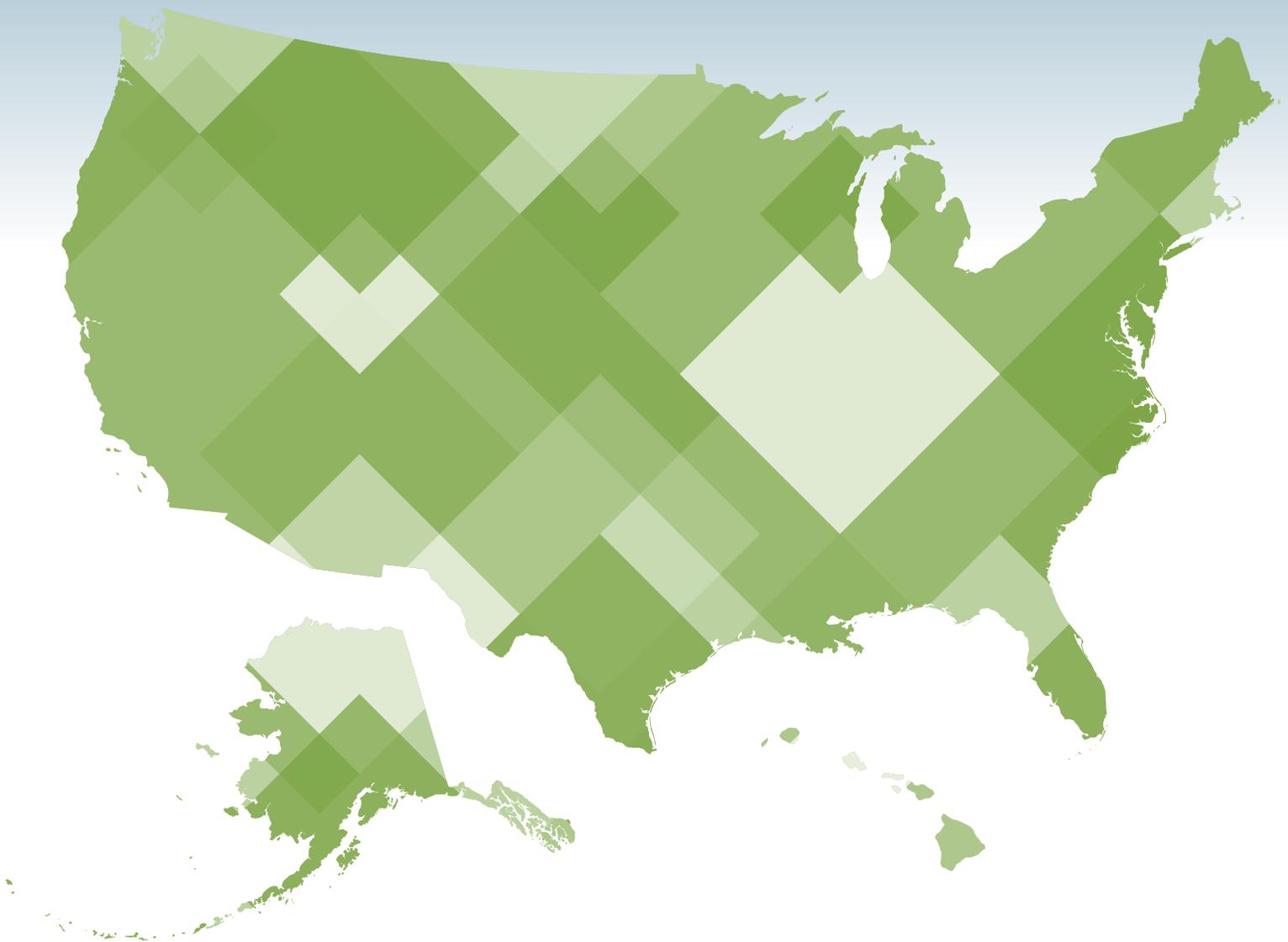


Energy Efficiency Jobs in America

OCTOBER 2021



#FacesOfEE

Energy Efficiency Jobs in America

June 2021:

2,115,533

December 2020:

2,107,174

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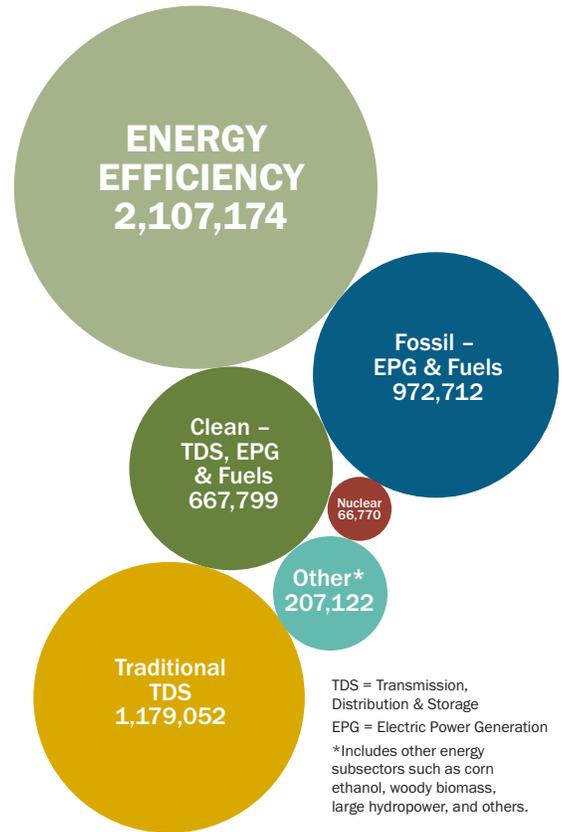
AMERICA'S ENERGY EFFICIENCY WORKFORCE: REDUCES COSTS, DRIVES ECONOMIC GROWTH

More than 2.1 million Americans now work in energy efficiency (EE), representing the biggest part of the entire energy sector. Workers in every state and community pull on their gloves and boots daily to help make our homes, offices, schools and other buildings more efficient. And some “boot up” in an office rather than out in the field, like developers of advanced energy management software, architects and designers, and administrative staff.

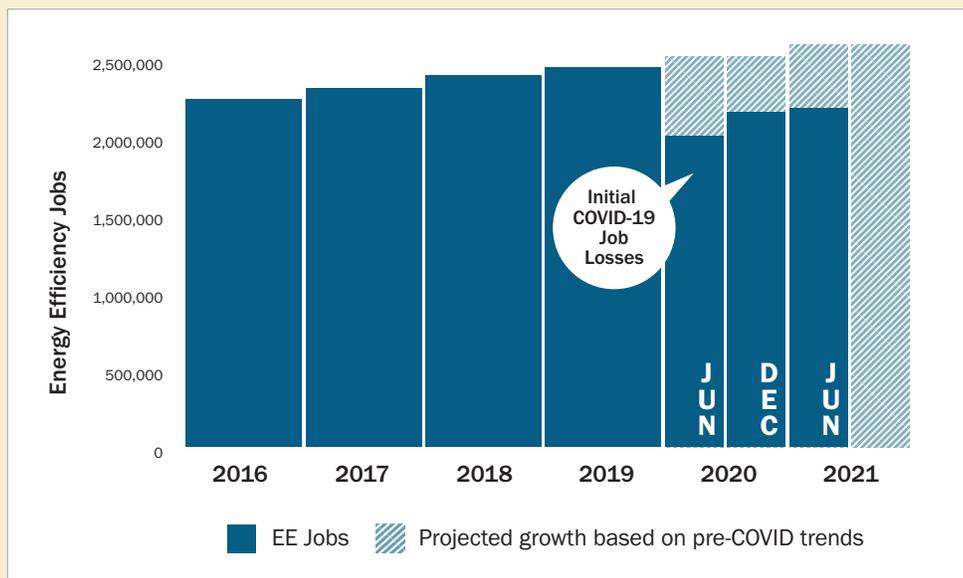
Whether EE workers upgrade heating/cooling systems or improve building enclosures, manufacture Energy Star equipment and appliances or install advanced lighting systems, they're also helping American consumers, businesses and local governments to save money, reduce emissions and fight climate change.

“Maximizing the deployment of building demand management technologies could avoid the need for up to one-third of coal- or gas-fired power generation.”

Source: Lawrence Berkeley National Laboratory. [How Managing Building Energy Demand Can Aid the Clean Energy Transition](#)



How is the energy efficiency industry recovering?



Source: [E4TheFuture/BW Research job analysis, July 2021](#)

The EE workforce is recovering, but is still below pre-pandemic total job numbers.

Public investment NOW will make our buildings, manufacturing facilities, and overall economy more efficient and resilient. It can help address climate change while driving economic growth and creating jobs.

ENERGY EFFICIENCY SAVINGS CREATE JOBS AND HELP LOCAL ECONOMIES NATIONWIDE

All buildings provide efficiency opportunities in design, construction, operation, and maintenance. “Mining” inefficient older buildings for energy savings can create local good-paying careers and customer savings through improved insulation, better HVAC and appliances, and new digital controls – among other upgrades.

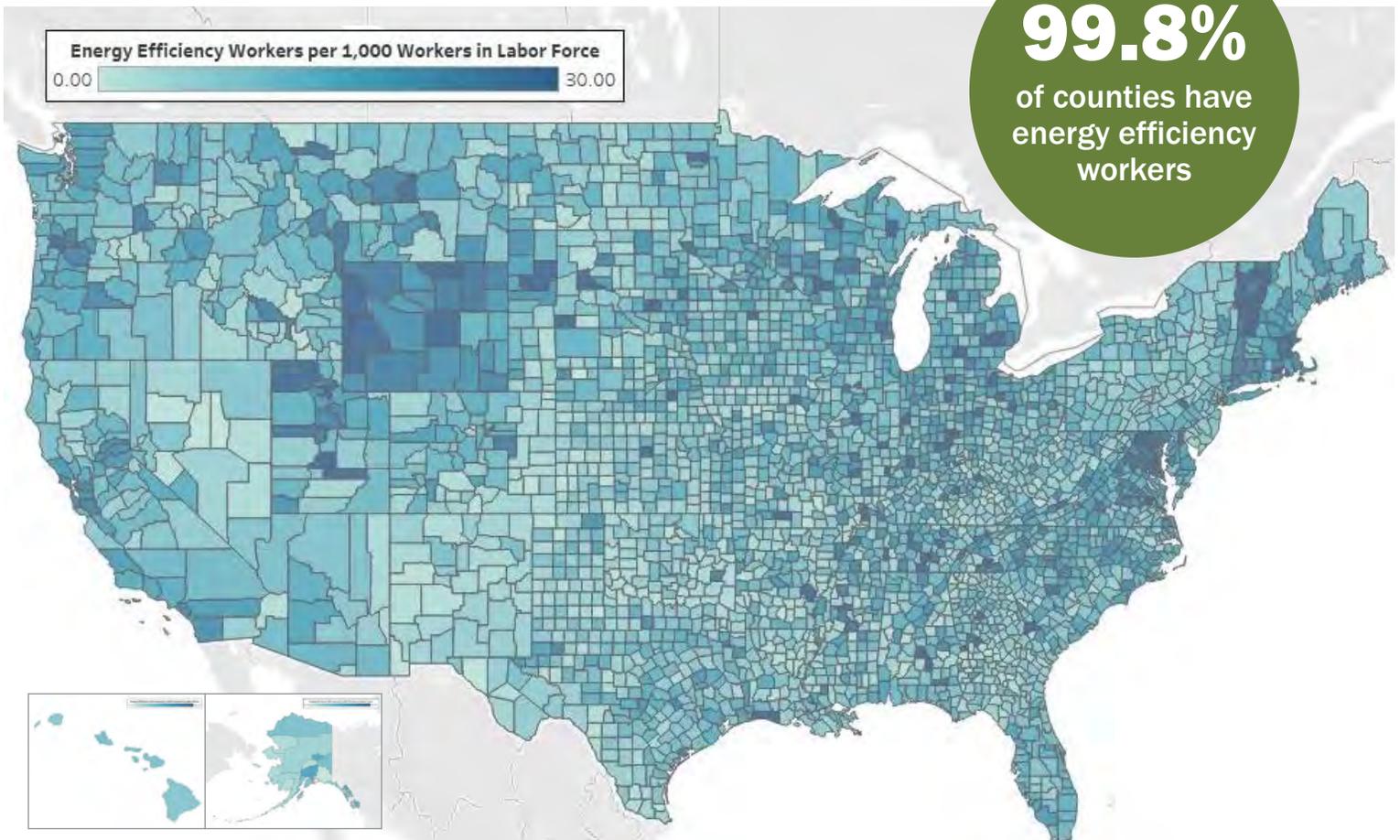
Potential to **reduce** national residential electricity use by **32%***

New **net-zero** buildings produce **more energy** than they consume.

Just as important is making new buildings efficient and grid-interactive from the start. Stronger building codes and smart incentives spur fresh innovation in the design and construction project phases.

Investing in efficient and flexible buildings is smart climate and economic development policy for cities and rural communities alike. Constructing to standards such as LEED and Passive House for net zero energy use is the future of building in America.

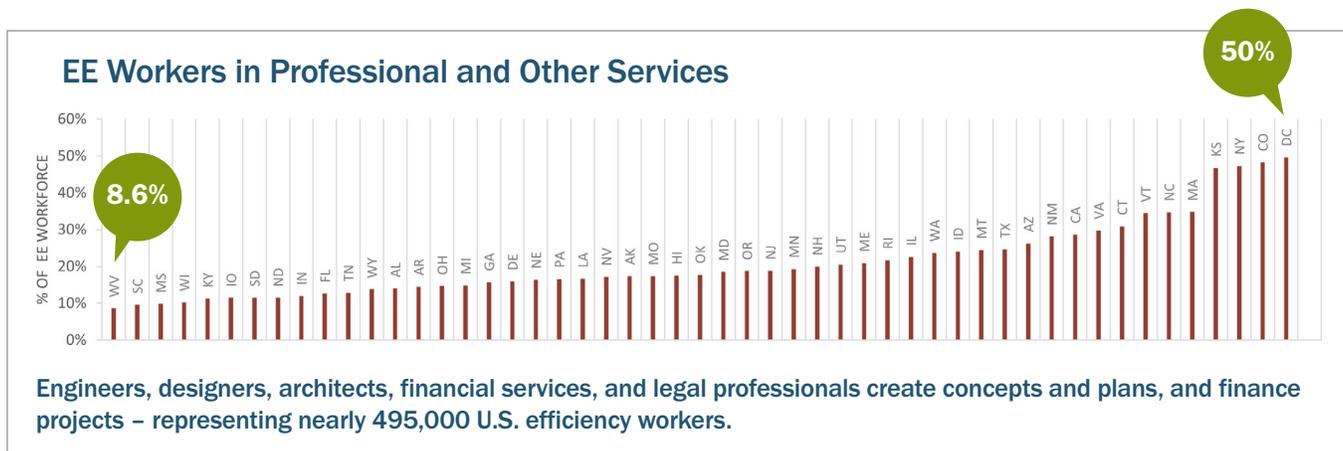
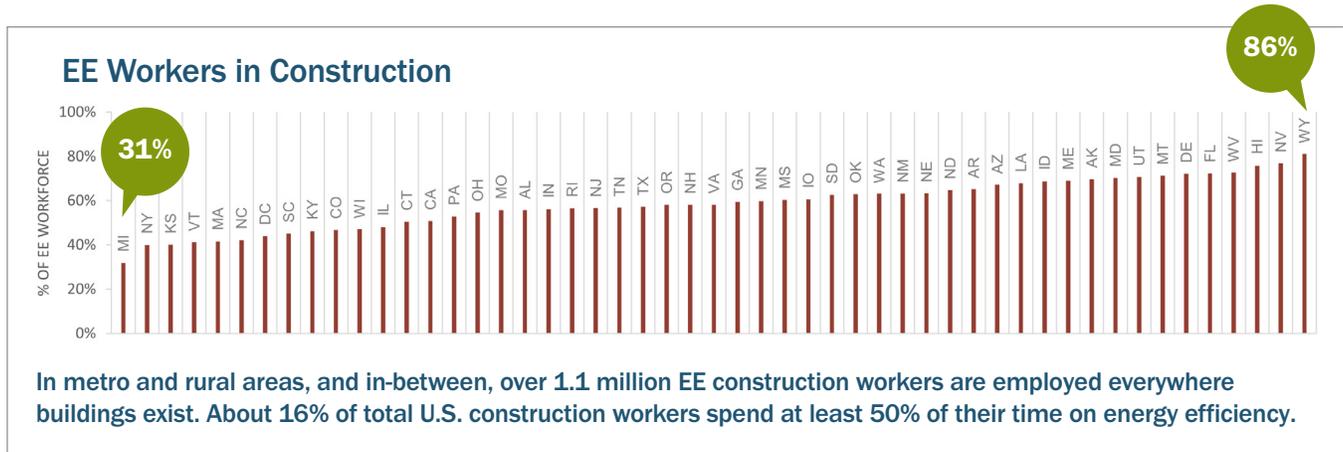
99.8% of counties have energy efficiency workers



*Sources: E4TheFuture/BW Research retrofit analysis, July 2021, U.S. Census Bureau QuickFacts and State and Local Planning for Energy (SLOPE) Platform

ENERGY EFFICIENCY WORKFORCE NEEDS VARY BY STATE

While most EE jobs are in construction, opportunities extend across manufacturing, professional services and other sectors. The distribution of current EE jobs is a good place to start when considering how to best match workforce training with job paths, to better serve employers and potential employees.



ENERGY EFFICIENCY HAS A LONG VALUE CHAIN ACROSS CONSTRUCTION, MANUFACTURING, AND PROFESSIONAL SERVICES

EE includes jobs across a wide range of the U.S economy, including:

- a strong manufacturing sector making products from insulation to heat pumps to sophisticated digital controls – with potential for enormous growth
- a diverse professional services sector of architects, engineers and financial services experts who translate clean energy vision into executable project plans
- a robust construction sector ranging from small residential contractors to unionized experts who construct and insulate mechanical systems that heat and cool our larger buildings and industries



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

CREATING AN ENERGY EFFICIENCY WORKFORCE TO MEET THE MOMENT

Roads, transmission lines, and water systems were created largely to support the places where we live, work, and play. Most of today’s existing buildings – whether privately or publicly owned – will remain in use in 2050. This represents a huge opportunity.

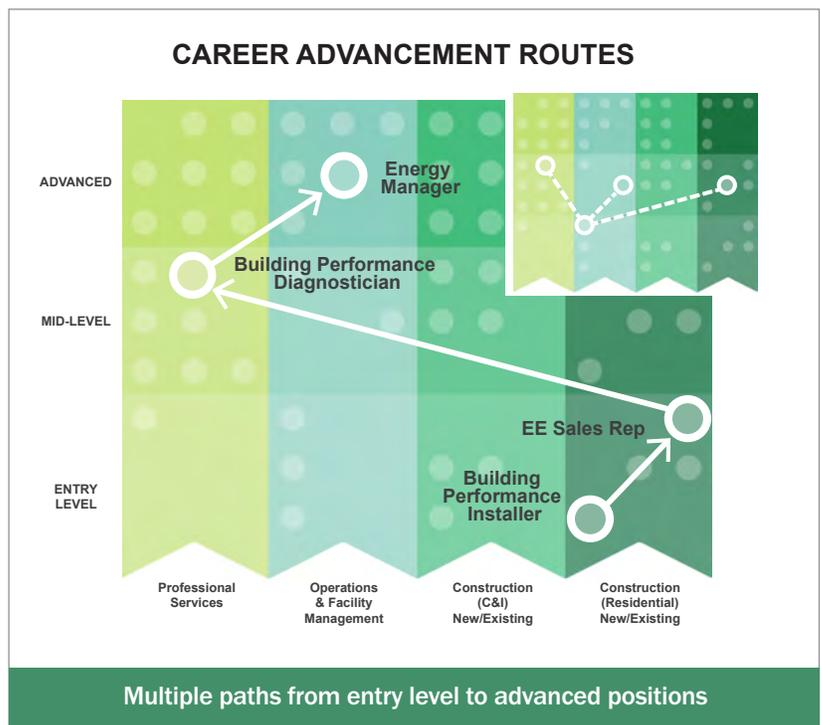
Source: ACEEE. [Mandatory Building Performance Standards: A Key Policy for Achieving Climate Goals](#)



WORKFORCE TRAINING: FOUNDATION FOR SOLID CAREERS

A 2021 [U.S. Dept. of Energy career map](#) shows paths to achieving the most high-paying jobs, even for workers who begin without a college degree.

Workforce development and training are vital to economic health. As an industry essential for meeting climate goals with thousands of opportunities in every region and metro area, energy efficiency offers on-ramps for workers in transition and young people entering the workforce.



ENERGY EFFICIENCY CAREERS COME WITH GOOD PAY, BENEFITS

Efficiency workers receive good compensation when compared to their peers. The compensation advantages are particularly seen in entry-level positions, making energy efficiency training a very attractive option for programs in vocational high schools and community colleges.

The median hourly wage of \$24.44 for EE exceeds the median hourly wage across the US economy (\$19.14) – about 28% above the national median.



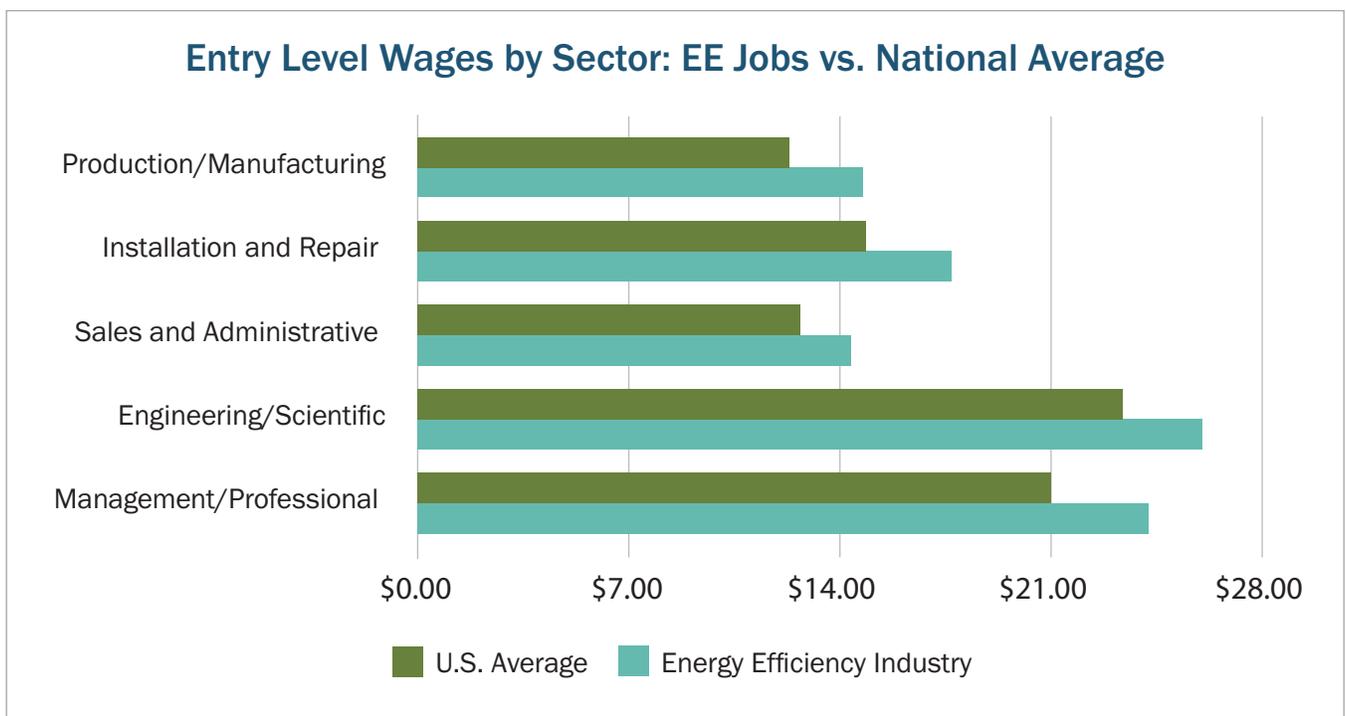
Entry level wages in all sectors of EE jobs exceed the national average.



More than 80% of EE employers contribute to health insurance.



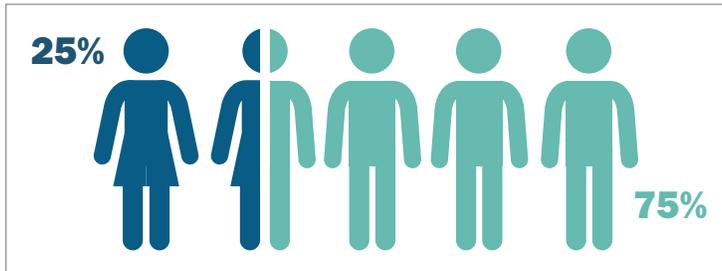
More than 78% of EE employers contribute to retirement accounts.



Source: [2020 U.S. Energy and Employment Report \(USEER\) supplemental Wage Report](#)

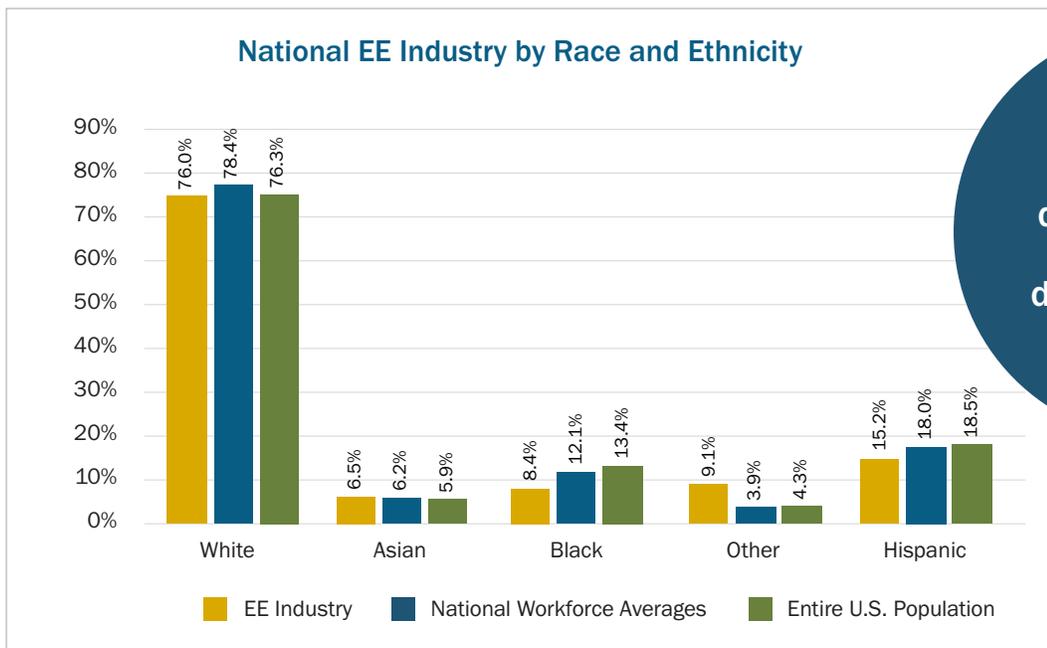
BUSINESS THRIVES WITH A DIVERSE WORKFORCE

Demographic data is crucial for measuring progress in the EE industry. Increasing diversity in the efficiency sector means a more robust and more inclusive industry. Diversity in hiring will be key to maintaining a future workforce of talented professionals and ensuring that communities across the nation are better represented in the efficiency sector. Investing resources to ensure energy efficiency projects are deployed in diverse communities will enable potential workers to see EE as a viable career choice.



The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.

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

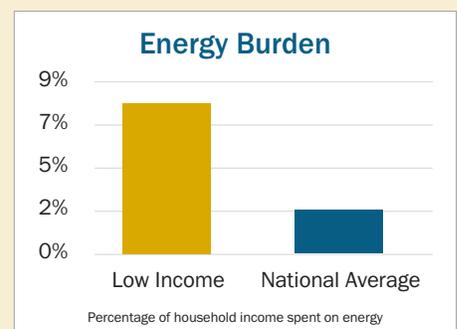


Robust investment in workforce development is essential for diversity, equity, and inclusion.

*Includes non-Hispanic and Hispanic whites.

EFFICIENCY PROVIDES FINANCIAL RELIEF

Low-income households and households of color consistently spend a large portion of their income on energy bills (and are therefore saddled with an “energy burden”). Weatherization upgrades, including thermal efficiency measures like insulation, can reduce these burdens by 25%. Too few households historically receive such upgrades. More attention and increased resources can help.



