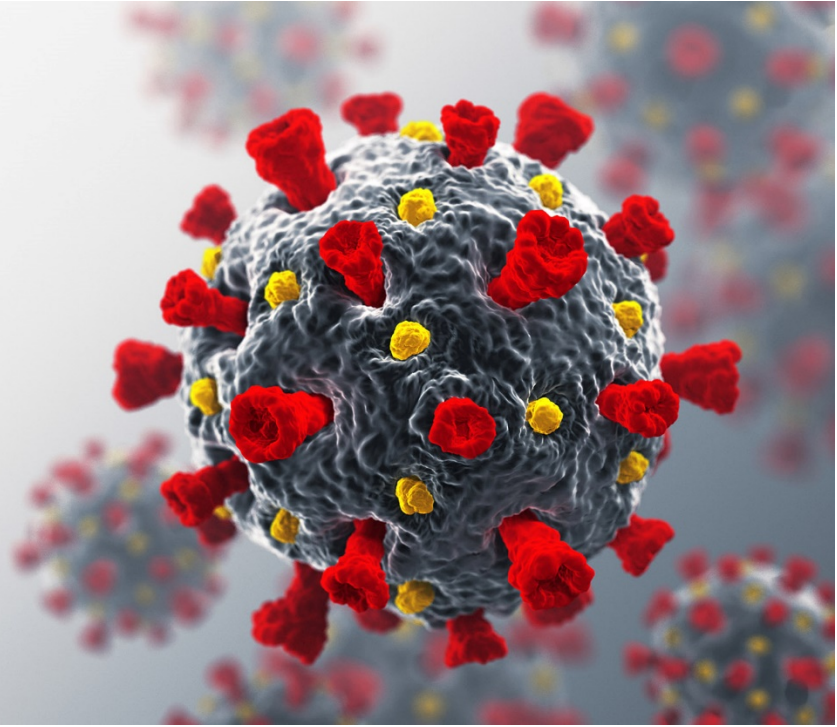


To: Clients  
From: Philip Jordan  
Vice-President, BW Research Partnership  
Date: May 18, 2020

#### MEMORANDUM

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



## INTRODUCTION

The COVID-19 pandemic brought historic job losses over the month of March. In April, these losses doubled. In the last week of March, weekly initial unemployment claims reached a record high of 6.87 million, totaling 10.6 million for the month. The first week of April nearly matched that historic weekly high with 6.62 million more initial claims. Initial unemployment claims for April total 23.1 million, while the impact of the COVID-19 pandemic on the US workforce currently totals 33.7 million. The insured unemployment rate rose more than 10 percentage points from March to April, reaching 14.7 percent, which is the highest recorded rate and monthly increase since BLS began tracking this data in 1948.

At the same time, oil markets continued a decline that started with an early 2020 demand drop, followed by disagreements over production cuts among OPEC+ nations. COVID-19 related reductions to economic activity have further exacerbated oil's price decline, however it is still too early to tell if the recent, historically large production cut agreement of 8.2 million barrels per day for May will stabilize prices and stave off further turmoil in U.S. oil production.<sup>1</sup>

March's historic unemployment claims filings were doubled in April. While workers in industries like food services and hospitality were hit first and hardest, negative impacts are now being felt throughout the economy. Energy-related workers – defined in the U.S. Energy and Employment Report<sup>2</sup> (an effort led by the National Association of State Energy Officials, the Energy Futures Initiative, and BW Research Partnership) as those working in electricity generation, fuels, transmission, distribution, storage, energy efficiency, and motor vehicles – were also significantly impacted, as the industry **shed an estimated 958,500 jobs in April, totaling 1.3 million jobs lost since the beginning of the pandemic**. This represents a 12 percent drop in employment over the month of April, and a 13 percent drop in employment since the start of March, eliminating nearly all industry-wide growth measured since the first US Energy and Employment Report five years ago.

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<sup>1</sup> <https://www.spglobal.com/platts/en/market-insights/latest-news/oil/051320-opec-revises-down-global-oil-demand-forecast-again-with-production-cuts-in-focus>

<sup>2</sup> <http://usenergyjobs.org>

Of those additional 958,500 lost energy jobs in April,

- 306,500 or just under one third belonged in traditional energy, defined as fuels, electricity generation, and transmission, distribution, and storage
- Energy efficiency represented 312,000 lost jobs or one third of all lost energy jobs
- Motor vehicles lost 340,000 jobs or 36 percent of all energy job losses

Due to an update in BLS reported March employment data, March energy industry job losses were revised up to 343,300 (see more in Appendix C: State Energy Job Losses in March 2020, Revised). Unfortunately, this only captures the initial impacts of the COVID-19 crisis and does not include many temporarily furloughed or underemployed workers; job losses in the energy industry will continue to grow into the coming months.

