# Energy Efficiency Jobs in America

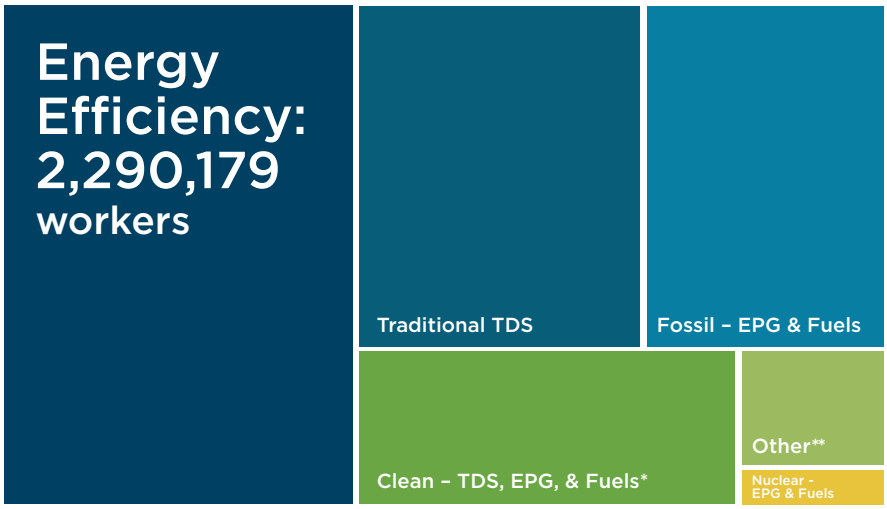
## NEARLY 2.3 MILLION AMERICANS WORK IN ENERGY EFFICIENCY

Energy efficiency (EE) boasted more job growth than any other U.S. energy technology sector in 2023, with nearly 75,000 new jobs added—the strongest increase for EE since 2018. Energy efficiency jobs boost the entire U.S. economy, and workers operate in almost every county of the country. The EE workforce fills a crucial role in maintaining and improving our built environment, reducing building energy use nationwide.

Construction jobs for efficient buildings grew fastest of all EE subsectors. Within this industry, training and certifications help ensure quality building performance and healthier indoor spaces. Those with key credentials earn competitive salaries while creating better buildings and efficient infrastructure.

EE job numbers—the largest in clean energy overall*—continue to rise significantly. Prioritizing EE workforce development in every state is essential to creating stronger communities and opportunities for a more diverse workforce, and to support the multitude of small businesses that will get the job done.

This report serves as a baseline by which to measure future EE job growth enabled by critical large-scale investments such as the Infrastructure Investment and Jobs Act (IIJA) and Inflation Reduction Act (IRA).




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 (>40%)

**1.24 million** construction jobs are in energy efficiency; over 16% 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

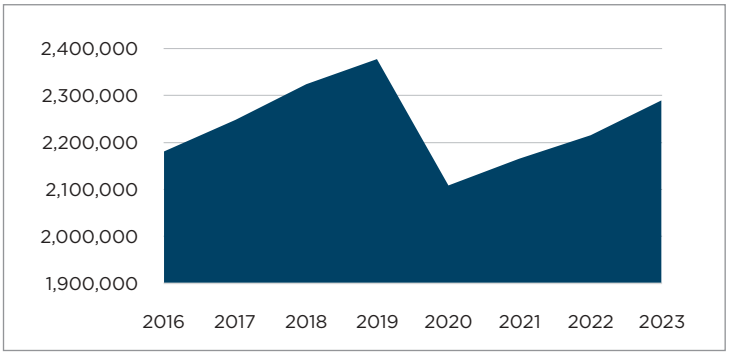
**9%** of energy efficiency jobs are held by veterans (206,691), greater than the national average of veterans in the workforce (5%)

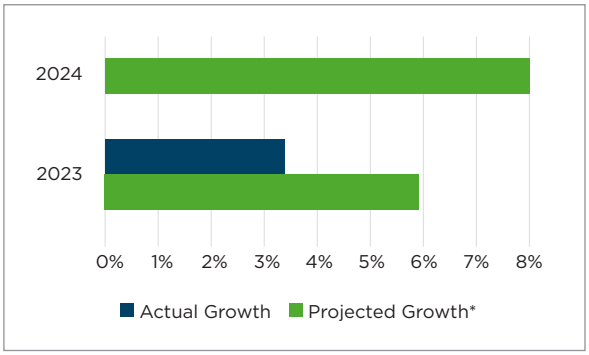
## BIG-PICTURE CONTEXT

Using 2023 data, this report focuses solely on the EE sector of the U.S. economy. It emphasizes the built environment, capturing only the jobs where workers use 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.