Source: [Low-Income Households, Communities of Color Face High “Energy Burden” Entering Recession](#)

WORKFORCE TRAINING BENEFITS BOTH WORKERS AND EMPLOYERS



Darius Fells
Walker-Miller Energy Services
Detroit, Michigan

“Since earning my BPI Building Analyst certification, I advanced in my career from a direct installer role to Energy Auditor. Energy efficiency trainings assist in performing comprehensive, whole-home assessments, approaching the house as a system. I can identify root causes of problems within a home and help our customers better understand how certain measures affect their utility costs [and] to prioritize energy efficient solutions that save them money.

I look forward to participating in additional trainings and am excited about the opportunity to progress in my career.”



Bryan Pringle
Evergreen Home Performance
Portland, Maine

“The energy efficiency training program I accessed through Southern Maine Community College was the critical first step in my career. It was through this training program that I obtained BPI certification.

That BPI certification helped me get my first energy efficiency job, and provided a springboard for fast advancement at my company. I have now been an energy advisor for the last four years and I am not looking back.”



Demont Murphy
Energy Efficiencies Solutions
Hartford, CT

“I started working at Energy Efficiencies Solutions (EES) in 2012 as an entry-level technician. After I demonstrated excellent hard work and loyalty, EES enrolled me in a state energy efficiency training program.

Before working at EES, I was unemployed. I am now a building scientist and lead technician. I see it as a gift to be paid to help people in the community save money and energy, while I make their homes safer and more comfortable.”



BUILDING EFFICIENCY AND RESILIENCE MATTERS

Unprecedented heat and cold snaps in 2021 reveal the necessity of making updates to heating and cooling systems, and better insulating structures to help prevent energy waste.

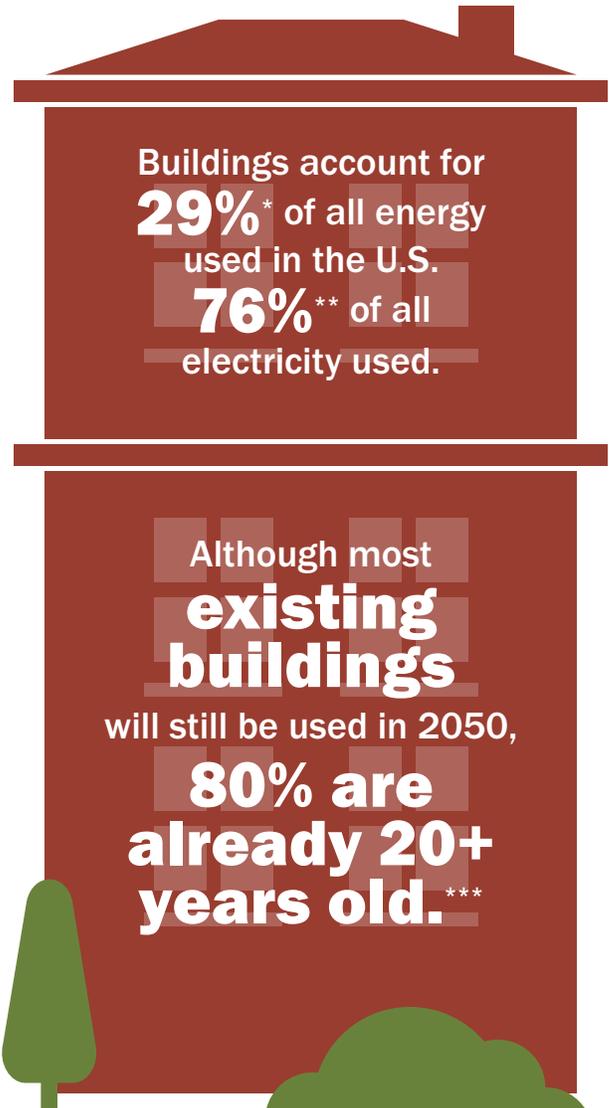
Older buildings were not designed for such extreme weather conditions. Examples include:

- Northwest U.S. states like Oregon suffered recurring deadly heat waves that “*exposed how communities built for the mild summers of decades past are grossly unprepared*” (Mike Baker, Sergio Olmos, NYT)
- When Texas power plants failed in icy conditions, people used to living without winter worries were instantly in serious crisis.

“Texas’ buildings waste a massive amount of energy. Two-thirds of our homes predate a statewide building code and lack adequate insulation. That’s one reason that more than 100 Texans died of hypothermia during the blackouts. Among the 28 states that have adopted an energy efficiency goal, Texas ranks last in the amount of energy it saves.” (Doug Lewin, Dallas Morning News)

Energy efficient buildings allow occupants to remain safe during extended power outages, which are becoming more frequent.

Using updated international building codes that further advance energy efficiency is a key component of a more successful path forward. Enforcing compliance with mandatory code provisions is essential.



Thermal imaging. Photo: Zone 6 Energy

*Source: [U.S. Energy Information Administration](#)

**Source: [Department of Energy: An Assessment of Energy Technologies and Research Opportunities](#)

*** Sources: [U.S. Energy Information Administration](#) and [U.S. Census Bureau QuickFacts](#)

CLIMATE BENEFIT POTENTIAL FROM RETROFITTING ALL 111 MILLION RESIDENTIAL UNITS CONSTRUCTED BEFORE 2000

To shed light on the scale of energy efficiency’s contribution to meeting 2030 climate goals, we modeled an investment in U.S. homes (which account for 29% of all energy and 75% of all electricity consumed).

How could a national energy efficiency investment benefit our existing older homes?

Assumptions: Insulation, doors, and windows are upgraded; at the end of equipment’s useful life, existing HVAC or water heater replacements would be ENERGY STAR-rated for any homes constructed prior to 2000.



Results: Investing in this initiative could employ over one million full time workers for a decade. It would pump billions of dollars back into the economy as consumers experience lower energy bills, which benefits every community.

Thousands of workers would be needed to design, manufacture, and install insulation, controls, replacement appliances, upgraded HVAC units, and more. Energy efficiency disproportionately benefits low-income consumers historically burdened with energy costs. For workers, consumers, and the environment, energy efficiency is a WIN-WIN-WIN!

Avoided carbon emissions from these energy savings also help to mitigate the worst impacts of climate change. And the improvements increase community resilience to severe weather events and power outages.

Source: [E4TheFuture/BW Research retrofit analysis, July 2021](#)

POWERFUL PARTNER IN BUILDING A CLEAN ELECTRIC GRID

Efficiency will play a critical role in achieving carbon-free electricity goals. A recent study shows that when combined in a clean energy portfolio with wind, solar and storage resources, energy efficiency more than pulls its weight.



Source: [Analysis by E4TheFuture based on RMI data](#)

GOOD USA JOBS & GLOBAL COMPETITIVENESS

- Energy efficiency jobs are inherently local; the vast majority cannot be offshored. With on-site work required to improve homes and buildings, it's likely you know efficiency workers.
- A robust domestic manufacturing industry of energy efficient products supports over 290,000 U.S. jobs.
- These products are installed and maintained by trained professionals in your community.



POLICY LEADERSHIP

Energy efficiency saves money, reduces emissions, improves air quality and public health; it also makes us more energy independent – while tackling climate change and creating jobs. It is an energy source we must invest in.

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

Increase funding for proven federal energy efficiency programs, including:

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

Support ENERGY STAR which helps people make smart energy choices.

Support and expand initiatives that incentivize building owners to make smart property upgrades that advance domestic manufacturing of energy efficient technologies and create jobs, such as:

- Commercial and residential building tax credits
- Residential rebate programs to drive efficiency deployment and job creation for local contractors
- Programs to encourage greater efficiency and sustainability in U.S. housing stock
- 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

Strengthen standards and invest in programs advancing indoor air quality and energy efficiency, e.g.:

- Strengthen building and appliance efficiency standards with training and enforcement
- Direct FEMA (Federal Emergency Management Agency) to ensure rebuilding projects comply with updated international building codes and advance energy efficiency
- Support energy audits, technical assistance, and financing options for large manufacturers

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

- Strengthen workforce development and apprenticeship programs for the energy efficiency sector
- Create a workforce grant program to help organizations and small businesses hire and train new energy- efficiency 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. Leaders can:

- Adopt high efficiency and indoor air quality standards for new construction and existing buildings
- Support workforce development and apprenticeship programs that prioritize equity, diversity, and inclusion
- 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 and boost resilience

See the [Energy Efficiency Jobs in America website](#),
with animated key statistics for each state.

ABOUT THE REPORT

The 2020 job numbers come from the national 2021 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 2021 USEER also relies on a unique supplemental survey of 35,000 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. Numbers for 2021 come from BLS data analysis by BW Research and U.S. Dept. of Labor unemployment weekly summaries, used to calculate the labor impacts for each month. See appendix A 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.



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.



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, Vermont, Iowa, Rhode Island, Florida, Connecticut, Pennsylvania, and Missouri, among others.

Alabama

Energy Efficiency Jobs in America

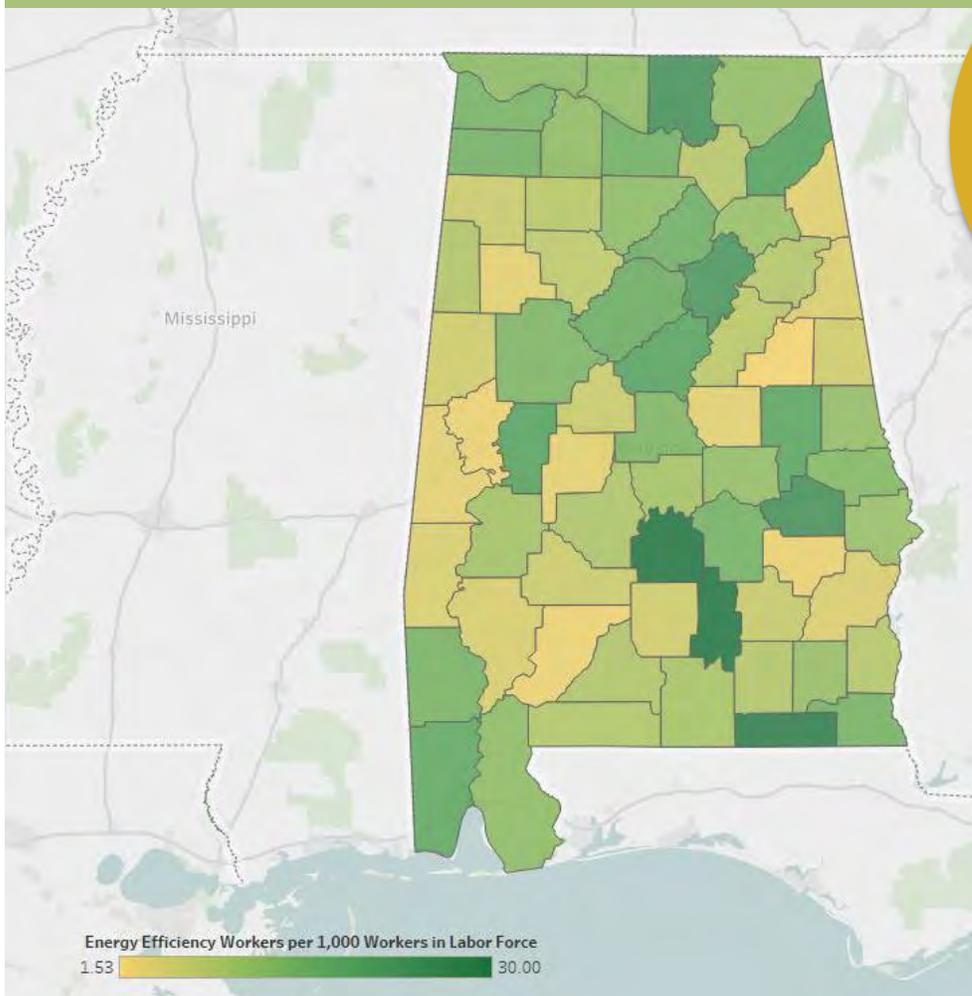


Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Alabama, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Alabama
counties have
energy efficiency
workers

~14,100
new EE construction
jobs to retrofit
Alabama homes by
2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of AL residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



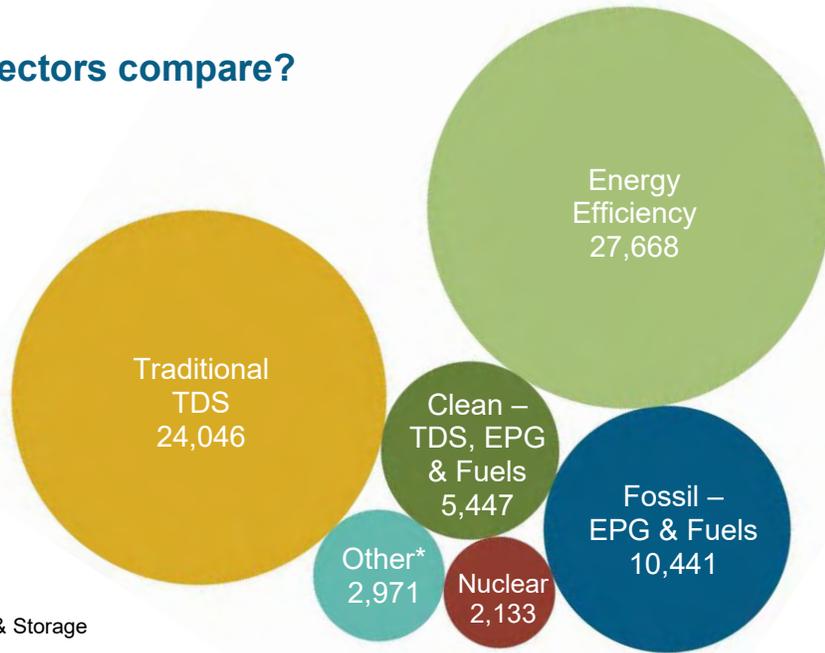
Key EE Statistics for Alabama

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Alabama's energy sectors compare?

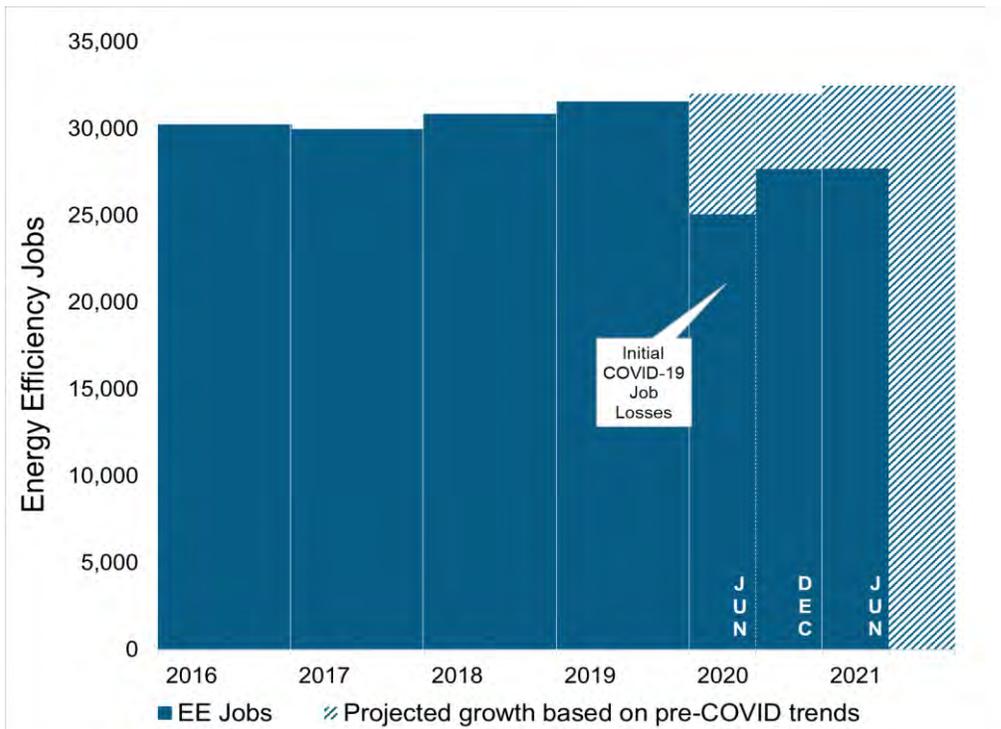
Energy Efficiency is the **largest** energy sector in Alabama.



TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



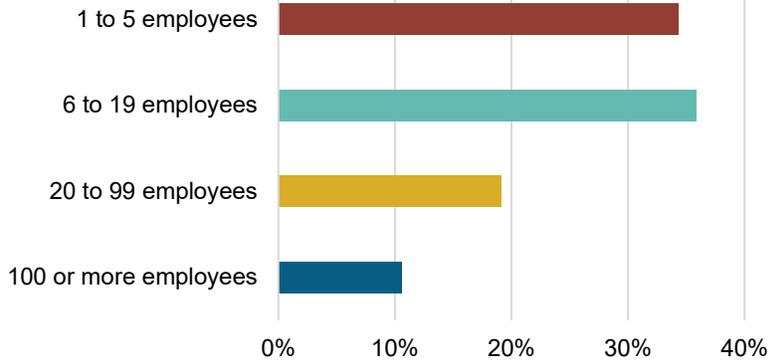
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Alabama?

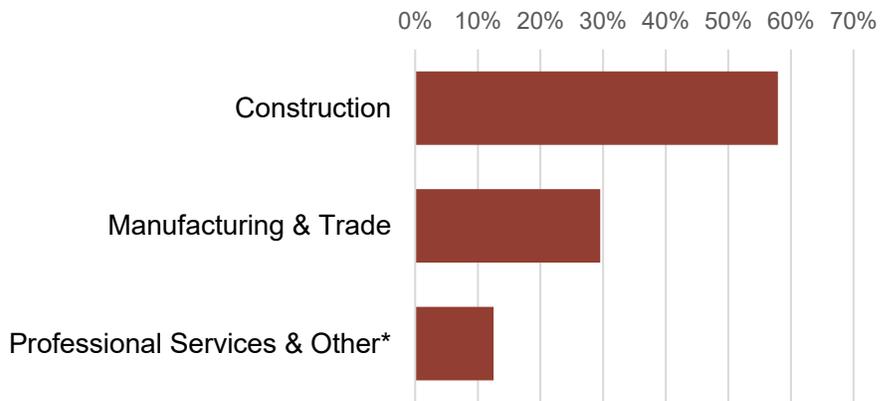
89.2% of AL EE Businesses Have Less Than 100 Employees



4,636
EE businesses in Alabama

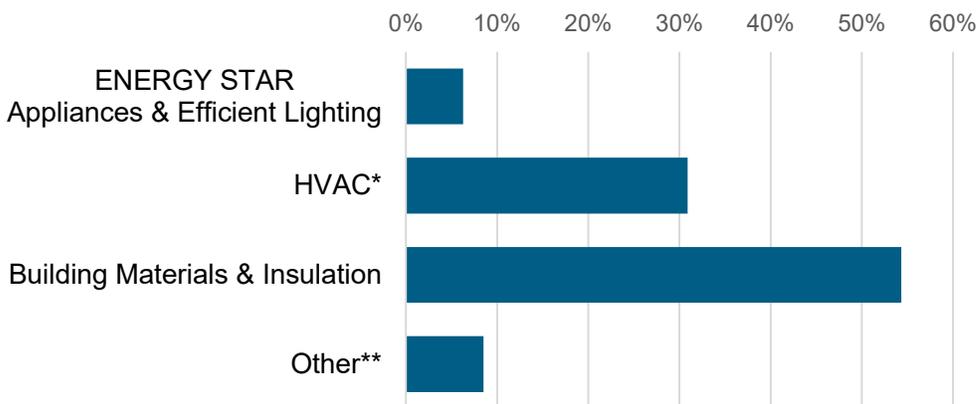
EE construction workers comprise **16%** of Alabama construction workers

What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



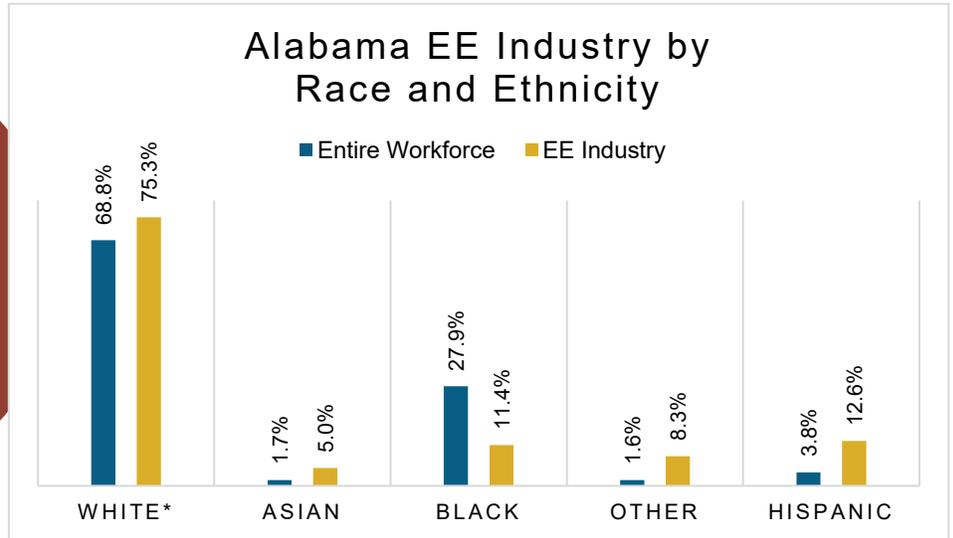
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

7% of Alabama EE workers are **Veterans**

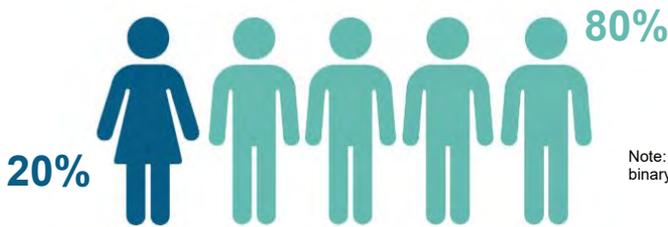
How is EE doing on diversity in Alabama?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Alabama communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Alabama's EE Potential

Decades of work, ready for Alabama's growing energy efficiency workforce.

Weatherization Assistance Program:



543* units weatherized in 2018, out of **~300,000** total low-income households

1,460,849

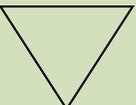
Alabama homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

38%



*National Association for State community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
 Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|------------------------|-------|
| District | Jobs | Area | Jobs |
| 1 | 4,844 | Anniston-Oxford | 501 |
| 2 | 4,210 | Auburn-Opelika | 628 |
| 3 | 3,169 | Birmingham-Hoover | 8,348 |
| 4 | 3,225 | Columbus | 195 |
| 5 | 4,081 | Decatur | 784 |
| 6 | 5,815 | Dothan | 925 |
| 7 | 2,324 | Florence-Muscle Shoals | 870 |
| | | Gadsden | 474 |
| | | Huntsville | 2,919 |
| | | Mobile | 3,002 |
| | | Montgomery | 2,425 |
| | | Tuscaloosa | 1,098 |
| | | Rural | 5,499 |

| State Senate | | | | | | | |
|--------------|-------|----------|-------|----------|-------|----------|-------|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
| 1 | 1,469 | 11 | 1,468 | 21 | 839 | 31 | 94 |
| 2 | 674 | 12 | 500 | 22 | 1,236 | 32 | 733 |
| 3 | 1,013 | 13 | 975 | 23 | 416 | 33 | 2,018 |
| 4 | 817 | 14 | 876 | 24 | 158 | 34 | 645 |
| 5 | 665 | 15 | 2,609 | 25 | 2,063 | 35 | 322 |
| 6 | 364 | 16 | 139 | 26 | 60 | | |
| 7 | 1,010 | 17 | 494 | 27 | 252 | | |
| 8 | 486 | 18 | 2,348 | 28 | 977 | | |
| 9 | 414 | 19 | 99 | 29 | 510 | | |
| 10 | 608 | 20 | <5 | 30 | 319 | | |

State House of Representatives

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|-------|----------|-------|----------|------|----------|-------|
| 1 | 512 | 28 | 472 | 55 | 105 | 82 | 86 |
| 2 | 268 | 29 | 91 | 56 | 169 | 83 | 10 |
| 3 | 400 | 30 | 226 | 57 | 12 | 84 | 190 |
| 4 | 730 | 31 | 393 | 58 | <5 | 85 | 698 |
| 5 | 28 | 32 | 637 | 59 | <5 | 86 | 136 |
| 6 | 1,067 | 33 | 75 | 60 | <5 | 87 | 154 |
| 7 | 69 | 34 | 63 | 61 | 689 | 88 | <5 |
| 8 | <5 | 35 | 19 | 62 | 266 | 89 | 265 |
| 9 | 355 | 36 | 71 | 63 | <5 | 90 | 123 |
| 10 | 271 | 37 | 215 | 64 | 952 | 91 | 18 |
| 11 | 505 | 38 | 458 | 65 | 294 | 92 | 138 |
| 12 | 31 | 39 | 69 | 66 | 211 | 93 | 9 |
| 13 | 283 | 40 | <5 | 67 | 221 | 94 | 217 |
| 14 | 60 | 41 | 752 | 68 | 66 | 95 | 214 |
| 15 | 847 | 42 | 318 | 69 | 320 | 96 | 291 |
| 16 | 401 | 43 | 1,216 | 70 | <5 | 97 | 1,158 |
| 17 | 65 | 44 | 601 | 71 | 62 | 98 | 103 |
| 18 | 63 | 45 | 435 | 72 | 27 | 99 | 388 |
| 19 | 211 | 46 | 701 | 73 | <5 | 100 | 300 |
| 20 | 944 | 47 | <5 | 74 | 972 | 101 | 313 |
| 21 | 33 | 48 | <5 | 75 | 12 | 102 | 9 |
| 22 | 161 | 49 | 76 | 76 | 593 | 103 | 359 |
| 23 | 113 | 50 | 63 | 77 | 62 | 104 | 42 |
| 24 | 223 | 51 | 102 | 78 | 9 | 105 | 33 |
| 25 | <5 | 52 | 640 | 79 | 326 | | |
| 26 | 85 | 53 | <5 | 80 | 30 | | |
| 27 | 18 | 54 | 1,512 | 81 | 63 | | |



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



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Data Source: Unless otherwise stated, all data are from the U.S. Energy and Employment Report, July 2021, by the U.S. Department of Energy (see Appendix A for methodology details). This methodology -- adopted by the U.S. Dept. of Energy for its 2017 U.S. Energy and Employment Report, approved by the Office of Management and Budget and grounded on data collected by the Bureau of Labor Statistics -- provides the broadly accepted best accounting of all U.S. energy workers.

For questions on E4TheFuture analyses please email: policy@e4thefuture.org.

