RESEARCH PARTNERSHIP

To: Clients

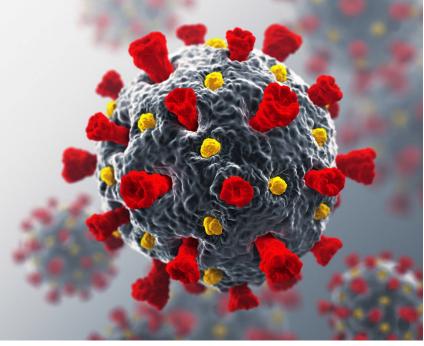
From: Philip Jordan

Vice-President, BW Research Partnership

Date: July 15, 2020

MEMORANDUM

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



INTRODUCTION

BW Research finds that the U.S. energy sector added 212,800 jobs in June, during a period of widespread economic reopening. The sector is down by 1.15 million energy jobs overall, a 16 percent decline over pre-COVID-19 employment levels.

More than 200,000 energy employees were able to return to work in June. While the topline number is an improvement for this month, we are concerned over the remaining high level of unemployment in the sector and by several underlying trends in the most recent jobs reports, including rising rates of permanent unemployment and pauses and reversals in reopening plans in a number of states across the U.S.

While the energy industry experienced an uptick in June, impacts were not felt equally across the various sectors. The motor vehicles sector fared better than average, as more than 1 in 5 motor vehicles workers that had been temporarily displaced during the pandemic returned to work in June. Unfortunately, employment in fuels is not recovering at the same pace, as it is driven down by continued job losses in oil, gas, and coal fuels.

IMPACTS

- Motor vehicles, the largest energy industry, experienced nearly five percent growth over June, increasing by 98,100 jobs. The motor vehicles sector has suffered 370,300 lost jobs since the start of March, or an almost 15 percent decline.
- Fuels grew by less than half a percent or about 4,200 jobs in June. Job losses for fuels total
 170,400 or 15 percent 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, growing by 4 percent or an additional 72,300 jobs in June. Energy efficiency has lost 362,400 jobs since the start of the pandemic for a 15 percent decline.

- Transmission, distribution, and storage and electric power generation both experienced about 2 percent growth in June, resulting in 20,900 and 17,300 added jobs, respectively. The transmission, distribution, and storage and electric power generation sectors have lost 142,600 jobs or 10 percent, and 100,600 jobs or 11 percent, respectively, since the start of the pandemic.
- Clean energy jobs added 106,300 jobs in June, resulting in 4 percent growth. The clean energy industry has lost 15 percent of its workforce since the start of the pandemic, or 514,300 jobs lost.
- Fossil and nuclear fuels and electricity generation, traditional transmission and distribution, and gas and diesel motor vehicles account for about 106,500 gained jobs in June but has dropped nearly 13 percent or 632,100 jobs since March.
- Nearly 6,700 jobs were lost in oil and gas generation, fuels, and transmission and distribution in June. This totals 104,700 oil and gas jobs lost since March, or a nearly 16 percent decline.
- Coal mining and electric power generation suffered almost 1,400 job losses in June, totaling 12,000 jobs lost since the start of the pandemic or a 13 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 employment growth, adding 31,500 jobs or nearly 4 percent of its energy workforce in June's increase. Michigan and Texas followed, adding about 19,400 and 15,700 jobs, respectively, or 6 and 2 percent of their energy industry employment. Florida, North Carolina, Ohio, and Illinois all grew by more than 10,000 energy jobs each. North Carolina, Michigan, and Hawaii saw the largest growth in terms of percent of their respective energy sectors, all with more than 5 percent energy employment gains over the past month. States that have fared worse than average so far include Wyoming, North Dakota, and Oklahoma, all growing less than a percent. For more information about energy job growth by state, see Appendix A: State Energy Job Growth in June 2020 and Appendix B: Cumulative State Energy Job Losses Since Pre-COVID.

Of the 42,400 jobs added back to the traditional energy sector in June, California and Texas grew the most, adding about 9,600 and 2,800 jobs, respectively. These impacts represent about 22 percent of June energy job growth in California, while representing 18 percent of job growth in Texas. States that saw traditional energy employment losses in June are North Dakota, Oklahoma, Wyoming, and New Mexico. This is largely due to continued job losses in oil, gas, and coal production, generation, and transmission, distribution, and storage.

