

Issue Overview: Wind power

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TOP: Turbines of the new Burbo Bank offshore wind farm stand in a calm sea in the mouth of the River Mersey on May 12, 2008, in Liverpool, England. Photo by Christopher Furlong. BOTTOM: Graphics courtesy of Bloomberg.

DEFINITIONS

climate change

A lasting change in the average weather of a place, often caused by an increase in temperature

renewable energy

Energy that is collected from natural resources that will not run out, like wind, water, and sunlight

Sometimes the government

wind turbine

A machine that turns the energy of the wind into electrical power

helps pay for new technologies to let companies get off the ground. As a result of this funding, the price of the technology drops as more of it is produced. More people will pay money to use the product, and eventually funding will no longer be needed.

For many years, the U.S. government has been giving renewable energy companies a tax break. In other words, these companies are allowed to pay fewer taxes. Soon, wind companies may be able to support themselves without the need for a tax break. Wind energy

can be very cheap because there is always a ready supply of wind. In places like Texas, Germany and elsewhere, producers sometimes have so much of it that they actually pay others to take it away.

The fast growth of wind power worldwide isn't just about money. Many governments have committed to reducing gas emissions. This would help limit the damage of climate change. The need to preserve the environment is recognized by countries like China, Germany and the U.S. These governments may therefore continue to provide funding.

The Situation

December 2015 was a good month for wind power. A global deal was reached in Paris on climate change. U.S. Congress extended tax credits for wind and solar power for five years. The wind credit allowed wind energy companies to save on their taxes. One report estimated that leaving the tax credits in place would generate \$35 billion in new money for wind power.

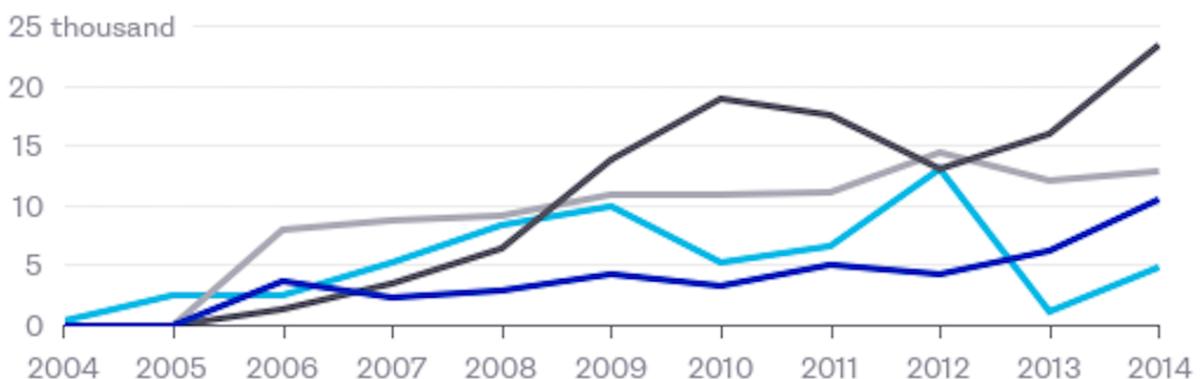
In much of Europe, government help for wind power is steadily declining. This is because the cost of installing wind power is dropping. As a result, government help is needed less and less.

In 2014, almost half of the world's new wind power came from China. The country has the world's largest fleet of wind farms. However, it has not found a way to transport and deliver all this energy completely.

China Sails Ahead on Wind

Annual installations. In 2013, a wind power tax credit lapsed in the U.S.

■ U.S. ■ Europe ■ China ■ Other



The Background

Early forms of wind power have been around for hundreds of years. In 1888, an American named Charles Brush built the first full-scale electric wind turbine. It was 60 feet tall and produced up to 12 kilowatts. This is a way of measuring energy. Today's towers can exceed 400 feet and can produce as much as 8000 kilowatts.

The U.S. space agency NASA started focusing on wind turbine research in 1973. This was after Arab countries stopped selling oil to the U.S. New forms of energy were therefore needed. In 1992, Congress passed the first tax credit on renewable energy. New technologies led to lower costs. The success on land pushed manufacturers to build even bigger turbines over bodies of water, where winds are stronger and steadier.

In 2014, wind accounted for only a small percentage of power globally. However, it is growing faster than any other form of energy. In Denmark, wind sometimes delivers more electricity than the country needs.

The Argument

In the U.S., opponents of tax credits call them a government giveaway. On the other hand, proponents say government support is worthwhile. They say wind farms take as little as six months to build. This is less than half the time it takes to build a coal or natural gas plant.

Europe's biggest problem with wind energy is the lack of empty land. This has led to more interest in wind farms offshore, over water. Here in the U.S., the first offshore project is underway. It is being built off the coast of Rhode Island. Offshore farms cost about twice as much as onshore projects. This means the switch to offshore projects could extend the need for funding.

China's problems also show how difficult it is to get energy to the people who need it. The northern part of the country is very windy. Many turbines were built, but the companies were unable to transfer the energy to customers.