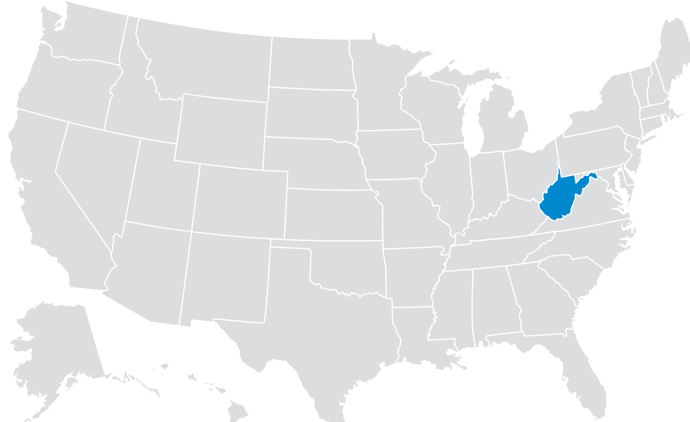
NREL
Transforming ENERGY

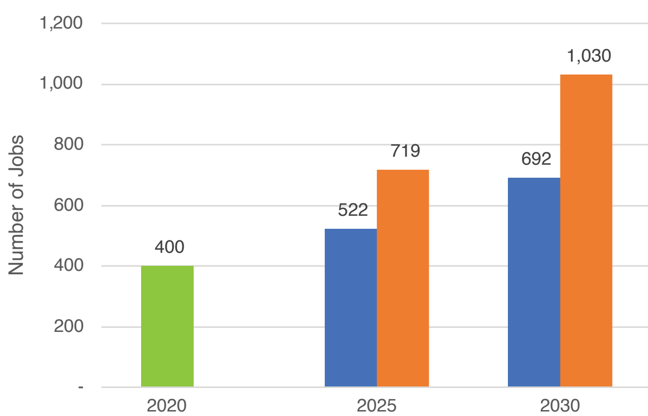
West Virginia's Clean Energy Jobs Potential Through 2030



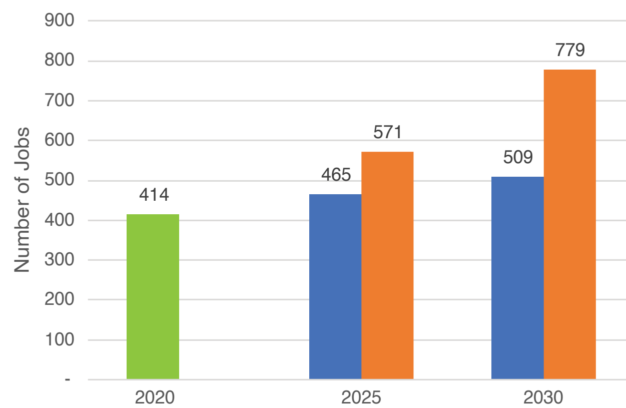
According to the U.S. Census Bureau, West Virginia had 1,129,785 people in its working population (15 to 64 years of age) in 2019. The graphs below show solar photovoltaic (PV), land-based wind, battery energy storage (BES), and energy efficiency job estimates in 2020, 2025, and 2030.[1] These job estimates do not represent net job creation. Rather, they represent the size of the workforce required to achieve projected national deployment levels of each technology for 2025 and 2030 if the state captures the same proportion of jobs in the sector as it did in 2020.

Legend Jobs *(reported)* Jobs *(modeled with IMPLAN)* Jobs *(low, modeled; see methodology)* Jobs *(high, modeled; see methodology)*

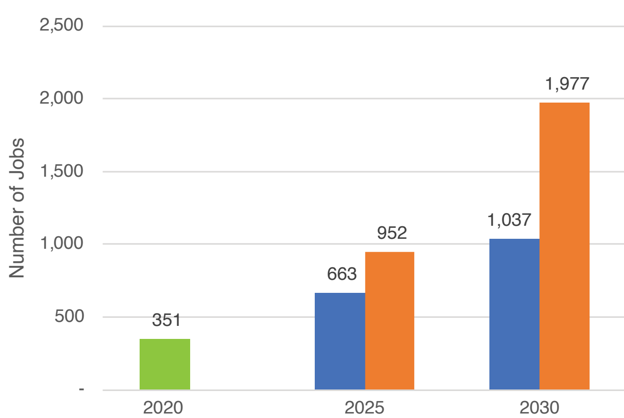
Solar Energy Job Estimates 2020–2030
(photovoltaics)