The BLS Employment Situation report 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. About 23% of all jobs in Automobile Manufacturing are held by Black or African-American workers (economy-wide representation is about 12%) and about a third of fossil extraction workers like roustabouts and rotary drill operators are Hispanic/Latino. New policies and programs must focus on equitable recovery given the diversity within many energy-related sectors.

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¹ https://www.bls.gov/news.release/empsit.nr0.htm

METHODOLOGY

BLS employment reports for May and June, as well as the DOL 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 GROWTH IN JUNE 2020

STATE	JOB GROWTH	PERCENT GROWTH	STATE	JOB GROWTH	PERCENT GROWTH
Alabama	2,903	2.3%	Montana	467	1.8%
Alaska	245	1.1%	Nebraska	1,634	3.3%
Arizona	2,493	2.3%	Nevada	1,188	2.2%
Arkansas	1,087	1.9%	New Hampshire	392	1.4%
California	31,520	4.0%	New Jersey	4,257	3.5%
Colorado	2,469	1.7%	New Mexico	561	1.2%
Connecticut	1,537	2.4%	New York	6,336	2.1%
Delaware	776	4.0%	North Carolina	10,733	6.3%
District of Columbia	335	2.0%	North Dakota	318	0.8%
Florida	10,749	3.8%	Ohio	10,621	3.6%
Georgia	3,325	2.3%	Oklahoma	1,056	0.9%
Hawaii	953	5.1%	Oregon	3,154	3.8%
Idaho	657	2.3%	Pennsylvania	5,905	2.8%
Illinois	10,262	3.8%	Rhode Island	757	4.1%
Indiana	8,353	3.4%	South Carolina	3,768	3.2%
Iowa	1,864	2.5%	South Dakota	592	2.4%
Kansas	1,471	1.9%	Tennessee	5,851	3.1%
Kentucky	3,011	2.7%	Texas	15,661	1.9%
Louisiana	2,791	2.2%	Utah	1,699	2.1%
Maine	519	2.4%	Vermont	574	3.0%
Maryland	3,100	2.7%	Virginia	3,889	2.4%
Massachusetts	6,008	3.8%	Washington	4,659	3.9%
Michigan	19,445	5.9%	West Virginia	709	1.3%
Minnesota	2,575	2.4%	Wisconsin	4,347	3.3%
Mississippi	1,392	2.4%	Wyoming	244	0.6%
Missouri	3,616	2.6%	US TOTAL	212,828	3.0%

