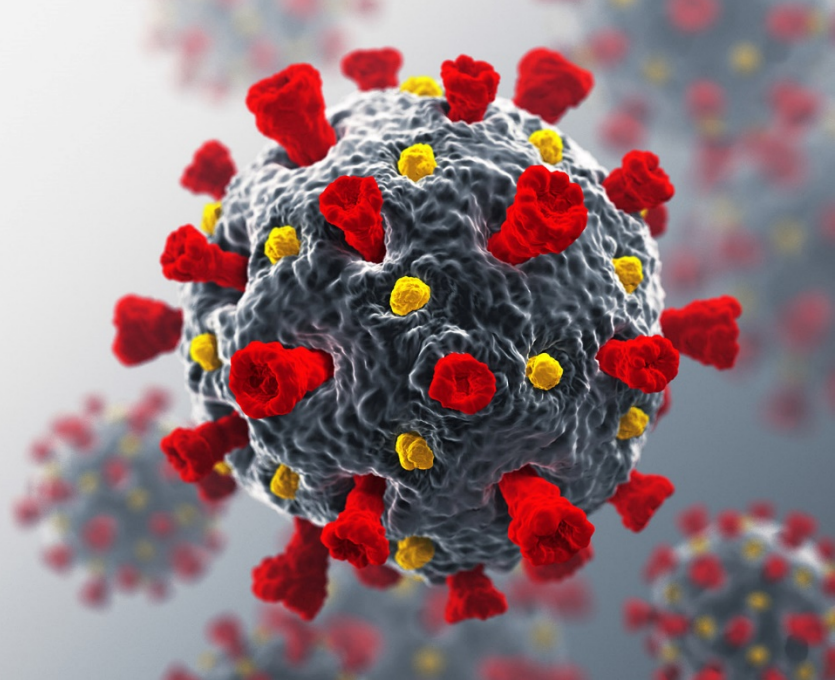


To: Clients
From: Philip Jordan
Vice-President, BW Research Partnership
Date: July 1, 2020

MEMORANDUM

US Energy Employment Initial Impacts from the
COVID-19 Economic Crisis, May 2020



INTRODUCTION

BW Research finds that the U.S. energy sector shed an additional 57,900 jobs in May, bringing the total number of clean energy job losses to 1,359,200 since the start of the COVID-19 pandemic, a 16 percent decline.

While the speed at which clean energy jobs are being lost declined in May, we are increasingly concerned about the number of energy-related jobs that are being supported by the Paycheck Protection Program (PPP). The construction sector (the second largest segment of the energy economy) is the largest recipient of PPP loans, at more than 13 percent.¹ The expiration of the employment window of PPP may result in a fresh round of layoffs in clean energy if there is no further intervention.

The June 5 jobs report from the Bureau of Labor Statistics (BLS) suggested that a strong employment rebound is underway. These results are heavily influenced by surveys conducted by BLS during the second week of each month, including sampling households and businesses. BLS has committed to maintaining consistency in its data collection efforts, which is critical to ensuring comparability in the results.

Accounting for the understandable challenges and limitations of data collection for BLS in the midst of the global pandemic, as well as misclassification errors already identified by BLS and other organizations, our latest monthly analysis of unemployment filings shows that in the energy sector, jobs continued to decline in May.

The continued job losses in May and forthcoming PPP expiration indicates it will be very tough for the energy sector to return to its economy-leading jobs growth without significant intervention from Congress and state governments. Given the size of the energy industry (nearly 8.4 million jobs in America, pre-COVID-19) that could cast a pall over the nation's broader economic recovery.

As a firm with significant experience conducting business and household surveys, we recognize the incredible challenges BLS has with collecting such data during a global pandemic. Hundreds of thousands of residents of densely populated areas have moved out of cities and the majority of businesses in the

¹ <https://www.sba.gov/sites/default/files/2020-04/PPP%20Report%20SBA%204.14.20%20-%20%20Read-Only.pdf>

U.S. have severely limited the number of employees on site. Concurrently, work arrangements are incredibly fluid and novel classifications are in use: furloughed with benefits, working part time, working from home, temporary layoffs, reduced or temporarily eliminated hours, and PPP-fueled pay without work. The surveys had the lowest response rates of any in history.

