Electricity Feed Laws Power European Renewables

Unlike tax credits, feed laws don't lead to the boom and bust cycle common to the North American wind industry

by Paul Gipe

North American companies will install nearly $1.6 billion in new wind projects this year—the lion's share in the U.S. Cause for celebration? Certainly. But before the bragging begins, Americans should note that Germany installed twice that much capacity last year. The reason? Germany's Electricity Feed Law.

Nearly 90 percent of new wind capacity installed worldwide in 2002 was added in Europe, with the giant German market accounting for more than half of the expansion. Spain accounted for one-fourth.

PAUL GIPE

Wind farm developed by Spanish manufacturer Ecotecnia in the province of Galicia in the northwest corner of Spain.

Germany, Spain and tiny Denmark all ranked ahead of the U.S. in new installations. Spain roared past the U.S.'s 400 megawatts (MW) in 2002 with almost 1500 MW of new capacity.

Two approaches have emerged for spurring renewable development. One is a bidding or tendering system, and the second uses a fixed price. In the former, a quantity of capacity—quota—is determined politically, and the price per kilowatt-hour (kWh) is derived from bidding among would-be developers. In the latter, the price is determined politically, and the amount of capacity that results is a function of an open market. Danes pioneered the concept. Germans refined it.

Britain's Non Fossil-Fuel Obligation, or NFFO, is an early example of what Frede

PAUL GIPE

Danish wind turbines on the Niagara Escarpment in northeastern Wisconsin.

Hvelplund from Aalborg University in Denmark calls a political quantity-quota system. The Renewable Portfolio Standard (RPS) is a contemporary American version. In the tendering system, a regulatory agency issues a call for tender of a specified amount of generating capacity. Companies then propose projects and submit bids to provide that capacity at a certain price. The agency typically then selects the lowest bidders. Wind developers compete against each other to build projects at the lowest price.

Hvelplund calls the second approach the political price system. This approach is sometimes known as Renewable Energy Feed-In Tariffs (REFITs), or more commonly as Electricity Feed Laws. In the American context, feed laws are equivalent to the Public Utilities Regulatory Policy Act (PURPA) of 1978 with a fixed-price.

Quotas, because they depend upon competitive bidding and the use of sophisticated gaming, limit participation to only the "big-dogs." This leads to the concentration of renewables into the hands of the power generators. Nearly one-half of the U.S.'s wind capacity is in the hands of FPL Energy, subsidiary of Juno Beach, Florida-based Florida Power & Light.

Feed Laws Offer Transparency

Feed laws are extremely simple. They pay only for actual generation, and every kWh generated by a wind turbine or a PV panel is paid a fixed price. More importantly, feed laws provide a stable policy framework on which manufacturers and developers can build businesses. Unlike tax credits, feed laws don't lead to the boom and bust cycle common to the North American wind industry. There's no need for continuing debates on appropriations or tax losses because feed law tariffs are collected by the utilities from ratepayers across all customer classes.

Engineers and economists calculate the price per kWh needed to spur development for various technologies. They report their findings to a legislative assembly that determines the final price. Thus, prices can be tailored to technologies and to regions.

Advanced Renewable Feed-In Tariffs use a tiered system. With wind energy, the price per kWh in each tier reflects the price needed in different wind regimes. Typically, prices are the same across all regions during the first few years. In later years, wind turbines in areas with strong winds are paid less than those in areas with weak winds. France and Germany fix prices during the first five years. France sets three different tiers and different prices depending upon location—metropolitan France, or its old colonies.

Germany's feed law sets two tiers that apply across the entire country. In Germany, the fixed price for new installations gradually declines every year. Further, the prices are revisited by parliament (Bundestag) every two years. This provision allows for tailoring of the program to changes in technology and in the economy.

Fixed prices create dynamic markets and spur innovation and a host of supporting enterprises. All but one of the major wind turbine manufacturers on the global market are headquartered in countries that have, or once had, electricity feed laws.

Bernard Chabot, an economist with France's Agency for Environment and Energy Management estimates that feed-law systems resulted in the installation of eight times more wind capacity worldwide than quota systems. Neither net metering, renewable portfolio standards, tax credits nor even PURPA have produced more wind-generated electricity than the feed laws used in Europe. Feed laws deliver renewables. ✪

This article is adapted from the new book by Paul Gipe, Wind Power for Farm, Home, & Business, *scheduled for release in spring 2004 by Chelsea Green Publishing.*

Gipe can be reached at e-mail: pgipe@igc.org.