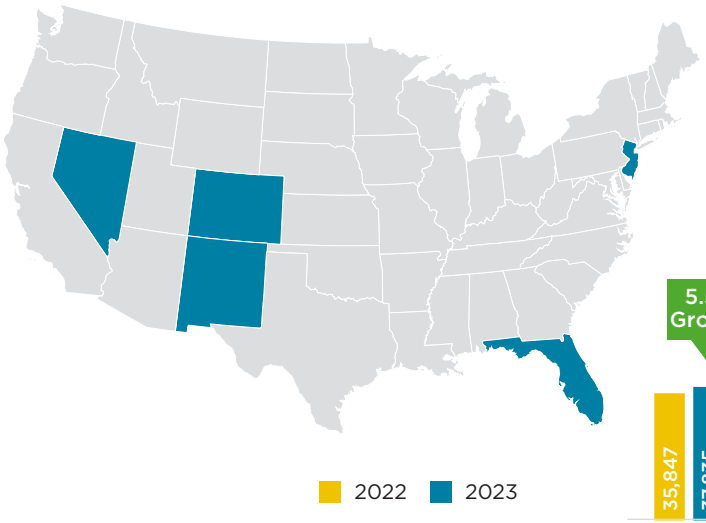
*largest except for vehicle-related clean energy jobs, not covered by this report; EE job growth has been steady, post-pandemic

## EE JOBS YEAR-OVER-YEAR

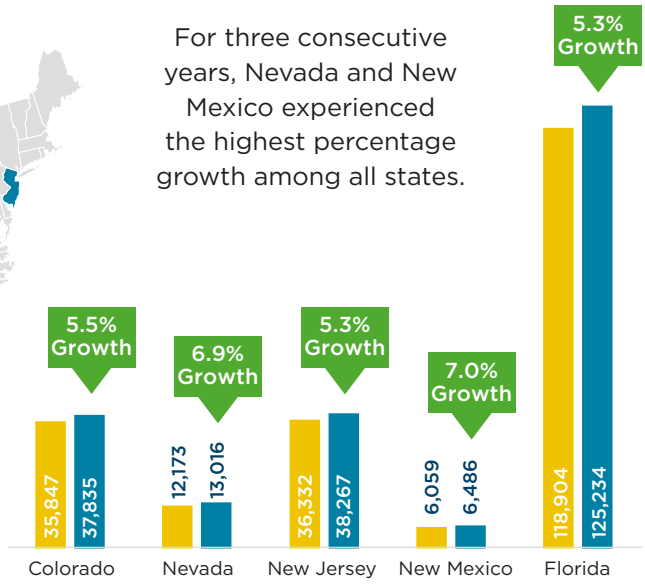



## TOP STATES FOR GROWTH




For three consecutive years, Nevada and New Mexico experienced the highest percentage growth among all states.