Alaska

Energy Efficiency Jobs in America

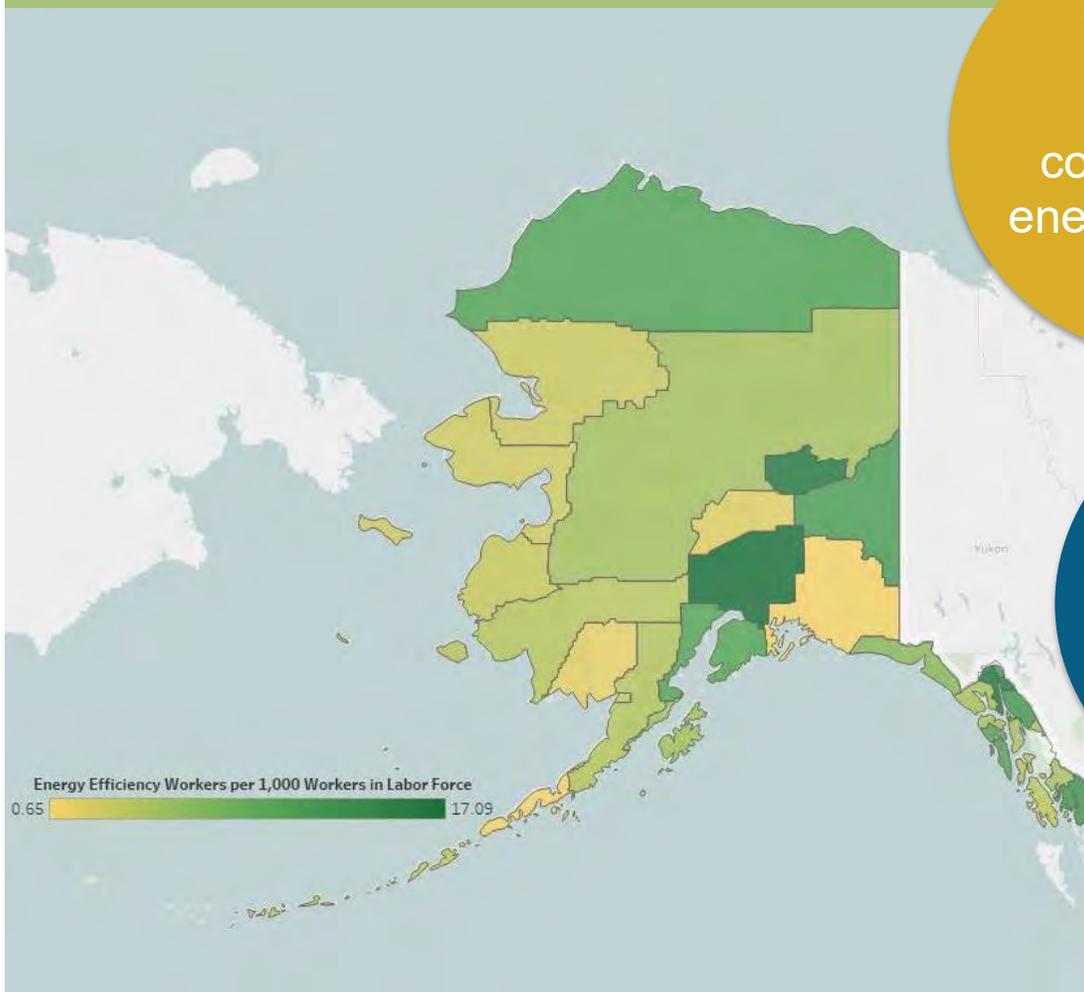


Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Alaska, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Alaska
counties have
energy efficiency
workers

~9,000
new EE construction
jobs to retrofit Alaska
homes by 2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of AK residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



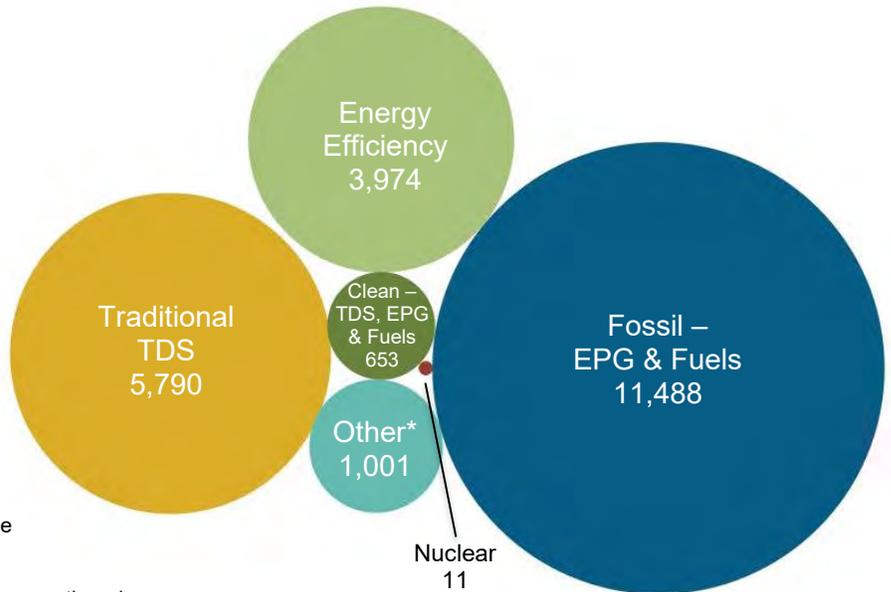
Key EE Statistics for Alaska

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Alaska's energy sectors compare?

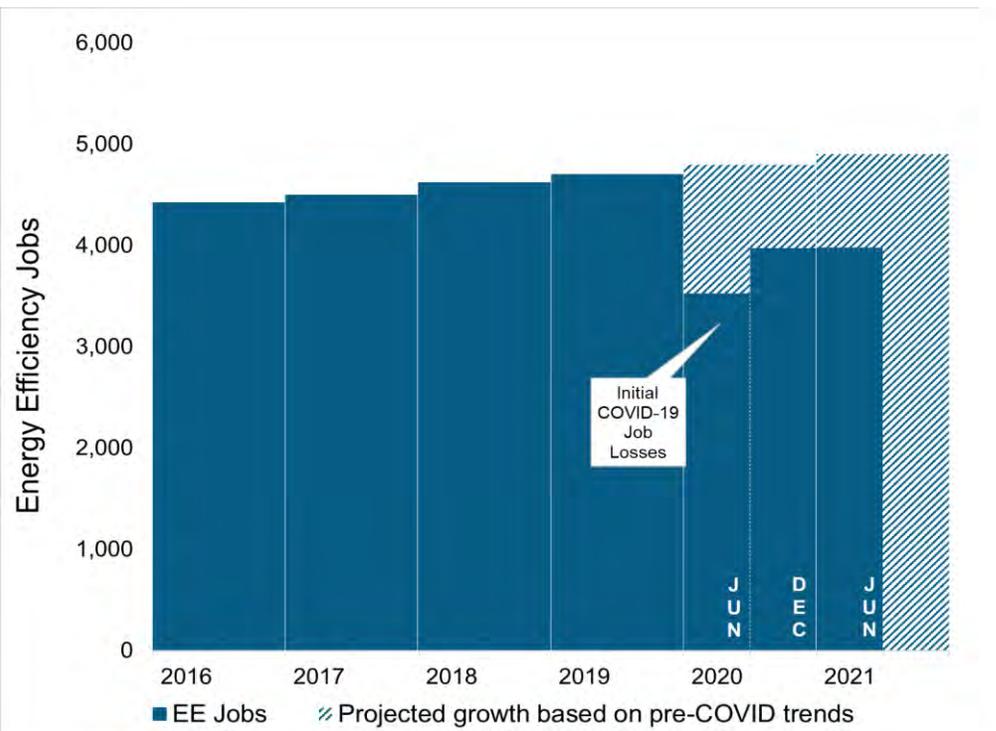
Energy Efficiency is the third largest energy sector in Alaska.



TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



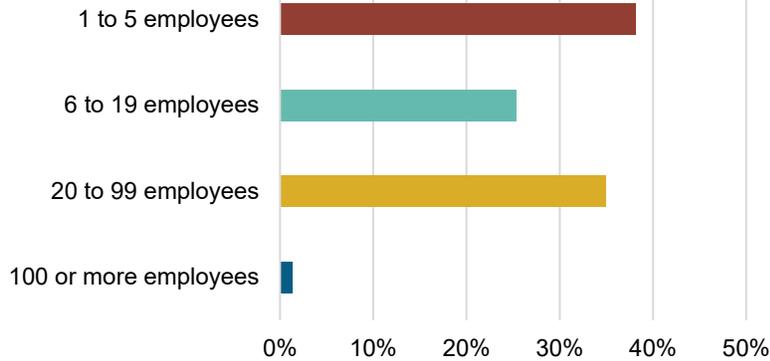
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Alaska?

98.6% of AK EE Businesses Have Less Than 100 Employees

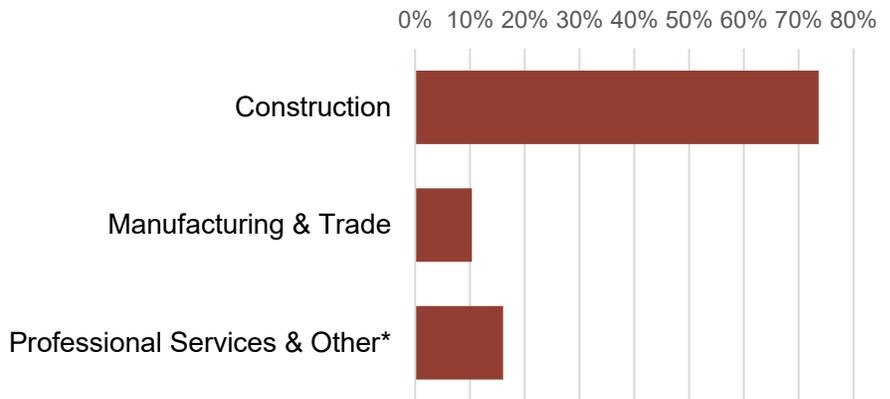


500
EE businesses in Alaska

EE construction workers comprise **19%** of Alaska construction workers

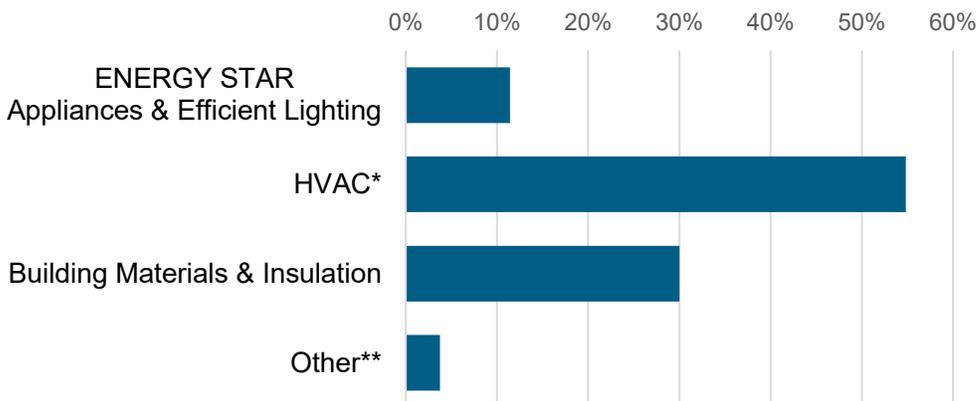


What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



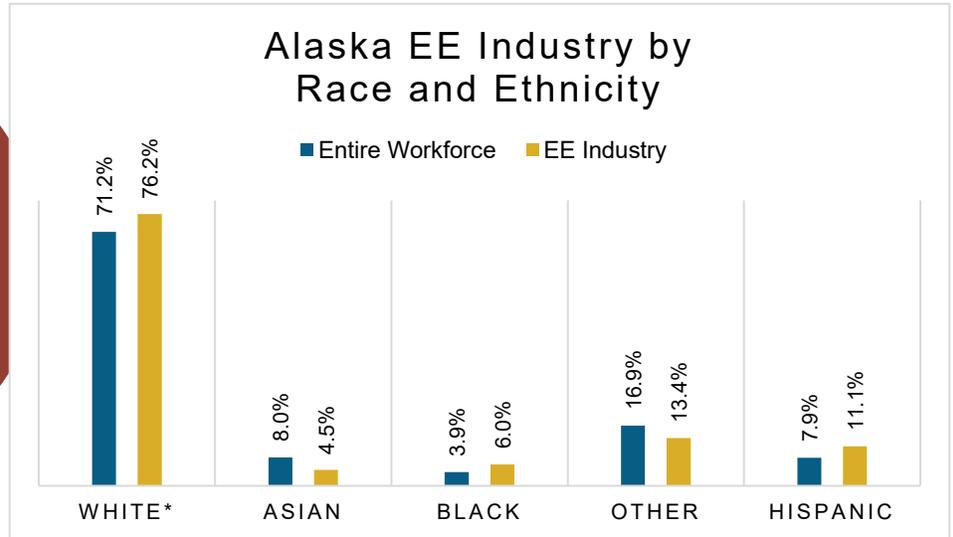
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

10% of Alaska EE workers are **Veterans**

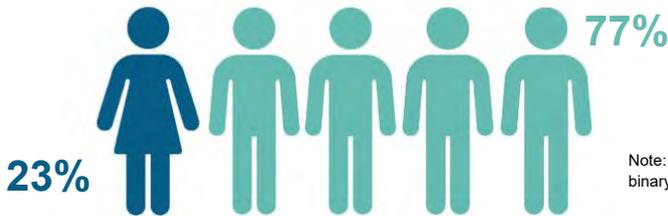
How is EE doing on diversity in Alaska?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Alaska communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Alaska's EE Potential

Decades of work, ready for Alaska's growing energy efficiency workforce.

Weatherization Assistance Program:



309* units weatherized in 2018, out of **~26,000** total low-income households

225,496

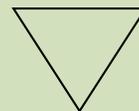
Alaska homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

22%



*National Association for State community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|--------------------|-------|
| District | Jobs | Area | Jobs |
| 1 | 3,974 | Anchorage | 2,345 |
| | | Fairbanks | 495 |
| | | Rural | 1,135 |

| AK State Senate | | | |
|-----------------|------|----------|------|
| District | Jobs | District | Jobs |
| 00H | 754 | 00T | 104 |
| 00I | 468 | 00A | 474 |
| 00D | 425 | 00B | 6 |
| 00L | 226 | 00C | 78 |
| 00G | 175 | 00O | 238 |
| 00K | 192 | 00P | 163 |
| 00M | 71 | 00Q | 255 |
| 00E | 16 | 00R | 206 |
| 00N | 9 | 00S | 83 |
| 00F | 28 | | |

| State House of Representatives | | | |
|--------------------------------|------|----------|------|
| District | Jobs | District | Jobs |
| 1 | 370 | 28 | 9 |
| 2 | 103 | 29 | 237 |
| 3 | <5 | 30 | <5 |
| 4 | 6 | 31 | 78 |
| 5 | <5 | 32 | 84 |
| 6 | 76 | 33 | 255 |
| 7 | 397 | 34 | <5 |
| 8 | 29 | 35 | 101 |
| 9 | 12 | 36 | 105 |
| 10 | <5 | 37 | 49 |
| 11 | <5 | 38 | 34 |
| 12 | 28 | 39 | 38 |
| 13 | 175 | 40 | 66 |
| 14 | <5 | | |
| 15 | 528 | | |
| 16 | 225 | | |
| 17 | <5 | | |
| 18 | 468 | | |
| 19 | <5 | | |
| 20 | <5 | | |
| 21 | 78 | | |
| 22 | 118 | | |
| 23 | 226 | | |
| 24 | <5 | | |
| 25 | <5 | | |
| 26 | 71 | | |
| 27 | <5 | | |



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Data Source: Unless otherwise stated, all data are from the U.S. Energy and Employment Report, July 2021, by the U.S. Department of Energy (see Appendix A for methodology details). This methodology -- adopted by the U.S. Dept. of Energy for its 2017 U.S. Energy and Employment Report, approved by the Office of Management and Budget and grounded on data collected by the Bureau of Labor Statistics -- provides the broadly accepted best accounting of all U.S. energy workers.

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Arizona

Energy Efficiency Jobs in America

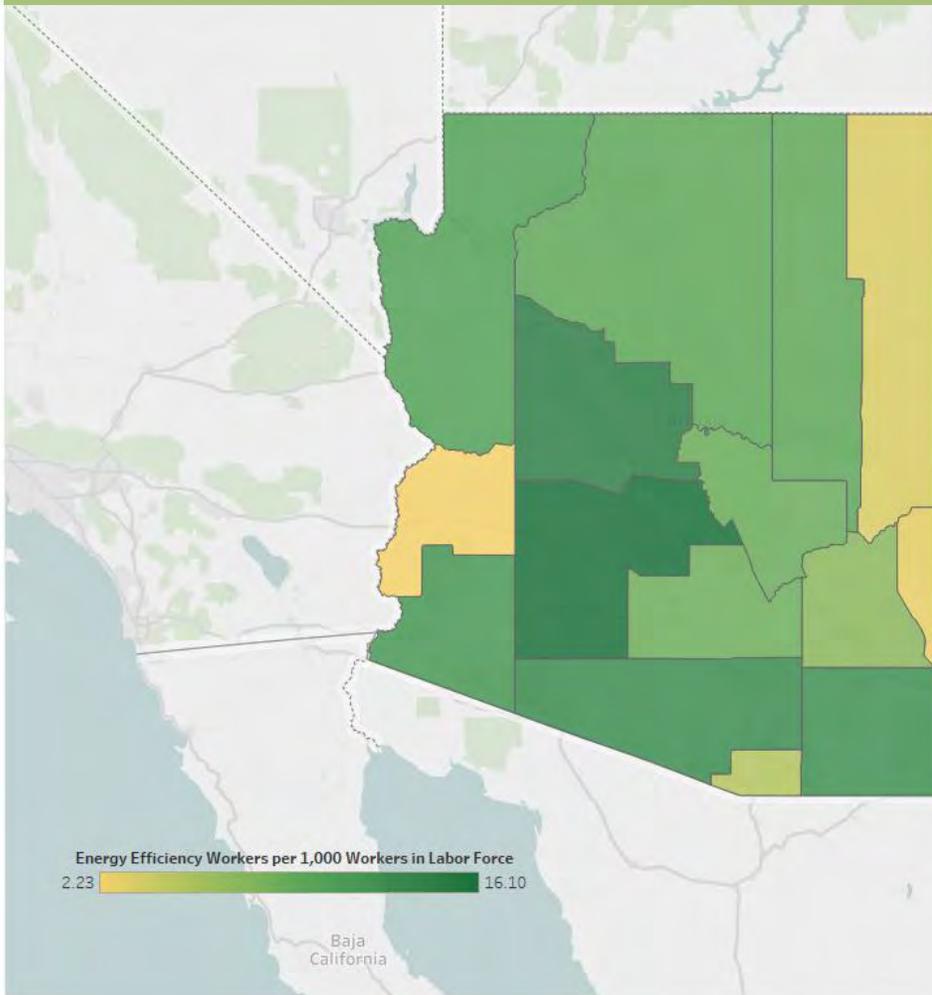


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Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Arizona
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energy efficiency
workers

~24,600
new EE construction
jobs to retrofit Arizona
homes by 2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of AZ residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



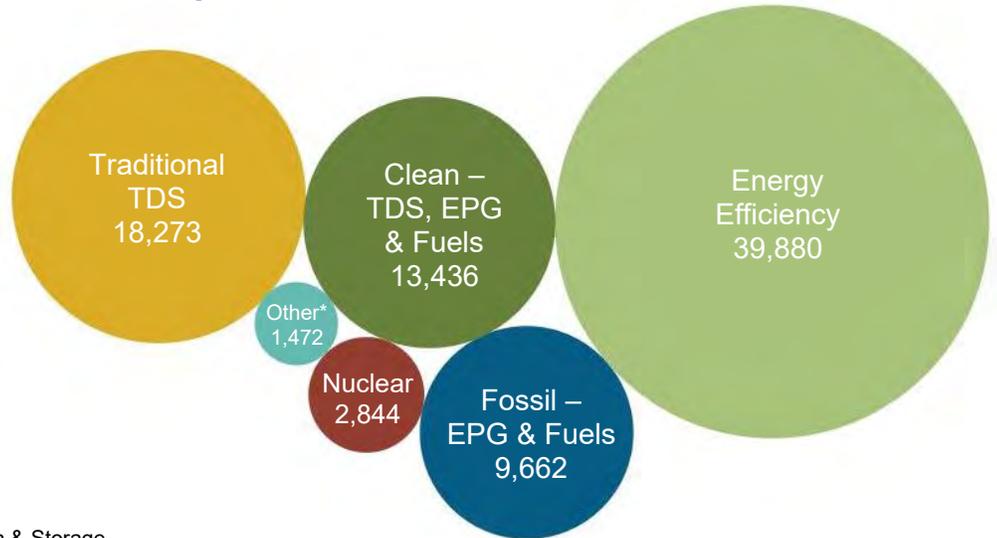
Key EE Statistics for Arizona

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Arizona's energy sectors compare?

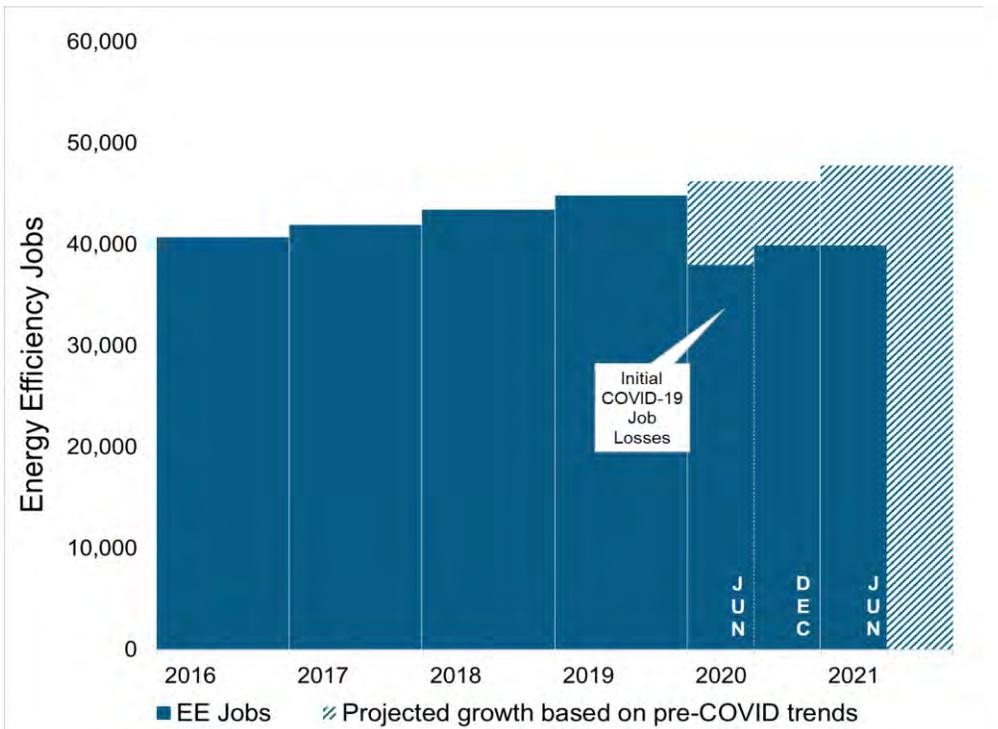
Energy Efficiency is the **largest** energy sector in Arizona.



TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



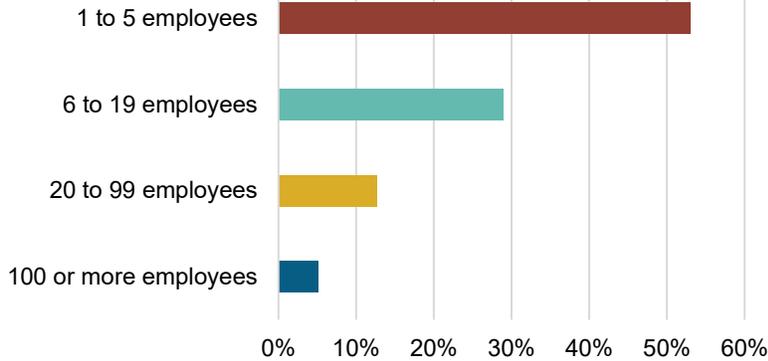
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Arizona?

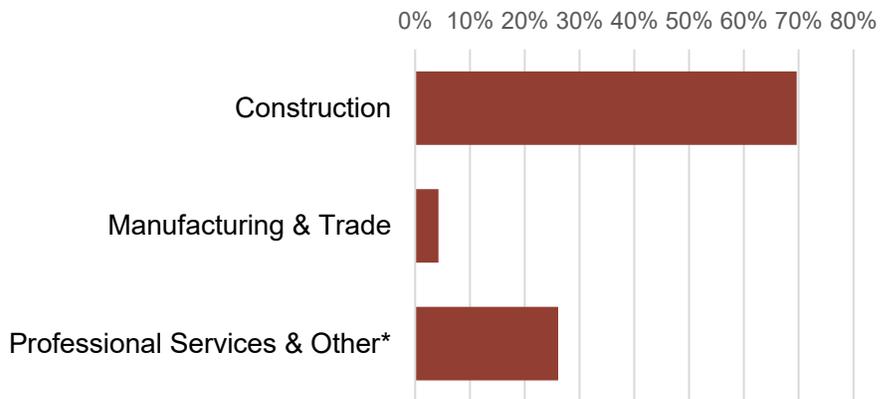
94.7% of AZ EE Businesses Have Less Than 100 Employees



10,141
EE businesses in Arizona

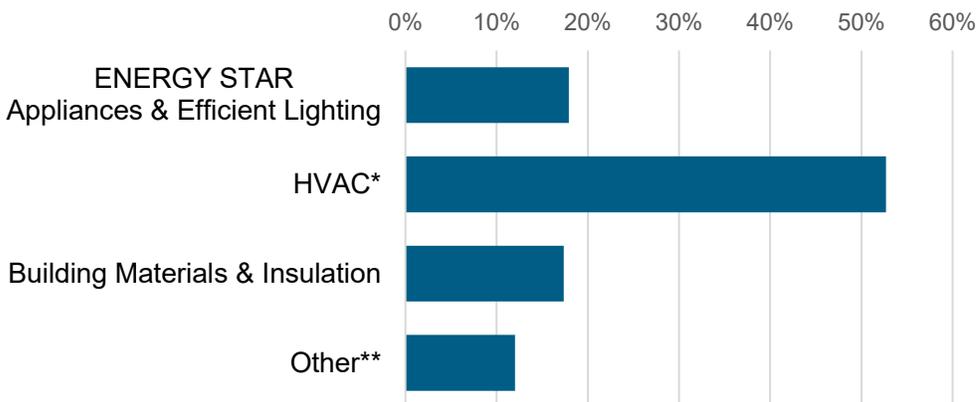
EE construction workers comprise **15%** of Arizona construction workers

What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



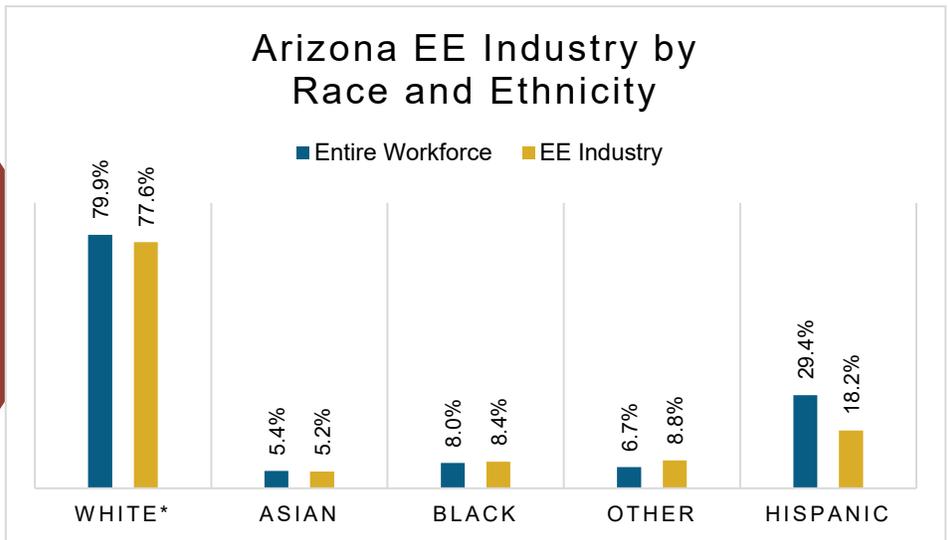
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

7% of Arizona EE workers are **Veterans**

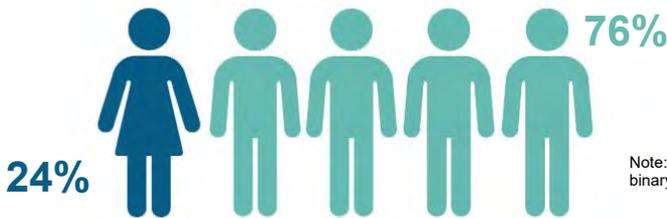
How is EE doing on diversity in Arizona?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Arizona communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Arizona's EE Potential

Decades of work, ready for Arizona's growing energy efficiency workforce.