BLS has itself acknowledged that there are significant sampling and respondent error issues that confound the analysis. The challenges have been recently and extensively covered in the Washington Post (The May Jobs Report Had a Misclassification Error. Here's What Happened)² and Axios (The Truth about the May Jobs Report),³ among others.

The weekly BLS unemployment claims reports paint a different picture of May than the report released on June 5, perhaps as a result of these sampling challenges.⁴ **Most notably, the weekly release on June 10 shows that the number of Americans receiving unemployment benefits across all programs increased by 4 million from April 25 to May 23.** This number peaked at 30.1 million on May 16 and has declined only slightly to 29.5 million as of May 23, suggesting that the economy lost jobs in May and has only merely stabilized, not started a significant recovery, at least up to Memorial Day. Given the noted challenges with the June 5 report, we believe it is prudent to more heavily weigh actual unemployment claims over the survey results.

IMPACTS

Several recent analyses suggest that unemployment claims economy-wide do not represent the entirety of job losses, as many workers who are furloughed temporarily or are beneficiaries of the Paycheck Protection Program are not seeking other employment and therefore do not qualify for benefits. The data also do not include workers who had their hours slashed and are now significantly underemployed.

The May unemployment data shows every energy sector continues to be negatively impacted by the economic crisis.

- Motor vehicles, the largest energy industry, suffered the most job losses in May, shedding an additional 20,000 jobs or 1 percent. This accounts for 35 percent of energy-related jobs lost over the past month. The motor vehicles sector has suffered 468,400 lost jobs since the start of March, or an 18 percent decline.
- Fuels suffered a less than 1 percent decline or about 6,600 jobs, representing more than 11 percent of all energy job losses in May. Job losses for fuels total 174,600 since the beginning of March, however, this is not limited to just the COVID-19 pandemic; tanking oil markets in the first quarter of 2020 also heavily impacted the US fuels sector.
- Energy efficiency, the second largest energy-related sector, followed closely behind motor vehicles, losing an additional 19,000 jobs or 1 percent of its workforce in May. This represents one third of energy job losses over the past month. Energy efficiency has lost 434,800 jobs since the start of the pandemic.

² <https://www.washingtonpost.com/business/2020/06/05/may-2020-jobs-report-misclassification-error/>

³ <https://www.axios.com/may-jobs-report-lower-data-20f6c94f-5c8b-4507-9897-bf761c6c5680.html>

⁴ Unemployment claims reports can include errors as well, however, these tend to be revised over time to account for inconsistencies.

- Transmission, distribution, and storage and electric power generation were also hard hit, losing about 7,300 and 5,000 jobs in May, respectively. This represents a half percent decrease over the past month for the respective sectors, each contributing 13 and 10 percent of all energy industry job losses in May.
- Clean energy jobs make up about 46 percent of energy job losses since the beginning of March, totaling 620,600 jobs lost.
- Fossil and nuclear fuels and electricity generation, traditional transmission and distribution, and gas and diesel motor vehicles make up about 30,900 lost jobs or about 53 percent of all energy job losses in May.
- Nearly 3,300 jobs were lost in oil and gas generation, fuels, and transmission and distribution in May. This totals 98,000 oil and gas jobs lost since March, or a nearly 15 percent decline.
- Coal mining and electric power generation suffered 250 job losses in May, totaling 10,700 jobs lost since the start of the pandemic or a nearly 12 percent decline. This does not include the coal job losses in other activities like mining machine manufacturing and distribution and transportation.

California had the largest number of layoffs, losing 6,900 jobs or nearly 1 percent of its energy workforce to May's employment drop. Texas followed, losing more than 5,400 jobs or half a percent of its energy industry employment. Florida lost 4,700 energy jobs while Georgia and Michigan lost more than 3,000 energy jobs each. Georgia, Kentucky, Florida, Washington, and Oklahoma saw the largest declines in terms of percent of their respective energy sectors, all with more than 1.5 percent energy employment drops over the past month. States that have fared better than average so far include Utah, Colorado, and New Hampshire, all falling less than half a percent. For more information about energy job losses by state, see Appendix A: State Energy Job Losses in May 2020 and Appendix B: Cumulative State Energy Job Losses Since Pre-COVID.