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

Alabama 21,979 14.7% Montana 4,114 13.4% Alaska 5,885 20.5% Nebraska 6,815 11.9% Arizona 13,373 10.8% Newada 6,972 11.4% Arkansas 6,634 10.3% New Hampshire 2,477 8.0% Colifornia 146,211 15.3% New Jersey 21,470 14.7% Colorado 14,668 9.1% New Mexico 10,989 18.9% Connecticut 9,246 12.1% New York 31,991 9.3% District of Columbia 3,251 15.8% North Dakota 8,235 16.5% Florida 48,571 14.2% Ohio 44,629 12.7% Georgia 56,378 27.3% Oklahoma 23,966 17.3% Hawaii 5,999 23.4% Oregon 11,231 11.6% Idaho 3,279 9.9% Pennsylvania 36,674 13.2% Image of the color 1,123 </th <th>STATE</th> <th>JOBS LOST</th> <th>PERCENT DECLINE</th> <th>STATE</th> <th>JOBS LOST</th> <th>PERCENT DECLINE</th>	STATE	JOBS LOST	PERCENT DECLINE	STATE	JOBS LOST	PERCENT DECLINE
Arizona 13,373 10.8% Nevada 6,972 11.4% Arkansas 6,634 10.3% New Hampshire 2,477 8.0% California 146,211 15.3% New Jersey 21,470 14.7% Colorado 14,668 9.1% New Mexico 10,989 18.9% Connecticut 9,246 12.1% New York 31,991 9.3% Delaware 2,895 12.6% North Carolina 36,854 17.0% District of Columbia 3,251 15.8% North Dakota 8,235 16.5% Florida 48,571 14.2% Ohio 44,629 12.7% Georgia 56,378 27.3% Oklahoma 23,966 17.3% Hawaii 5,999 23.4% Oregon 11,231 11.6% Idaho 3,279 9.9% Pennsylvania 50,376 18.7% Illinois 27,131 8.8% Rhode Island 4,618 19.4% Indward 9,36	Alabama	21,979	14.7%	Montana	4,114	13.4%
Arkansas 6,634 10.3% New Hampshire 2,477 8.0% California 146,211 15.3% New Jersey 21,470 14.7% Colorado 14,668 9.1% New Mexico 10,989 18.9% Connecticut 9,246 12.1% New York 31,991 9.3% Delaware 2,895 12.6% North Carolina 36,854 17.0% District of Columbia 3,251 15.8% North Dakota 8,235 16.5% Florida 48,571 14.2% Ohio 44,629 12.7% Georgia 56,378 27.3% Oklahoma 23,966 17.3% Hawaii 5,999 23.4% Oregon 11,231 11.6% Idaho 3,279 9.9% Pennsylvania 50,376 18.7% Illinois 27,131 8.8% Rhode Island 4,618 19.4% Indiana 34,669 12.1% South Carolina 18,674 13.2% Kansas	Alaska	5,885	20.5%	Nebraska	6,815	11.9%
California 146,211 15.3% New Jersey 21,470 14.7% Colorado 14,668 9.1% New Mexico 10,989 18.9% Connecticut 9,246 12.1% New York 31,991 9.3% Delaware 2,895 12.6% North Carollina 36,854 17.0% District of Columbia 3,251 15.8% North Dakota 8,235 16.5% Florida 48,571 14.2% Ohio 44,629 12.7% Georgia 56,378 27.3% Oklahoma 23,966 17.3% Hawaii 5,999 23.4% Oregon 11,231 11.6% Idaho 3,279 9.9% Pennsylvania 50,376 18.7% Illinois 27,131 8.8% Rhode Island 4,618 19.4% Indiana 34,669 12.1% South Carolina 18,674 13.2% Kansas 9,111 10.6% Tennessee 19,169 9.0% Kentucky <t< th=""><th>Arizona</th><th>13,373</th><th>10.8%</th><th>Nevada</th><th>6,972</th><th>11.4%</th></t<>	Arizona	13,373	10.8%	Nevada	6,972	11.4%