Weatherization Assistance Program:



557* units weatherized in 2018, out of **~370,000** total low-income households

1,754,996

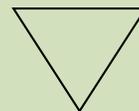
Arizona homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

37%



*National Association for State community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|--------|--------------------------|--------|
| District | Jobs | Area | Jobs |
| 1 | 4,008 | Phoenix-Mesa-Scottsdale | 29,809 |
| 2 | 4,609 | Tucson | 5,176 |
| 3 | 3,129 | Yuma | 532 |
| 4 | 3,448 | Flagstaff | 883 |
| 5 | 4,226 | Lake Havasu City-Kingman | 906 |
| 6 | 11,831 | Prescott | 1,140 |
| 7 | 7,086 | Rural | 1,434 |
| 8 | 1,023 | | |
| 9 | 522 | | |

| AZ State Senate | | | | | | | |
|-----------------|-------|--|----------|-------|--|----------|-------|
| District | Jobs | | District | Jobs | | District | Jobs |
| 1 | 2,177 | | 11 | 140 | | 21 | 399 |
| 2 | 2,067 | | 12 | 3,011 | | 22 | 108 |
| 3 | 1,269 | | 13 | 542 | | 23 | 4,000 |
| 4 | 875 | | 14 | 605 | | 24 | 6,897 |
| 5 | 985 | | 15 | 2,968 | | 25 | 526 |
| 6 | 1,100 | | 16 | 576 | | 26 | 1,516 |
| 7 | 306 | | 17 | 671 | | 27 | <5 |
| 8 | 1,059 | | 18 | 2,188 | | 28 | 574 |
| 9 | 1,560 | | 19 | 1,347 | | 29 | 381 |
| 10 | 246 | | 20 | 1,486 | | 30 | 301 |

| State House of Representatives | | | |
|--------------------------------|-------|----------|------|
| District | Jobs | District | Jobs |
| 1 | 2,171 | 28 | 547 |
| 2 | 2,166 | 29 | 356 |
| 3 | 1,236 | 30 | 282 |
| 4 | 846 | | |
| 5 | 973 | | |
| 6 | 1,090 | | |
| 7 | 379 | | |
| 8 | 999 | | |
| 9 | 1,531 | | |
| 10 | 240 | | |
| 11 | 136 | | |
| 12 | 2,799 | | |
| 13 | 549 | | |
| 14 | 608 | | |
| 15 | 2,871 | | |
| 16 | 555 | | |
| 17 | 629 | | |
| 18 | 2,107 | | |
| 19 | 1,925 | | |
| 20 | 1,409 | | |
| 21 | 378 | | |
| 22 | 101 | | |
| 23 | 3,943 | | |
| 24 | 7,021 | | |
| 25 | 499 | | |
| 26 | 1,534 | | |
| 27 | <5 | | |



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Arkansas

Energy Efficiency Jobs in America

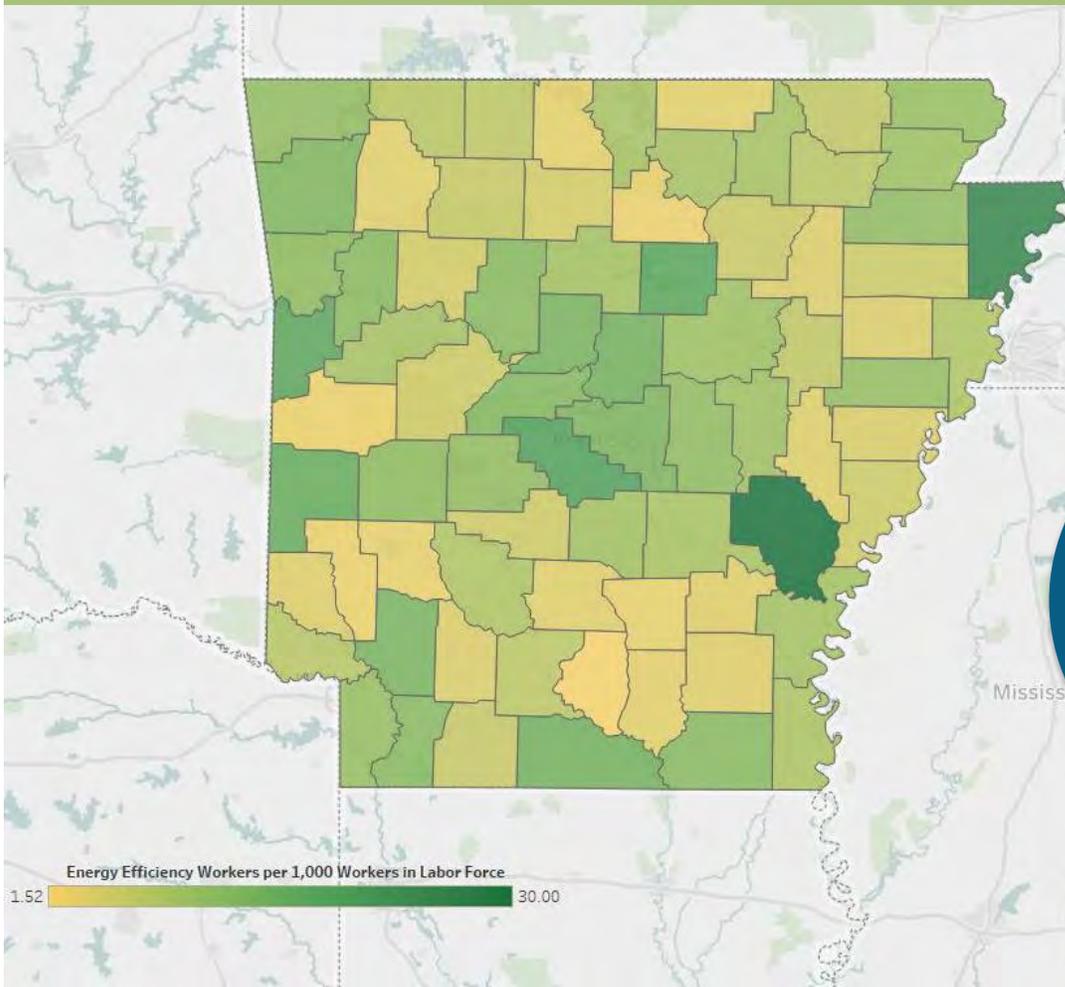


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Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Arkansas
counties have
energy efficiency
workers

~9,600
new EE construction
jobs to retrofit
Arkansas homes by
2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of AR residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



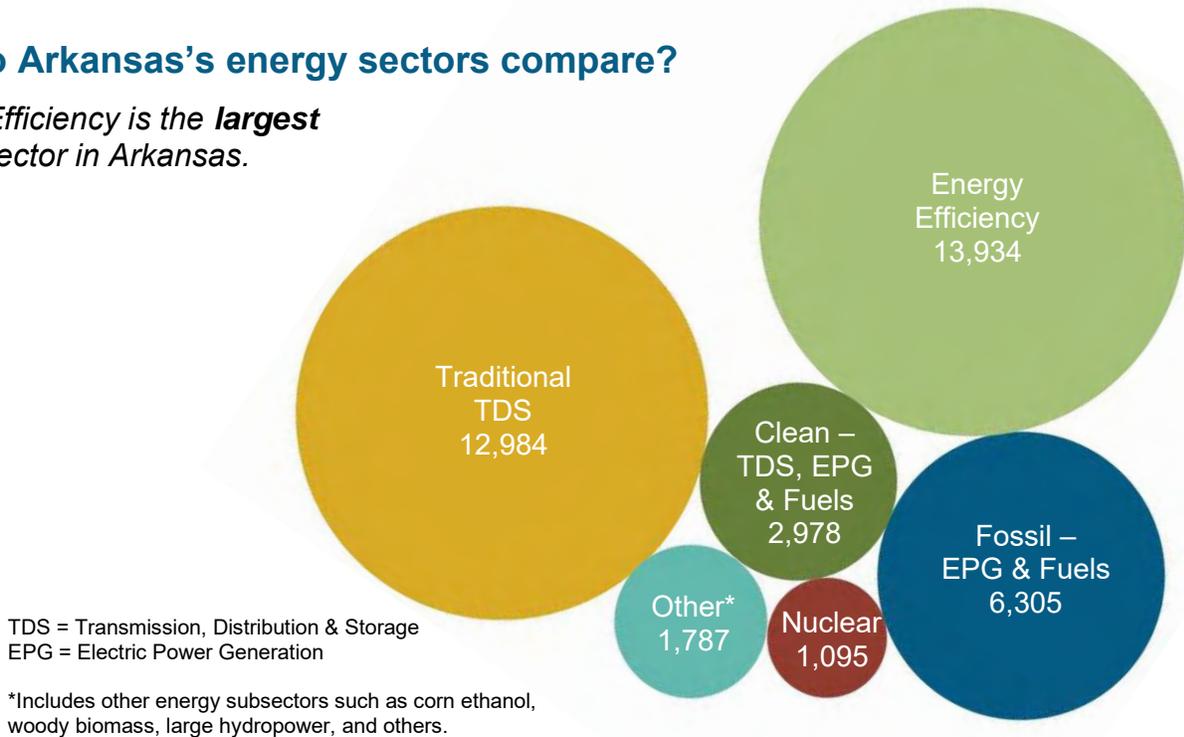
Key EE Statistics for Arkansas

What are energy efficiency (EE) jobs?

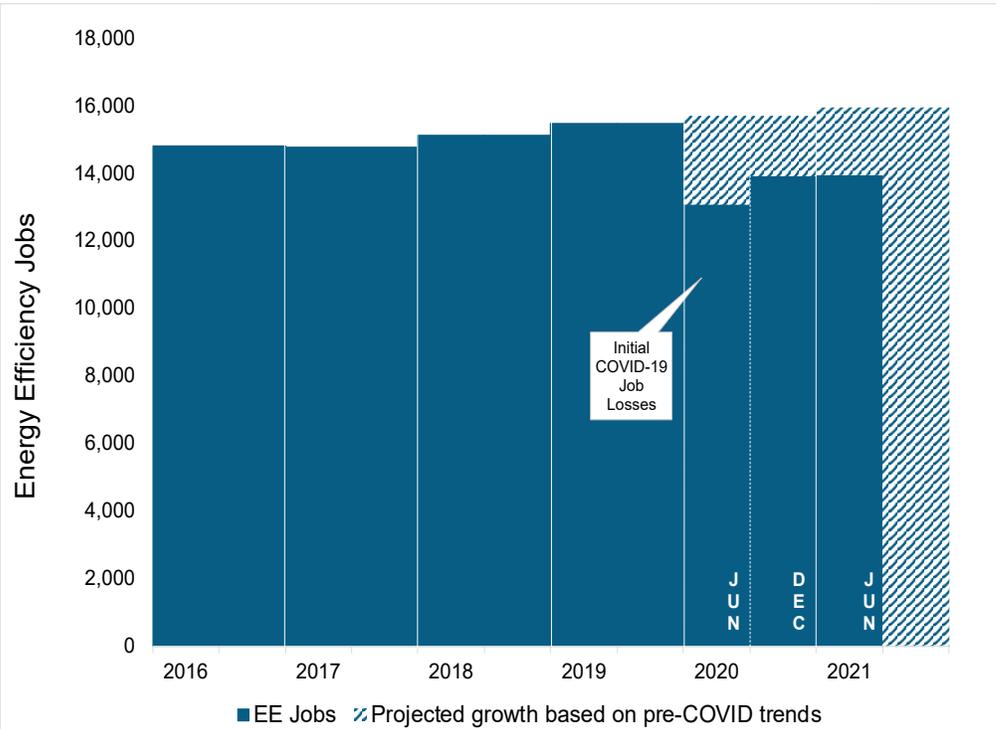
Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Arkansas's energy sectors compare?

Energy Efficiency is the **largest** energy sector in Arkansas.



How is the EE industry recovering?



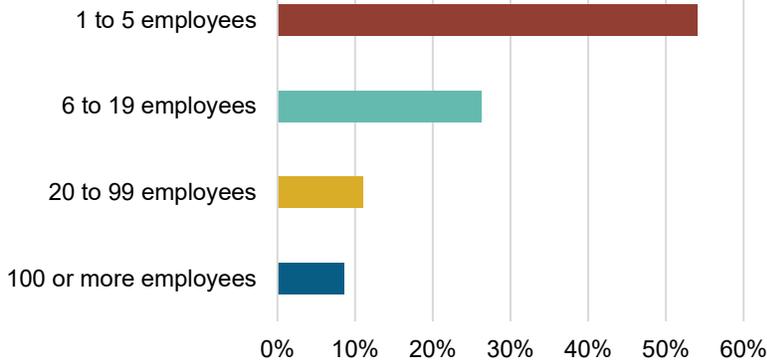
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Arkansas?

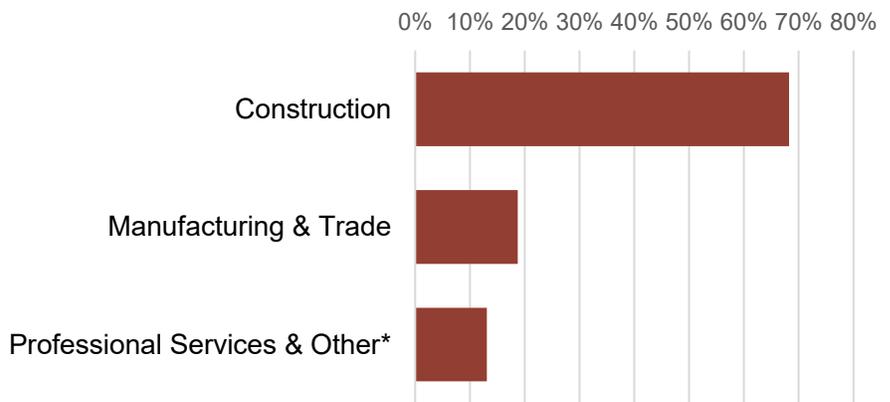
91.3% of AR EE Businesses Have Less Than 100 Employees



3,101
EE businesses in Arkansas

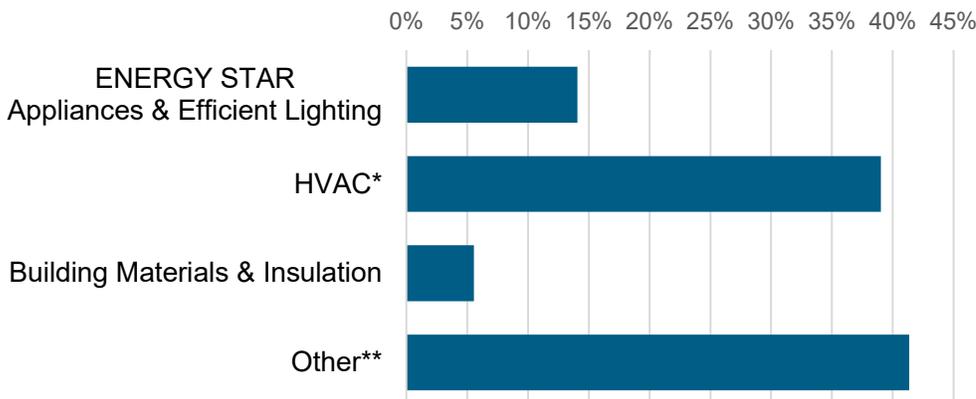
EE construction workers comprise **17%** of Arkansas construction workers

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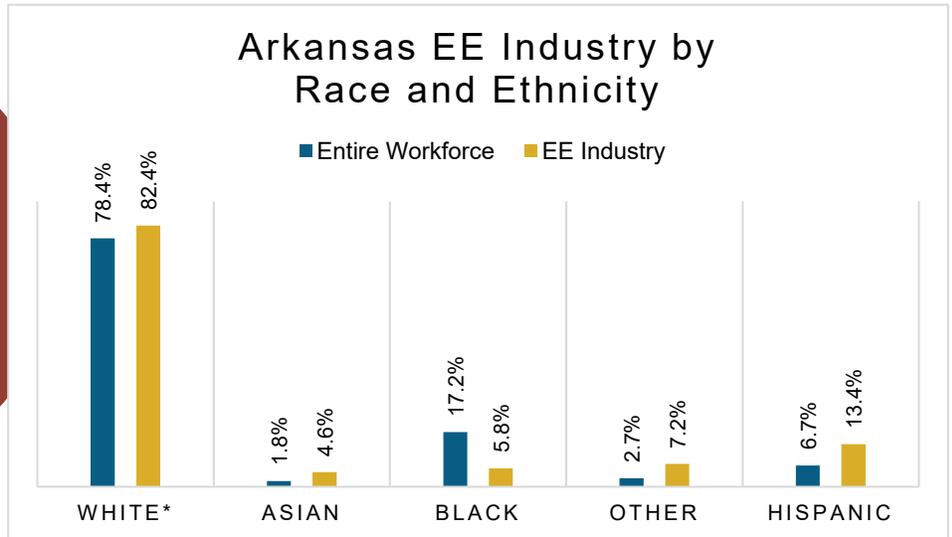
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**Other such as energy audits, building certifications, and software services

9% of Arkansas EE workers are **Veterans**

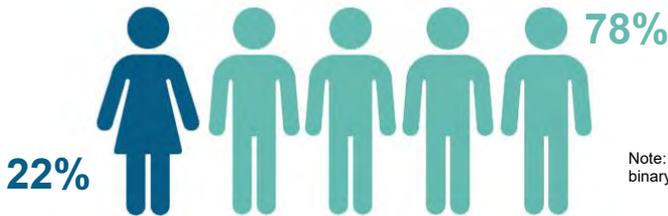
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The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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Arkansas's EE Potential

Decades of work, ready for Arkansas's growing energy efficiency workforce.

Weatherization Assistance Program:



658* units weatherized in 2018, out of **~190,000** total low-income households

859,078

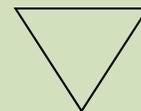
Arkansas homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

47%



*National Association for State community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|---|-------|
| District | Jobs | Area | Jobs |
| 1 | 3,470 | Fayetteville-Springdale-Rogers | 2,457 |
| 2 | 4,071 | Fort Smith | 955 |
| 3 | 4,083 | Hot Springs | 560 |
| 4 | 2,309 | Jonesboro | 705 |
| | | Little Rock-North Little Rock-Conway | 4,065 |
| | | Memphis | 407 |
| | | Pine Bluff | 328 |
| | | Texarkana | 203 |
| | | Rural | 4,255 |

| AR State Senate | | | | | | | |
|-----------------|-------|----------|-------|----------|-------|----------|------|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
| 1 | 1,359 | 11 | 298 | 21 | 139 | 31 | 229 |
| 2 | 163 | 12 | 265 | 22 | 298 | 32 | 284 |
| 3 | 333 | 13 | 884 | 23 | 298 | 33 | <5 |
| 4 | 566 | 14 | 106 | 24 | 269 | 34 | 117 |
| 5 | 423 | 15 | 1,179 | 25 | 490 | 35 | <5 |
| 6 | 221 | 16 | 458 | 26 | 320 | | |
| 7 | <5 | 17 | 262 | 27 | 227 | | |
| 8 | 706 | 18 | 443 | 28 | 134 | | |
| 9 | 69 | 19 | 323 | 29 | 140 | | |
| 10 | 341 | 20 | 713 | 30 | 1,875 | | |

State House of Representatives

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|------|----------|-------|----------|------|----------|------|
| 1 | 191 | 28 | <5 | 55 | <5 | 82 | 64 |
| 2 | 192 | 29 | 270 | 56 | 182 | 83 | 296 |
| 3 | 156 | 30 | 474 | 57 | <5 | 84 | 314 |
| 4 | 69 | 31 | 159 | 58 | <5 | 85 | <5 |
| 5 | 65 | 32 | 120 | 59 | <5 | 86 | <5 |
| 6 | 230 | 33 | 1,071 | 60 | 88 | 87 | <5 |
| 7 | 12 | 34 | <5 | 61 | 153 | 88 | <5 |
| 8 | 280 | 35 | <5 | 62 | 88 | 89 | <5 |
| 9 | 22 | 36 | <5 | 63 | <5 | 90 | 664 |
| 10 | 172 | 37 | 532 | 64 | 201 | 91 | 31 |
| 11 | 128 | 38 | 113 | 65 | 133 | 92 | 69 |
| 12 | 226 | 39 | <5 | 66 | 34 | 93 | 260 |
| 13 | 289 | 40 | 379 | 67 | <5 | 94 | <5 |
| 14 | 493 | 41 | <5 | 68 | 116 | 95 | 30 |
| 15 | 206 | 42 | <5 | 69 | 85 | 96 | <5 |
| 16 | 161 | 43 | <5 | 70 | <5 | 97 | 34 |
| 17 | <5 | 44 | 47 | 71 | 125 | 98 | 7 |
| 18 | 317 | 45 | 15 | 72 | <5 | 99 | 68 |
| 19 | 16 | 46 | <5 | 73 | 57 | 100 | 15 |
| 20 | 70 | 47 | 113 | 74 | 79 | | |
| 21 | 257 | 48 | 143 | 75 | 221 | | |
| 22 | 374 | 49 | 90 | 76 | 307 | | |
| 23 | 73 | 50 | 195 | 77 | 278 | | |
| 24 | <5 | 51 | <5 | 78 | <5 | | |
| 25 | <5 | 52 | 337 | 79 | <5 | | |
| 26 | <5 | 53 | 583 | 80 | 494 | | |
| 27 | 27 | 54 | 199 | 81 | 570 | | |



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California

Energy Efficiency Jobs in America

June 2021*

285,641

Dec 2020

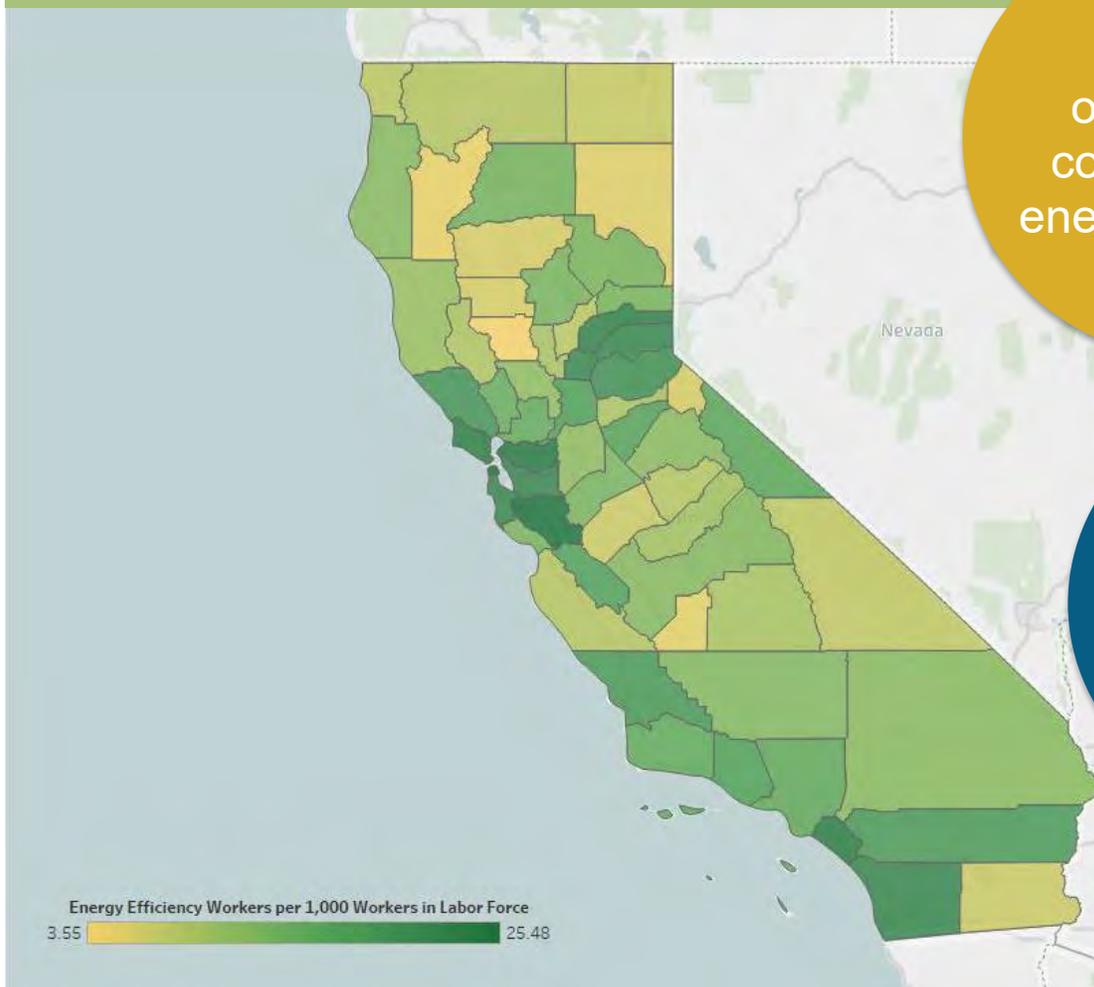
283,839

Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In California, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of California
counties have
energy efficiency
workers

~186,900
new EE construction
jobs to retrofit
California homes by
2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of CA residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



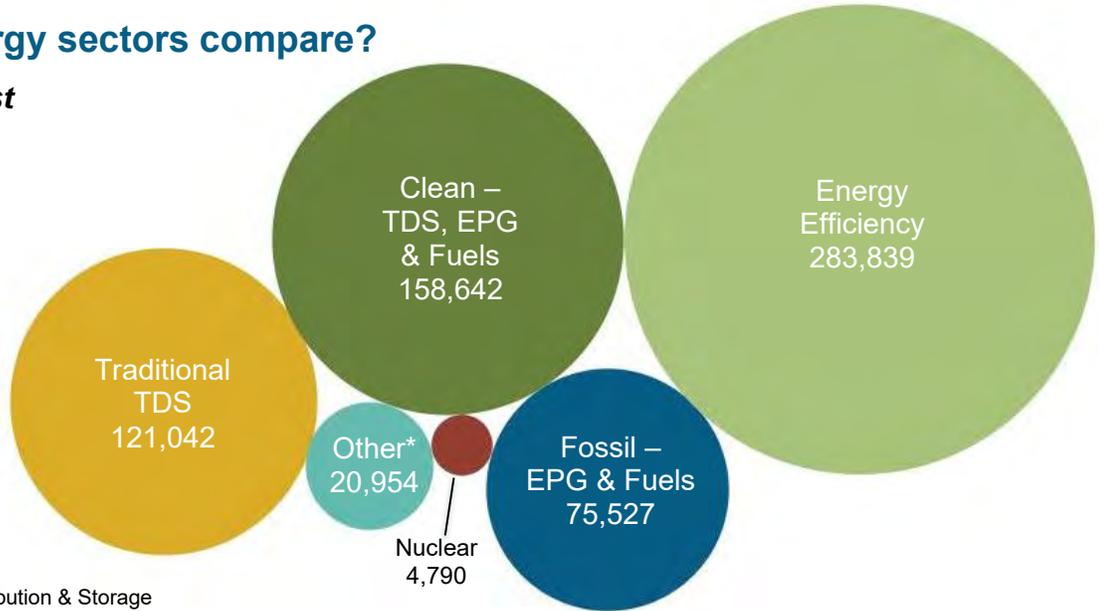
Key EE Statistics for California

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do California's energy sectors compare?

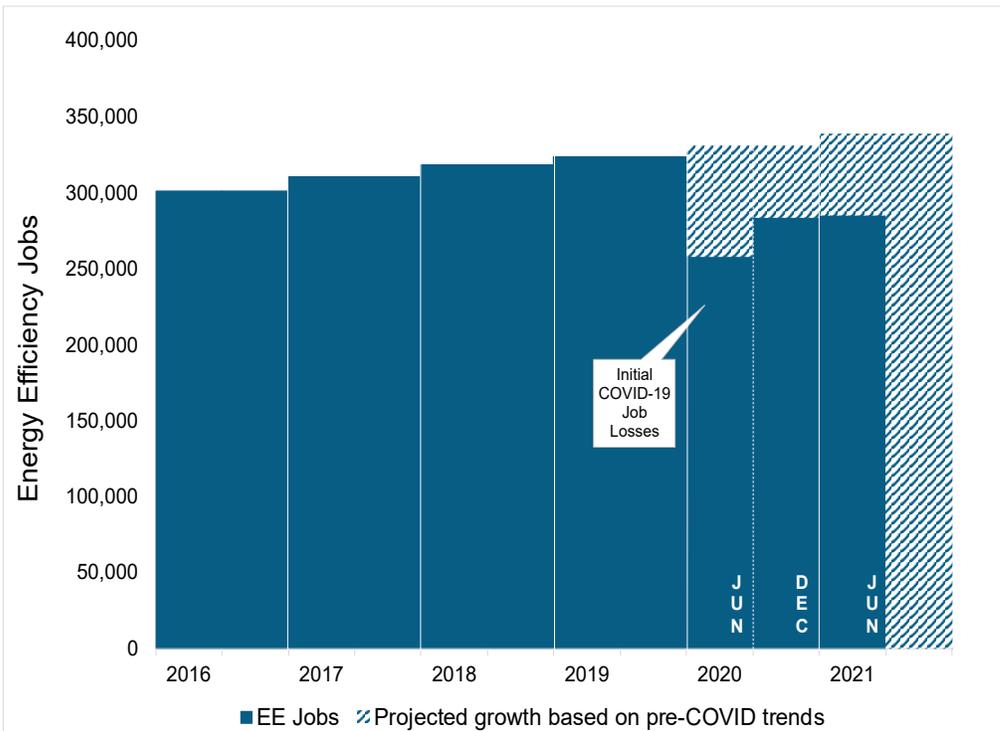
Energy Efficiency is the **largest** energy sector in California.



TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



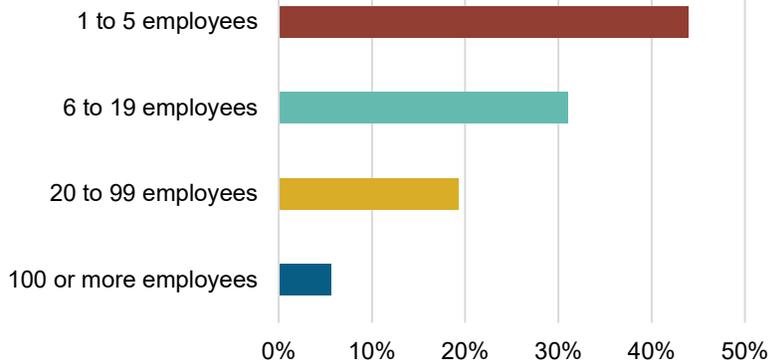
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in California?

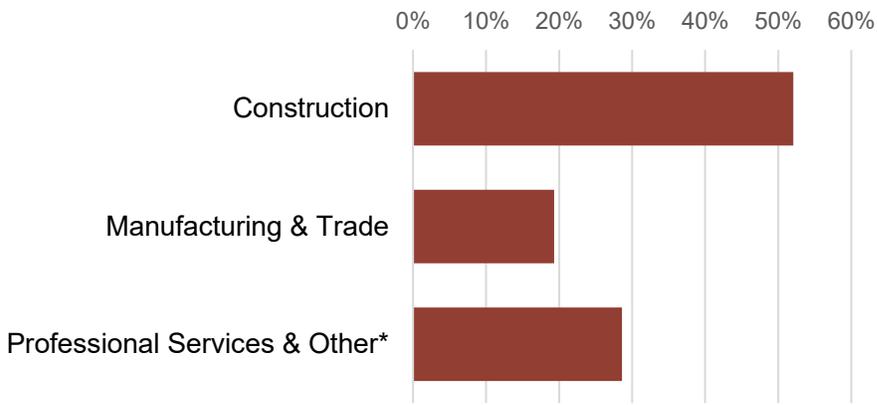
94.3% of CA EE Businesses Have Less Than 100 Employees



53,387
EE businesses in California

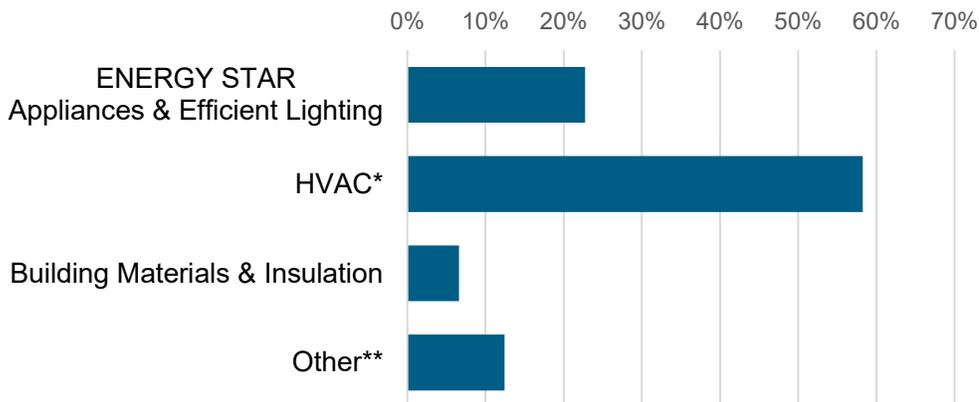
EE construction workers comprise **17%** of California construction workers

What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



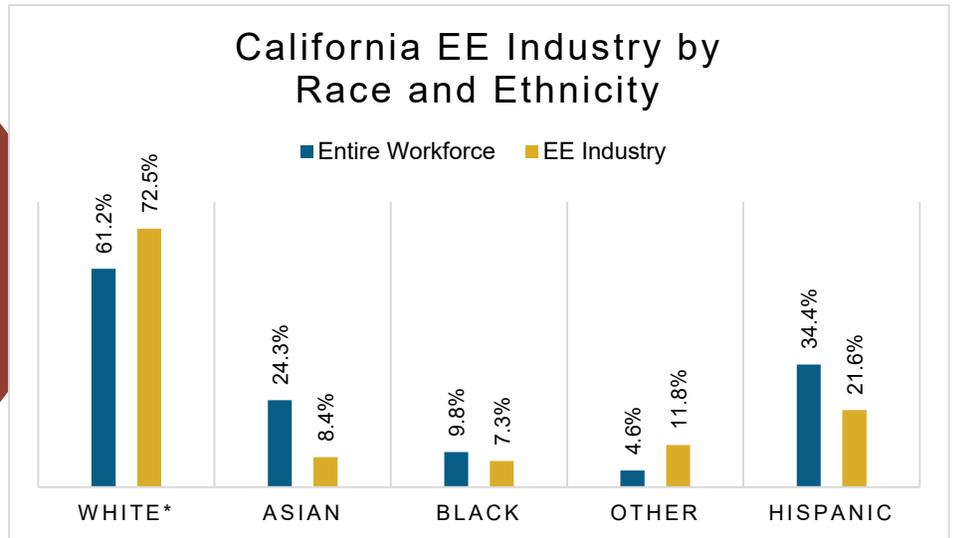
8% of California EE workers are **Veterans**

*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

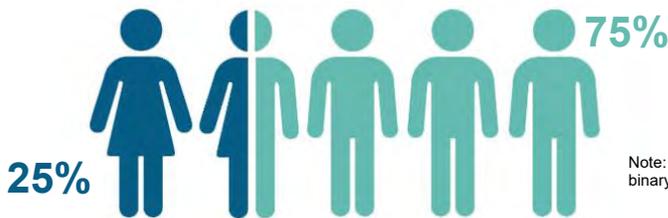
How is EE doing on diversity in California?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all California communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

California's EE Potential

Decades of work ready, for California's growing energy efficiency workforce.

Weatherization Assistance Program:


10,518* units weatherized in 2018, out of **~1,600,000** total low-income households

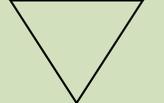
10,534,406

California homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

21%


*National Association for State community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
 Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | | | Metropolitan Areas | |
|---------------|--------|----------|--------|-----------------------------------|--------|
| District | Jobs | District | Jobs | Area | Jobs |
| 1 | 7,238 | 28 | 7,090 | Bakersfield | 4,350 |
| 2 | 10,675 | 29 | 2,172 | Chico | 1,803 |
| 3 | 5,799 | 30 | 4,990 | El Centro | 658 |
| 4 | 6,775 | 31 | 2,163 | Fresno | 5,535 |
| 5 | 3,934 | 32 | 3,377 | Hanford-Corcoran | 364 |
| 6 | 5,535 | 33 | 9,866 | Los Angeles-Long Beach-Santa Ana | 83,858 |
| 7 | 3,087 | 34 | 4,573 | Madera | 614 |
| 8 | 3,866 | 35 | 4,449 | Merced | 748 |
| 9 | 4,111 | 36 | 4,853 | Modesto | 2,582 |
| 10 | 3,319 | 37 | 3,376 | Napa | 1,306 |
| 11 | 9,811 | 38 | 3,707 | Oxnard-Thousand Oaks-Ventura | 5,488 |
| 12 | 17,245 | 39 | 6,245 | Redding | 1,513 |
| 13 | 7,700 | 40 | 2,431 | Riverside-San Bernardino-Ontario | 21,278 |
| 14 | 5,897 | 41 | 5,096 | Sacramento-Arden-Arcade-Roseville | 17,346 |
| 15 | 5,395 | 42 | 3,136 | Salinas | 2,538 |
| 16 | 4,400 | 43 | 3,028 | San Diego-Carlsbad-San Marcos | 31,220 |
| 17 | 9,362 | 44 | 1,555 | San Francisco-Oakland-Fremont | 53,393 |
| 18 | 5,982 | 45 | 11,993 | San Jose-Sunnyvale-Santa Clara | 17,492 |
| 19 | 2,626 | 46 | 2,507 | San Luis Obispo-Paso Robles | 5,235 |
| 20 | 3,104 | 47 | 4,242 | Santa Barbara-Santa Maria-Goleta | 4,713 |
| 21 | 3,449 | 48 | 4,779 | Santa Cruz-Watsonville | 2,362 |
| 22 | 2,360 | 49 | 10,264 | Santa Rosa-Petaluma | 5,769 |
| 23 | 3,273 | 50 | 4,130 | Stockton | 3,352 |
| 24 | 9,957 | 51 | 4,875 | Vallejo-Fairfield | 1,721 |
| 25 | 4,059 | 52 | 8,979 | Visalia-Porterville | 1,717 |
| 26 | 3,039 | 53 | 1,442 | Yuba City | 701 |
| 27 | 6,526 | | | Rural | 6,182 |

CA State Senate

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|--------|----------|--------|----------|--------|----------|--------|
| 1 | 11,144 | 11 | 17,934 | 21 | 3,415 | 31 | 3,520 |
| 2 | 9,623 | 12 | 3,553 | 22 | 5,711 | 32 | 3,499 |
| 3 | 10,523 | 13 | 8,234 | 23 | 4,140 | 33 | 5,184 |
| 4 | 4,796 | 14 | 5,145 | 24 | 7,421 | 34 | 7,891 |
| 5 | 5,153 | 15 | 4,892 | 25 | 4,177 | 35 | 3,430 |
| 6 | 5,713 | 16 | 3,794 | 26 | 10,279 | 36 | 10,985 |
| 7 | 6,984 | 17 | 9,461 | 27 | 6,661 | 37 | 8,715 |
| 8 | 7,017 | 18 | 7,141 | 28 | 6,260 | 38 | 8,853 |
| 9 | 10,416 | 19 | 7,119 | 29 | 6,915 | 39 | 11,695 |
| 10 | 12,895 | 20 | 6,590 | 30 | 4,602 | 40 | 2,362 |

State Assembly

| District | Jobs | District | Jobs | District | Jobs |
|----------|--------|----------|-------|----------|--------|
| 1 | 5,709 | 31 | 980 | 61 | 2,649 |
| 2 | 4,404 | 32 | 1,715 | 62 | 2,153 |
| 3 | 1,778 | 33 | 2,484 | 63 | 2,724 |
| 4 | 6,330 | 34 | 1,785 | 64 | 1,943 |
| 5 | 3,141 | 35 | 6,431 | 65 | 3,392 |
| 6 | 5,747 | 36 | 2,088 | 66 | 1,720 |
| 7 | 6,746 | 37 | 6,390 | 67 | 2,504 |
| 8 | 1,082 | 38 | 4,050 | 68 | 7,693 |
| 9 | 908 | 39 | 2,277 | 69 | 2,540 |
| 10 | 4,364 | 40 | 2,592 | 70 | 2,114 |
| 11 | 1,896 | 41 | 4,520 | 71 | 4,138 |
| 12 | 3,390 | 42 | 4,077 | 72 | 2,170 |
| 13 | 1,624 | 43 | 3,146 | 73 | 3,470 |
| 14 | 6,865 | 44 | 1,876 | 74 | 4,665 |
| 15 | 5,703 | 45 | 5,004 | 75 | 3,754 |
| 16 | 2,387 | 46 | 1,762 | 76 | 3,167 |
| 17 | 17,325 | 47 | 1,123 | 77 | 11,700 |
| 18 | 4,827 | 48 | 2,217 | 78 | 6,951 |
| 19 | 1,643 | 49 | 1,679 | 79 | 1,446 |
| 20 | 4,651 | 50 | 8,070 | 80 | 71 |
| 21 | 1,055 | 51 | 2,441 | | |
| 22 | 4,513 | 52 | 3,926 | | |
| 23 | 4,680 | 53 | 2,947 | | |
| 24 | 5,560 | 54 | 2,517 | | |
| 25 | 8,269 | 55 | 3,470 | | |
| 26 | 2,598 | 56 | 822 | | |
| 27 | 1,440 | 57 | 2,621 | | |
| 28 | 2,592 | 58 | 707 | | |
| 29 | 4,323 | 59 | 410 | | |
| 30 | 1,495 | 60 | 1,703 | | |



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



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. Visit www.e2.org



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 www.bwresearch.com

Data Source: Unless otherwise stated, all data are from the U.S. Energy and Employment Report, July 2021, by the U.S. Department of Energy (see Appendix A for methodology details). This methodology -- adopted by the U.S. Dept. of Energy for its 2017 U.S. Energy and Employment Report, approved by the Office of Management and Budget and grounded on data collected by the Bureau of Labor Statistics -- provides the broadly accepted best accounting of all U.S. energy workers.

For questions on E4TheFuture analyses please email: policy@e4thefuture.org.

Colorado

Energy Efficiency Jobs in America

June 2021*

32,792

Dec 2020

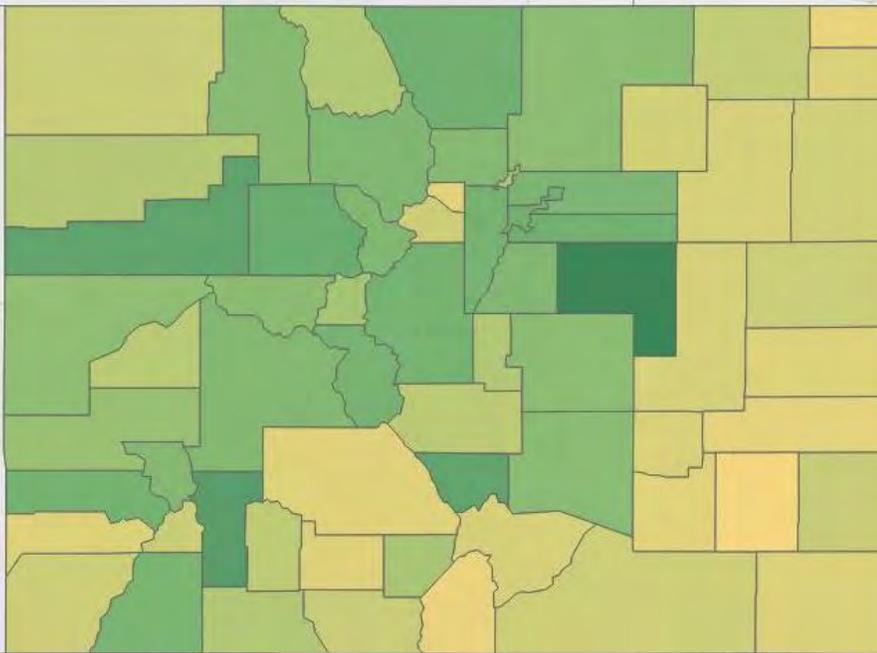
32,595

Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Colorado, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Colorado
counties have
energy efficiency
workers

~25,800
new EE construction
jobs to retrofit
Colorado homes by
2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of CO residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:

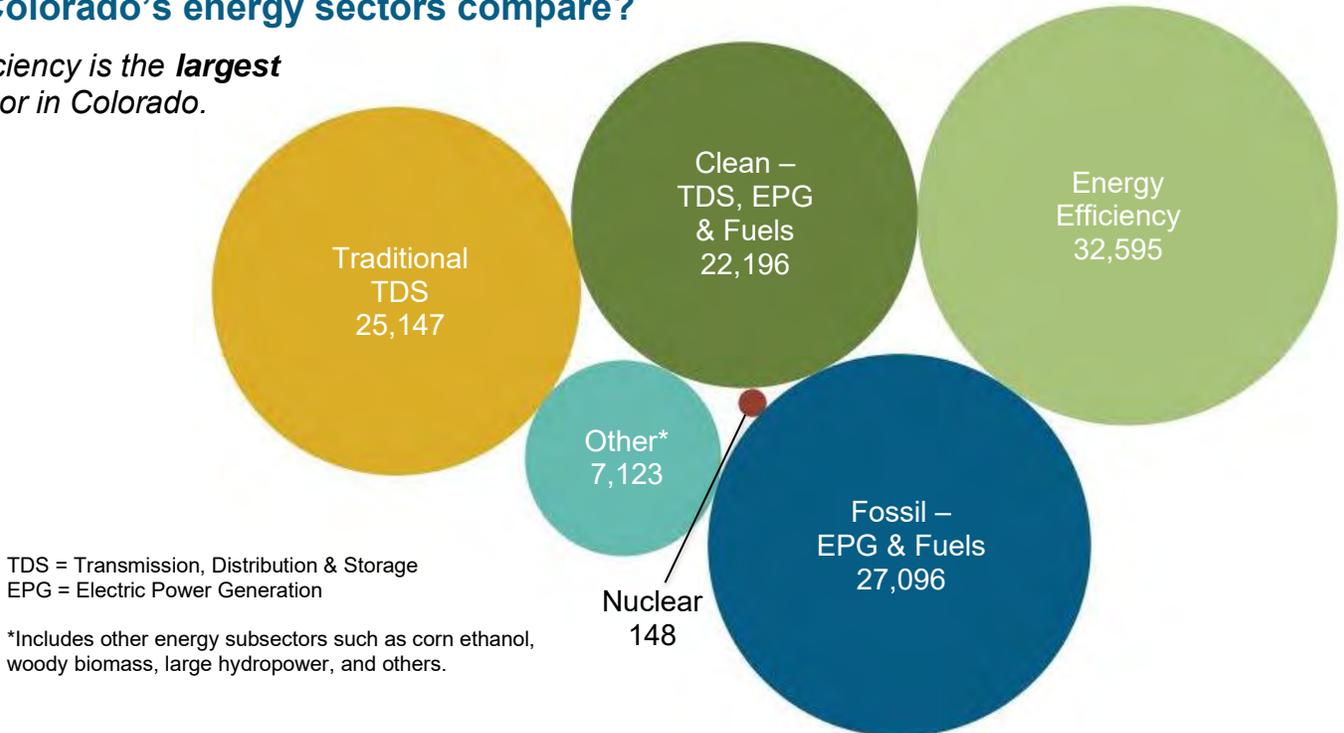


What are energy efficiency (EE) jobs?

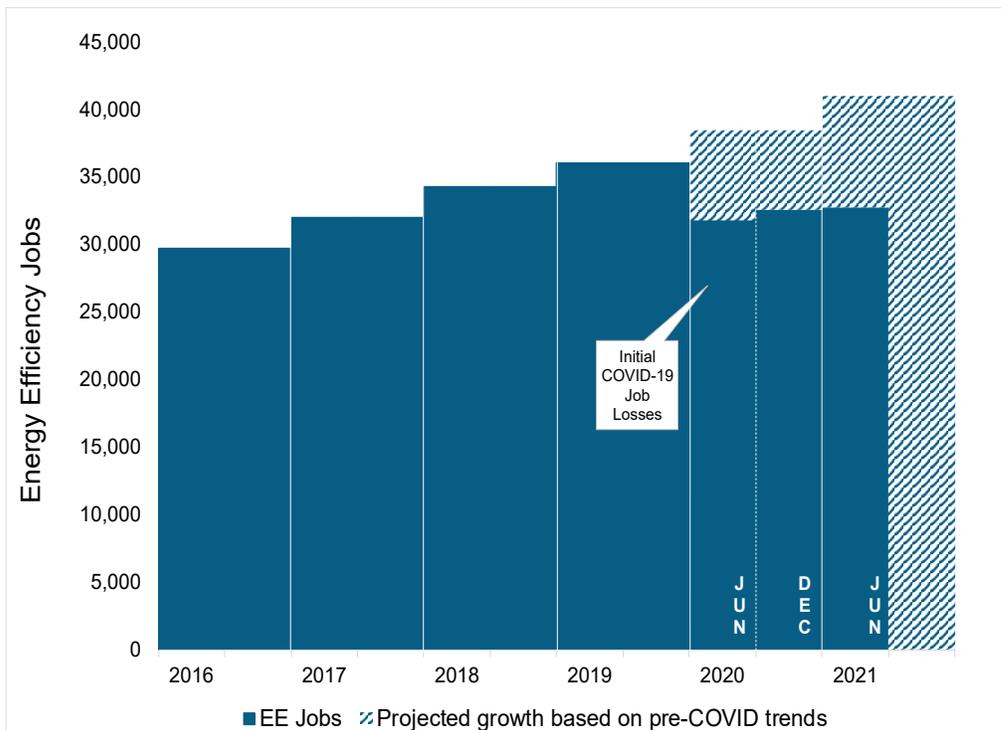
Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Colorado's energy sectors compare?

Energy Efficiency is the **largest** energy sector in Colorado.



How is the EE industry recovering?



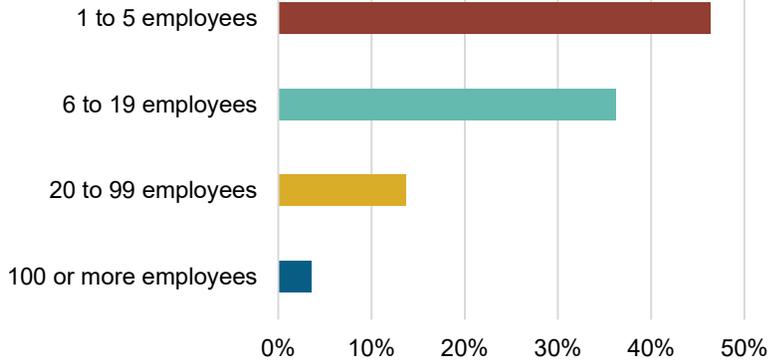
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Colorado?

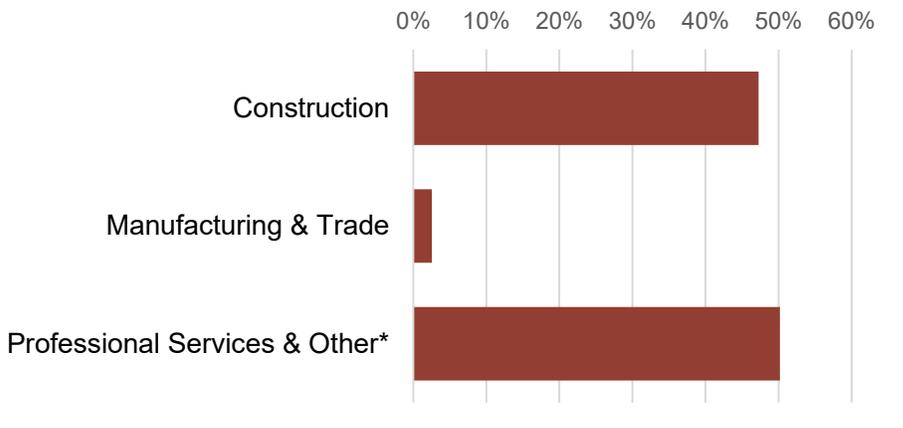
96.3% of CO EE Businesses Have Less Than 100 Employees



6,677
EE businesses in Colorado

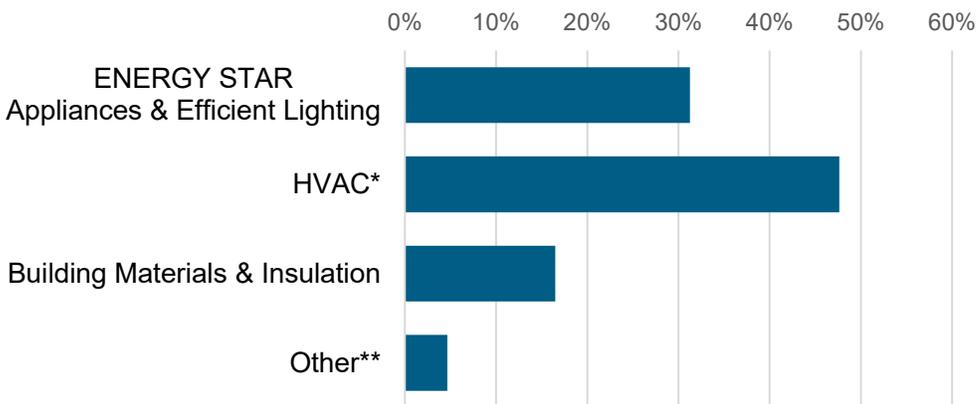
EE construction workers comprise **9%** of Colorado construction workers

What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



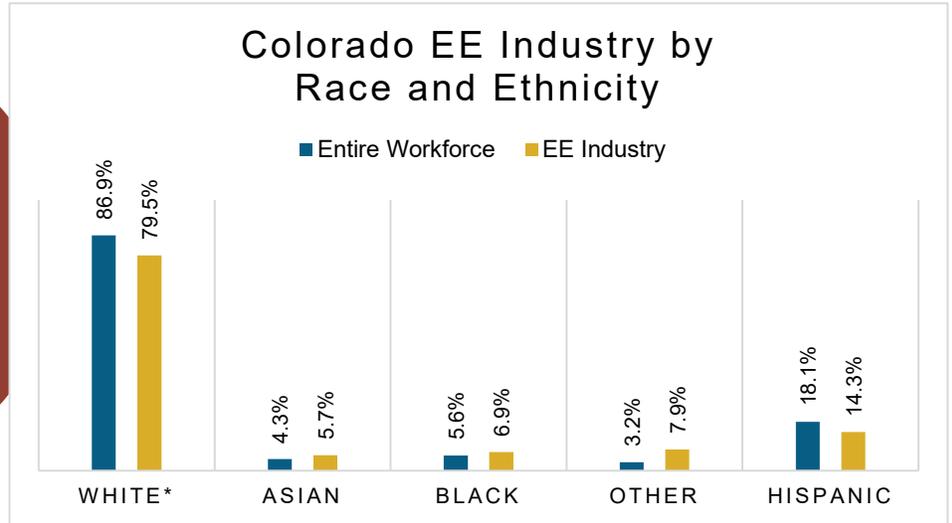
7% of Colorado EE workers are **Veterans**

*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

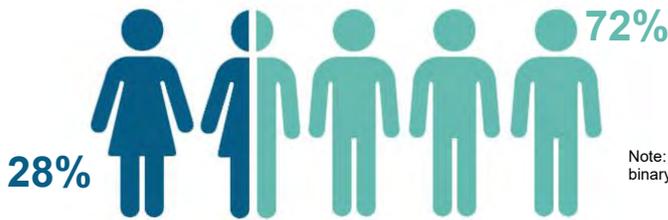
How is EE doing on diversity in Colorado?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Colorado communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Colorado's EE Potential

Decades of work, ready for Colorado's growing energy efficiency workforce.