Of the 18,900 job losses in the traditional energy sector in May, Texas and California suffered the hardest, losing about 2,900 and 2,500 jobs, respectively. These impacts represent about 54 percent of total energy job losses in Texas, while only representing 37 percent of job losses in California. States that were hit hard as a percent drop in traditional energy employment are Georgia and Kentucky, both dropping about 1.5 percent. Traditional energy job losses made up more than two thirds of May energy job losses in Louisiana, Washington, New Mexico, Wisconsin, and Alaska. For Maryland, Rhode Island, Indiana, and Michigan, traditional energy job losses made up less than 17 percent of their total energy job losses.

The BLS April Employment Situation shows us that in the overall economy, racial and ethnic minorities, women, young workers, and those with less educational attainment are currently suffering higher unemployment rates.⁵ Hispanic and Latino energy workers were hit the hardest; the energy industry is about 14 percent Hispanic/Latino, but an estimated 23 percent of the job losses are Hispanic/Latino workers. All non-white racial and ethnic minorities constitute about 35 percent of the energy industry while representing more than 32 percent of job losses. Women represent 21 percent of energy job losses in May while making up about 25 percent of the energy workforce.

⁵ <https://www.bls.gov/news.release/empsit.nr0.htm>

METHODOLOGY

Methodology for this month's round of impacts differs from previous months to account for the reopening of many state economies and account for continuing claims data. Reports for May and April, as well as the unemployment weekly summaries, were used to calculate the labor impacts for the month. Please see prior months' memoranda for a more complete explanation of the methodology.

ABOUT BW RESEARCH

BW Research is a full-service applied research firm that is focused on supporting our clients with economic & workforce research, customer & community research, as well as strategic planning and evaluation services. For more information and analysis on economic impacts related to COVID-19, please visit: <http://bwresearch.com/covid>

APPENDIX A: STATE ENERGY JOB LOSSES IN MAY 2020

State	Jobs Lost	Percent Decline	State	Jobs Lost	Percent Decline
Alabama	936	0.7%	Montana	118	0.5%
Alaska	313	1.4%	Nebraska	348	0.7%
Arizona	616	0.6%	Nevada	237	0.4%
Arkansas	288	0.5%	New Hampshire	107	0.4%
California	6,909	0.9%	New Jersey	940	0.8%
Colorado	539	0.4%	New Mexico	281	0.6%
Connecticut	531	0.8%	New York	1,574	0.5%
Delaware	142	0.7%	North Carolina	1,677	1.0%
District of Columbia	147	0.9%	North Dakota	460	1.1%
Florida	4,673	1.6%	Ohio	1,662	0.6%
Georgia	3,647	2.4%	Oklahoma	1,684	1.5%
Hawaii	242	1.3%	Oregon	781	0.9%
Idaho	115	0.4%	Pennsylvania	1,388	0.6%
Illinois	2,000	0.7%	Rhode Island	104	0.6%
Indiana	1,479	0.6%	South Carolina	885	0.7%
Iowa	347	0.5%	South Dakota	124	0.5%
Kansas	359	0.5%	Tennessee	1,098	0.6%
Kentucky	1,983	1.8%	Texas	5,414	0.6%
Louisiana	1,260	1.0%	Utah	213	0.3%
Maine	221	1.0%	Vermont	80	0.4%
Maryland	1,032	0.9%	Virginia	1,144	0.7%
Massachusetts	1,220	0.8%	Washington	1,933	1.6%
Michigan	2,967	0.9%	West Virginia	233	0.4%
Minnesota	662	0.6%	Wisconsin	958	0.7%
Mississippi	800	1.3%	Wyoming	212	0.5%
Missouri	828	0.6%	US TOTAL	57,910	0.8%