Colorado 14,668 9.1% New Mexico 10,989 18.9% Connecticut 9,246 12.1% New York 31,991 9.3% Delaware 2,895 12.6% North Carolina 36,854 17.0% District of Columbia 3,251 15.8% North Dakota 8,235 16.5% Florida 48,571 14.2% Ohio 44,629 12.7% Georgia 56,378 27.3% Oklahoma 23,966 17.3% Hawaii 5,999 23.4% Oregon 11,231 11.6% Idaho 3,279 9.9% Pennsylvania 50,376 18.7% Illinois 27,131 8.8% Rhode Island 4,618 19.4% Indiana 34,669 12.1% South Carolina 18,674 13.2% Iowa 9,306 10.7% South Dakota 1,312 4.9% Kansas 9,111 10.6% Tennessee 19,169 9.0% Kentucky 39,347<	Arkansas	6,634	10.3%	New Hampshire	2,477	8.0%
Connecticut 9,246 12.1% New York 31,991 9.3% Delaware 2,895 12.6% North Carolina 36,854 17.0% District of Columbia 3,251 15.8% North Dakota 8,235 16.5% Florida 48,571 14.2% Ohio 44,629 12.7% Georgia 56,378 27.3% Oklahoma 23,966 17.3% Hawaii 5,999 23.4% Oregon 11,231 11.6% Idaho 3,279 9.9% Pennsylvania 50,376 18.7% Illinois 27,131 8.8% Rhode Island 4,618 19.4% Indiana 34,669 12.1% South Carolina 18,674 13.2% Iowa 9,306 10.7% South Dakota 1,312 4.9% Kansas 9,111 10.6% Tennessee 19,169 9.0% Kentucky 39,347 25.9% Texas 99,439 10.4% Louisiana 37,566 <th>California</th> <th>146,211</th> <th>15.3%</th> <th>New Jersey</th> <th>21,470</th> <th>14.7%</th>	California	146,211	15.3%	New Jersey	21,470	14.7%
Delaware 2,895 12.6% North Carolina 36,854 17.0% District of Columbia 3,251 15.8% North Dakota 8,235 16.5% Florida 48,571 14.2% Ohio 44,629 12.7% Georgia 56,378 27.3% Oklahoma 23,966 17.3% Hawaii 5,999 23.4% Oregon 11,231 11.6% Idaho 3,279 9.9% Pennsylvania 50,376 18.7% Illinois 27,131 8.8% Rhode Island 4,618 19.4% Indiana 34,669 12.1% South Carolina 18,674 13.2% Iowa 9,306 10.7% South Dakota 1,312 4.9% Kansas 9,111 10.6% Tennessee 19,169 9.0% Kentucky 39,347 25.9% Texas 99,439 10.4% Louisiana 37,566 22.1% Utah 5,667 6.5% Maryland 14,926	Colorado	14,668	9.1%	New Mexico	10,989	18.9%
District of Columbia 3,251 15.8% North Dakota 8,235 16.5% Florida 48,571 14.2% Ohio 44,629 12.7% Georgia 56,378 27.3% Oklahoma 23,966 17.3% Hawaii 5,999 23.4% Oregon 11,231 11.6% Idaho 3,279 9.9% Pennsylvania 50,376 18.7% Illinois 27,131 8.8% Rhode Island 4,618 19.4% Indiana 34,669 12.1% South Carolina 18,674 13.2% Iowa 9,306 10.7% South Dakota 1,312 4.9% Kansas 9,111 10.6% Tennessee 19,169 9.0% Kentucky 39,347 25.9% Texas 99,439 10.4% Louisiana 37,566 22.1% Utah 5,667 6.5% Maryland 14,926 11.3% Vermont 2,654 11.7% Massachusetts 25,113	Connecticut	9,246	12.1%	New York	31,991	9.3%
Florida 48,571 14.2% Ohio 44,629 12.7% Georgia 56,378 27.3% Oklahoma 23,966 17.3% Hawaii 5,999 23.4% Oregon 11,231 11.6% Idaho 3,279 9.9% Pennsylvania 50,376 18.7% Illinois 27,131 8.8% Rhode Island 4,618 19.4% Indiana 34,669 12.1% South Carolina 18,674 13.2% Iowa 9,306 10.7% South Dakota 1,312 4.9% Kansas 9,111 10.6% Tennessee 19,169 9.0% Kentucky 39,347 25.9% Texas 99,439 10.4% Louisiana 37,566 22.1% Utah 5,667 6.5% Maryland 14,926 11.3% Virginia 20,666 11.0% Massachusetts 25,113 13.3% Washington 30,716 19.8% Michigan 69,823 16.6%	Delaware	2,895	12.6%	North Carolina	36,854	17.0%