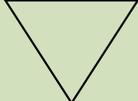
Weatherization Assistance Program:


1,218* units weatherized in 2018, out of **~210,000** total low-income households

1,607,898 Colorado homes are due for energy tune-ups


 (Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

24%


*National Association for State community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
 Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|--------|-----------------------|--------|
| District | Jobs | Area | Jobs |
| 1 | 10,218 | Boulder | 3,526 |
| 2 | 8,731 | Colorado Springs | 2,706 |
| 3 | 4,138 | Denver-Aurora | 17,516 |
| 4 | 4,154 | Fort Collins-Loveland | 2,011 |
| 5 | 2,893 | Grand Junction | 724 |
| 6 | 1,012 | Greeley | 1,148 |
| 7 | 1,448 | Pueblo | 505 |
| | | Rural | 4,460 |

| CO State Senate | | | | | | | |
|-----------------|-------|----------|-------|----------|-------|----------|-------|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
| 1 | 1,735 | 11 | 656 | 21 | 1,778 | 31 | 1,838 |
| 2 | 989 | 12 | 22 | 22 | <5 | 32 | 1,025 |
| 3 | 451 | 13 | 409 | 23 | 106 | 33 | 564 |
| 4 | 1,729 | 14 | 642 | 24 | 153 | 34 | 2,895 |
| 5 | 1,446 | 15 | 1,165 | 25 | 287 | 35 | 395 |
| 6 | 950 | 16 | 3,079 | 26 | 1,914 | | |
| 7 | 732 | 17 | 1,836 | 27 | <5 | | |
| 8 | 1,095 | 18 | 1,083 | 28 | 113 | | |
| 9 | 1,184 | 19 | 1,152 | 29 | 84 | | |
| 10 | 246 | 20 | 599 | 30 | 240 | | |

State House of Representatives

| District | Jobs | District | Jobs | District | Jobs |
|----------|-------|----------|-------|----------|------|
| 1 | 1,195 | 28 | <5 | 55 | <5 |
| 2 | 1,523 | 29 | 155 | 56 | 115 |
| 3 | 2,129 | 30 | 1,166 | 57 | 400 |
| 4 | 1,057 | 31 | 44 | 58 | 430 |
| 5 | 2,708 | 32 | 52 | 59 | 726 |
| 6 | 1,124 | 33 | 231 | 60 | 189 |
| 7 | 848 | 34 | 22 | 61 | 758 |
| 8 | <5 | 35 | <5 | 62 | 191 |
| 9 | 286 | 36 | 218 | 63 | 99 |
| 10 | 2,713 | 37 | <5 | 64 | 289 |
| 11 | 472 | 38 | 258 | 65 | 224 |
| 12 | 780 | 39 | 1,158 | | |
| 13 | 464 | 40 | <5 | | |
| 14 | 613 | 41 | <5 | | |
| 15 | 378 | 42 | <5 | | |
| 16 | 535 | 43 | <5 | | |
| 17 | 753 | 44 | <5 | | |
| 18 | 133 | 45 | <5 | | |
| 19 | 231 | 46 | 362 | | |
| 20 | 14 | 47 | 251 | | |
| 21 | 7 | 48 | 1,506 | | |
| 22 | 281 | 49 | 1,216 | | |
| 23 | 1,309 | 50 | 56 | | |
| 24 | 582 | 51 | <5 | | |
| 25 | 163 | 52 | <5 | | |
| 26 | 863 | 53 | <5 | | |
| 27 | 510 | 54 | 807 | | |



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Connecticut

Energy Efficiency Jobs in America

June 2021*

33,797

Dec 2020

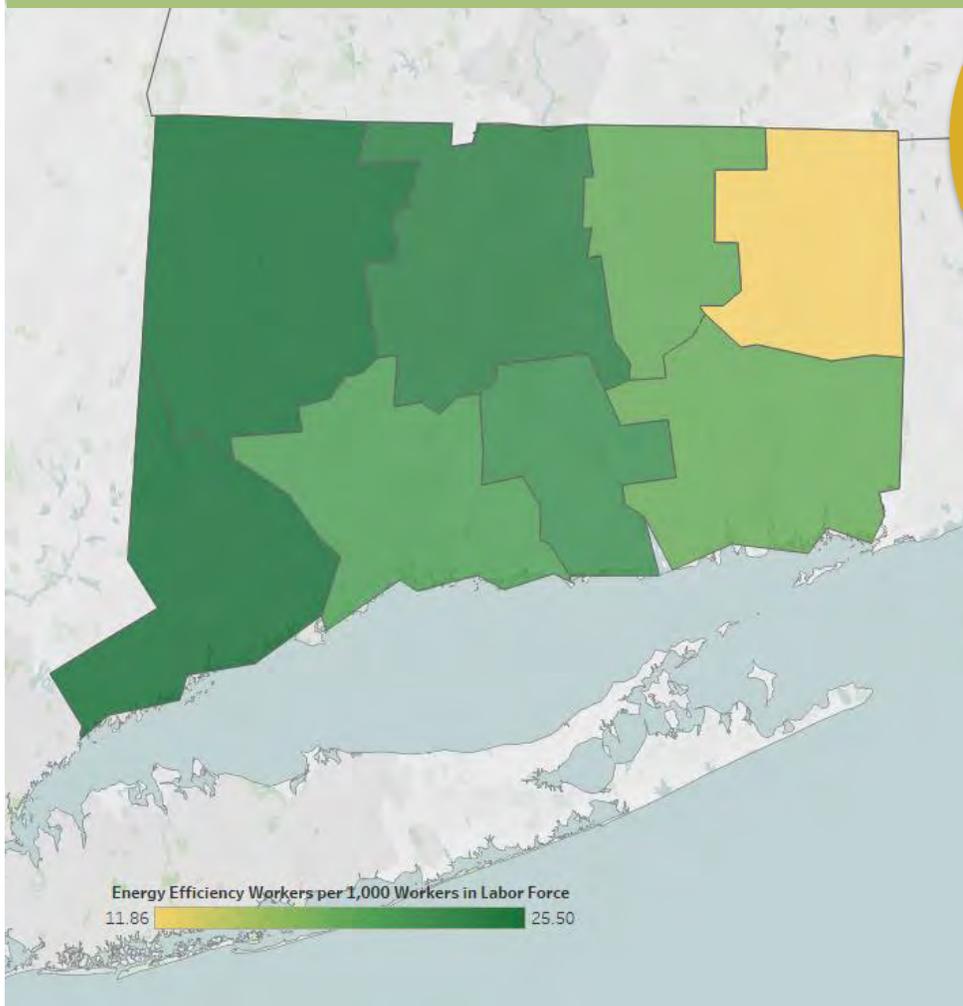
33,573

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Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Connecticut
counties have
energy efficiency
workers

~18,600
new EE construction
jobs to retrofit
Connecticut homes by
2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of CT residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



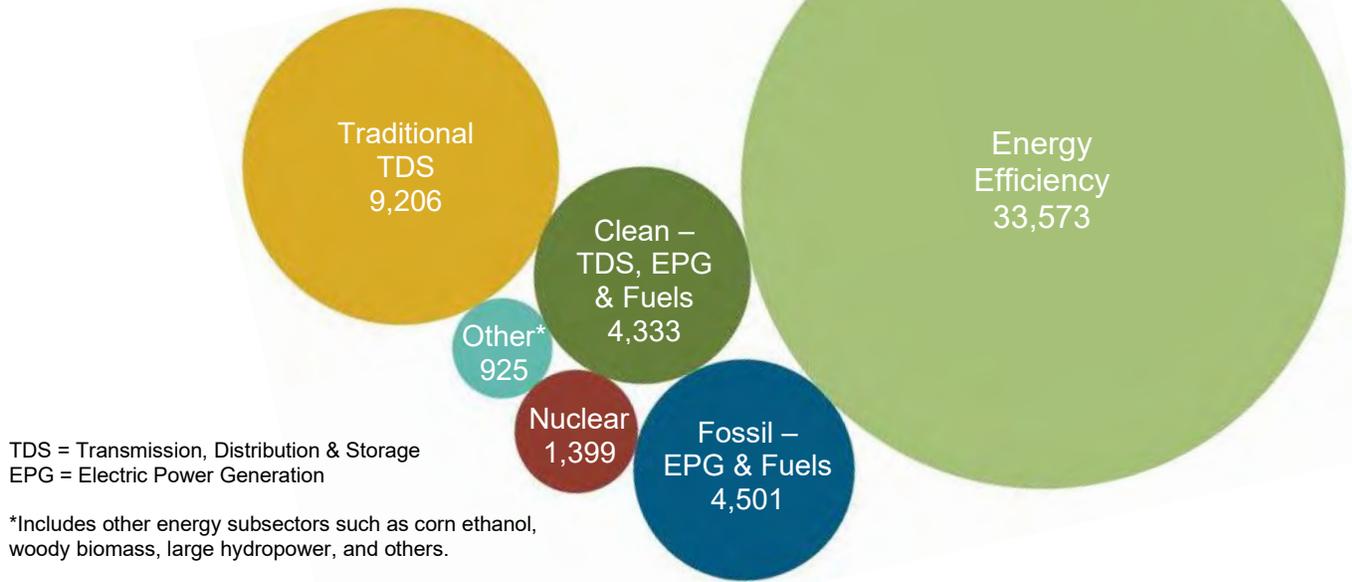
Key EE Statistics for Connecticut

What are energy efficiency (EE) jobs?

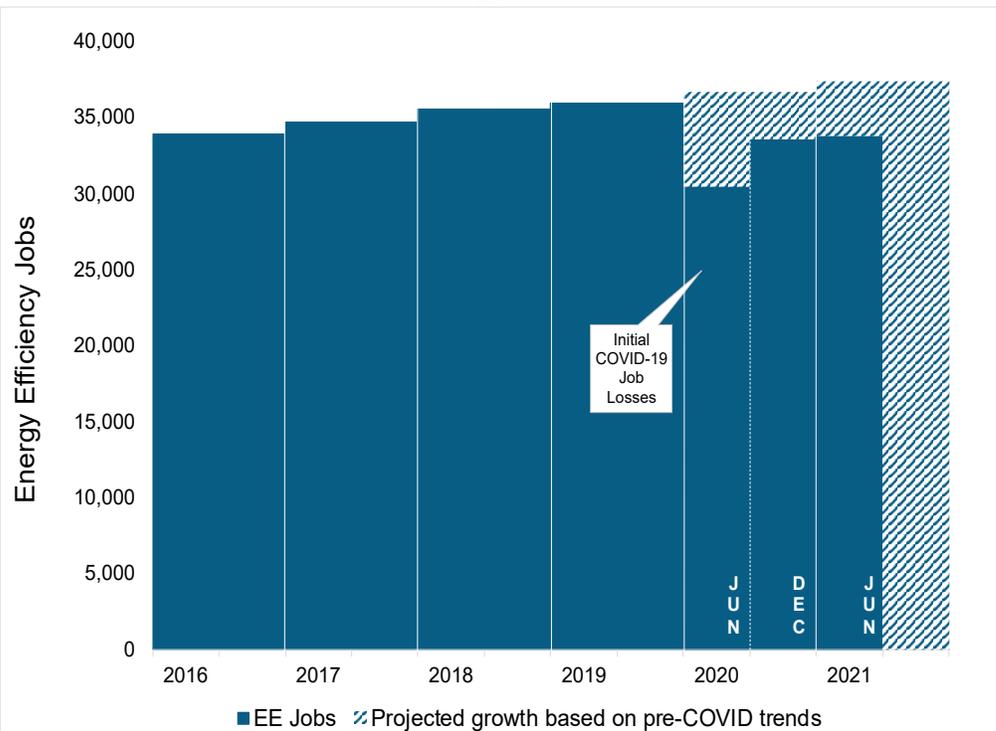
Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Connecticut's energy sectors compare?

Energy Efficiency is the **largest** energy sector in Connecticut.



How is the EE industry recovering?



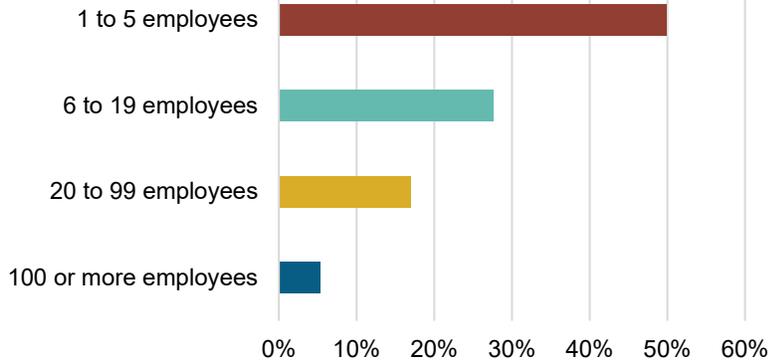
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Connecticut?

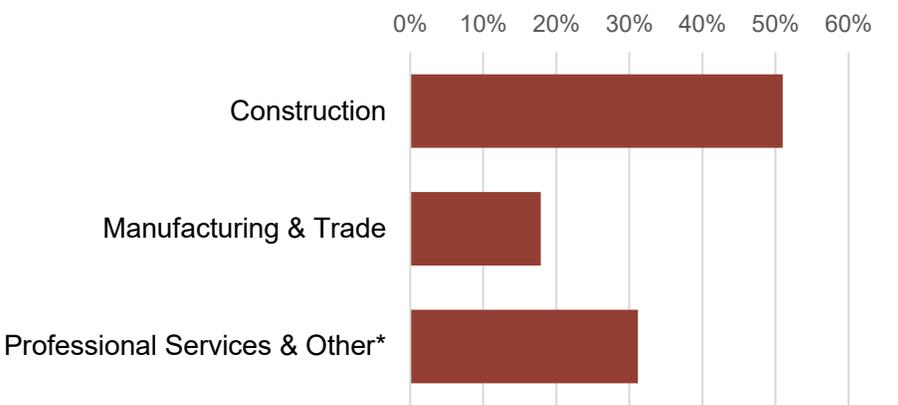
94.6% of CT EE Businesses Have Less Than 100 Employees



7,007
EE businesses in Connecticut

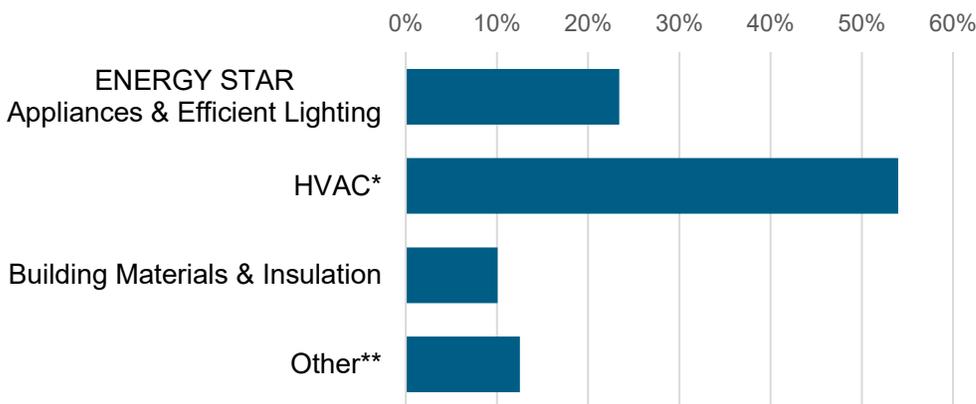
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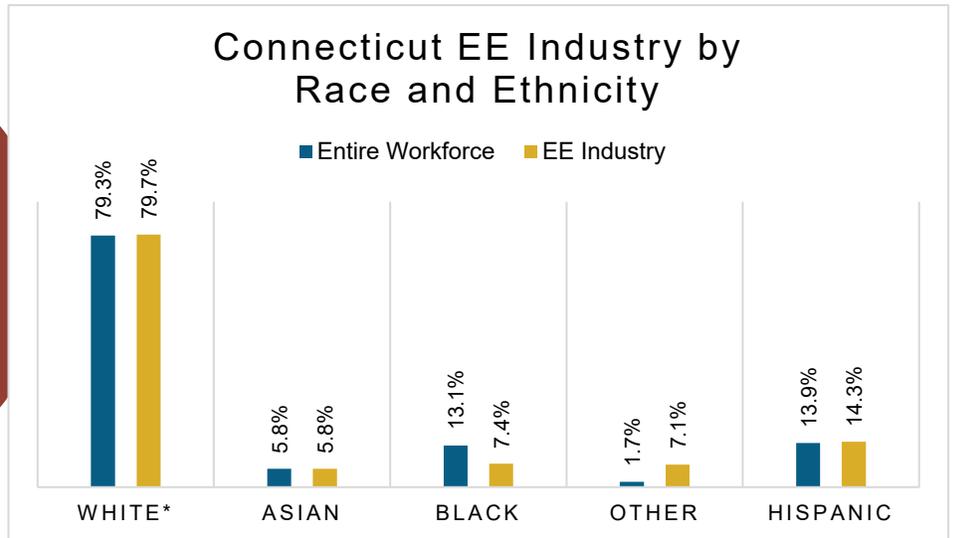
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*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

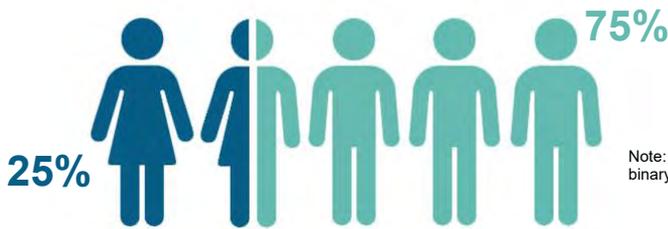
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The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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Connecticut's EE Potential

Decades of work, ready for Connecticut's growing energy efficiency workforce.

Weatherization Assistance Program:



42* units weatherized in 2018, out of **~140,000** total low-income households

1,229,619

Connecticut homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

16%

*National Association for State community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|--------------------------------------|--------|
| District | Jobs | Area | Jobs |
| 1 | 8,771 | Bridgeport-Stamford-Norwalk | 11,296 |
| 2 | 4,812 | Hartford-West Hartford-East Hartford | 11,433 |
| 3 | 6,539 | New Haven-Milford | 6,556 |
| 4 | 8,518 | Norwich-New London | 1,896 |
| 5 | 4,933 | Rural | 2,392 |

| CT State Senate | | | | | | | | | |
|-----------------|-------|----------|-------|----------|-------|----------|-------|--|--|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs | | |
| 1 | 1,838 | 11 | 1,060 | 21 | 1,492 | 31 | 692 | | |
| 2 | 742 | 12 | 934 | 22 | 603 | 32 | 722 | | |
| 3 | 1,260 | 13 | 1,046 | 23 | 66 | 33 | 845 | | |
| 4 | 935 | 14 | 897 | 24 | 1,724 | 34 | <5 | | |
| 5 | 1,045 | 15 | 870 | 25 | 2,043 | 35 | 332 | | |
| 6 | 443 | 16 | 541 | 26 | 1,254 | 36 | 1,205 | | |
| 7 | 703 | 17 | 243 | 27 | 2,181 | | | | |
| 8 | 1,049 | 18 | 778 | 28 | 1,086 | | | | |
| 9 | 1,369 | 19 | 628 | 29 | 428 | | | | |
| 10 | 1,082 | 20 | 970 | 30 | 464 | | | | |

State House of Representatives

| District | Jobs | District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|-------|----------|------|----------|------|----------|------|----------|-------|
| 1 | 194 | 32 | 184 | 63 | 530 | 94 | <5 | 125 | 595 |
| 2 | 1,514 | 33 | 573 | 64 | 231 | 95 | 129 | 126 | 153 |
| 3 | 470 | 34 | 264 | 65 | <5 | 96 | <5 | 127 | <5 |
| 4 | 962 | 35 | 190 | 66 | 415 | 97 | 97 | 128 | 127 |
| 5 | 194 | 36 | 384 | 67 | 258 | 98 | 334 | 129 | <5 |
| 6 | <5 | 37 | 112 | 68 | 177 | 99 | <5 | 130 | <5 |
| 7 | 59 | 38 | 464 | 69 | 251 | 100 | <5 | 131 | 152 |
| 8 | 347 | 39 | <5 | 70 | 186 | 101 | 197 | 132 | 731 |
| 9 | 915 | 40 | 331 | 71 | 118 | 102 | <5 | 133 | <5 |
| 10 | <5 | 41 | <5 | 72 | 272 | 103 | <5 | 134 | 696 |
| 11 | 445 | 42 | 221 | 73 | 142 | 104 | 165 | 135 | 118 |
| 12 | <5 | 43 | 112 | 74 | <5 | 105 | 129 | 136 | <5 |
| 13 | 448 | 44 | 162 | 75 | <5 | 106 | 87 | 137 | 1,014 |
| 14 | <5 | 45 | 37 | 76 | 81 | 107 | 244 | 138 | <5 |
| 15 | 463 | 46 | 267 | 77 | 373 | 108 | 84 | 139 | 23 |
| 16 | 413 | 47 | 195 | 78 | 76 | 109 | <5 | 140 | <5 |
| 17 | 170 | 48 | 104 | 79 | <5 | 110 | <5 | 141 | 349 |
| 18 | 407 | 49 | 26 | 80 | 91 | 111 | 485 | 142 | <5 |
| 19 | 338 | 50 | 205 | 81 | 86 | 112 | 202 | 143 | <5 |
| 20 | <5 | 51 | 93 | 82 | 255 | 113 | 426 | 144 | 1,529 |
| 21 | 75 | 52 | 104 | 83 | <5 | 114 | 260 | 145 | 642 |
| 22 | 226 | 53 | 15 | 84 | <5 | 115 | 190 | 146 | <5 |
| 23 | 415 | 54 | <5 | 85 | 931 | 116 | <5 | 147 | <5 |
| 24 | 425 | 55 | 152 | 86 | 347 | 117 | 535 | 148 | <5 |
| 25 | <5 | 56 | <5 | 87 | <5 | 118 | 142 | 149 | 1,000 |
| 26 | <5 | 57 | 257 | 88 | 375 | 119 | <5 | 150 | 194 |
| 27 | <5 | 58 | 237 | 89 | 436 | 120 | 408 | 151 | <5 |
| 28 | 188 | 59 | <5 | 90 | <5 | 121 | 60 | | |
| 29 | 487 | 60 | 100 | 91 | <5 | 122 | 280 | | |
| 30 | 490 | 61 | 229 | 92 | 542 | 123 | <5 | | |
| 31 | 32 | 62 | 202 | 93 | 343 | 124 | 380 | | |



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



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Data Source: Unless otherwise stated, all data are from the U.S. Energy and Employment Report, July 2021, by the U.S. Department of Energy (see Appendix A for methodology details). This methodology -- adopted by the U.S. Dept. of Energy for its 2017 U.S. Energy and Employment Report, approved by the Office of Management and Budget and grounded on data collected by the Bureau of Labor Statistics -- provides the broadly accepted best accounting of all U.S. energy workers.

For questions on E4TheFuture analyses please email: policy@e4thefuture.org

Delaware

Energy Efficiency Jobs in America

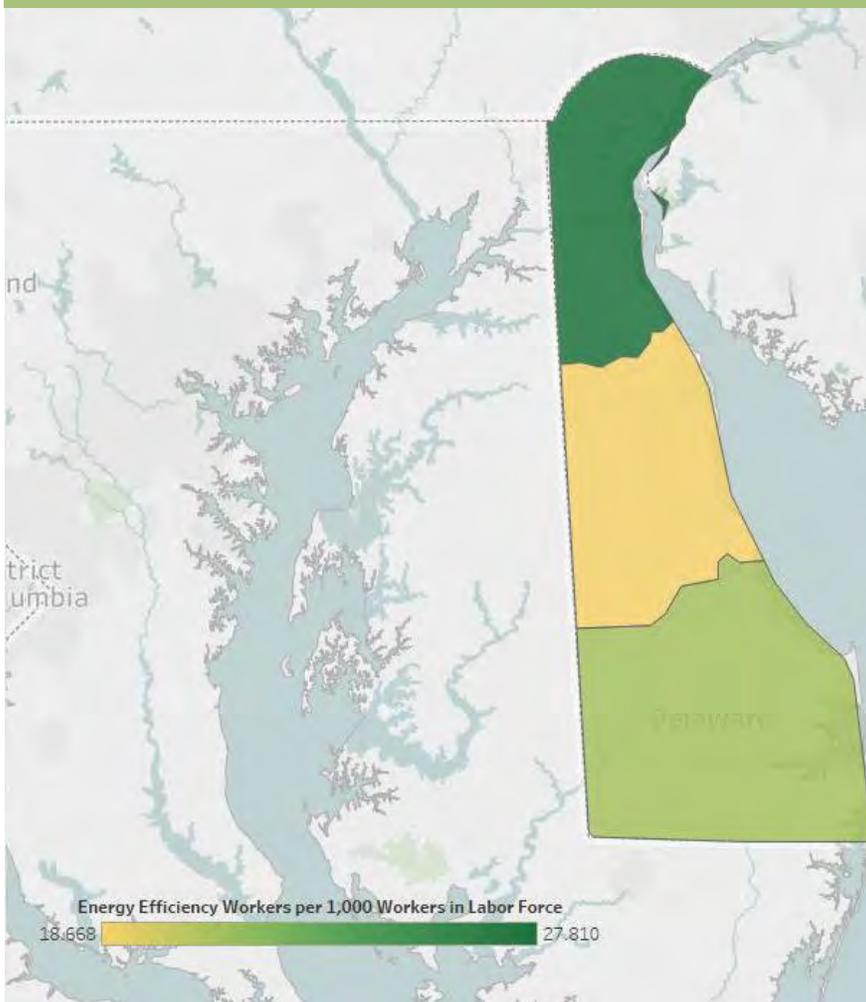


Energy efficiency (EE) workers are a crucial part of America’s workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Delaware, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Delaware
counties have
energy efficiency
workers

~4,000
new EE construction
jobs to retrofit
Delaware homes by
2030

Number of full-time workers required for eight years 2022-2030 to improve 80% of DE residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



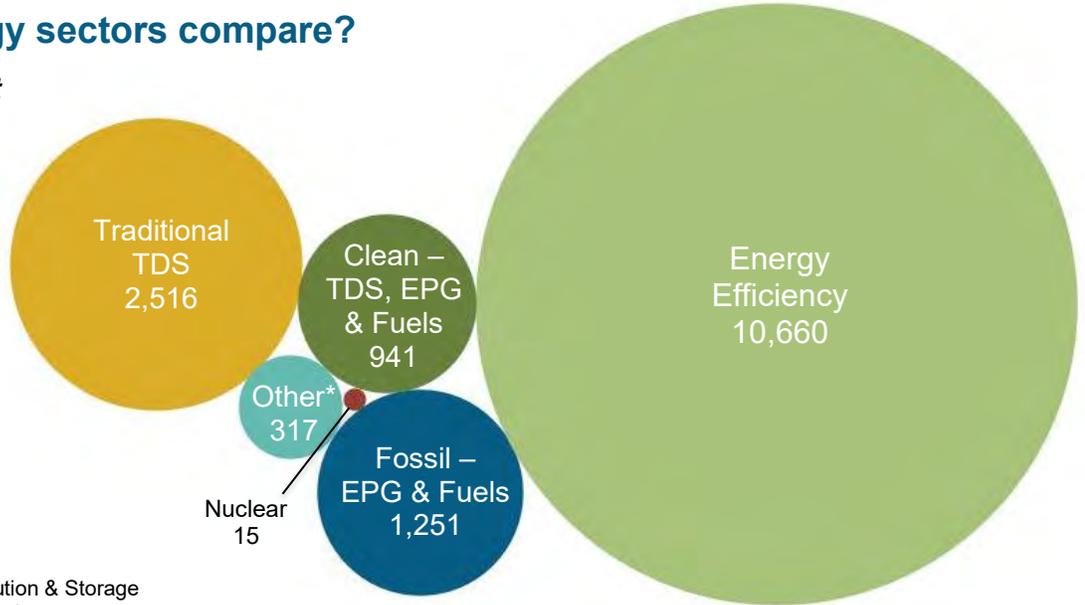
Key EE Statistics for Delaware

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Delaware's energy sectors compare?

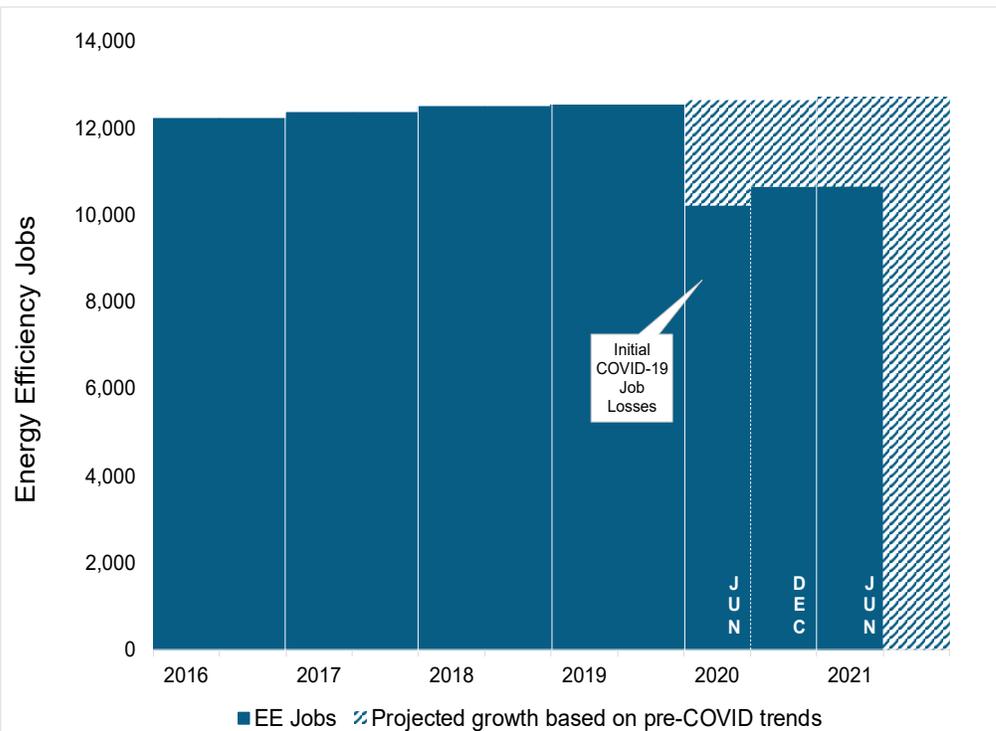
Energy Efficiency is the **largest** energy sector in Delaware.



