

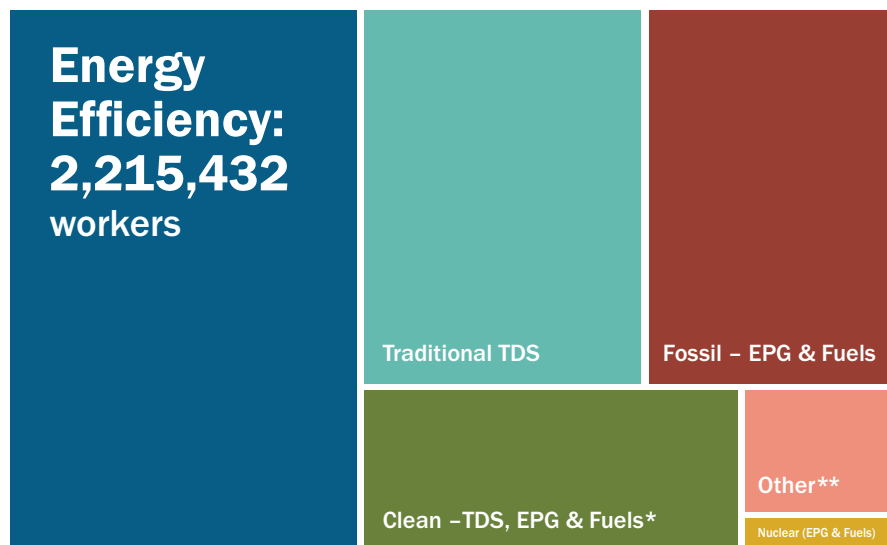
Energy Efficiency Jobs In America

2.2+ MILLION AMERICANS WORK IN ENERGY EFFICIENCY

The stage is set for historic investments in energy efficiency (EE) to extend across all sectors of the U.S. economy, underscoring efficiency’s crucial role in addressing the serious pollution impacts of our built environment. To achieve U.S. climate goals, the EE workforce — already the largest in the clean energy industry — must grow significantly. Prioritizing EE workforce development in every state is essential to meeting the demands of this moment and creating a more diverse workforce.

In construction, the largest subsector of workers within EE jobs, training and certifications help to ensure quality building performance. Efficiency construction workers are in high demand, and those with key credentials earn competitive salaries, contributing to better buildings and energy-efficient infrastructure.

This report serves as a baseline by which to measure future EE job growth enabled by large-scale investments, driven by energy policy.



TDS = Transmission, Distribution & Storage
 EPG = Electric Power Generation
 *Also includes jobs in energy storage and grid modernization that enable renewable electricity
 **Includes other subsectors such as corn ethanol, woody biomass, large hydropower



IN PERSPECTIVE

2 in every 5 jobs in the U.S. energy sector are in energy efficiency (41.3%)

1.19 million construction jobs are in energy efficiency. Over 15% of total U.S. construction workers spend at least 50% of their time on EE

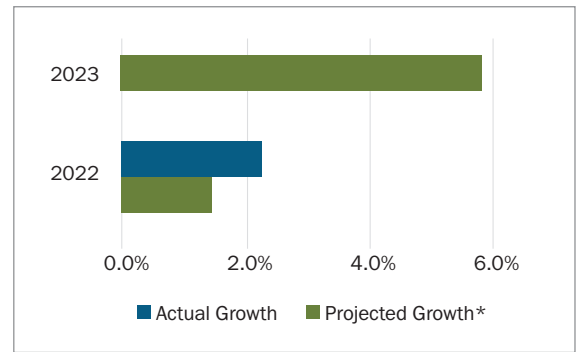
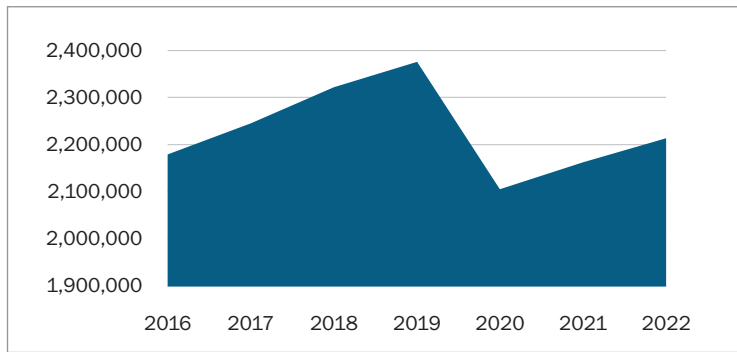
2.1x Energy efficiency employs 2.1 times as many workers in the U.S. as the entire fossil fuel industry