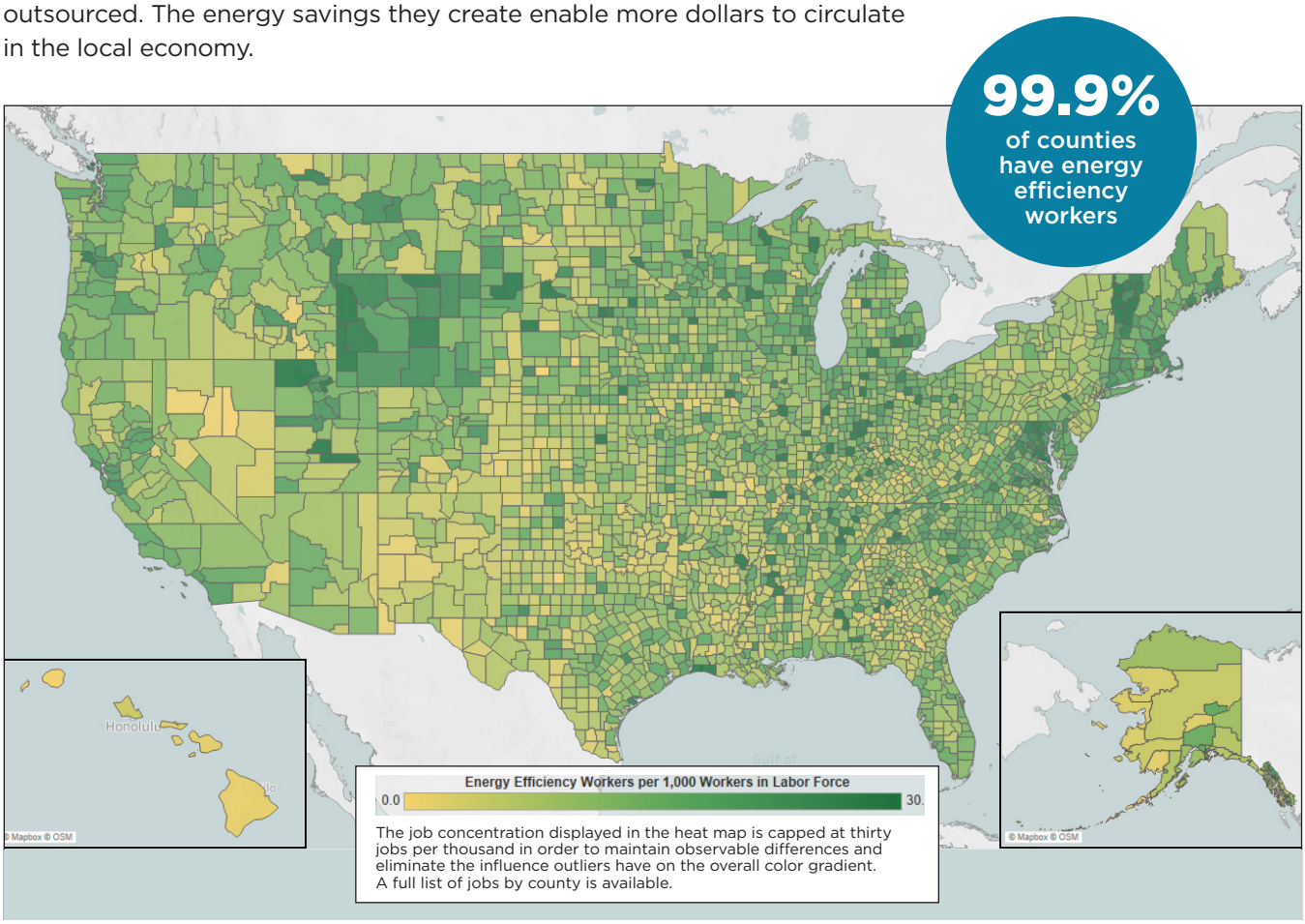

## TOP TOTAL GROSS JOBS


| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| California | Texas | New York | Florida | Illinois |
| 302,176 | 172,917 | 129,946 | 125,234 | 86,728 |

*Projected Growth chart from 2023 USEER statistics based on contractor expectations for hiring in the coming year.

# YOUR LOCAL ECONOMY BENEFITS FROM ENERGY EFFICIENCY

How do energy efficiency jobs—in 99.9% of U.S. counties—impact every local economy? Because all buildings can be tapped for deeper energy savings, this workforce is on the ground everywhere. Improved insulation, better HVAC and appliances, and new digital controls are a few common upgrades. Most of the jobs associated with these upgrades must be performed by local EE workers and cannot be outsourced. The energy savings they create enable more dollars to circulate in the local economy.




**Half of U.S. states** have over **32,000** EE workers each, with **40 states and D.C.** employing at least **10,000** each.

## BEYOND THE BIG CITIES

**269,064**
Americans living in rural areas work in energy efficiency.

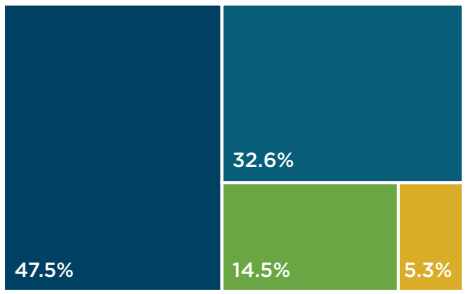
**288,245**
U.S. energy efficiency jobs are in counties with fewer than 100,000 residents.

