

## Energy Jobs Could Be Greener After Coronavirus

Many of today's fracker layoffs might be permanent.

By Liam Denning

Energy enables work. Here endeth the physics lesson, because this is about jobs. Oil and gas, like most other sectors, is slashing payrolls amid the Covid-19 crisis. Even now, though, the industry must consider what comes afterward, especially in an election year when Uncle Sam's role in energy and economic stimulus looks poised for a big expansion.

Oil and gas producers were trimming the ranks even before disaster struck (see [this](#)). Now Rystad Energy, a consultancy, estimates perhaps 30% of oilfield services workers could be let go by the end of the year. At the same time, it expects U.S. oil and gas production to drop about 8% by then. That outcome would accelerate productivity gains that kicked in after the last crash. On BLS numbers, oil and gas extraction and support payrolls peaked in September 2014 at almost 540,000 before shedding about a third of those. In the subsequent recovery, payrolls never got much above 420,000 — yet oil and gas production soared.

One crude indicator I track is an estimate of how much industry revenue goes on payroll.<sup>1</sup> This is less about the absolute percentage; more the relative level and direction. In the last crash, the burden soared to about 20% of "revenue," indicating big job cuts were inevitable. In January, it was running around 10%, where it's been more or less since early 2017, when payrolls and production bottomed out. But commodity prices were a lot higher two months ago. Plug in today's and we would be back to the untenable levels of four years

ago.

Taking this a step further, assuming some recovery in oil and gas prices by December, a 30% cut to payrolls and Rystad's production estimates, the implied wage burden drops back to about 10% by then.<sup>2</sup> But that relies on a further productivity gain of almost one-third.

Catnip for consultants, perhaps, but not for politicians. Even before Covid-19 showed up or Saudi Arabia and Russia [started a price war](#), the U.S. oil and gas business was [losing easy access to capital markets](#). Investors were, in effect, [demanding rationalization](#), which is now happening at an apocalyptic pace. When the acute phase passes, though, the industry will face a world in which capital markets remain scarred (and still [worried about climate change](#)), inventories have ballooned and the previously reliable OPEC+ put can't be taken for granted. Remaining competitive precludes a big payroll rebound.

Yet this will be happening even as the economic and political imperative is putting Americans back to work. With various secondary stimulus proposals being discussed, the fight is on for which bits of the energy sector will benefit. Jobs will be a potent weapon in that battle. Seeking to revive the economy after the financial crisis, then-President Barack Obama, no buddy of the fossil-fuel industry, was nonetheless "transformed from critic to reluctant ally" as the shale boom added hundreds of thousands of jobs, as ClearView Energy Partners pointed out in a recent report.

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But that boom sowed the seeds of [shale's financial downfall](#); it can't repeat that. Moreover, even the oil and gas industry — [bits of it anyway](#) — now accepts climate change is happening. As I wrote [here](#), while some frackers would welcome government aid, they may think otherwise if greener politicians take the reins. One of the hallmarks of the [Green New Deal](#) proposals floated a year ago was how they linked environmental policy with broader populist themes like job creation and investment in public infrastructure. That approach is tailor-made for a scenario of large-scale government intervention focused on getting people back to work, especially given the makeup of the energy-related labor force.

The National Association of State Energy Officials and the Energy Futures Initiative, a clean-energy think tank, publish an [annual round-up of employment](#) across the U.S. energy sector. This puts fossil-fuel employment — including extraction, transportation, processing and power generation — at almost 1.7 million in 2019. The electricity sector, ex the bits related to fossil fuels, isn't far behind at almost 1.6 million. Within these totals, though, there are some striking details.

A third of the fossil-fuel workforce, or about 550,000, is engaged in extraction and therefore exposed to sustained pressure on headcount. Coal, in structural decline, employs roughly 10% of the entire workforce. There's simply a lot of systemic drag in the fossil-fuel cohort. The one area with better growth prospects is natural gas, and that's mostly because more than half of those workers engage in transporting the stuff or using it to run power plants, taking share from coal and providing a lower-carbon narrative for oil producers. There's a reason why the American Petroleum Institute now styles itself as representing the “natural gas and oil industry,” a formulation about as intuitive as asking someone to pass the pepper and salt.

On the non-fossil electricity side, about 40% of employees, some 656,000, work on the grid. Meanwhile, wind and solar power's ranks, along with their close counterparts in battery storage and smart/micro-grids, now add up to almost half a million<sup>1</sup>; not far off the entire workforce engaged in fossil-fuel extraction.

More importantly, one-in-three non-fossil electricity jobs relate to construction — one-in-two for solar, wind, batteries and smart/micro-grids — versus just 13% for fossil fuels. GND-ers should hammer this point when stimulus is being debated. While the economics of extraction are both geographically concentrated and dependent on limiting headcount, electrification and renewables expansion demand more workers for construction roles deployable anywhere.

In this effort, they should have a couple of natural allies. Utilities employ a quarter of the non-fossil energy workforce as opposed to 13% for fossil fuels (mostly natural gas). With their political power at the state level, and [financially induced love of construction](#), utilities could be useful friends in this regard (even if some GND-ers might have to grit their teeth on this). Meanwhile, beyond direct energy jobs, energy efficiency-related roles employ another 2.4 million Americans. They are ostensibly agnostic about the source of the energy. In practice, though, 56% of energy efficiency jobs relate to construction, with building upgrades a big growth area, making that cohort a more natural ally for GND-ers.

In broad terms, one side of the energy industry busies itself primarily with digging stuff out of the ground while the other concerns itself more with planting stuff in the ground. If one result of Covid-19 is that America finally gets around to infrastructure week, then the latter should enjoy a working advantage.

1. This is calculated using the BLS data for employment, average hours and average hourly rate for total wages. For revenue, I multiply monthly

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production data from the Energy Information Administration by average benchmark prices for liquids and natural gas. It doesn't take account of regional price differentials or hedging. Like I said, it's crude.

2. Assumes a 30% cut in oil and gas extraction and support workers in December, year over year. Production: 11.7 million barrels a day of crude oil, 4.6 million barrels a day of other liquids and 87 billion cubic feet per day of natural gas. Prices: \$40 per

barrel of crude oil, \$0.4 per gallon of other liquids and \$2 per million BTU of natural gas. Assumes average hours per week and wages per hour flat with January 2020 figures.

3. An additional 97,359 workers are classified as engaged in solar power on a part-time basis.

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