Georgia 56,378 27.3% Oklahoma 23,966 17.3% Hawaii 5,999 23.4% Oregon 11,231 11.6% Idaho 3,279 9.9% Pennsylvania 50,376 18.7% Illinois 27,131 8.8% Rhode Island 4,618 19.4% Indiana 34,669 12.1% South Carolina 18,674 13.2% Iowa 9,306 10.7% South Dakota 1,312 4.9% Kansas 9,111 10.6% Tennessee 19,169 9.0% Kentucky 39,347 25.9% Texas 99,439 10.4% Louisiana 37,566 22.1% Utah 5,667 6.5% Maine 3,125 12.3% Vermont 2,654 11.7% Maryland 14,926 11.3% Virginia 20,666 11.0% Massachusetts 25,113 13.3% Washington 30,716 19.8% Minnesota 17,147 13.4%	District of Columbia	3,251	15.8%	North Dakota	8,235	16.5%
Hawaii 5,999 23.4% Oregon 11,231 11.6% Idaho 3,279 9.9% Pennsylvania 50,376 18.7% Illinois 27,131 8.8% Rhode Island 4,618 19.4% Indiana 34,669 12.1% South Carolina 18,674 13.2% Iowa 9,306 10.7% South Dakota 1,312 4.9% Kansas 9,111 10.6% Tennessee 19,169 9.0% Kentucky 39,347 25.9% Texas 99,439 10.4% Louisiana 37,566 22.1% Utah 5,667 6.5% Maine 3,125 12.3% Vermont 2,654 11.7% Maryland 14,926 11.3% Virginia 20,666 11.0% Massachusetts 25,113 13.3% Washington 30,716 19.8% Michigan 69,823 16.6% West Virginia 8,941 13.6% Minnesota 17,147	Florida	48,571	14.2%	Ohio	44,629	12.7%
Idaho 3,279 9.9% Pennsylvania 50,376 18.7% Illinois 27,131 8.8% Rhode Island 4,618 19.4% Indiana 34,669 12.1% South Carolina 18,674 13.2% Iowa 9,306 10.7% South Dakota 1,312 4.9% Kansas 9,111 10.6% Tennessee 19,169 9.0% Kentucky 39,347 25.9% Texas 99,439 10.4% Louisiana 37,566 22.1% Utah 5,667 6.5% Maine 3,125 12.3% Vermont 2,654 11.7% Maryland 14,926 11.3% Virginia 20,666 11.0% Massachusetts 25,113 13.3% Washington 30,716 19.8% Michigan 69,823 16.6% West Virginia 8,941 13.6% Minnesota 17,147 13.4% Wisconsin 15,929 10.4% Mississippi 9,482	Georgia	56,378	27.3%	Oklahoma	23,966	17.3%
Illinois 27,131 8.8% Rhode Island 4,618 19.4% Indiana 34,669 12.1% South Carolina 18,674 13.2% Iowa 9,306 10.7% South Dakota 1,312 4.9% Kansas 9,111 10.6% Tennessee 19,169 9.0% Kentucky 39,347 25.9% Texas 99,439 10.4% Louisiana 37,566 22.1% Utah 5,667 6.5% Maine 3,125 12.3% Vermont 2,654 11.7% Maryland 14,926 11.3% Virginia 20,666 11.0% Massachusetts 25,113 13.3% Washington 30,716 19.8% Michigan 69,823 16.6% West Virginia 8,941 13.6% Minnesota 17,147 13.4% Wisconsin 15,929 10.4% Mississippi 9,482 13.5% Wyoming 4,663 10.6%	Hawaii	5,999	23.4%	Oregon	11,231	11.6%
Indiana 34,669 12.1% South Carolina 18,674 13.2% Iowa 9,306 10.7% South Dakota 1,312 4.9% Kansas 9,111 10.6% Tennessee 19,169 9.0% Kentucky 39,347 25.9% Texas 99,439 10.4% Louisiana 37,566 22.1% Utah 5,667 6.5% Maine 3,125 12.3% Vermont 2,654 11.7% Maryland 14,926 11.3% Virginia 20,666 11.0% Massachusetts 25,113 13.3% Washington 30,716 19.8% Michigan 69,823 16.6% West Virginia 8,941 13.6% Minnesota 17,147 13.4% Wisconsin 15,929 10.4% Mississippi 9,482 13.5% Wyoming 4,663 10.6%	Idaho	3,279	9.9%	Pennsylvania	50,376	18.7%