## IMPACTS

While the energy industry faced a significant initial drop in March, April tripled these impacts, as job losses swept the whole economy. Demand for energy has fallen sharply and petroleum and other fuel storage is near capacity, as Americans stay home and out of their cars, and factories close due to physical isolation and decreased demand.<sup>3</sup> As a result, energy companies began expanding furloughs and layoffs, which has swelled unemployment filings among energy workers.

Several recent analyses suggest that the 33.7 million unemployment claims economy-wide do not represent the entirety of job losses, as many workers who are furloughed temporarily 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 Federal Reserve Bank of St. Louis estimates that job losses may exceed 52 million by the end of the second quarter of 2020.<sup>4</sup>

Based on that analysis, we can project that the energy sector is on track to lose 1.75 million jobs at its peak if no additional actions are taken to support the underlying workforce.

**The April unemployment data shows every energy sector is being impacted by the economic crisis.**

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<sup>3</sup> <https://www.cfr.org/blog/oil-ground-zero-running-out-storage>; <https://www.eia.gov/outlooks/steo/>

<sup>4</sup> <https://www.stlouisfed.org/on-the-economy/2020/march/back-envelope-estimates-next-quarters-unemployment-rate>.

- Motor vehicles, the largest energy industry, suffered the most job losses in April, shedding an additional 340,000 jobs or 14 percent. This accounts for 36 percent of energy-related jobs lost over the past month. The motor vehicles sector has suffered 448,600 lost jobs since the start of March, or a 17 percent decline.
- Fuels suffered a 9 percent decline or about 99,400 jobs, representing about 10 percent of all energy job losses in April. Job losses for fuels total 167,500 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 312,000 jobs or 14 percent of its workforce in April. This represents one third of energy job losses over the past month. Energy efficiency has lost 416,400 jobs since the start of the pandemic.
- Transmission, distribution, and storage and electric power generation were also hard hit, losing more than 122,300 and 84,800 jobs in April, respectively. This represents a 9 and 10 percent decrease over the past month for the respective sectors, each contributing 13 and 10 percent of all energy industry job losses in April.
- Clean energy jobs make up about 47 percent of energy job losses, totaling 447,200 jobs lost in April and 594,300 jobs lost since the beginning of March.
- Fossil and nuclear fuels and electricity generation, traditional transmission and distribution, and gas and diesel motor vehicles make up about 511,300 lost jobs or about 53 percent of all energy job losses in April.
- Of the nearly 40,200 jobs lost in oil and gas drilling and refineries in April, oil and gas field workers account for 32,300 lost jobs while about 7,900 jobs were lost in refineries. This totals 89,600 oil and gas drilling and refinery jobs lost since March, or a more than 16 percent decline. This does not include the oil and gas job losses in other activities like mining machinery manufacturing and pipeline distribution.
- Coal mining and electric power generation suffered 4,000 job losses in April, totaling 9,200 jobs lost since the start of the pandemic or a nearly 10 percent decline. This does not include the coal job losses in other activities like mining machine manufacturing and distribution and transportation.

These estimates are all quite conservative and do not reflect underemployment or temporary unemployment and all segments are likely to show even greater losses through April.

California had the largest number of layoffs, losing 124,800 jobs or nearly 14 percent of its energy workforce to April's employment drop. Texas followed, losing more than 78,700 jobs or 9 percent of its energy industry employment. Michigan lost 64,500 energy jobs while Georgia and Florida lost more than 47,000 energy jobs each. Ohio, Kentucky, Indiana, Pennsylvania, and North Carolina all lost more than 30,000 energy jobs, all of which are the most conservative estimates of job losses. Georgia, Kentucky, and Hawaii saw the largest declines in terms of percent of their respective energy sectors, all with more than 21 percent energy employment drops over the past month. States that have fared better than average so

far include South Dakota, Utah, Wyoming, and New Hampshire, all falling less than 7 percent. For more information about energy job losses by state, see Appendix A: Cumulative State Energy Job Losses and Appendix B: State Energy Job Losses in April 2020.