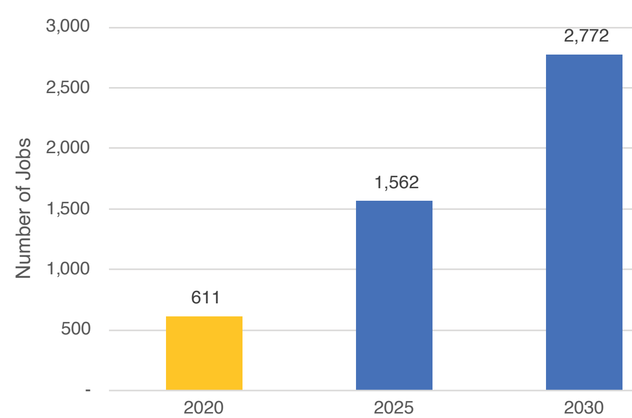
Wind Energy Job Estimates 2020–2030
(land-based)



Battery Storage Job Estimates 2020–2030
(stationary, grid-connected)



Energy Efficiency Job Estimates 2020–2030
(utility cost-effective measures in buildings)



[1]Jobs include direct (installation and operations, maintenance) and indirect (supply chain) jobs aligned with goods and services associated with each clean energy sector regardless of the amount of labor hours spent working with the technology in a work week. The job estimates presented here therefore are not full-time equivalent measures.

Methodology

Battery Energy Storage (BES), Solar Photovoltaics (PV), and Land-Based Wind

State-level job figures shown for 2020 reflect what was reported in the *Energy Employment by State: 2021, U.S. Energy and Employment Report (USEER)*, adjusted to match the scope of the technologies included in this report (e.g., solar includes only PV and not concentrating solar power, wind only includes land-based wind and not offshore wind, etc.). For 2025 and 2030, NREL projected national deployments and associated job estimates and allocated jobs to states based on the proportion of the job market a state captured in 2020 according to the jobs reported in the *Energy Employment by State: 2021, USEER*. This analysis assumes that a state will capture the same proportion of national jobs in each clean energy sector as it did in 2020.

National job estimates in 2025 and 2030 were derived from multiplying projected deployments (using NREL's Regional Energy Deployment System (ReEDS) and Distributed Generation Market Demand (dGen) models) by a national jobs multiplier (calculated using cumulative deployments and reported jobs nationwide in 2020). The job multiplier was applied to two deployment scenarios to arrive at a range of projected jobs for BES, PV, and land-based wind nationwide in 2025 and 2030. The lower end of the range is based on the ReEDS mid-case ("business as usual") scenario that assumes a mid-case cost reduction trajectory for each technology; the upper end of the range is based on "accelerated" deployment scenarios that assumes each of the three technologies experience more pronounced cost declines while other generation technologies experience mid-case cost reductions. As such, the accelerated deployment projections and associated jobs estimates should not be viewed as an integrated comprehensive future scenario that states could achieve. Rather, each technology's accelerated deployment estimates should be considered separately as a comparison of opportunities.

Energy Efficiency

Energy efficiency jobs were estimated using the Electric Power Research Institute's (EPRI) State Level Energy Efficiency Potential Estimates data and the IMPLAN input-output model. Energy efficiency deployments for 2025 and 2030 were modeled using EPRI's total achievable energy efficiency potential scenario, which calculates savings from all cost-effective measures from a utility perspective. EPRI's model only includes measures that are cost-effective from a utility perspective and does not account for other economy-wide energy efficiency measures (measures adopted without financial incentives or promotion from utility programs). Therefore, the job estimates for energy efficiency are not comparable to those measured by the *U.S. Energy and Employment Report*, which captures economy-wide energy efficiency jobs. Energy efficiency jobs are allocated to states based on the proportion of national investments a state is projected to make.

2020 Deployments

Solar and wind deployments for 2020 are reported by trade associations. Because few data exist showing state-level BES deployments, NREL used the ReEDS model to estimate 2020 BES deployments. Energy efficiency deployments for 2020 were modeled using EPRI's State Level Energy Efficiency Potential Estimates for the total achievable energy efficiency potential, which calculates savings from all cost-effective measures from a utility perspective. EPRI's model only includes measures that are cost-effective from a utility perspective, and does not account for other economy-wide energy efficiency measures.

2020 Statistics

Technology	Deployments	Units	Data Sources
Solar	13	MW	Solar Energy Industries Association (SEIA)
Wind	742	MW	U.S. Department of Energy Wind Exchange
Battery Storage	100	MW	Regional Energy Deployment System (ReEDS) Model
Energy Efficiency	495	GWh	Electric Power Research Institute (EPRI)

Further details can be found in the Methodology section of *State-Level Employment Projections for Four Clean Energy Technologies in 2025 and 2030*. Please visit https://www.nrel.gov/docs/fy22osti/81486.pdf.

Additional support and resources from NREL are available at https://www.nrel.gov/state-local-tribal/.

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National Renewable Energy Laboratory
15013 Denver West Parkway, Golden, CO 80401
303-275-3000 • www.nrel.gov

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