Iowa 9,306 10.7% South Dakota 1,312 4.9% Kansas 9,111 10.6% Tennessee 19,169 9.0% Kentucky 39,347 25.9% Texas 99,439 10.4% Louisiana 37,566 22.1% Utah 5,667 6.5% Maine 3,125 12.3% Vermont 2,654 11.7% Maryland 14,926 11.3% Virginia 20,666 11.0% Massachusetts 25,113 13.3% Washington 30,716 19.8% Michigan 69,823 16.6% West Virginia 8,941 13.6% Minnesota 17,147 13.4% Wisconsin 15,929 10.4% Mississippi 9,482 13.5% Wyoming 4,663 10.6%	Illinois	27,131	8.8%	Rhode Island	4,618	19.4%
Kansas 9,111 10.6% Tennessee 19,169 9.0% Kentucky 39,347 25.9% Texas 99,439 10.4% Louisiana 37,566 22.1% Utah 5,667 6.5% Maine 3,125 12.3% Vermont 2,654 11.7% Maryland 14,926 11.3% Virginia 20,666 11.0% Massachusetts 25,113 13.3% Washington 30,716 19.8% Michigan 69,823 16.6% West Virginia 8,941 13.6% Minnesota 17,147 13.4% Wisconsin 15,929 10.4% Mississippi 9,482 13.5% Wyoming 4,663 10.6%	Indiana	34,669	12.1%	South Carolina	18,674	13.2%
Kentucky 39,347 25.9% Texas 99,439 10.4% Louisiana 37,566 22.1% Utah 5,667 6.5% Maine 3,125 12.3% Vermont 2,654 11.7% Maryland 14,926 11.3% Virginia 20,666 11.0% Massachusetts 25,113 13.3% Washington 30,716 19.8% Michigan 69,823 16.6% West Virginia 8,941 13.6% Minnesota 17,147 13.4% Wisconsin 15,929 10.4% Mississippi 9,482 13.5% Wyoming 4,663 10.6%	lowa	9,306	10.7%	South Dakota	1,312	4.9%
Louisiana 37,566 22.1% Utah 5,667 6.5% Maine 3,125 12.3% Vermont 2,654 11.7% Maryland 14,926 11.3% Virginia 20,666 11.0% Massachusetts 25,113 13.3% Washington 30,716 19.8% Michigan 69,823 16.6% West Virginia 8,941 13.6% Minnesota 17,147 13.4% Wisconsin 15,929 10.4% Mississippi 9,482 13.5% Wyoming 4,663 10.6%	Kansas	9,111	10.6%	Tennessee	19,169	9.0%
Maine 3,125 12.3% Vermont 2,654 11.7% Maryland 14,926 11.3% Virginia 20,666 11.0% Massachusetts 25,113 13.3% Washington 30,716 19.8% Michigan 69,823 16.6% West Virginia 8,941 13.6% Minnesota 17,147 13.4% Wisconsin 15,929 10.4% Mississippi 9,482 13.5% Wyoming 4,663 10.6%	Kentucky	39,347	25.9%	Texas	99,439	10.4%
Maryland 14,926 11.3% Virginia 20,666 11.0% Massachusetts 25,113 13.3% Washington 30,716 19.8% Michigan 69,823 16.6% West Virginia 8,941 13.6% Minnesota 17,147 13.4% Wisconsin 15,929 10.4% Mississippi 9,482 13.5% Wyoming 4,663 10.6%	Louisiana	37,566	22.1%	Utah	5,667	6.5%
Massachusetts 25,113 13.3% Washington 30,716 19.8% Michigan 69,823 16.6% West Virginia 8,941 13.6% Minnesota 17,147 13.4% Wisconsin 15,929 10.4% Mississippi 9,482 13.5% Wyoming 4,663 10.6%	Maine	3,125	12.3%	Vermont	2,654	11.7%
Michigan 69,823 16.6% West Virginia 8,941 13.6% Minnesota 17,147 13.4% Wisconsin 15,929 10.4% Mississippi 9,482 13.5% Wyoming 4,663 10.6%	Maryland	14,926	11.3%	Virginia	20,666	11.0%
Minnesota 17,147 13.4% Wisconsin 15,929 10.4% Mississippi 9,482 13.5% Wyoming 4,663 10.6%	Massachusetts	25,113	13.3%	Washington	30,716	19.8%
Mississippi 9,482 13.5% Wyoming 4,663 10.6%	Michigan	69,823	16.6%	West Virginia	8,941	13.6%
	Minnesota	17,147	13.4%	Wisconsin	15,929	10.4%
Missouri 18,649 11.5% US TOTAL 1,146,329 13.7%	Mississippi	9,482	13.5%	Wyoming	4,663	10.6%
	Missouri	18,649	11.5%	US TOTAL	1,146,329	13.7%