

Tech firms like Google, Amazon push power companies toward solar and wind, a blow to coal

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Every time you save a photo to the cloud, buy something on Amazon, open a Google doc or stream a movie, you're probably pulling electricity

from a wind turbine in Texas or a solar farm in Virginia.

In fact, your clicks and taps may have helped build them.

Since 2008, renewable energy has gone from 9% to 18% of the U.S. energy mix, according to the Business Council for Sustainable Energy. A big part of that shift stems from [tech companies](#)' rapid buildout of cloud storage centers and a move to burnish their public image by vowing they'll run these centers on sources like wind and solar.

Rather than lose these deep-pocketed customers, the nation's power companies are changing policies and crafting deals that meet increased demands for renewable energy, in some cases shifting away from traditional electricity supplies like coal and natural gas. Even in coal mining states like West Virginia.

"We have the ability to shape the market," said Michael Terrell, head of Google Energy Policy. "If you build it, we will come."

Last year, the top four corporate users of renewable energy in the world were Google, Amazon, Microsoft and Apple, according to Bloomberg New Energy Finance. Google announced this month that as of 2017, all its facilities and [data centers](#) were running on 100% [renewable electricity](#).

Coal declining

A practice of insisting power companies offer wind- and solar-sourced power supplies is spreading to other sectors—Walmart, GM and Budweiser all have goals to run more of their global business off renewable energy.

This is bad news for the struggling coal industry. Coal producers have

seen their share of U.S. power generation decrease since 2008, even as the Trump Administration has promised to roll back what it considers hostile environmental regulations.

The coal industry has said it now knows that at least the government is not going to discourage production, and it's only got to deal with the marketplace.

The problem is that a growing portion of the marketplace is demanding green energy.

"There's no federal or state law out there today that says you must do this, but there are boards of directors that say 'We want to set a carbon footprint goal for our companies,'" said Appalachian Power President and COO Chris Beam.

In December, the Charleston, W.Va.-based utility contracted with Bluff Point Wind Energy Center in Indiana to buy 120 megawatts of wind-generated electricity, green power it can now offer to companies that are making it a core requirement on where they'll site their businesses, Beam said.

Today Appalachian Power generates 61% of its electricity by burning coal and 5% from wind and solar. By 2031, Beam says he hopes to get that mix to 51% coal and 25% wind and solar.

There's also a trickle-down effect. Big tech companies are pushing their suppliers to go green. Apple, which said last month that 100% of the electricity it uses for its facilities and data centers comes from renewables, says nearly two dozen of its suppliers—such as manufacturers of batteries, keyboards and lenses— have also made a commitment to 100% renewable energy.

"The smart ones are seeing it as a competitive advantage," said Lisa Jackson, Apple's vice president of environment, policy and social initiatives and former head of the U.S. Environmental Protection Agency under the Obama Administration.

"They know they have an edge in competing for Apple's business."

Amazon, Microsoft in Virginia

The biggest energy companies are changing their policies to court big tech energy buyers, who can often promise 20-year contracts.

Three years ago, Amazon wanted to build a new data center in northern Virginia. Because of its commitment to 100% renewable energy, it required that center to be run on electricity generated by wind or solar.

Richmond, Va.-based Dominion Energy, the local utility, didn't have any way for Amazon to source all its electricity from solar. So it created a special power purchase agreement that allowed the Seattle [company](#) to contract for 100% renewable electricity, something that wasn't previously possible in Virginia.

"We thought about it, we understood their reasoning, we convinced ourselves that it was in our best interests to do it and we ended up signing," said Greg Morgan, director of customer rates and regulations for Dominion.

Last month Microsoft announced it is contracting to buy electricity from a giant solar array in Virginia in what will be the largest ever corporate purchase of solar energy in the United States and will double the state's solar capacity.

Other buyers are following. When it goes online in 2019, the solar array

in Spotsylvania county, southwest of Washington D.C, will produce 500 megawatts of electricity, with Microsoft buying 315 megawatts. Customers are already lined up for the megawatts it won't be using, said Microsoft. The deal will bring Microsoft's total purchase of renewable energy globally up to 1.2 gigawatts.

A public shaming

The tech push towards renewable began in earnest in 2011, when Greenpeace released a report calling out data centers for being huge users of electricity created by non-renewable sources. It came at an opportune time. Going green fit tech's corporate ethos. The companies were also flush with cash, making it easier for them to make choices that at least in the beginning were more expensive.

"Over the last few years, the tech companies have knowingly and willingly paid a premium for green power and they've been willing to do so because it advanced their self-stated goals," said Dominion's Morgan.

Data centers that store racks of iCloud and Google Photos servers use just 1.8% of the United States' overall energy, according to Arman Shehabi, author of a Lawrence Berkeley National Laboratory 2016 report on data center energy usage. But demand to source these from green energy has changed the mix.

Close to 50% of corporate investment in offsite renewable energy in the United States has been from tech companies, the highest of all market segments, said John Hoekstra, vice president at Schneider Electric, a Paris-based energy management and automation company.

Walmart, Budweiser

But other big corporate buyers of [electricity](#) have set similar goals. Walmart was one of the first Fortune 500 companies to make a commitment to going 100% renewable, in 2005, said Sam Kimmins at The Climate Group and head of RE100, which sets standards for companies making [green energy](#) commitments. Walmart recently said it gets 28% of its global electric needs from renewable energy and wants to hit 50% by 2025.

Last year Budweiser announced that it would be 100% powered by renewable energy by 2025. General Motors plans to get there by 2050.

It's become such a movement that last year, U.S. corporations bought more renewable power than utilities did, said Timothy Fox, vice president at ClearView Energy Partners, an energy consulting company.

Today, corporate America is happy to throw its weight around, said Bryn Baker, the World Wildlife Fund's deputy director of [renewable energy](#). "Companies are coming in and saying, 'If you want us to be here, you have to give us access to clean [energy](#).'"

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