9% of energy efficiency jobs are held by veterans (203,602), greater than the national average of veterans in the workforce (5%)

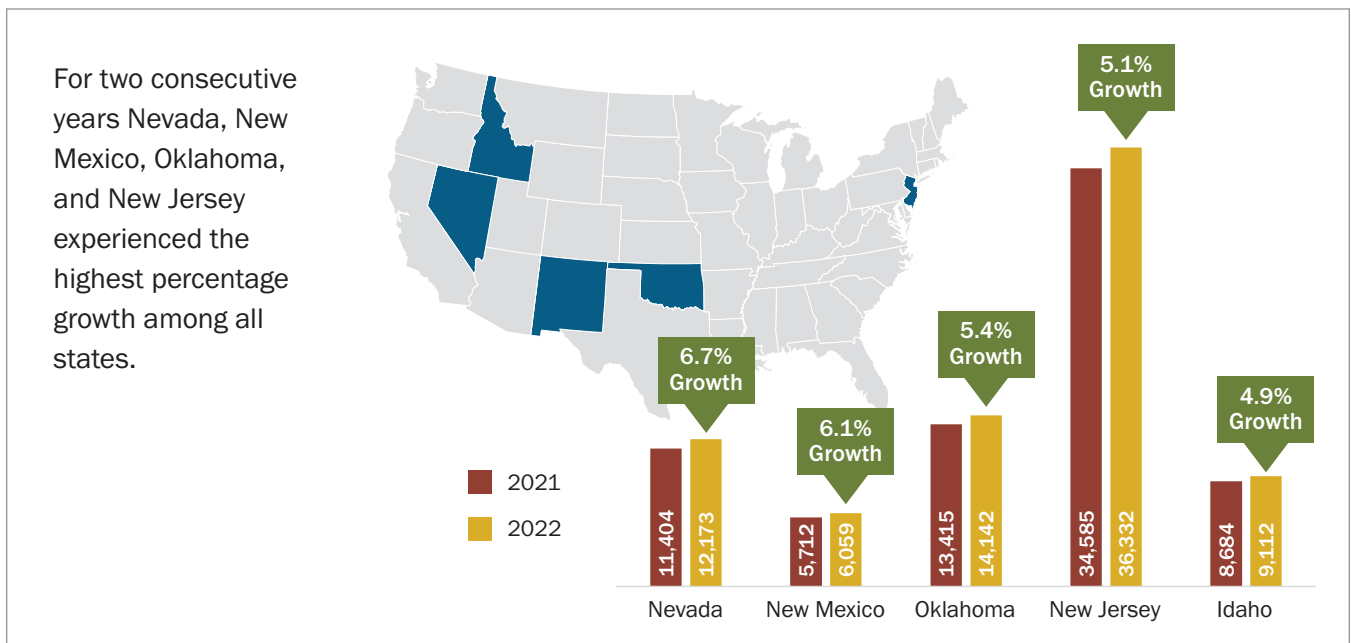
A BIGGER PICTURE

Using 2022 data, this report focuses solely on the EE sector of the U.S. economy, with an emphasis on the built environment. This report captures only jobs using certified energy efficiency products or those installed according to ENERGY STAR guidelines, and high-performance building materials. It omits EE jobs in transportation and electric grid technologies, water use or waste management, among others.