**881,996**
energy efficiency jobs are outside America's top 50 metro areas.

# INDUSTRIES, TECHNOLOGIES, & ROLES: THE EE WORKFORCE

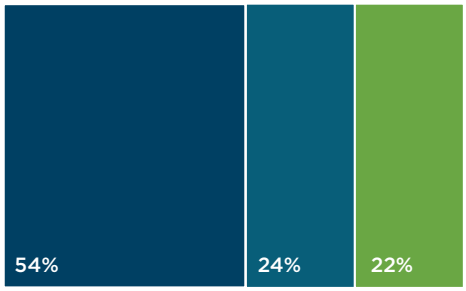
Reducing energy waste drives job creation. Energy efficiency professionals work in factories, offices, design studios, and data center construction. Beyond reducing energy use and costs, they improve system operations, health, and comfort in existing buildings. They design and build a better, more cost-effective future.

## Across Positions



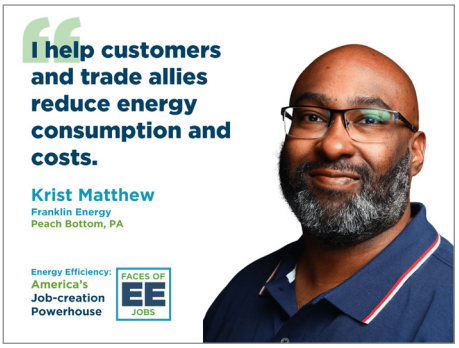

- Administration, Sales, & Management
- Installation & Repairs
- Production & Manufacturing
- Other


## Across Industries

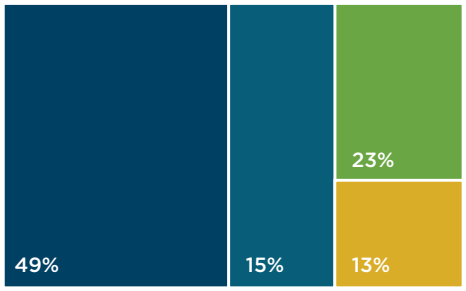



- Construction
- Professional Services & Other*
- Manufacturing & Trade

*Professional services include finance/ accounting, architecture, engineering, R&D, etc. and other includes maintenance, and business and nonprofit organizations.




## Across Technologies




- HVAC*
- ENERGY STAR Appliances & Efficient Lighting
- Building Materials & Insulation
- Other**

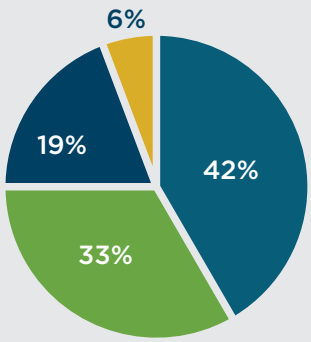
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling

**Other such as energy audits, building certifications, and software services


# EMPOWERING AMERICA: THE SMALL BUSINESS IMPACT

**75%** of the **390,706** energy efficiency establishments in the U.S. are small businesses with **fewer than 20 employees**. 94% are businesses with fewer than 100 employees.

