

United States Energy Workforce in 2020

A SNAPSHOT OF KEY FINDINGS
FROM THE 2021 UNITED STATES
ENERGY & EMPLOYMENT REPORT



Secretary
Jennifer M. Granholm

Prior to the pandemic, the energy sector had been one of the country's fastest growing sectors. From 2015 to 2019, the annual growth rate for energy employment in the United States was 3 percent—double the general economy's of 1.5 percent. In 2020, as the economy experienced wide-spread losses, the analysis shows us that by the end of the year, the energy sector was rebounding—adding back 560,000 jobs by the end of the year, resulting in 839,000 total jobs losses, a year-over-year decline from 8.4 million to 7.5 million jobs—a 10 percent drop.

Although the energy workforce experienced widespread losses, continued investments prevented declines in some areas. Wind generation increased by 2,000 jobs (2 percent) and battery storage by 800 jobs (1 percent). Hybrid electric vehicles increased by 6,000 jobs (6 percent), while electric vehicles also increased by 6,000 jobs (8 percent). Two industrial segments of the United States energy economy grew: transportation and shipping added 23,000 jobs (8 percent) and agriculture grew by 400 jobs (1 percent).

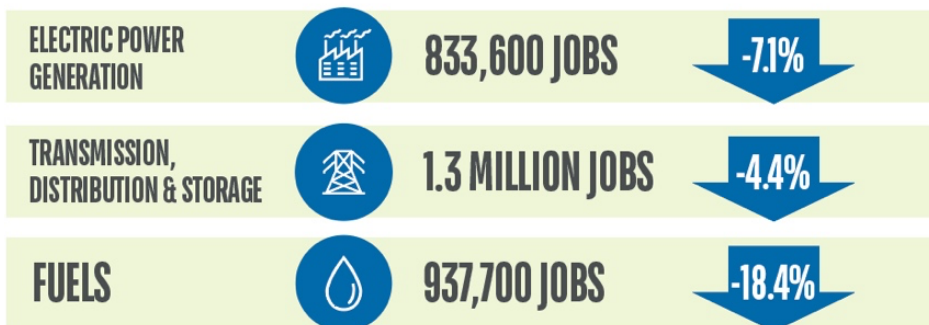


Critical investments in infrastructure can reignite job growth in the energy sector.

Prior to the pandemic, energy sector job growth outpaced the overall economy. Key investments that modernize our electric grid, fuels infrastructure, buildings, and transportation can recoup the job losses from 2020 and return the sector to positive growth rates.

Energy investments pay dividends, as workers are more likely to be unionized and paid wages that are significantly higher than the overall median wage. A recent study demonstrated that energy jobs pay about 34 percent higher wages on averages than the median pay across all industries in the United States.

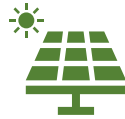
Within these energy sectors, key energy technologies, sources, and industry segments experienced declines.



Employment in energy efficiency dropped by the greatest number, declining 272,000 workers (11 percent). Employment in fuels declined by the greatest percentage, by 18 percent, or 211,000 jobs. Motor vehicles lost 239,000 jobs, a 9 percent drop.



Oil and gas fuels lost 186,000 jobs in 2020, a decline of 21 percent. Nine in ten (166,000) of these losses were in the mining and extraction sector, a decline of 31 percent.



Solar employment declined by 8 percent, or 29,000 jobs.



Manufacturers of energy products lost 187,000 jobs, an 11 percent decline.



Construction employment fell by 258,000 jobs, a 12 percent drop.

Demographic Representation and Diversity

- The energy sector is less diverse than the nation as a whole. It is critical to foster equitable access to the economic opportunities that result from energy infrastructure investments and create pathways for greater inclusion of workers who are currently underrepresented in the energy sector.
- The energy sector overall has fewer women and people of color than the overall economy. While some sectors, such as electric power generation, are more diverse than others, it is critical to foster equitable access to the economic opportunities that result from energy infrastructure investments.
- Black or African Americans compose a higher percentage of the workforce in nuclear electric power generation (13 percent), coal electric power generation (11 percent), and natural gas electric power generation (10 percent) when compared to renewable technologies such as solar photovoltaic electric power generation (8 percent) and wind electric power generation (8 percent).
- Women are represented at a higher rate in electric power generation overall (32 percent) when compared to other overall energy categories, however, they are still employed well below the national economy-wide average of 47 percent.

Union Membership

- The sectors with the highest union membership in 2020 were nuclear electric power generation (20 percent), transmission, distribution, and storage (16 percent), and natural gas electric power generation (15 percent).

Industrial and Occupational Profiles

- About a third each of employment in the motor vehicles (37 percent) and fuels (33 percent) sectors is found in production/manufacturing positions.
- Energy efficiency and transmission, distribution, and storage employment is largely concentrated in installation/repair or administrative positions.
- Most of the employment in electric power generation is spread across installation/repair positions (32 percent), administrative positions (21 percent), and management/professional positions (19 percent).

ABOUT THE UNITED STATES ENERGY & EMPLOYMENT REPORT

The United States Energy & Employment Report (USEER) was published in [2016](#), [2017](#), and [2021](#) by the United States Department of Energy (DOE) upon recommendation of the first 2015 installment of the Quadrennial Energy Review (QER), “to reform existing data collection systems to provide consistent and complete definitions and quantification of energy jobs across all sectors of the economy.” The 2016, 2017 and 2021 reports can all be found at energy.gov/useer. The 2018 USEER, 2019 USEER, and 2020 USEER were prepared under a Memorandum of Understanding between the [Energy Futures Initiative \(EFI\)](#) and the [National Association of State Energy Officials \(NASEO\)](#) and a contract between EFI and [BW Research Partnership \(BWR\)](#). The survey instrument and underlying methodology are consistent with that used in the primary data collected on behalf of the United States Department of Energy (OMB Control No. 1910-5179) for the 2017 United States Energy and Employment Report and secondary data from the United States Department of Labor’s Quarterly Census of Employment and Wages for the second quarter of 2017. Wage data drawn from “Wages, Benefits, and Change,” <http://usenergyjobs.org/wages>

Publication Number: DOE/SP-0002