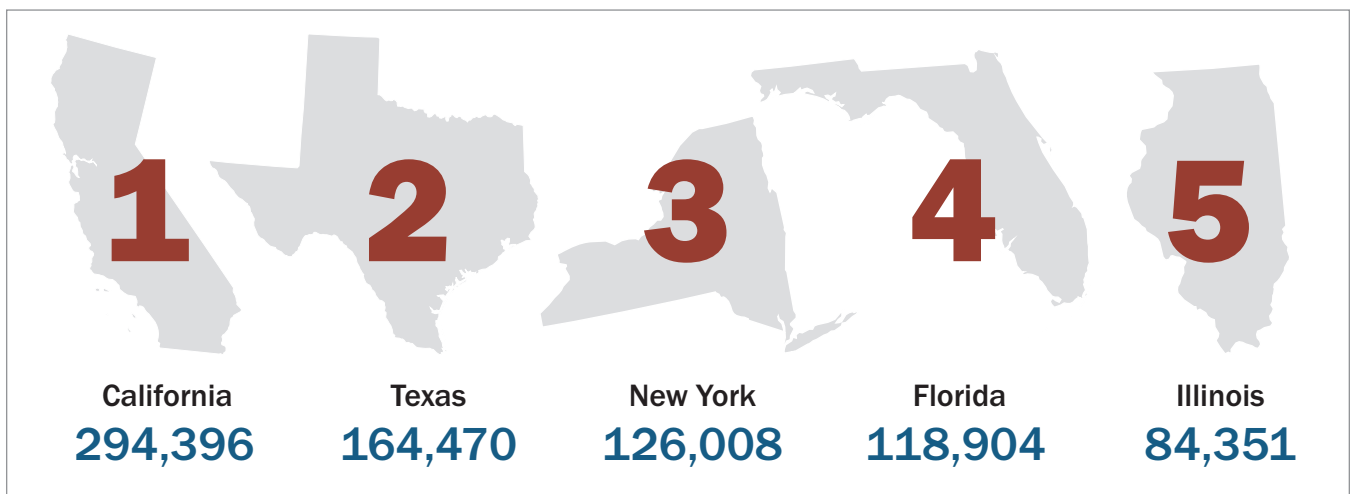
EE JOBS YEAR-OVER-YEAR



TOP STATES FOR GROWTH



TOP TOTAL GROSS JOBS

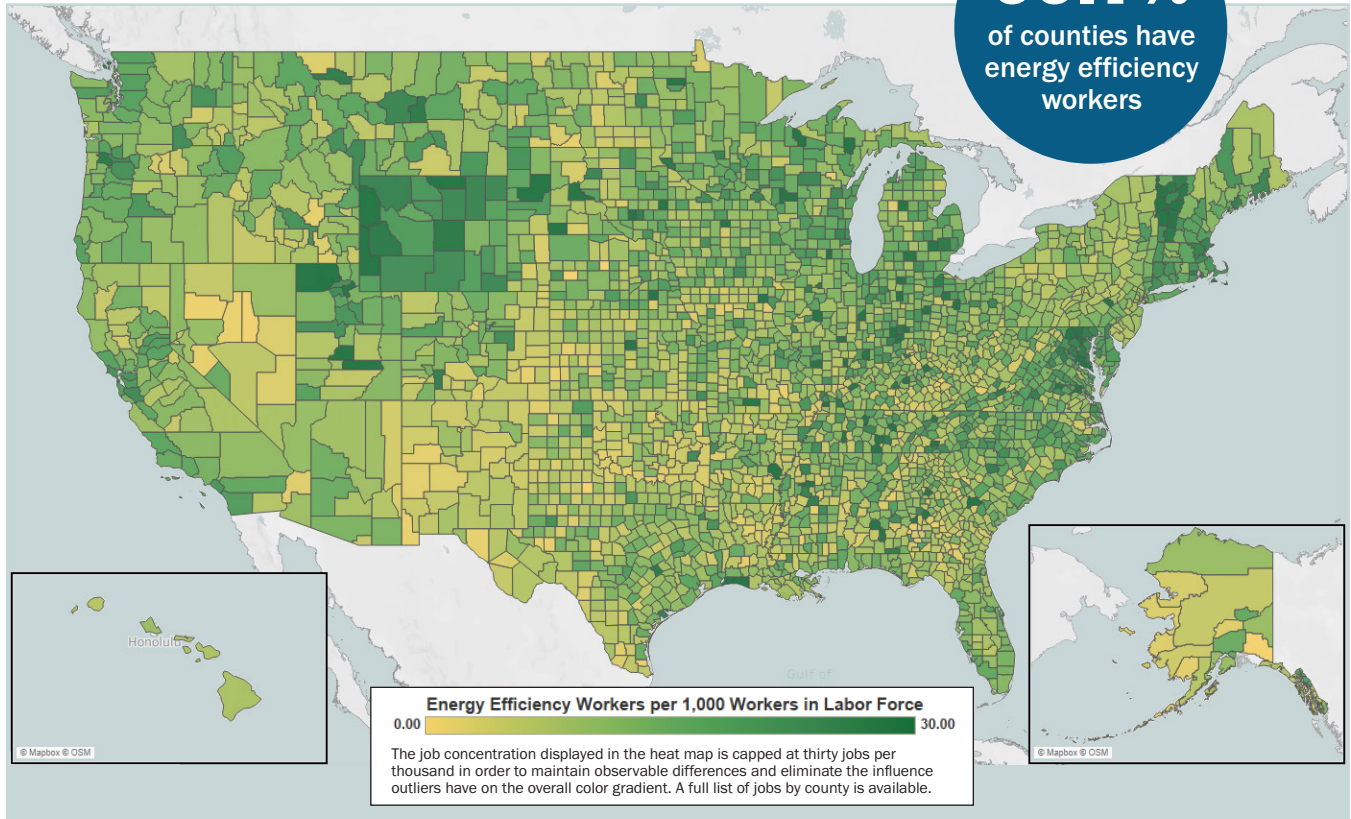


*Projected Growth chart from 2022 USEER statistics based on contractor expectations for hiring in the coming year; some survey results preceded August 2022.

LOCAL ECONOMIES BENEFIT FROM ENERGY EFFICIENCY


How do the energy efficiency jobs – found in nearly every U.S. county – impact local economies? All buildings share the potential to be tapped for deeper energy savings. Improved insulation, better HVAC and appliances, and new digital controls are a few common upgrades. Most EE jobs associated with these upgrades must be performed by local workers and cannot be outsourced. And the energy savings they create enable more dollars to circulate in the local economy.

99.7%
of counties have
energy efficiency
workers



