

Boom times for clean energy jobs

By Rod Griffin

Investors are pouring money into clean energy from wind and solar power. As they build and maintain the power grid of the future, millions of American workers are finding a prosperous place in the clean energy economy.

HEN PRESIDENT TRUMP announced his Energy Plan on February 7, he declared that he would end "job-killing restrictions on shale, oil, natural gas and clean, beautiful coal. And we're going to put our coal miners back to work."

Only days later, the owners of the largest coal-fired power plant in the West, the Navajo Generating Station near Page, AZ, announced they would shut down the facility in 2019. The stated reason: "Rapidly changing economics of the energy industry.'

Few people, even in coal country, are under the illusion that coal mining jobs are coming back. Meanwhile, jobs in solar and wind power and energy efficiency are booming. More than three million Americans work in clean energy, more than twice the number of Americans employed in fossil fuel generation, according to the U.S. Department of Energy. These are well-paying, local opportunities that boost the economy. The solar and wind energy industries alone employ nearly half a million people. Solar jobs have grown at a rate of about 20% annually in recent years, and the solar industry is creating jobs at a rate 17 times faster than the rest of the U.S. economy.

The country's fastest-growing job is wind turbine technician. The number of such jobs is expected to double over the next decade.

"For the past six months, recruiters have been banging down my door," says Auston Van Slyke, a former Marine who now runs a school in Colorado training wind technicians. "We've got some recruiters who could hire 40 people tomorrow, but we only graduate 15 at a time."

Thirty-five percent of the students at his school, Ecotech Institute, are veterans. "Working on wind farms is just another way for them to serve their country," Van Slyke says. "Every vet knows these wars are fought over oil. We also see a lot of people from the oil and gas industry who are looking for a transition."

"It doesn't matter who's in the White House. The growth in wind is market-driven."

-Doug Herr, AeroTorque, Sharon City, OH

The renewable energy jobs rush is not just in blue states or purple states like Colorado. In fact, there is now more wind and solar energy in Republican districts than in Democratic districts nationwide, including in states like Iowa, Oklahoma and Nevada.

Republican governor George W. Bush helped put Texas on a path to producing the most wind power of any state. Today there are times when wind provides nearly

BY THE NUMBERS

CLEAN ENERGY JOBS VASTLY OUTNUMBER FOSSIL FUEL JOBS

Americans working in the clean energy industry, including

470,000

Americans working in the solar and wind industries

Americans employed in fossil fuel extraction and electricity generation, includina

160.000

Americans employed in the coal industry

SOURCE: U.S. ENERGY AND EMPLOYMENT REPORT, 2017, D.O.E.

half of the state's energy. Companies are taking notice. General Motors announced an agreement in February to purchase wind power to supply 100% of the electricity for a huge factory outside Dallas that builds 1,100 SUVs a day.

Similarly, Facebook is building new data centers in Iowa because of its impressive wind resource. And one hundred Fortune 500 companies have committed to obtaining all their power from renewable energy. These business decisions will translate into jobs.

"It's not just guys in hard hats," says Steve Murchie, director of EDF's national field operations, "but people all along the supply chain." That includes employees who manufacture ball bearings for wind turbines, investors who finance solar projects, tech entrepreneurs who build energy-saving apps, carpenters who construct pallets for solar panels, engineers who do modelling, truck drivers who haul materials, salespeople who market solar energy and so on.

Nationwide trend

Across the country, 29 states have renewable energy portfolio standards (RPS) on the books, which require them to obtain a certain percentage of their electricity from clean energy sources such as wind and solar. With EDF's help, Republican governors in Illinois and Ohio recently helped advance renewable energy.

Ohio, a state hard hit by the loss of jobs from closed coal plants, is now the nation's leader in wind energy manufacturing with more wind-related manufacturing facilities than any other state. All told, it boasts 100,000 clean energy jobs.

Take AeroTorque, which manufactures wind turbine parts at its plant in Sharon City, OH. Its parent company has long made underground mining equipment for coal. "We branched off into wind because we saw a growth opportunity," says Doug Herr, a VP at AeroTorque, "and we're now exporting to China. It doesn't matter who's in the White House," he adds. "The growth in wind is market-driven."

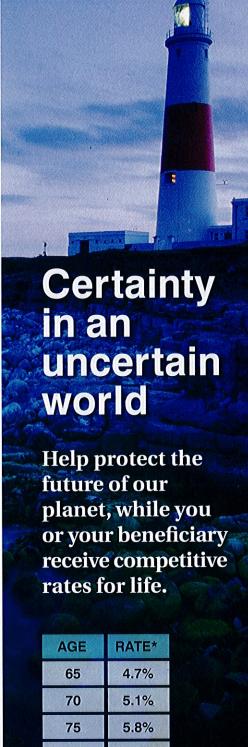
Matthew Fox, a 31-year-old wind technician who has worked servicing GE turbines in the Wind Belt-which

> stretches from North Dakota to Texas—is part of that burgeoning market. "The more that wind contributes to the energy pie, the better off we'll be as a nation," he says. "Wind power has zero emissions."

> "Being 300 feet up on a windy day, working with large amounts of voltage, is a bad-ass job," he adds. "You feel you're doing something important.'



Auston Van Slyke, a former Marine, says wind energy jobs are a good fit for veterans.



AGE	RATE*
65	4.7%
70	5.1%
75	5.8%
80	6.8%
85	7.8%

*Rates as of March 2017

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