



A 2020 Energy Retrospective: COVID-19 and Shifts in the Energy Workforce and Power Generation Portfolios

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By Barbara Tyran

2020 will be remembered for many reasons, with the predominant association remaining the widespread impact of a global pandemic. In the US energy arena, a changing electricity generation mix and workforce modifications emerged as major themes. Importantly, the implications for 2021 have already begun to surface, with potential outcomes for some of these developments being revealed through recently-passed and newly-released stimulus packages.

Workforce Modifications

With more than half the workforce at some utilities working remotely due to the pandemic, many utility executives now appear open to modifying policies allowing employees the flexibility to work from home rather than in a central office. Every year, Black & Veatch issues a *Strategic Directions: Electric Report* reflecting expert analyses of their annual survey of more than 600 power sector stakeholders and identifying emerging trends, challenges, and opportunities. This year's survey reveals that COVID-19's workforce impact was very likely the highest priority for most utility executives in 2020. Many were pleasantly surprised by the unexpected outcome of remote work.

With respect to energy employment growth, a survey in the *2020 US Energy & Employment Report: A Joint Project of NASEO and EFI*, projects a 3.1% increase in 2020, down from 4.6% projected growth last year. The highest growth rate in 2020 is projected for electric power generation—specifically the renewable energy sector— ahead of the Transmission, Distribution, Storage, Energy Efficiency, and Motor Vehicles sectors.

84.4% of employers across all energy sectors reported difficulty hiring qualified workers in 2019, an increase of over 7% from 2018 and a total of 14% since 2017. For construction employers in Energy Efficiency—one of the largest surveyed sectors with over 1.3 million workers—91% of employers reported that it was somewhat difficult or very difficult to hire new employees. The top reasons identified were lack of experience, training, or technical skills across all five surveyed sectors. The need for technical training and certifications was frequently cited, implying a need for expanded investments in workforce training and closer coordination between employers and the workforce training system.

Center for Energy Workforce Development Executive Director Missy Henriksen, a contributing author to the [2020 US Energy & Employment Report: A Joint Project of NASEO and EFI](#), concurs that the industry's biggest workforce issue today is skills: "New jobs in utilities used to be like the old jobs. Now the modernization of infrastructure and the change in generation mix are requiring new skills that change on two- and five-year cycles. Since industry certificate programs take four years, we now need to predict new skills several years out... A whole transformation of the industry is taking place that will require a higher level of skills that, in turn, are adaptable to future needs."

Changing Electricity Generation Mix

With 2020 statistics still under development, the U.S. Energy Information Administration (EIA) predicts that solar and wind energy will dominate new U.S. generation in 2020, accounting for three-quarters of all new generation. In 2019, U.S. annual energy consumption from renewable sources exceeded coal consumption for the first time in 134 years, according to EIA's [Monthly Energy Review](#). This shift is primarily due to the growth of wind and solar energy over the past decade, as well as the continuing decline of coal for U.S. electricity generation. Renewable energy grew for the fourth consecutive year, while coal consumption decreased for the sixth consecutive year to the lowest level since 1964: a 15% decline between 2018 and 2019. Natural gas substituted for much of the prior coal-based electricity generation. In 2019, wind power superseded hydro for the first time and is now the most-used renewable energy resource for U.S. electricity generation on an annual basis.

The *2020 Strategic Directions: Electric Report* reveals that half of the respondents are committing more investment to local renewable energy over the next five years, followed closely by energy storage in the short term, and eventually by microgrids and other DER in the longer term. In the near-term, the survey indicates abundant, competitively priced natural gas is projected to remain a significant fuel in the power generation mix—often as backup for intermittent solar and wind energy—as coal usage continues its decline. The survey projects that after ten years, solar and wind energy could evolve into greater hydrogen deployment and battery energy storage, given expectations that their costs will decline with the scaling of those technologies.

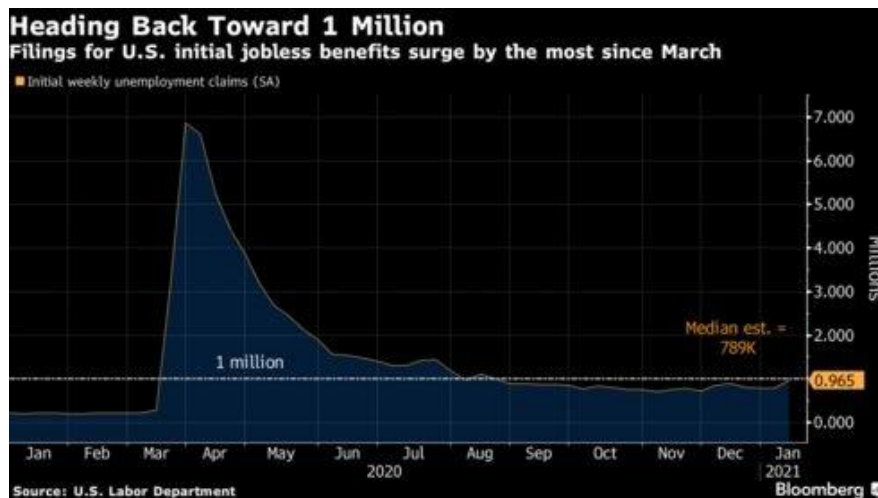
Stimulus Packages and Economic Recovery

During the final week of December 2020, Congress approved a \$900B stimulus relief package and \$1.4T bill to fund the government through Sept. 30, 2021. The legislation is considered a "down payment" on further COVID relief funding yet to be introduced. [The Committee for a Responsible Federal Budget \(CRFB\) estimates](#) the plan will boost economic output enough that it would be equivalent to fully closing the output gap for 2021. Importantly, the plan offers aid to state and local

governments and school districts, and to fund other priorities such as vaccine distribution, support for airline workers, and support for health providers. The bipartisan plan includes a substantial extension and expansion of unemployment benefits, with \$600 per person recovery rebates. The plan also includes some COVID-related liability protections for employers. CRFB expects the plan will boost GDP by about 1 percent over the 2021 through 2023 period.

On January 14, 2021, President-elect Biden unveiled a \$1.9T plan to fund economic recovery, with \$400 billion for COVID-19 management, more than \$1T in direct relief spending and \$440B for communities and businesses. The plan, if approved by Congress, would include \$1400 checks—on top of the \$600 checks approved in December—and extend federal unemployment benefits through the current fiscal year. The eviction moratorium would also be extended until Sept. 30. The plan provides emergency paid leave to workers, increases the minimum wage to \$15/hour, and expands the child tax credit to as much as \$3600/year.

This next economic stimulus package is a significant Administration priority requiring Congressional support for passage—and given the political divisiveness and tight margins—impacting the political capital for other Administration-driven initiatives. However, there is recognition among climate change proponents that economic recovery can be coupled with clean energy technology development, to create new jobs related to greenhouse gas reduction. That focus could be on jobs that advance technologies such as nuclear, carbon capture, renewable energy—including hydroelectric—and storage. Concerns about how to grow the US supply of critical minerals, used in consumer electronics and electric transportation, could also offer new job opportunities. Economic recovery and "building back better"—two Biden campaign pillars—will undoubtedly be priorities as joblessness continues to soar. They may simultaneously yield U.S. energy security and environmental benefits in 2021 and beyond.



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Organizing Committee, with over 38,000 members world-wide. For two decades, she was Director, Washington & State Relations, at the Electric Power Research Institute. Her prior background includes federal advocacy for utilities and management consulting for public / private sector clients, with engagements involving strategic planning, policy analysis, and financial / economic analysis.

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