Half of U.S. states have over **31,000** EE workers each, with **40 states and D.C.** employing at least **10,000** each.

BEYOND THE BIG CITIES

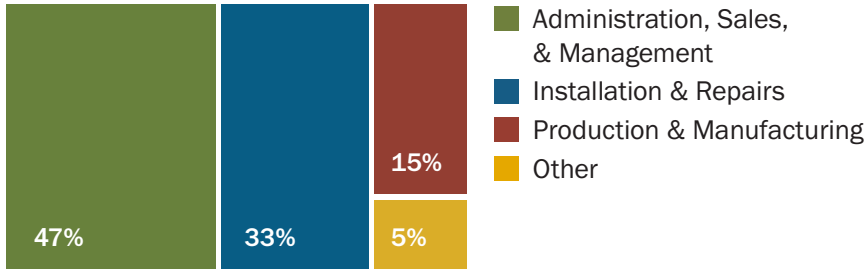


<p>260,261 Americans living in rural areas work in energy efficiency.</p>	<p>280,821 U.S. energy efficiency jobs are in counties with fewer than 100,000 residents.</p>	<p>824,857 Energy efficiency jobs are outside America's top 50 metro areas.</p>
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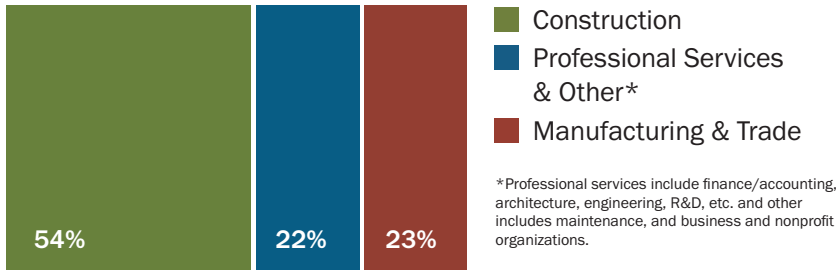
ENERGY EFFICIENCY WORKERS: WHERE DO THEY WORK?

Energy efficiency professionals work in factories, offices, design studios, and data centers. They do much more than reduce energy use and costs. They improve system operations and comfort in existing buildings, and design and build a better, more cost-effective future. Reducing energy waste drives job creation.