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

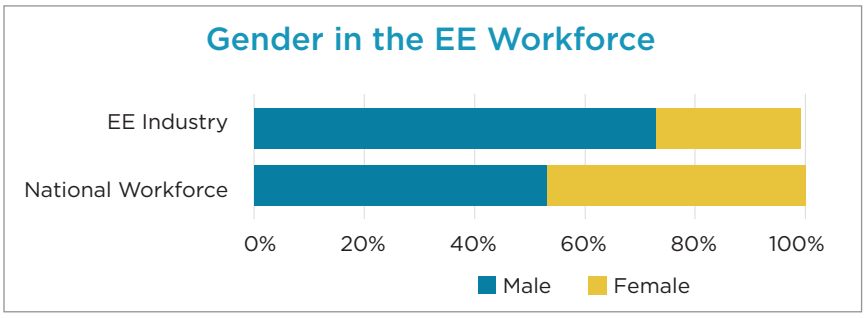



- 1-4 Employees
- 5-19 Employees
- 20-99 Employees
- 100 or More Employees

# ENHANCING WORKFORCE DIVERSITY IS VITAL FOR ENERGY EFFICIENCY SUCCESS

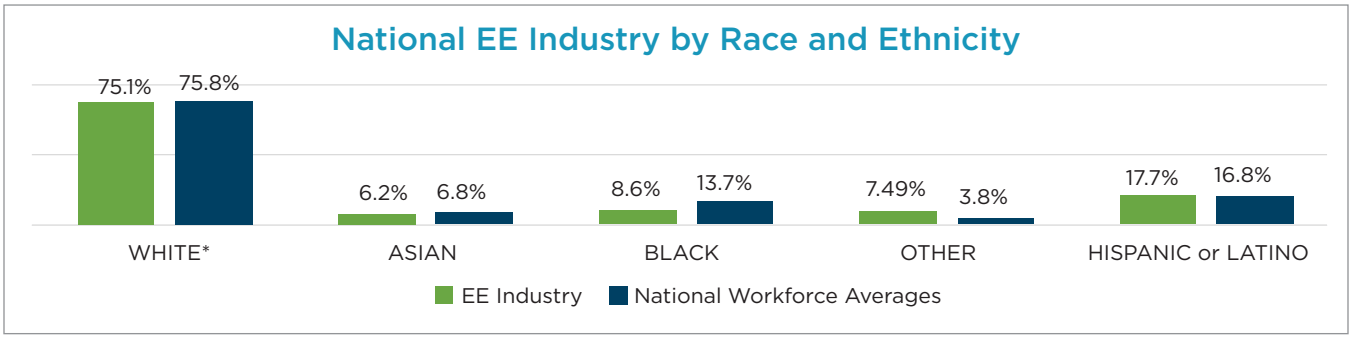
The EE industry is growing, yet its workforce has not fully recovered from sharp pandemic-related losses. In 2023, the number of EE jobs was equal to 96% of the number of EE jobs that existed pre-pandemic. Recent federal investments will help, and the industry can contribute to accelerated recovery by 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 and build 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 in the national data.

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.

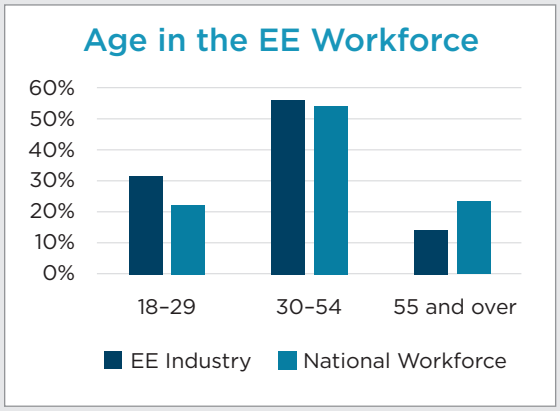



*Includes non-Hispanic and Hispanic whites.

# WORKFORCE AGE & UNION STATUS

The EE workforce is primarily comprised of young and middle-aged workers, with higher representation of 18–54 compared to both the overall energy workforce and the national workforce.

EE workers have a higher rate of union membership than the national average.



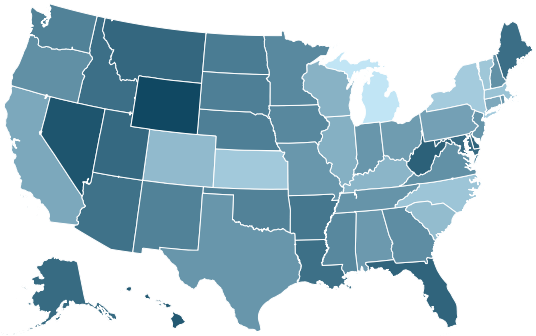

**13%** of EE pros (297,723) are represented by a **union** compared to the national average of 7% (private sector).

# WORKFORCE NEEDS BY STATE: MAXIMIZING SUCCESS

EE business owners saw slightly fewer recruitment challenges in 2023 than in 2022. However, more than 83% still reported difficulty in finding suitable employees. To meet increased demand by federal and other investments in energy efficiency, the EE workforce will continue to grow despite these obstacles.

How can decision-makers align workforce training with career paths more effectively to benefit both employers and job candidates? One way is 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

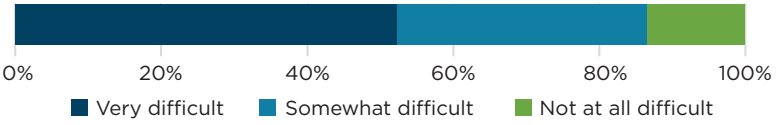
31% 86.1%

Over 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 86% of employers saying it was either “very difficult” or “somewhat difficult” to recruit qualified personnel.