Of the 306,500 job losses in the traditional energy sector in April, California and Texas suffered the hardest, losing about 45,400 and 42,300 jobs, respectively. These impacts represent about 54 percent of total energy job losses in Texas, while only representing 36 percent of job losses in California. States that were hit hard as a percent drop in traditional energy employment are Hawaii, Kentucky, Georgia, and Louisiana, all dropping between 15 and 19 percent. Traditional energy job losses made up about two thirds of total energy job losses in Louisiana, West Virginia, Wyoming, and New Mexico. 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.<sup>5</sup> 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 March while making up about 25 percent of the energy workforce.

## METHODOLOGY

Employment change by industry monthly from February to April 2020 allows us to evaluate differences in COVID-19 related employment impacts between industries. The Bureau of Labor Statistics provides this data in Table B-1 “Employees on nonfarm payrolls by industry sector and selected industry detail,” from its Employment Situation news release. Since this data is based on surveys conducted in the second week of each month, it does not capture accurate total job losses for the whole month. For that information, we look to the Department of Labor’s Unemployment Insurance Weekly Claims data. By totaling initial claims for all weeks in each month, we get a better picture of how many Americans are jobless. While this is not a perfect count, it allows for a more accurate, up-to-date estimate and illustrates the difference in impacts among states.

Industry employment change premiums are created by taking the percent change in employment of each industry over the national percent change in employment, then subtracting one (1). State employment change premiums are made the same way. These state and industry premiums are combined evenly and applied to the national percent change in employment. BLS Local Area Unemployment Statistics (LAUS) also provides monthly employment data by high level industry and state in Table 4 “Employees on nonfarm payrolls by state and selected industry sector,” which is then weighted and applied to the industry-state job loss rates. These final industry-state job loss rates are applied to the industry breakdown within each energy sector (electric power generation, fuels, transmission, distribution, and storage, energy efficiency, and motor vehicles) for each state to produce final energy employment loss estimates. Energy employment data broken out by sector, industry, and state is derived from the 2020 US Energy and Employment Report (USEER). For more information on the 2020 USEER methodology, please visit <http://usenergyjobs.org>.

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

Energy is categorized into the five previously listed sectors: electric power generation, fuels, transmission, distribution, and storage, energy efficiency, and motor vehicles. Electric power generation includes detailed technologies such as solar, wind, hydro, natural gas, oil, coal, and geothermal and bioenergy/biomass. Fuels include natural gas, oil, coal, biomass and other biofuels. Transmission, distribution, and storage includes fuel storage, battery and other clean storage technologies, traditional transmission and distribution of electricity, natural gas, oil, and coal, microgrids, smart grid, and other grid modernization. Energy efficiency includes efficient lighting, traditional and high efficiency HVAC and other renewable heating and cooling, and ENERGY STAR® products and appliances. Motor vehicles includes gas and diesel vehicles, hybrid, electric, and other alternative fuel vehicles. For a more detailed explanation of the five energy sectors, please visit <http://usenergyjobs.org>.

## 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: CUMULATIVE STATE ENERGY JOB LOSSES

State	Energy Jobs Lost	Percent Decline	State	Energy Jobs Lost	Percent Decline
Alabama	23,898	16.0%	Montana	4,446	14.5%
Alaska	5,861	20.4%	Nebraska	8,086	14.1%
Arizona	15,162	12.3%	Nevada	8,015	13.1%
Arkansas	7,431	11.6%	New Hampshire	2,767	8.9%
California	170,893	17.9%	New Jersey	24,678	16.8%
Colorado	16,595	10.3%	New Mexico	11,260	19.4%
Connecticut	10,252	13.5%	New York	37,739	10.9%
Delaware	3,523	15.3%	North Carolina	46,182	21.3%
District of Columbia	3,439	16.7%	North Dakota	8,092	16.2%
Florida	54,586	16.0%	Ohio	53,560	15.3%
Georgia	55,992	27.2%	Oklahoma	21,861	15.8%
Hawaii	6,744	26.3%	Oregon	13,466	13.9%
Idaho	3,810	11.5%	Pennsylvania	54,964	20.4%
Illinois	35,391	11.4%	Rhode Island	5,272	22.1%
Indiana	41,657	14.6%	South Carolina	21,506	15.2%
Iowa	10,887	12.5%	South Dakota	1,771	6.6%
Kansas	10,335	12.0%	Tennessee	23,978	11.2%
Kentucky	40,214	26.4%	Texas	109,866	11.4%
Louisiana	39,177	23.0%	Utah	7,157	8.2%
Maine	3,741	14.7%	Vermont	3,141	13.9%
Maryland	17,075	12.9%	Virginia	23,471	12.5%
Massachusetts	29,879	15.8%	Washington	33,709	21.7%
Michigan	86,413	20.6%	West Virginia	9,400	14.3%
Minnesota	19,268	15.0%	Wisconsin	19,322	12.6%
Mississippi	10,027	14.3%	Wyoming	4,596	10.4%
Missouri	21,284	13.2%	<b>US TOTAL</b>	<b>1,301,840</b>	<b>15.6%</b>