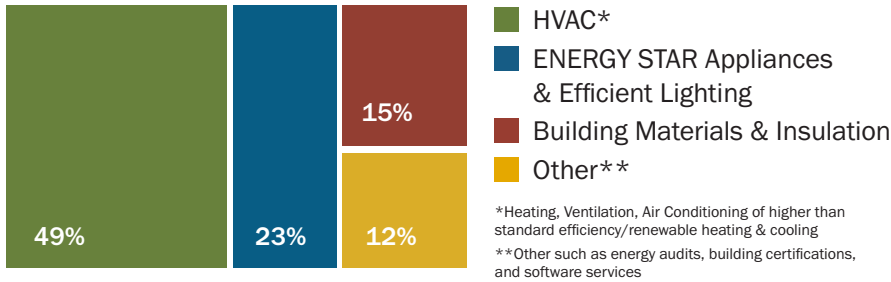
ACROSS POSITIONS



ACROSS INDUSTRIES



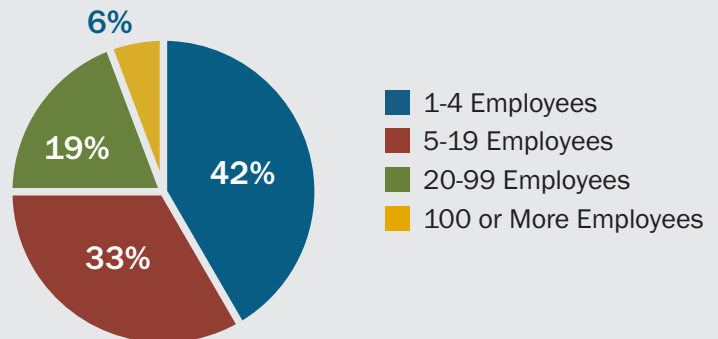
ACROSS TECHNOLOGIES



EMPOWERING AMERICA: THE SMALL BUSINESS IMPACT

75% of the **384,688** energy efficiency establishments in the U.S are small businesses with **fewer than 20 employees**. All but 6% are businesses with fewer than 100 employees.

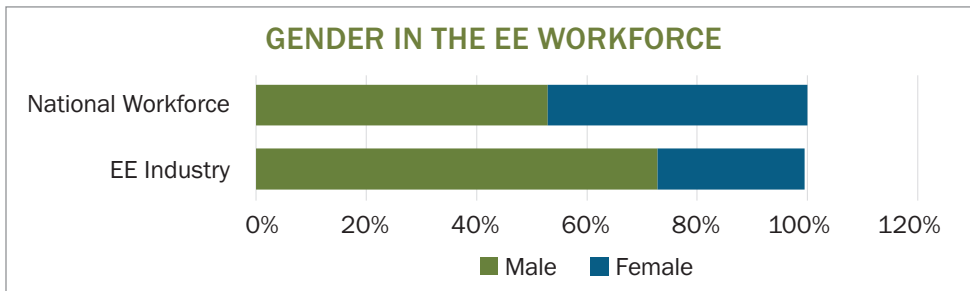
Small EE contractors and businesses are boosting local economies across America.



ENHANCING WORKFORCE DIVERSITY: A VITAL STEP FOR ENERGY EFFICIENCY SUCCESS

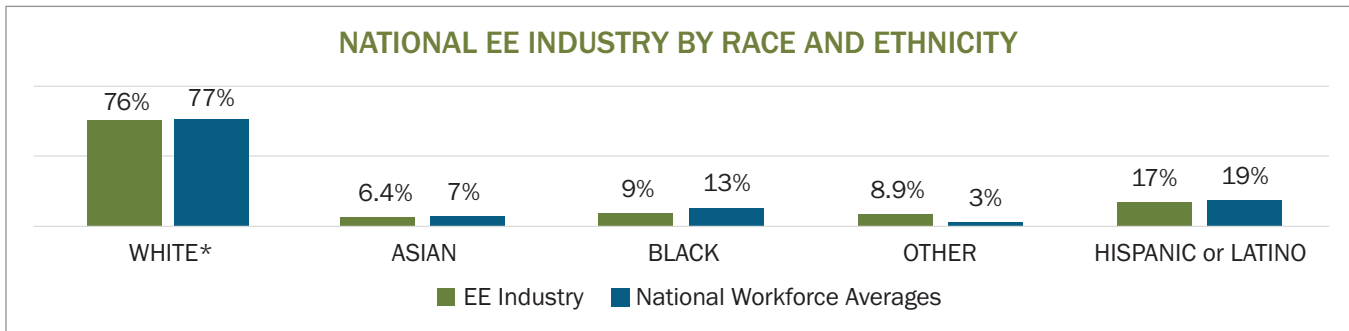
The EE industry is growing, yet its workforce has not fully recovered from sharp pandemic-related losses. As of 2022, EE jobs recovered 60% from January 2020. Recent federal investments will help, but the industry can also help speed up that recovery and truly thrive by improving workforce diversity.