APPENDIX B: CUMULATIVE STATE ENERGY JOB LOSSES SINCE PRE-COVID

State	Jobs Lost	Percent Decline	State	Jobs Lost	Percent Decline
Alabama	24,882	16.7%	Montana	4,581	15.0%
Alaska	6,130	21.4%	Nebraska	8,449	14.8%
Arizona	15,866	12.8%	Nevada	8,160	13.4%
Arkansas	7,721	12.0%	New Hampshire	2,870	9.2%
California	177,730	18.6%	New Jersey	25,727	17.6%
Colorado	17,137	10.6%	New Mexico	11,550	19.9%
Connecticut	10,783	14.2%	New York	38,326	11.1%
Delaware	3,671	16.0%	North Carolina	47,587	21.9%
District of Columbia	3,585	17.4%	North Dakota	8,553	17.1%
Florida	59,321	17.3%	Ohio	55,250	15.8%
Georgia	59,702	29.0%	Oklahoma	25,022	18.1%
Hawaii	6,952	27.1%	Oregon	14,385	14.9%
Idaho	3,936	11.9%	Pennsylvania	56,281	20.9%
Illinois	37,394	12.1%	Rhode Island	5,375	22.6%
Indiana	43,022	15.1%	South Carolina	22,441	15.9%
Iowa	11,170	12.9%	South Dakota	1,904	7.1%
Kansas	10,582	12.3%	Tennessee	25,019	11.7%
Kentucky	42,358	27.9%	Texas	115,100	12.0%
Louisiana	40,357	23.7%	Utah	7,366	8.4%
Maine	3,645	14.4%	Vermont	3,228	14.2%
Maryland	18,026	13.6%	Virginia	24,555	13.1%
Massachusetts	31,121	16.5%	Washington	35,376	22.8%
Michigan	89,268	21.3%	West Virginia	9,650	14.7%
Minnesota	19,722	15.4%	Wisconsin	20,276	13.3%
Mississippi	10,874	15.5%	Wyoming	4,907	11.1%
Missouri	22,265	13.8%	US TOTAL	1,359,156	16.3%

APPENDIX C: STATE ENERGY JOB LOSSES IN APRIL 2020, REVISED

State	Jobs Lost	Percent Decline	State	Jobs Lost	Percent Decline
Alabama	20,062	13.8%	Montana	2,785	9.6%
Alaska	3,637	13.7%	Nebraska	6,082	11.0%
Arizona	12,752	10.5%	Nevada	5,933	10.0%
Arkansas	6,072	9.7%	New Hampshire	1,913	6.3%
California	124,724	13.7%	New Jersey	17,942	12.8%
Colorado	12,696	8.1%	New Mexico	6,088	11.5%
Connecticut	8,556	11.5%	New York	25,810	7.7%
Delaware	2,519	11.5%	North Carolina	30,161	15.0%
District of Columbia	2,283	11.7%	North Dakota	5,172	11.0%
Florida	47,326	14.1%	Ohio	34,631	10.5%
Georgia	52,227	25.8%	Oklahoma	17,156	13.0%
Hawaii	5,254	21.7%	Oregon	10,937	11.6%
Idaho	2,610	8.2%	Pennsylvania	30,688	12.5%
Illinois	25,817	8.6%	Rhode Island	3,380	15.4%
Indiana	31,175	11.3%	South Carolina	18,190	13.2%
Iowa	7,992	9.5%	South Dakota	1,478	5.6%
Kansas	6,972	8.4%	Tennessee	18,656	9.0%
Kentucky	32,334	22.4%	Texas	78,567	8.5%
Louisiana	25,781	16.4%	Utah	5,003	5.9%
Maine	2,347	9.7%	Vermont	2,388	10.9%
Maryland	12,882	10.1%	Virginia	18,541	10.1%
Massachusetts	19,192	10.8%	Washington	24,006	16.5%
Michigan	64,412	16.2%	West Virginia	7,649	12.0%
Minnesota	13,165	10.8%	Wisconsin	14,019	9.5%
Mississippi	8,682	12.7%	Wyoming	2,654	6.3%
Missouri	16,623	10.6%	US TOTAL	957,923	12.0%