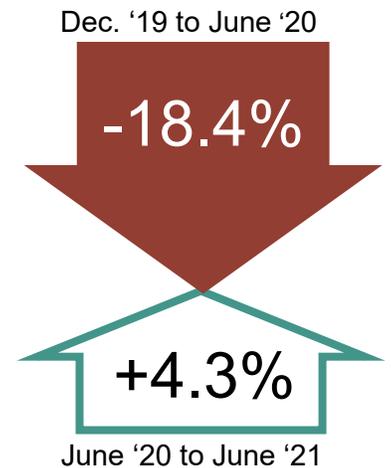
TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



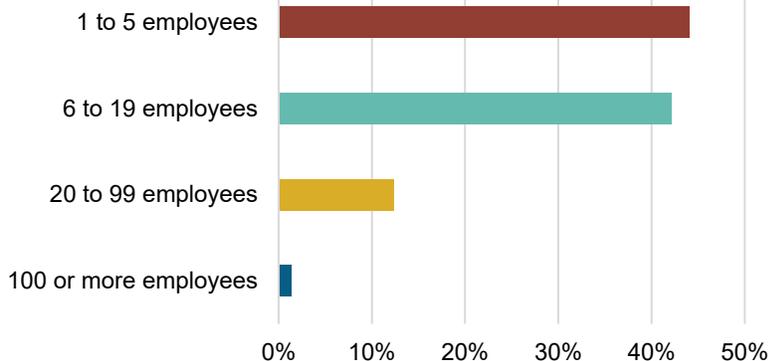
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Delaware?

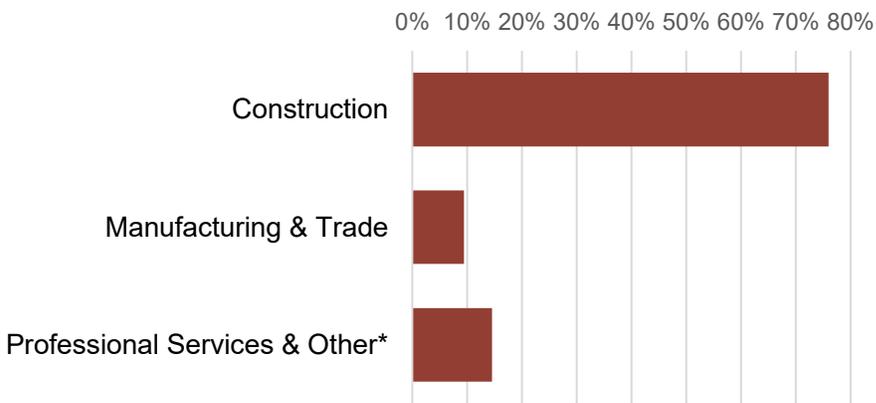
98.5% of DE EE Businesses Have Less Than 100 Employees



1,849
EE businesses in Delaware

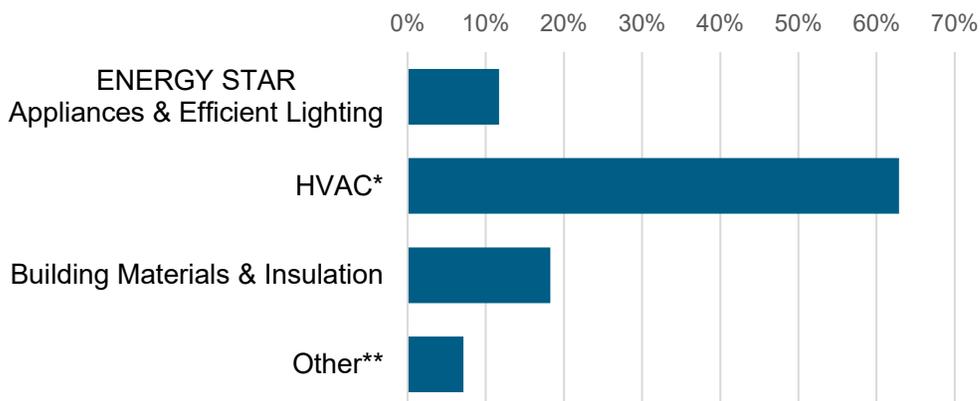
EE construction workers comprise **34%** of Delaware construction workers

What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



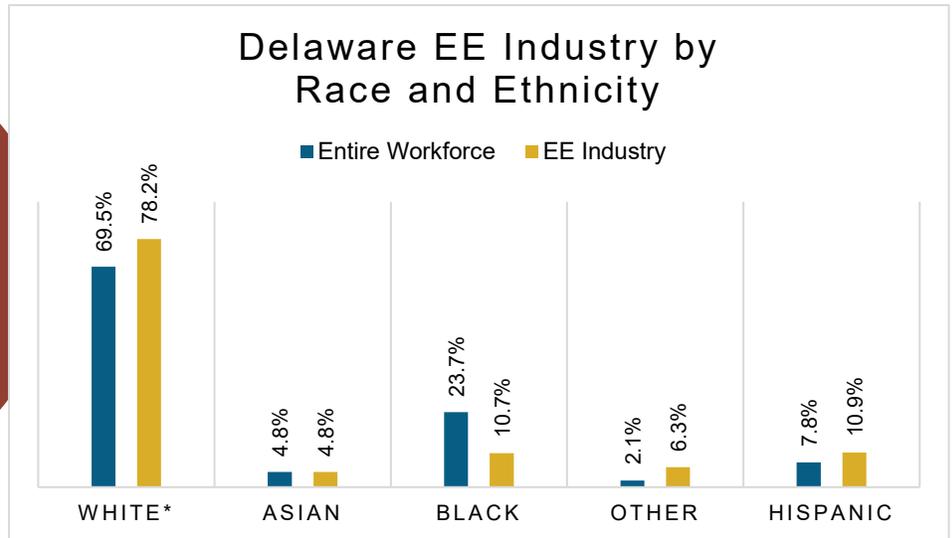
10% of Delaware EE workers are **Veterans**

*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

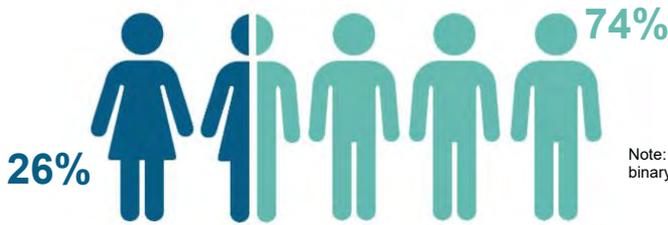
How is EE doing on diversity in Delaware?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Delaware communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Delaware's EE Potential

Decades of work, ready for Delaware's growing energy efficiency workforce.

Weatherization Assistance Program:



195* units weatherized in 2018, out of **~44,000** total low-income households

281,505

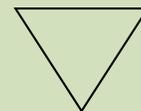
Delaware homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

45%



*National Association for State Community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|--------|--------------------------------|-------|
| District | Jobs | Area | Jobs |
| 1 | 10,660 | Dover | 1,227 |
| | | Philadelphia-Camden-Wilmington | 6,800 |
| | | Rural | 2,633 |

| DE State Senate | | | | | |
|-----------------|-------|----------|------|----------|------|
| District | Jobs | District | Jobs | District | Jobs |
| 1 | 1,353 | 11 | <5 | 21 | 197 |
| 2 | 1,611 | 12 | 52 | | |
| 3 | 466 | 13 | <5 | | |
| 4 | 1,097 | 14 | 686 | | |
| 5 | 214 | 15 | 709 | | |
| 6 | 1,415 | 16 | 310 | | |
| 7 | <5 | 17 | <5 | | |
| 8 | 374 | 18 | 245 | | |
| 9 | 464 | 19 | 279 | | |
| 10 | 634 | 20 | 553 | | |

| State House of Representatives | | | |
|--------------------------------|-------|----------|------|
| District | Jobs | District | Jobs |
| 1 | 772 | 28 | 361 |
| 2 | 2,376 | 29 | 11 |
| 3 | 154 | 30 | 550 |
| 4 | 598 | 31 | <5 |
| 5 | 804 | 32 | 63 |
| 6 | 313 | 33 | <5 |
| 7 | <5 | 34 | <5 |
| 8 | 425 | 35 | 575 |
| 9 | 187 | 36 | <5 |
| 10 | <5 | 37 | <5 |
| 11 | 541 | 38 | 546 |
| 12 | 6 | 39 | <5 |
| 13 | <5 | 40 | 63 |
| 14 | 715 | 41 | <5 |
| 15 | 51 | | |
| 16 | <5 | | |
| 17 | 341 | | |
| 18 | <5 | | |
| 19 | <5 | | |
| 20 | 705 | | |
| 21 | 476 | | |
| 22 | <5 | | |
| 23 | 28 | | |
| 24 | <5 | | |
| 25 | <5 | | |
| 26 | <5 | | |
| 27 | <5 | | |



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District of Columbia

Energy Efficiency Jobs in America

June 2021*

11,307

Dec 2020

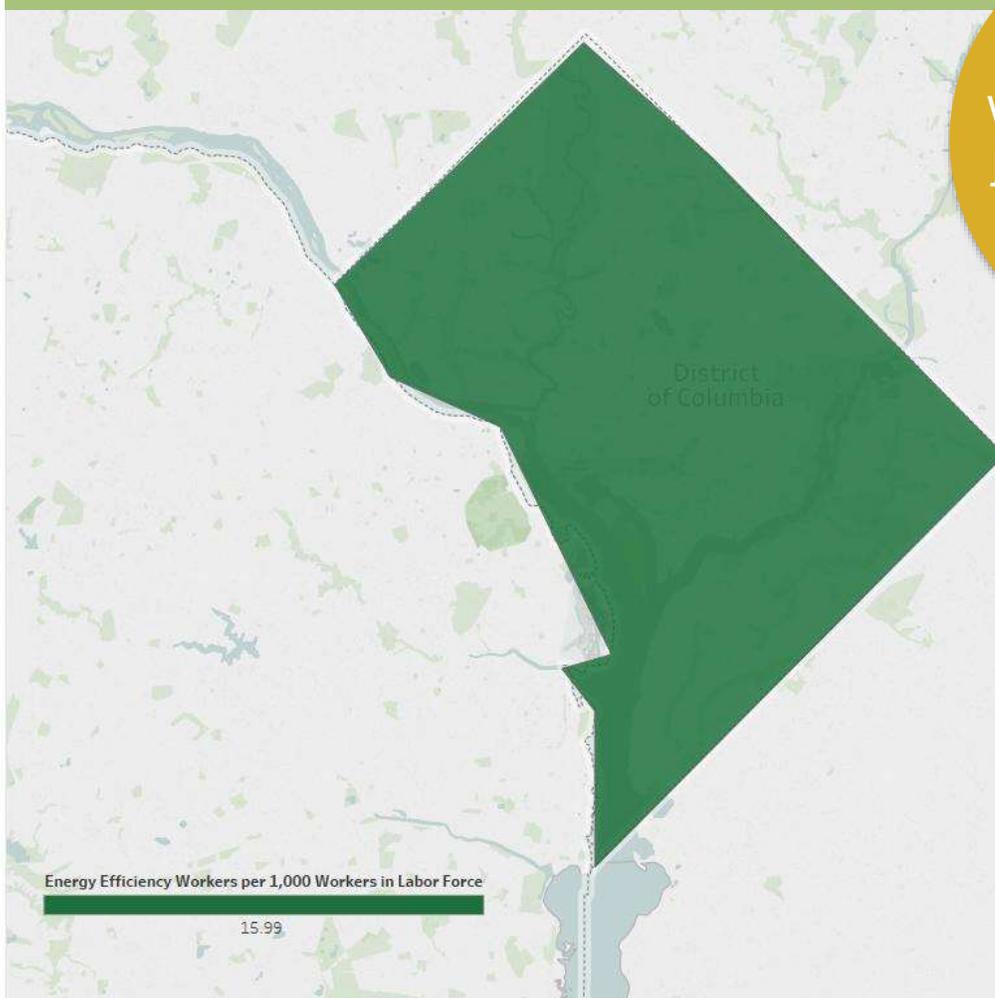
11,214

Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by Location



Energy efficiency workers are on the job throughout the District.

~2,200
new EE construction jobs to retrofit District of Columbia homes by 2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of DC residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:

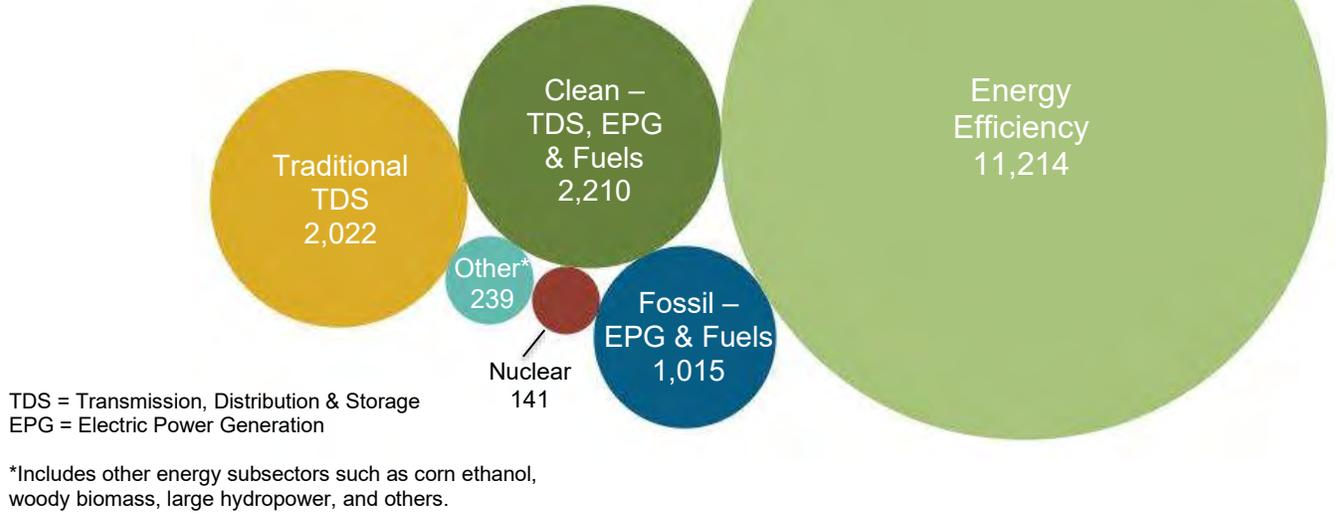


What are energy efficiency (EE) jobs?

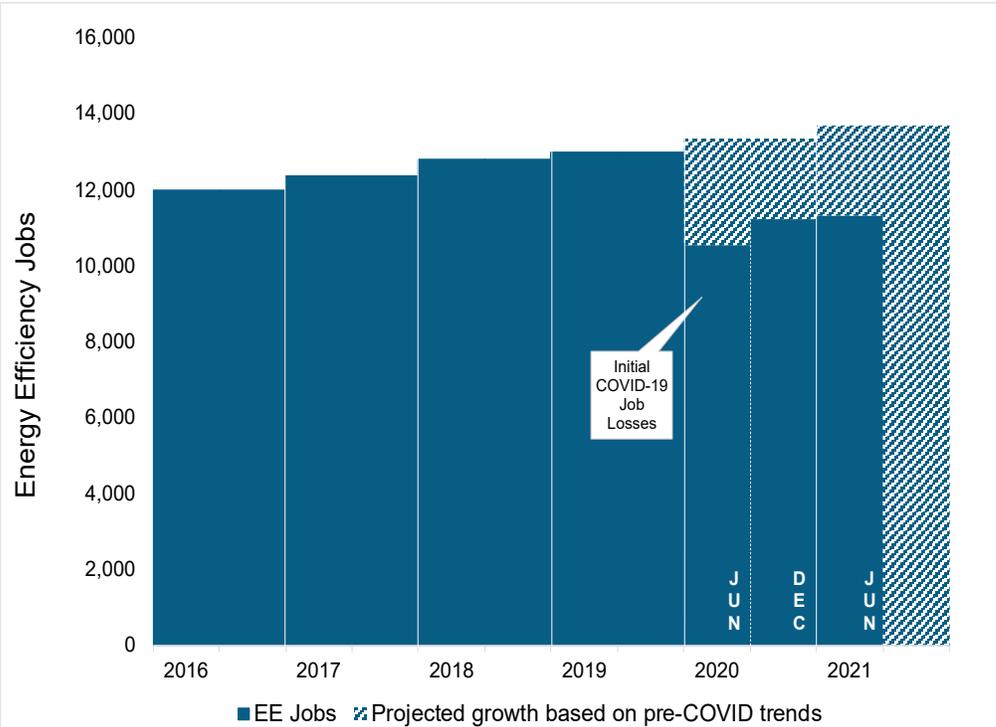
Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do District of Columbia's energy sectors compare?

Energy Efficiency is the **largest** energy sector in District of Columbia.



How is the EE industry recovering?



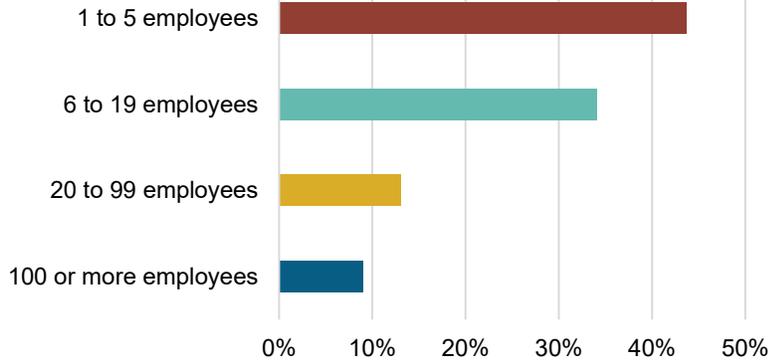
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in District of Columbia?

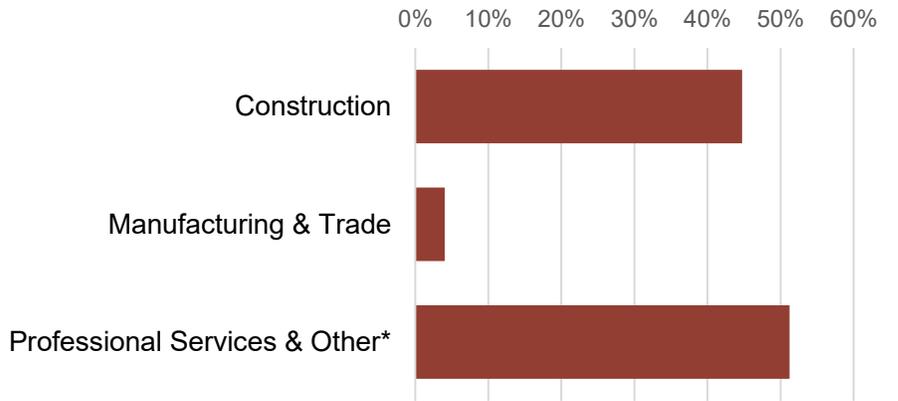
90.8% of DC EE Businesses Have Less Than 100 Employees



2,684
EE businesses in District of Columbia

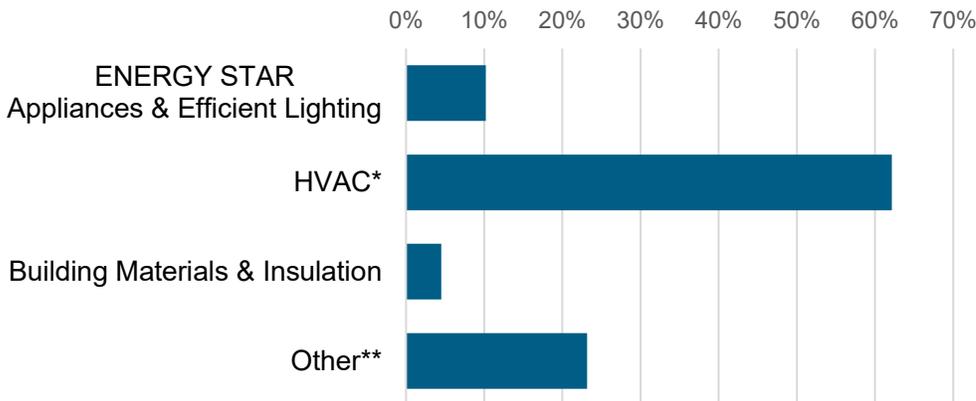
EE construction workers comprise **33%** of District of Columbia construction workers

What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



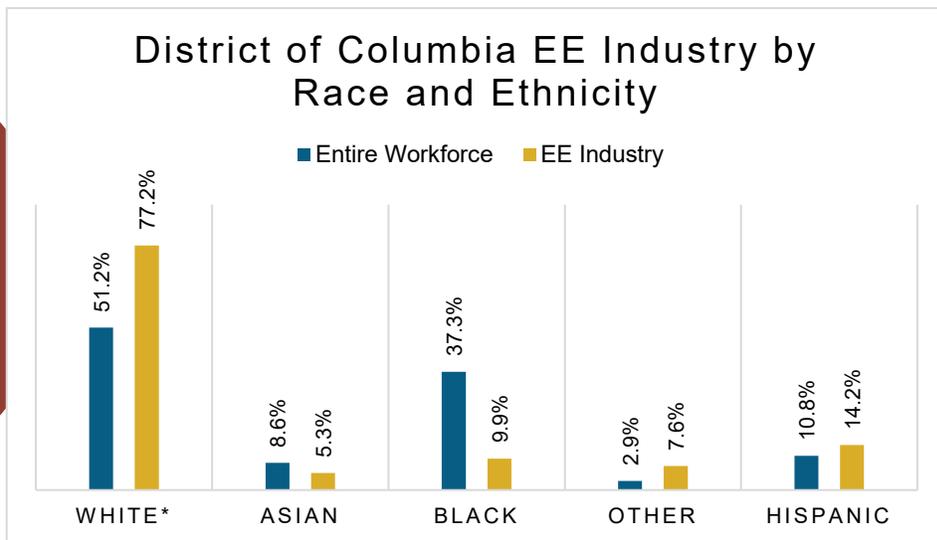
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

6% of District of Columbia EE workers are **Veterans**

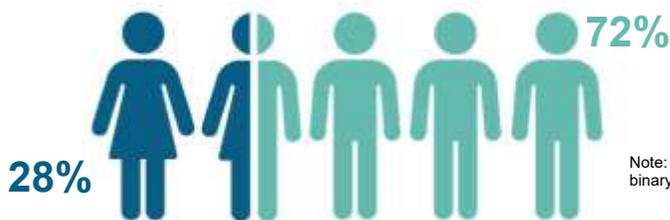
How is EE doing on diversity in District of Columbia?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all District of Columbia communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

District of Columbia's EE Potential

Decades of work, ready for District of Columbia's growing energy efficiency workforce.

Weatherization Assistance Program:


201* units weatherized in 2018, out of **~42,000** total low-income households

219,318

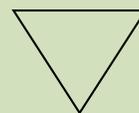
District of Columbia homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

34%



*National Association for State community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
 Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|--------|---------------------------------|--------|
| District | Jobs | Area | Jobs |
| 1 | 11,214 | Washington-Arlington-Alexandria | 11,214 |

| DC State Upper House | | | | | |
|----------------------|-------|----------|------|----------|------|
| District | Jobs | District | Jobs | District | Jobs |
| 1 | 2,110 | 4 | 136 | 7 | 286 |
| 2 | 7,513 | 5 | 254 | 8 | 103 |
| 3 | 404 | 6 | 407 | | |



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Florida

Energy Efficiency Jobs in America

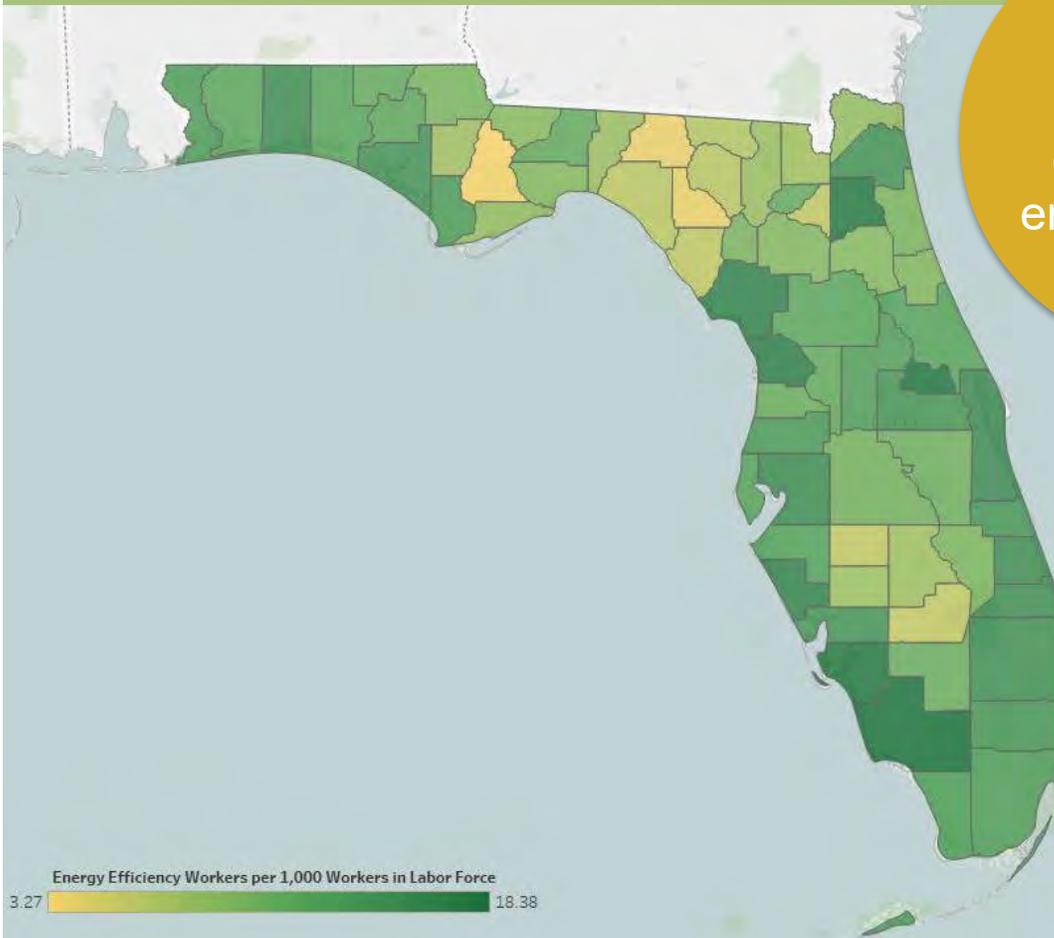


Energy efficiency (EE) workers are a crucial part of America’s workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Florida, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Florida
counties have
energy efficiency
workers

~51,000
new EE construction
jobs to retrofit Florida
homes by 2030

Number of full-time workers required for eight years 2022-2030 to improve 80% of FL residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



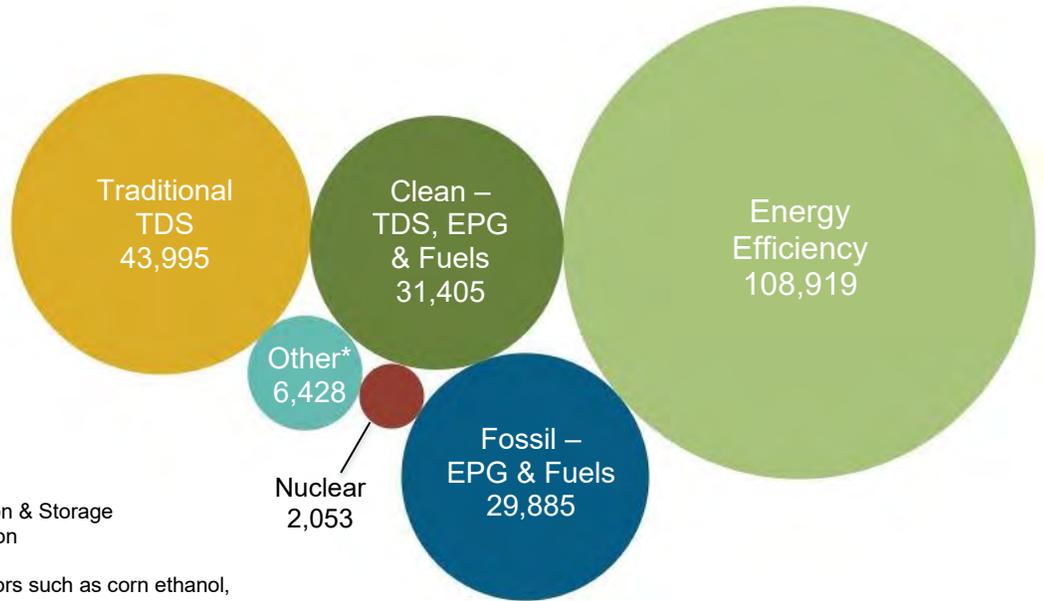
Key EE Statistics for Florida

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Florida's energy sectors compare?