A diverse workforce is proven to boost innovation, productivity, employee satisfaction and retention as well as profits. Diversity in hiring will be key to improving business outcomes and ensuring that communities across the nation are better represented in the efficiency sector. Investing resources to ensure EE workforce trainings are deployed in diverse communities will also enable a more diverse pool of potential workers to access careers in EE.



Note: The U.S. Bureau of Labor Statistics (BLS) only includes two genders in their survey. Nonbinary gender data is missing from this document due to this limitation.

The EE industry needs to do more to **prioritize** the training and support that enables access to employment at EE businesses for people of color and women.

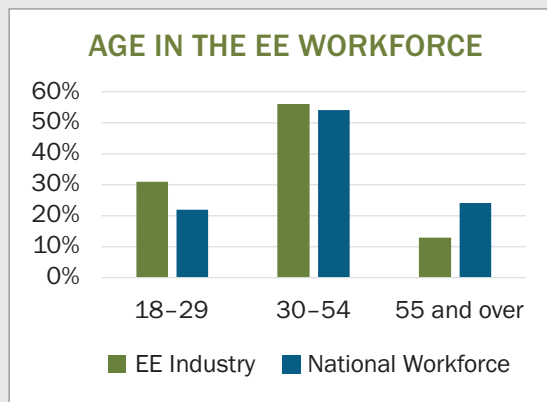


*Includes non-Hispanic and Hispanic whites.

WHAT ABOUT AGE & UNION STATUS?

The EE workforce is primarily comprised of young and middle-aged workers, with higher representation of under 30 and 30-54 compared to both the overall energy workforce and the national workforce.

EE workers have a higher rate of union membership than the national average, helping to ensure EE jobs are good paying jobs.



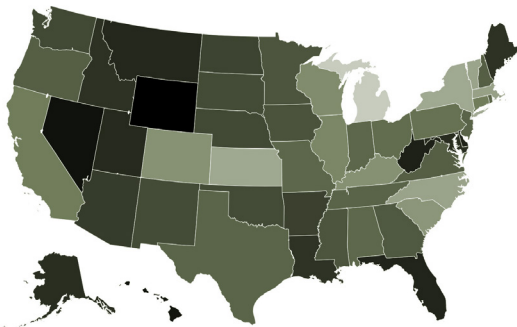
12% of EE pros (263,417) are represented by a union compared to the national average of 7% (private sector).

WORKFORCE NEEDS BY STATE: MAXIMIZING SUCCESS

EE establishments faced recruitment challenges in 2022, with more than 84% reporting some level of difficulty in finding suitable employees. To meet the increased demand bolstered by substantial investments in energy efficiency, significant EE workforce growth is necessary.

How can decision-makers align workforce training with career paths more effectively, benefiting both employers and job candidates? They can start by considering the distribution of existing EE jobs. While most EE jobs are in construction, many opportunities exist in manufacturing and professional services.

EE Workers in Construction



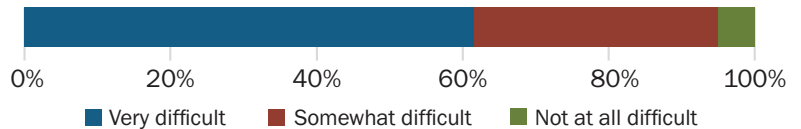
EE workers employed in construction
30.9% — 86.1%

Almost 1.2 million U.S. construction workers are employed with a primary focus on energy efficiency. Among all industries, this sector reported the most significant hiring hurdles, with 95% of employers saying it was either “very difficult” or “somewhat difficult” to recruit qualified personnel.

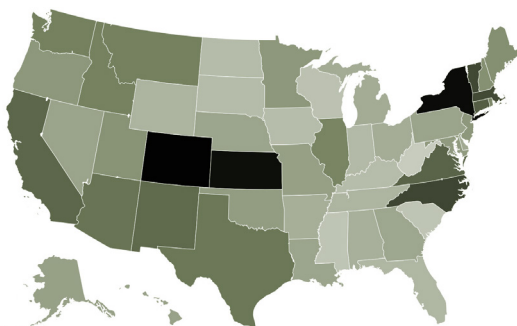
Unionized construction firms* experienced more success in hiring, with only 37% reporting that hiring was “very difficult.”