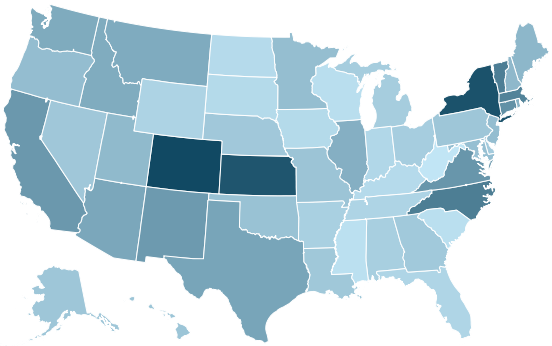
Unionized construction firms* experienced more success in hiring, with only 36% reporting that hiring was “very difficult.”

*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

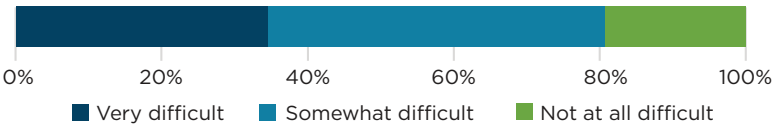


EE workers employed in professional services and other

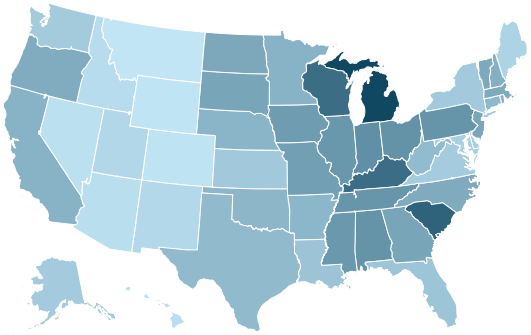
6.5% 51.8%

Engineers, designers, architects, and financial services and legal professionals represent nearly 540,000 U.S. efficiency workers.

### Professional Services & Other: Employer Perspective on Hiring Difficulty




## EE Workers in Manufacturing and Trade

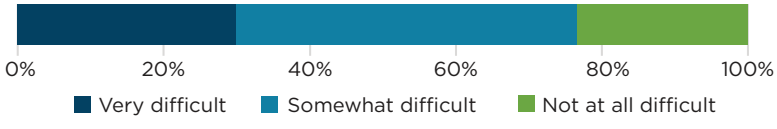


EE workers employed in manufacturing and trade

1.7% 55.5%

U.S. manufacturing of energy efficient products comprises nearly 513,000 jobs.

### 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% of costs, including labor, up to $2,000 annually)
  - —Insulation and Air Sealing (30% of costs, not including labor, up to $1,200 annually)
  - —Home Energy Audits (30% of costs up to $150 credited annually)

**Internal Revenue Service data shows that 2.3 million families claimed more than $2 billion in credits in 2023 from the 25C energy efficiency tax credit.**

- 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 (HEAR**). As of December 2024, over three dozen states have applied for full funding to launch their home energy rebate programs. Of that group, more than 10 have launched programs—with many additional states planning for launch in the coming months.
- Training for Residential Energy Contractors (TREC) program, 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). The Environmental Protection Agency has distributed awards for the National Clean Investment Fund (3 grant recipients); Clean Communities Investment Accelerator (5 grant recipients); and Solar for All (60 grant recipients). Many awardees aim to support projects that lower energy bills and create job opportunities across the country.

*a.k.a. HER
**a.k.a HEEHRA

**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
- Healthy homes programs to address barriers to comprehensive energy upgrades and ensure more habitable and comfortable living conditions, especially in low-income and disadvantaged communities.

***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 diversity, equity, 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 HOMES and HEAR programs.

# ABOUT THE REPORT

The job numbers come from the national 2024 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 sectors including energy production, transmission, and distribution. In addition, the USEER relies on a unique supplemental survey of business representatives across the U.S. For the 2024 USEER, 42,100 businesses participated in the survey. Taken together, the BLS and survey data provide the most comprehensive calculation of energy-related employment available. The methodology has been used for local, state, and federal energy-related data collection and analysis for a decade. See the USEER Appendices for complete methodology details. For more report details, see Energy Efficiency Jobs in America FAQ or contact the Building Performance Association or E4TheFuture. This report incorporates newly available data released as of April 2025.

## ABOUT BPA

The Building Performance Association (BPA) is a 501(c)(6) nonprofit industry association that serves as the hub for businesses, nonprofits, and government agencies working to make America's homes more comfortable, healthy, and energy efficient. Our mission is to transform the market for the home performance industry through advocacy, education, professional development, and networking. **Visit building-performance.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.
**Visit bwresearch.com.**

## 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 E4TheFuture.org.**