operate.

### The Facts

- Subsidies for CREZ lines ran about \$6.8 billion, the federal PTC about \$17.1 billion (2008-17), and the state's RECs about \$560 million.
- The Texas Renewable Portfolio Standard (RPS) mandates 10,000 MW of renewable capacity by 2025, of which 500 MW must be from non-wind sources. This goal was met in 2015.
- The backup generation and grid-related costs of wind energy could increase ERCOT's system production costs by \$1.82 billion per year.
- Wind and solar underperform other resources, evidenced by their low capacity rates, 36.7% and 27%, respectively.

### Recommendations

- Make compliance with the Renewable Portfolio Standard voluntary.
- Support elimination of the federal Production Tax Credit.
- Require renewable energy generators to pay for the costs they impose on the electric grid.
- Eliminate Chapter 312 and Chapter 313 tax abatements for renewables that destabilize Texas' electrical grid.

### Resources

[Texas Wind Power Story, Part 1: How Subsidies Drive Texas Wind Power Development](#) by Lisa Linowes, Texas Public Policy Foundation (June 2018).

[Texas Wind Power Story, Part 2: The Impacts of Texas Wind Power Siting](#) by Lisa Linowes, Texas Public Policy Foundation (July 2018).

[Setting the Record Straight on Renewable Energy Subsidies](#) by Bill Peacock, Texas Public Policy Foundation (Feb. 2013).

*The Cost of the Production Tax Credit and Renewable Energy Subsidies in Texas* by Bill Peacock and Josiah Neeley, Texas Public Policy Foundation (Nov. 2012).

*Texas Wind Energy: Past, Present, and Future* by Drew Thornley, Texas Public Policy Foundation (May 2010).