*Defined as firms with at least 20% of their employees belonging to a union or covered by a project labor or collective bargaining agreement.

Construction: Employer Perspective on Hiring Difficulty



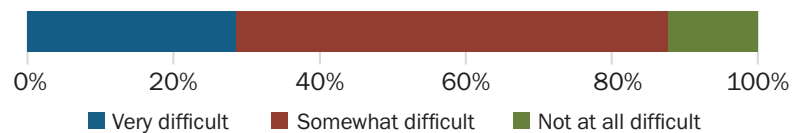
EE Workers in Professional Services and Other



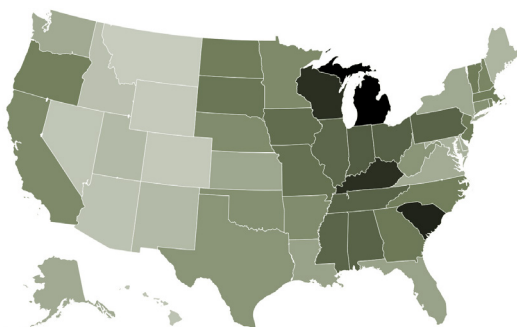
EE workers employed in professional services and other
6.4% — 51.4%

Engineers, designers, architects, financial services and legal professionals represent nearly 526,000 U.S. efficiency workers. This sector indicated competition/small applicant pool plus a lack of relevant experience, training, or technical skills as the primary reasons for experiencing difficulty in hiring workers.

Professional Services & Other: Employer Perspective on Hiring Difficulty



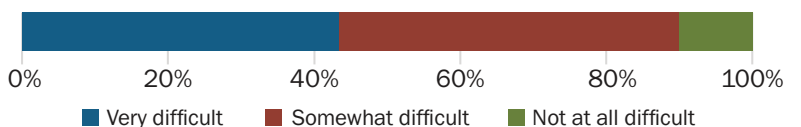
EE Workers in Manufacturing and Trade



EE workers employed in manufacturing and trade
1.7% — 55.6%

U.S. manufacturing of energy efficient products comprises nearly 496,000 jobs. The manufacturing and trade sector reported competition/small applicant pool as employers’ primary hiring challenges. Lack of available workers with sufficient skills, qualifications, or training also contributed to difficulty in hiring.

Manufacturing & Trade: Employer Perspective on Hiring Difficulty



POLICY LEADERSHIP

Energy efficiency saves money, reduces emissions, improves air quality and public health, and makes us more energy independent—while also tackling climate change and creating jobs. The Inflation Reduction Act (IRA) and the Infrastructure Investment and Jobs Act (IIJA) included historic investments aimed at advancing energy efficiency across the country. The effective implementation of the energy efficiency provisions in IRA and IIJA, and the continued funding for government-led energy efficiency activities, are both crucial to realizing the benefits of this critical energy source.



Federal policy leadership can ensure that energy efficiency and indoor air quality are addressed to benefit property owners, occupants, and the country.

Maintain and ensure robust funding for proven federal energy efficiency programs, including:

- State energy programs
- Weatherization assistance programs
- Energy efficiency and conservation block grants

Use Federal Investments Wisely

Ensure effective implementation of key incentives and rebates included in the IRA and the IIJA for building owners, households, and public buildings to make smart property upgrades that create jobs and improve building performance, such as:

Protect Inflation Reduction Act Opportunities:

- Commercial and multifamily residential building tax credits (179D Energy Efficient Commercial Building Deduction; 45L New Energy Efficient Home Tax Credit)
- Single family home tax credits (25C Home Energy Efficiency Improvement Credit), which includes credits for the following efficiency measures and efficient appliances (not a comprehensive list):
 - Air Source Heat Pumps and Heat Pump Water Heaters (30 percent of costs, including labor, up to \$2,000 annually)
 - Insulation and Air Sealing (30 percent of costs, not including labor, up to \$1,200 annually)
 - Home Energy Audits (30 percent of costs up to \$150 credited annually)
- Residential rebate programs administered by State Energy Offices to drive efficiency and electrification deployment and job creation for local contractors—the Home Efficiency Rebates (HOMES) program, and the Home Electrification and Appliance Rebates (HEEHR) Program
- State-Based Home Energy Efficiency Contractor Training Grants, also administered by State Energy Offices to expand the EE and electrification workforce
- Greenhouse Gas Reduction Fund (GGRF) competitive grants for states, Tribal governments, municipalities, and nonprofits to mobilize financing for clean energy and climate projects that reduce emissions (including efficiency)