## APPENDIX B: STATE ENERGY JOB LOSSES IN APRIL 2020

State	Energy Jobs Lost	Percent Decline	State	Energy Jobs Lost	Percent Decline
Alabama	20,013	13.8%	Montana	2,768	9.6%
Alaska	3,681	13.9%	Nebraska	6,068	11.0%
Arizona	12,663	10.4%	Nevada	6,026	10.2%
Arkansas	6,070	9.7%	New Hampshire	1,916	6.3%
California	124,795	13.7%	New Jersey	17,834	12.8%
Colorado	12,693	8.1%	New Mexico	6,080	11.5%
Connecticut	8,555	11.5%	New York	26,796	8.0%
Delaware	2,514	11.4%	North Carolina	30,434	15.1%
District of Columbia	2,283	11.8%	North Dakota	5,172	11.0%
Florida	47,265	14.1%	Ohio	34,604	10.4%
Georgia	52,165	25.8%	Oklahoma	15,680	11.9%
Hawaii	5,287	21.9%	Oregon	10,799	11.5%
Idaho	2,600	8.2%	Pennsylvania	30,759	12.5%
Illinois	25,814	8.6%	Rhode Island	3,380	15.4%
Indiana	31,289	11.4%	South Carolina	18,139	13.1%
Iowa	8,056	9.6%	South Dakota	1,469	5.6%
Kansas	7,083	8.5%	Tennessee	18,713	9.0%
Kentucky	32,173	22.3%	Texas	78,747	8.5%
Louisiana	25,860	16.5%	Utah	5,006	5.9%
Maine	2,664	11.0%	Vermont	2,380	10.9%
Maryland	12,963	10.1%	Virginia	18,601	10.1%
Massachusetts	19,171	10.8%	Washington	24,272	16.7%
Michigan	64,524	16.2%	West Virginia	7,633	11.9%
Minnesota	13,374	10.9%	Wisconsin	14,023	9.5%
Mississippi	8,635	12.6%	Wyoming	2,555	6.1%
Missouri	16,471	10.5%	<b>US TOTAL</b>	<b>958,516</b>	<b>12.0%</b>

## APPENDIX C: STATE ENERGY JOB LOSSES IN MARCH 2020, REVISED

State	Energy Jobs Lost	Percent Decline	State	Energy Jobs Lost	Percent Decline
Alabama	3,884	2.6%	Montana	1,678	5.5%
Alaska	2,180	7.6%	Nebraska	2,018	3.5%
Arizona	2,498	2.0%	Nevada	1,990	3.3%
Arkansas	1,361	2.1%	New Hampshire	850	2.7%
California	46,098	4.8%	New Jersey	6,845	4.7%
Colorado	3,902	2.4%	New Mexico	5,181	8.9%
Connecticut	1,697	2.2%	New York	10,942	3.2%
Delaware	1,009	4.4%	North Carolina	15,748	7.3%
District of Columbia	1,155	5.6%	North Dakota	2,920	5.8%
Florida	7,321	2.1%	Ohio	18,956	5.4%
Georgia	3,828	1.9%	Oklahoma	6,181	4.5%
Hawaii	1,456	5.7%	Oregon	2,667	2.8%
Idaho	1,210	3.7%	Pennsylvania	24,205	9.0%
Illinois	9,577	3.1%	Rhode Island	1,892	7.9%
Indiana	10,368	3.6%	South Carolina	3,367	2.4%
Iowa	2,831	3.3%	South Dakota	302	1.1%
Kansas	3,251	3.8%	Tennessee	5,265	2.5%
Kentucky	8,041	5.3%	Texas	31,119	3.2%
Louisiana	13,317	7.8%	Utah	2,151	2.5%
Maine	1,077	4.2%	Vermont	761	3.4%
Maryland	4,111	3.1%	Virginia	4,871	2.6%
Massachusetts	10,708	5.7%	Washington	9,437	6.1%
Michigan	21,889	5.2%	West Virginia	1,767	2.7%
Minnesota	5,894	4.6%	Wisconsin	5,299	3.5%
Mississippi	1,393	2.0%	Wyoming	2,041	4.6%
Missouri	4,813	3.0%	<b>US TOTAL</b>	<b>343,324</b>	<b>4.1%</b>