Behind a low-slung building in Zelienople, Pa., stands a towering mechanical structure where Deep Well Services trains employees in the highly specialized work of completing fracking wells for natural gas. It is well-paying and, until recently, growing work. The company went from 25 employees in 2008 to 450 last year.

Then, the pandemic clobbered demand for oil and gas, drilling slowed to a crawl, and Chief Executive Mark Marmo had to lay off about 100 people. Whether growth resumes, he said, depends on the pandemic, and next week’s election. If Democrat Joe Biden becomes president, he predicts increased regulation “will slow things down drastically.”

The future of fracking has become a central issue in the contest for the swing state of Pennsylvania. President Trump has portrayed Mr. Biden’s plans to transition from fossil fuels to renewables by 2050 as a mortal threat to the state.
But a swing through western Pennsylvania reveals a more nuanced picture. For one thing, Mr. Biden has said he wouldn’t stop fracking, except on federal land. For another, a transition to renewables holds the potential of new jobs and businesses to replace any lost in fossil fuels.

That is already visible throughout the region, such as at the local office of Mitsubishi Electric 20 minutes south of Zelienople. Two years ago general manager David Gianamore launched a business designing and supplying battery storage units for solar and wind-generated electricity. Though just 20 employees, it is growing gangbusters. He went from one order last year to six this year. “In the renewables area, there is no stopping it,” he said. “When customers book an order they don’t say, ‘Hold off,’ they say, ‘Get out here and do it.’”

Excludes biofuels and combined heat and power
Sources: Economic Innovation Group (fracking, oil and gas); E2 (renewables)
Pennsylvania has already been through several energy transitions. The first U.S. commercial oil well was drilled in the state’s northwest in 1859. Coal and nuclear power long supplied most of its electricity. Then about a decade ago hydraulic fracturing, or “fracking,” unlocked cheap natural gas in the region’s dense shale formations, sparking a boom.

SHARE YOUR THOUGHTS

*Do fossil fuels or renewables offer more opportunities for good paying work in the future? Join the conversation below.*

Now the attention is on renewables, sparked by world-wide efforts to curb planet-warming carbon-dioxide emissions and the plummeting cost of wind and solar power.

In 2001 Jim Spencer started a company that built wind farms throughout Pennsylvania and other states, which he estimates created 4,000 construction jobs and 400 permanent jobs. He sold that business in 2018 and today runs another in his native Pittsburgh, Exus Partners, that manages wind and solar farms on behalf of financial investors. One, a wind farm in the former heart of coal country two hours to the west, employs a half-dozen technicians and a site manager.

Deep Well Services in Zelienople, Pa., services fracking wells and has dramatically increased its hiring in recent years.

**PHOTO: GREG IP/THE WALL STREET JOURNAL**
“Historically this area has been predominantly very heavily involved in fossil fuel, both coal and now natural gas,” he said, which made it hard to get political support for renewables. They supply a tiny fraction of Pennsylvania’s electricity and far less than in many other states. But now, he said, there is widespread recognition coal is declining because natural gas and, increasingly, renewables are cheaper. Natural gas will remain essential to back up renewables when the sun isn’t shining or the wind isn’t blowing, he predicted.

Jobs in Pennsylvania related to fracking and ancillary industries such as engineering services grew 5% between 2014 and 2019 to 104,000, according to the Economic Innovation Group, a think tank. In the same period, renewables-related jobs leapt 85%, to 91,000, mostly in energy efficiency, such as installing and maintaining high-efficiency heating and cooling systems, according to E2, an environmental business group. But green jobs fell sharply this year as the pandemic kept energy-efficiency workers out of homes and buildings, E2 said.

Part of fracking’s appeal is that it offers well-paying work to the sort of people who might once have worked in the region’s factories and steel mills. Between 2007 and 2014 oil-and-gas-extraction jobs in the state more than tripled to 31,000 according to EIG, while manufacturing jobs fell by 91,000.

FUTURE OF ENERGY

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Evan Whitt dropped out of college to work in the oil and gas fields in Oklahoma and Ohio, lost that job and got another drilling holes for fiber-optic cable at $15.75 an hour. “I went through my savings doing that,” said the 28-year-old, who has two children and a third on the way. Then a year ago he landed at Deep Well Services, which links its employees’ pay to progress on a multistep, multiyear training regimen. Mr. Whitt now earns $27 and is training to qualify as an operator, whose job is to control the well’s flow of gas. “You take a test, pass fail. If you pass, you’re bumped up to operator and can immediately get your
new wage. It is unlike any other company I’ve worked for,” he said. Elsewhere, “nobody ever wants to throw you any extra money for doing the task.”


Most of Mr. Gianamore’s battery storage system employees are college graduates who typically start at $80,000. Hezi Touaf attended trade school in his native Israel, but the college degree was the entry ticket to this business, he said. Mitsubishi hired him right after he graduated with an engineering degree from the University of Pittsburgh.

Yet both green energy and fossil fuels offer a mix of occupations for high school, community- and four-year-college grads. Median hourly pay in green energy, at $23.89, isn’t much less than in fossil fuels, at $25.99, according to a study released last week by several green-energy groups including the American Council on Renewable Energy. Many of these workers don’t have green-specific titles: They may be construction workers, welders, and heating and ventilation technicians.

Similarly, many non-green companies are actively pursuing renewables business. At Mitsubishi Electric’s Warrendale facility, roughly 250 workers assemble large high-voltage circuit breakers, many for solar and wind-power projects. Near Pittsburgh’s airport, Nord-Lock Inc. just opened a factory with 70 workers manufacturing bolting and tensioner systems, many destined for windmills. To the north, Ernst Pollinator Service has carved out a specialty of restoring and reseeding the soil around solar farms.
In other words, Pennsylvanians are hedging their bets for any combination of fossil fuels and renewables the future brings. That includes Mr. Marmo. He predicts that if Mr. Biden is elected, Deep Well Services will be fine: It is developing business in Argentina and the Middle East.

**Corrections & Amplifications**

Deep Well Services is based in Zelienople, Pa. An earlier version of this article incorrectly said it is based in Zelionople. (Corrected on Oct. 29)

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*Appeared in the October 30, 2020, print edition as 'Pennsylvania Hedges Bet on Energy’s Future.'*