Protect Infrastructure Investment and Jobs Act Opportunities:

- Energy Auditor Training grant program for states to train individuals to conduct energy audits or conduct surveys of commercial and residential buildings
- Energy Efficiency Revolving Loan Fund Capitalization Grant Program for states to establish revolving loan funds in support of loans and grants for EE audits, upgrades, and retrofits to increase building efficiency

Support other policy initiatives to further advance energy efficiency nationwide, including:

- Programs focused on resilience, energy efficiency, and air quality in public buildings
- Tax credits and rebates for U.S. manufacturing of energy efficient appliances and technologies
- Stronger building and appliance efficiency standards, with training and enforcement
- ENERGY STAR, which helps people make smart energy choices
- Energy audits, technical assistance, and financing options for large manufacturers
- Directing FEMA (Federal Emergency Management Agency) to ensure that rebuilding complies with updated international building codes and advances energy efficiency

Advance and prioritize workforce development and diversity, equity, and inclusion in federal energy efficiency programs:

- Strengthen workforce development and apprenticeship programs for the EE sector
- Create a workforce grant program to help organizations and small businesses hire and train new EE employees with a focus on equity, diversity, and inclusion
- Increase grants and financing to deploy more efficiency projects in underserved communities that often carry greater energy burdens while developing career opportunities for local workers



State and local leaders can keep energy efficiency jobs growing.

State and local leaders can:

- Adopt high efficiency and indoor air quality standards for new construction and existing buildings, leveraging IRA funds to support assistance for the latest (net zero) building energy code adoption for state and local governments
- Adopt energy benchmarking and reporting requirements for existing buildings
- Incorporate broader use of performance contracting in public buildings
- Advance commercial property assessed clean energy (PACE) programs
- Modernize regulations to ensure transparent and comprehensive cost-effectiveness evaluations; align utility incentives with investments in efficiency
- Invest in advanced infrastructure to enable interval data analytics of energy use, and to boost resilience
- Join coalitions to pass policies to accelerate the deployment of heat pumps and other major efficient appliances and upgrades incentivized by the Home Efficiency Rebates (HOMES) and Home Electrification and Appliance Rebates (HEEHR).

ABOUT THE REPORT

The 2022 job numbers come from the national 2023 U.S. Energy and Employment Report (USEER), which focuses on all energy jobs. The USEER analyzes data from the U.S. Bureau of Labor Statistics (BLS) Quarterly Census of Employment and Wages (QCEW) to track employment across many energy production, transmission, and distribution subsectors. The 2023 USEER also relies on a unique supplemental survey of 34,200 business representatives across the U.S. This survey is used to identify energy-related employment within key subsectors of the broader industries as classified by the BLS and to assign them into their component energy and energy efficiency sectors. See appendix B of the USEER for complete methodology details.

For questions regarding this report, visit the [Energy Efficiency Jobs in America FAQ](#) or contact E4TheFuture or E2 directly.



ABOUT E4TheFuture

E4TheFuture is dedicated to bringing clean, efficient energy home for every American and promotes energy solutions to advance climate protection and economic fairness. [Visit www.E4TheFuture.org](http://www.E4TheFuture.org).



ABOUT E2

E2 is a national, nonpartisan group of business leaders, investors and other professionals from every sector of the economy who advocate for smart policies that are good for the environment and good for the economy. E2 members have founded or funded more than 2,500 companies, created more than 600,000 jobs and control more than \$100 billion in private and venture capital equity. [Visit www.e2.org](http://www.e2.org).



ABOUT BW Research

BW Research Partnership is a full-service, economic and workforce research consulting firm with offices in Carlsbad, California and Wrentham, Massachusetts. It is the nation's leading provider of accurate, comprehensive energy and clean energy research studies, including the United States Energy and Employment Report (USEER), National Solar Jobs Census, wind industry analyses for the National Renewable Energy Laboratory and the Natural Resources Defense Council, and state-level clean energy reports for Massachusetts, New York, Illinois, Maine, New Hampshire, California, Vermont, Iowa, Rhode Island, Florida, Connecticut, Pennsylvania, and Missouri, among others.