

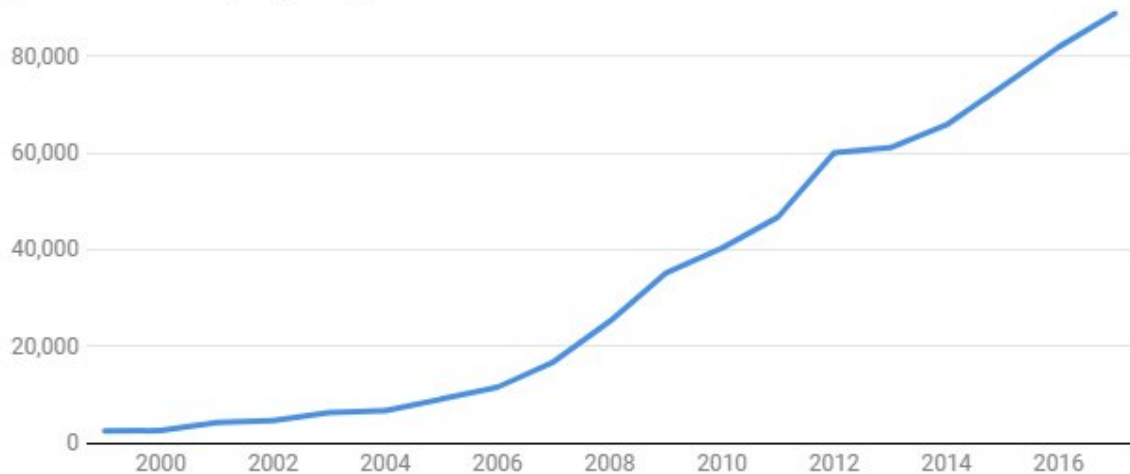
Wind energy's swift growth, explained (Update)

April 23 2018, by John Hall

U.S. wind power growth

The U.S. had nearly 90 gigawatts of operating wind capacity installed by the end of 2017, most of which came on line over the previous 15 years.

■ Cumulative wind capacity, in megawatts



Source: American Wind Energy Association. Credit: The Conversation

The wind industry is growing quickly around the world, [especially in China](#) and [the U.S.](#), where the total amount of electricity generated by wind turbines [nearly doubled](#) between 2011 and 2017.

All told, about [25 percent of global electricity](#) now comes from

renewable sources like hydropower, wind and solar energy.

As a [wind energy researcher](#), I realize it will be [hard for the industry to keep up this pace](#). Yet [ample evidence](#) supports widespread predictions that the volume of wind energy will continue to grow quickly – here and abroad, on land and offshore – for reasons that most electricity consumers can support.

Rapid growth

Wind turbines, which convert moving air into electrical power, currently produce [6.3 percent of the electricity the U.S. consumes](#). [Texas leads the nation overall](#) in terms of the amount of power it gets from wind. [Iowa gets a higher share](#) of its electricity from wind turbines than any other state – 37 percent.

The U.S. still lags other nations, particularly those in Europe, with offshore wind production. But even on that front, the U.S. has seen growth. The [nation's first commercial offshore wind farm](#), located off the coast of Rhode Island, began operating in 2016. [New York state](#) plans to build a much larger offshore farm. And California may soon establish [floating offshore wind farms](#).

Some challenges

Wind is abundant, ubiquitous and free, but sometimes it dies down. Consequently, the energy from wind turbines can't provide power around the clock.

Recent improvements in energy storage technology and turbine efficiency, however, are [lowering costs](#) and may potentially reduce the downside of wind's intermittent nature.

Today, wind power faces another challenge: politics. The Trump administration is sending mixed signals regarding the industry. It exited the Paris climate deal yet supports wind power growth as part of its "[American energy dominance](#)" policy.

Its advantages

Meanwhile, market forces coupled with widespread concerns over [climate change](#), continue to propel the wind industry. So is the enthusiasm from tech giants, such as [Apple](#) and [Google](#), which are proactively seeking to rely on wind energy, rather than fossil fuels.

And this wind rush is [creating jobs](#) in manufacturing, services and science. With total generating capacity projected to increase from about 89 gigawatts to more than 400 gigawatts over the next 30 years, the Energy Department says the industry may eventually employ [600,000 American workers](#).

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