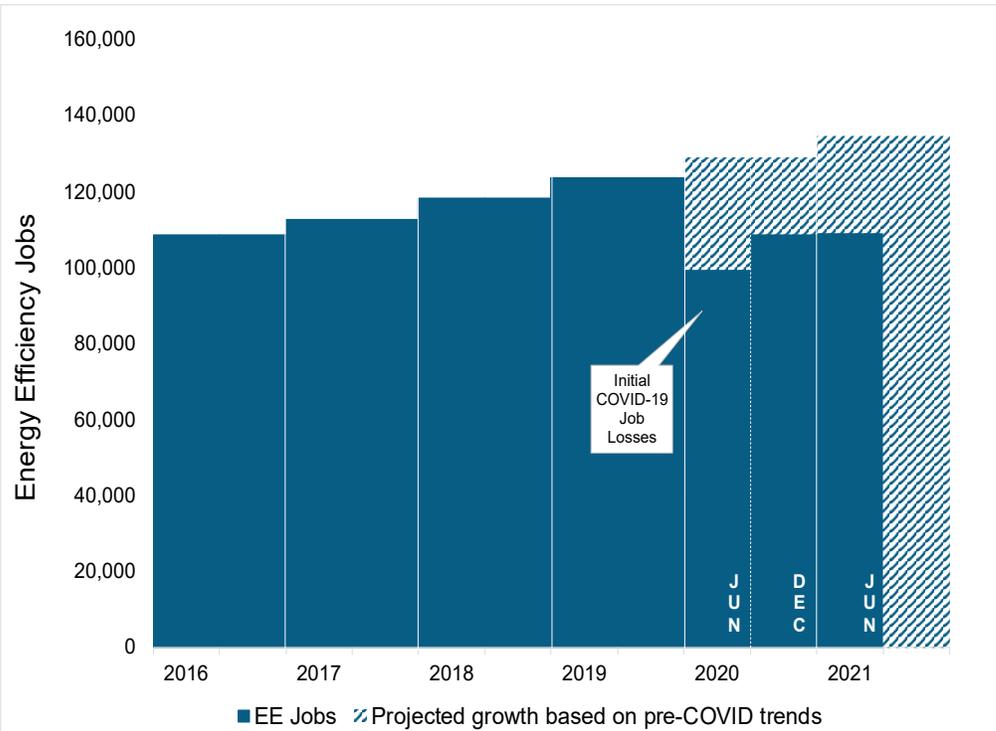
Energy Efficiency is the **largest** energy sector in Florida.



TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



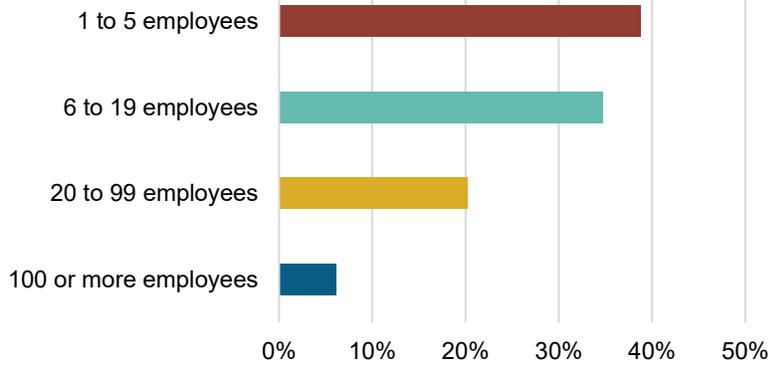
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Florida?

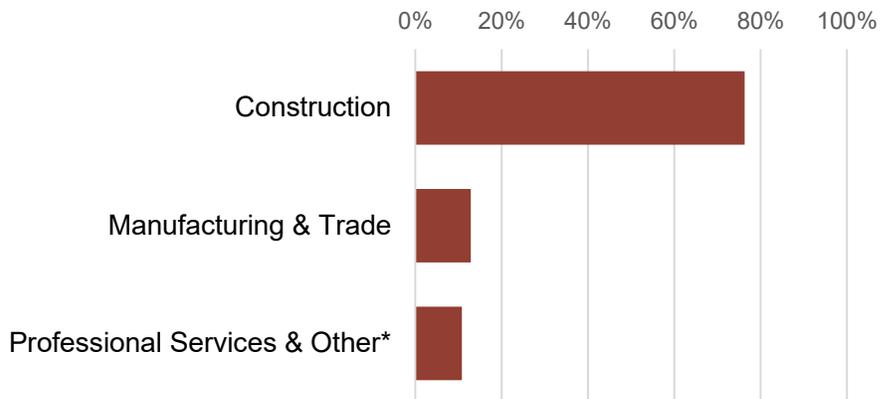
93.8% of FL EE Businesses Have Less Than 100 Employees



15,739
EE businesses in Florida

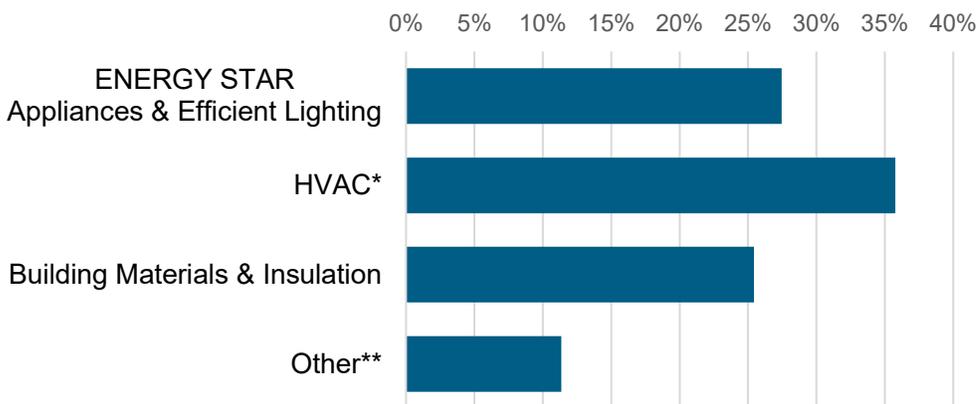
EE construction workers comprise **14%** of Florida construction workers

What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



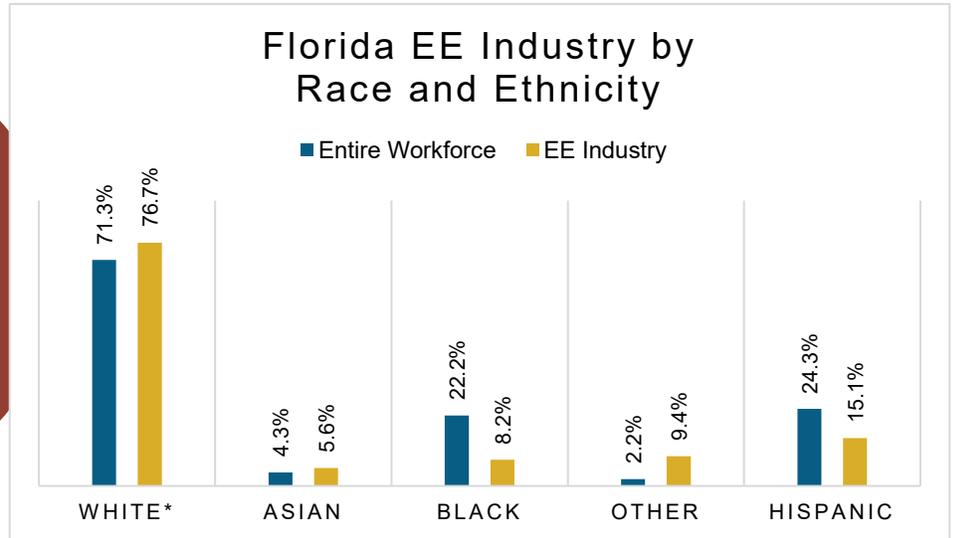
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

11% of Florida EE workers are **Veterans**

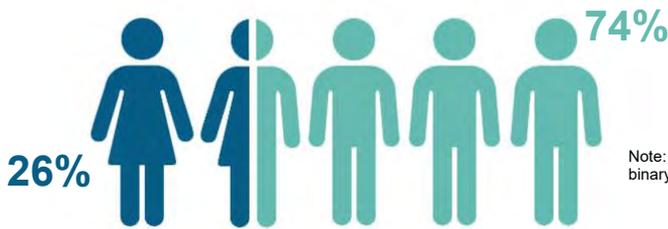
How is EE doing on diversity in Florida?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Florida communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Florida's EE Potential

Decades of work, ready for Florida's growing energy efficiency workforce.

Weatherization Assistance Program:



678* units weatherized in 2018, out of **~1,000,000** total low-income households

6,107,321

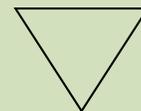
Florida homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

60%



*National Association for State community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|-------------------------------------|--------|
| District | Jobs | Area | Jobs |
| 1 | 3,730 | Cape Coral-Fort Myers | 4,525 |
| 2 | 3,578 | Deltona-Daytona Beach-Ormond Beach | 2,212 |
| 3 | 3,483 | Fort Walton Beach-Crestview-Destin | 1,110 |
| 4 | 5,423 | Gainesville | 1,451 |
| 5 | 5,406 | Jacksonville | 7,430 |
| 6 | 3,246 | Lakeland | 1,840 |
| 7 | 3,243 | Miami-Fort Lauderdale-Pompano Beach | 39,593 |
| 8 | 3,817 | Naples-Marco Island | 2,417 |
| 9 | 1,822 | Ocala | 1,441 |
| 10 | 1,942 | Orlando-Kissimmee | 10,967 |
| 11 | 2,378 | Palm Bay-Melbourne-Titusville | 2,850 |
| 12 | 4,655 | Palm Coast | 317 |
| 13 | 3,282 | Panama City-Lynn Haven | 910 |
| 14 | 4,992 | Pensacola-Ferry Pass-Brent | 2,189 |
| 15 | 1,504 | Port St. Lucie | 2,594 |
| 16 | 4,531 | Punta Gorda | 855 |
| 17 | 2,505 | Sarasota-Bradenton-Venice | 4,446 |
| 18 | 9,998 | Sebastian-Vero Beach | 897 |
| 19 | 5,833 | Tallahassee | 2,175 |
| 20 | 8,213 | Tampa-St. Petersburg-Rural | 14,338 |
| 21 | 1,893 | | 4,361 |
| 22 | 4,932 | | |
| 23 | 4,742 | | |
| 24 | 3,711 | | |
| 25 | 3,685 | | |
| 26 | 3,005 | | |
| 27 | 3,370 | | |

| State Senate | | | | | | | |
|--------------|-------|----------|-------|----------|-------|----------|-------|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
| 1 | 2,643 | 11 | 1,921 | 21 | 2,124 | 31 | 4,498 |
| 2 | 2,234 | 12 | 3,612 | 22 | 1,165 | 32 | 2,000 |
| 3 | 2,500 | 13 | 1,929 | 23 | 4,266 | 33 | 2,746 |
| 4 | 5,217 | 14 | 1,210 | 24 | 667 | 34 | 3,575 |
| 5 | 2,142 | 15 | 1,495 | 25 | 7,102 | 35 | 7,279 |
| 6 | 2,833 | 16 | 2,628 | 26 | 1,803 | 36 | 1,224 |
| 7 | 1,767 | 17 | 3,942 | 27 | 3,205 | 37 | 2,016 |
| 8 | 1,878 | 18 | 1,477 | 28 | 3,099 | 38 | 2,533 |
| 9 | 391 | 19 | 4,704 | 29 | 3,867 | 39 | 2,061 |
| 10 | 3,189 | 20 | 2,962 | 30 | 2,713 | 40 | 299 |

State House of Representatives

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|-------|----------|-------|----------|-------|----------|-------|
| 1 | 1,042 | 32 | 893 | 63 | <5 | 94 | 1,652 |
| 2 | 792 | 33 | 349 | 64 | 1,008 | 95 | 548 |
| 3 | 534 | 34 | 896 | 65 | 636 | 96 | 625 |
| 4 | 823 | 35 | 384 | 66 | 1,175 | 97 | 638 |
| 5 | 887 | 36 | 893 | 67 | 646 | 98 | 623 |
| 6 | 773 | 37 | 974 | 68 | 926 | 99 | 1,432 |
| 7 | 787 | 38 | 447 | 69 | 363 | 100 | 1,049 |
| 8 | 1,152 | 39 | 1,409 | 70 | 1,751 | 101 | 422 |
| 9 | 552 | 40 | 283 | 71 | 617 | 102 | 996 |
| 10 | 669 | 41 | 152 | 72 | 939 | 103 | 1,681 |
| 11 | 1,449 | 42 | 781 | 73 | 333 | 104 | 25 |
| 12 | 1,517 | 43 | 38 | 74 | 769 | 105 | 801 |
| 13 | 1,117 | 44 | 885 | 75 | 991 | 106 | 765 |
| 14 | 496 | 45 | 480 | 76 | 1,990 | 107 | 592 |
| 15 | 383 | 46 | 1,696 | 77 | 800 | 108 | 1,041 |
| 16 | 833 | 47 | 885 | 78 | 1,683 | 109 | 699 |
| 17 | 965 | 48 | 164 | 79 | 212 | 110 | 216 |
| 18 | 484 | 49 | 410 | 80 | 1,315 | 111 | 720 |
| 19 | 379 | 50 | 266 | 81 | 1,469 | 112 | 4,114 |
| 20 | 1,680 | 51 | 1,187 | 82 | 5,552 | 113 | 433 |
| 21 | 370 | 52 | 1,195 | 83 | 1,097 | 114 | 886 |
| 22 | 692 | 53 | 251 | 84 | 247 | 115 | 1,237 |
| 23 | 182 | 54 | 1,098 | 85 | 1,394 | 116 | 190 |
| 24 | 1,108 | 55 | 588 | 86 | 1,546 | 117 | 325 |
| 25 | 782 | 56 | 299 | 87 | 709 | 118 | <5 |
| 26 | 427 | 57 | 1,041 | 88 | 966 | 119 | 56 |
| 27 | 296 | 58 | 1,448 | 89 | 2,527 | 120 | 730 |
| 28 | 1,759 | 59 | 63 | 90 | 132 | | |
| 29 | 729 | 60 | 2,937 | 91 | 86 | | |
| 30 | 1,396 | 61 | 366 | 92 | 3,239 | | |
| 31 | 575 | 62 | 706 | 93 | 2,207 | | |



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Data Source: Unless otherwise stated, all data are from the U.S. Energy and Employment Report, July 2021, by the U.S. Department of Energy (see Appendix A for methodology details). This methodology -- adopted by the U.S. Dept. of Energy for its 2017 U.S. Energy and Employment Report, approved by the Office of Management and Budget and grounded on data collected by the Bureau of Labor Statistics -- provides the broadly accepted best accounting of all U.S. energy workers.

For questions on E4TheFuture analyses please email: policy@e4thefuture.org.

Georgia

Energy Efficiency Jobs in America

June 2021*

51,239

Dec 2020

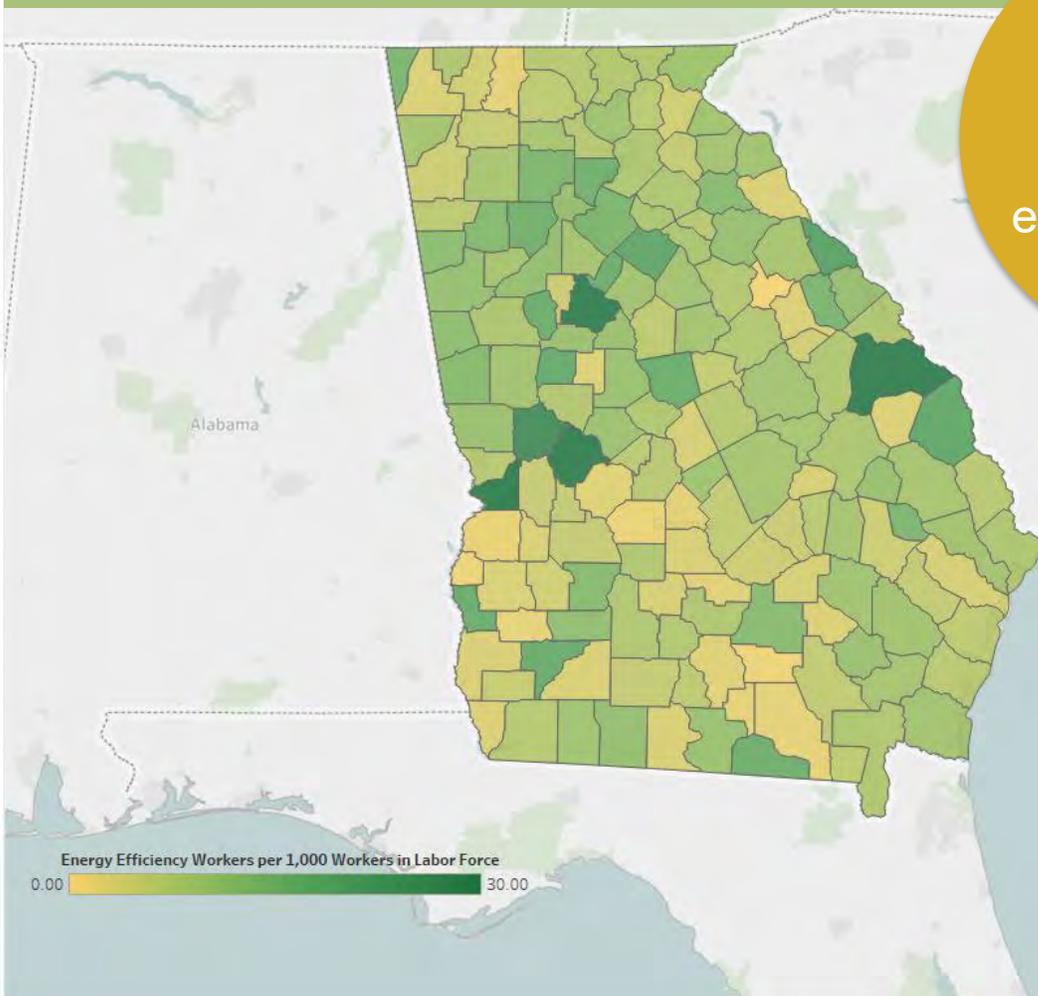
51,123

Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Georgia, there are EE jobs in nearly every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



99%
of Georgia
counties have
energy efficiency
workers

~26,100
new EE construction
jobs to retrofit
Georgia homes by
2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of GA residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



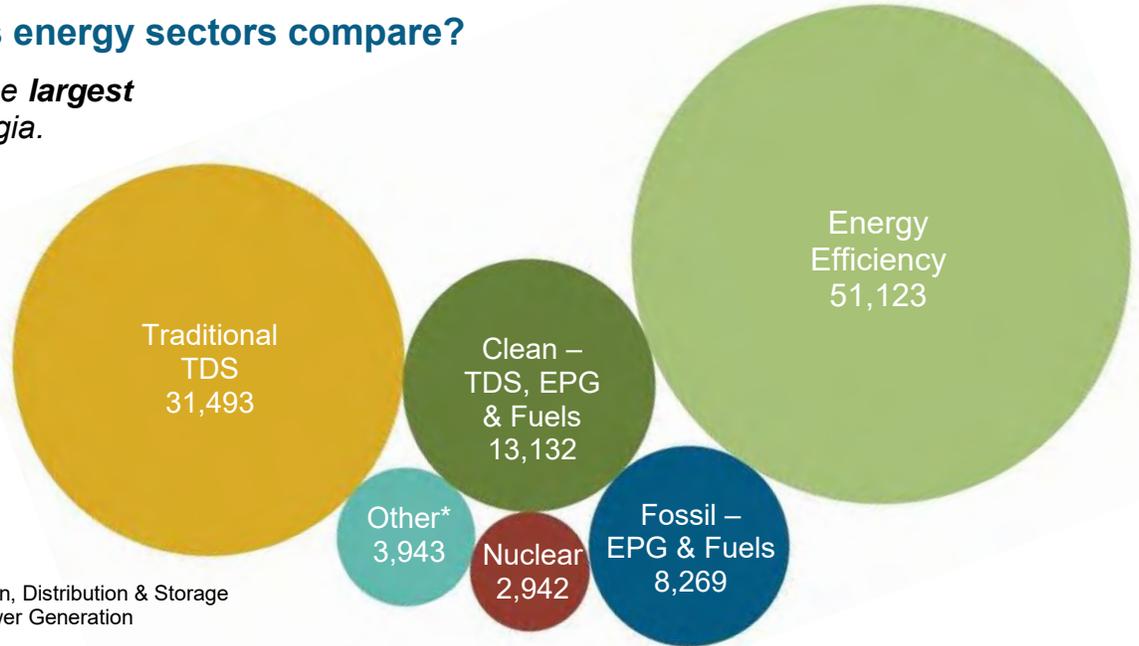
Key EE Statistics for Georgia

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Georgia's energy sectors compare?

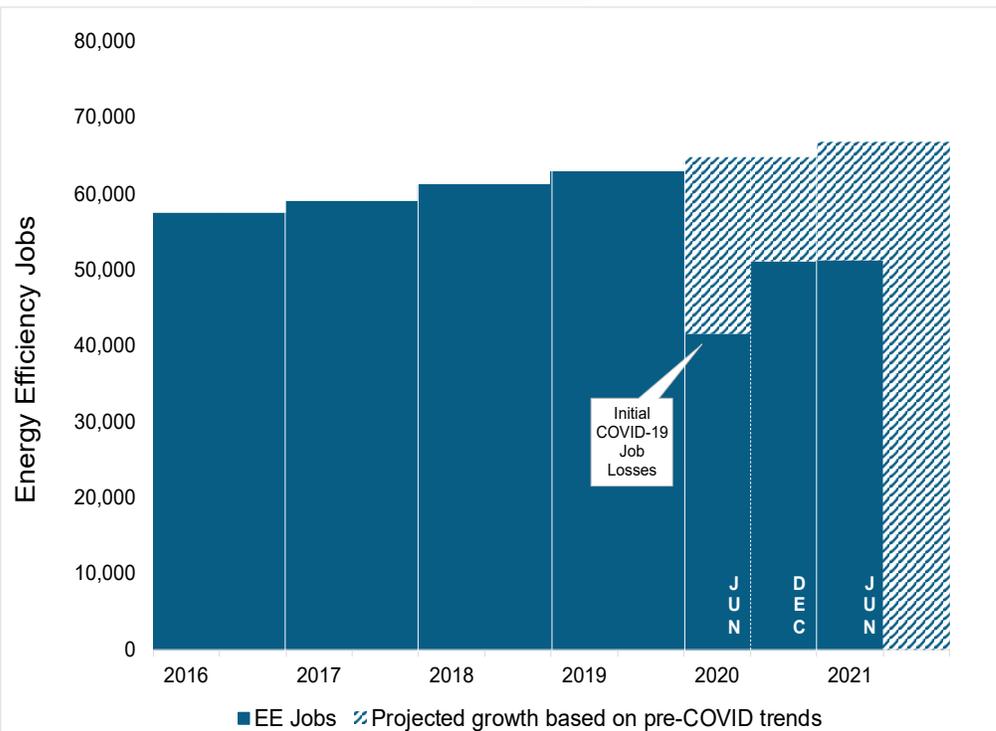
Energy Efficiency is the **largest** energy sector in Georgia.



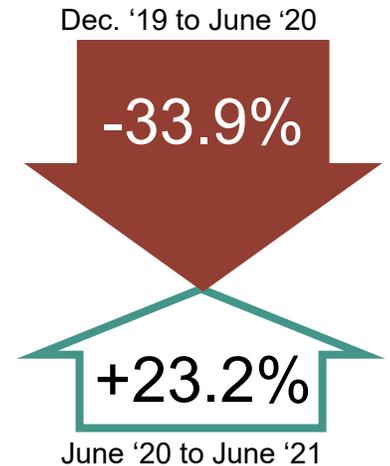
TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



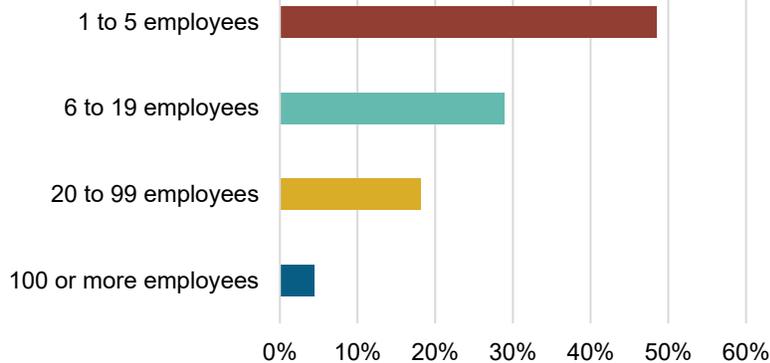
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Georgia?

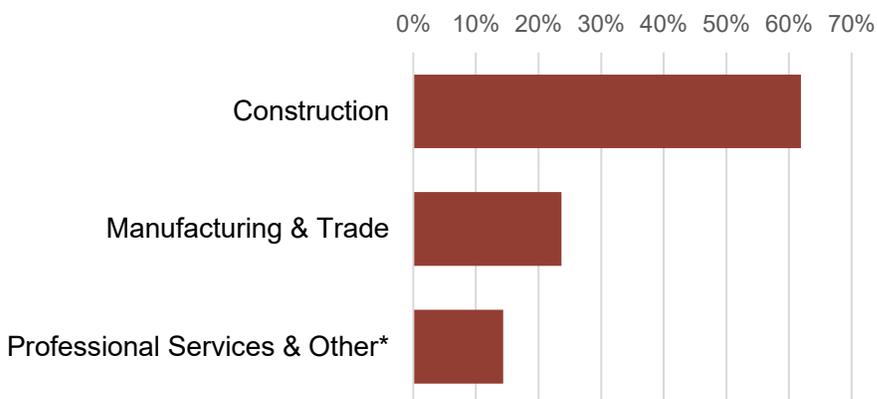
95.5% of GA EE Businesses Have Less Than 100 Employees



13,277
EE businesses in Georgia

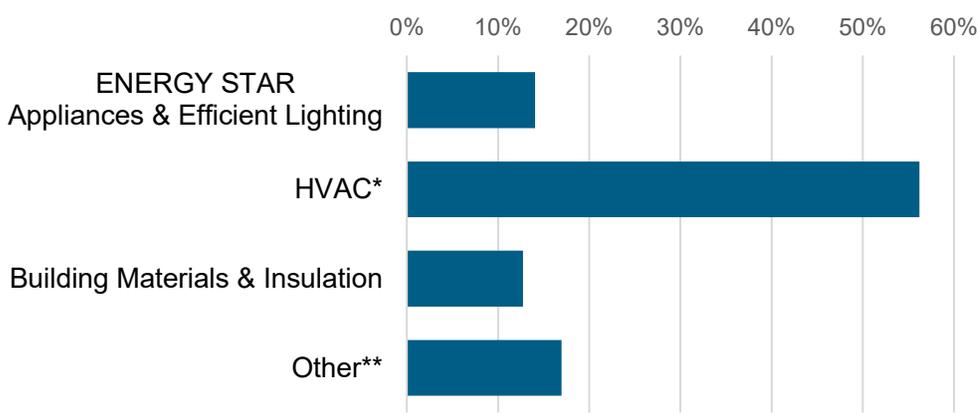
EE construction workers comprise **15%** of Georgia construction workers

What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



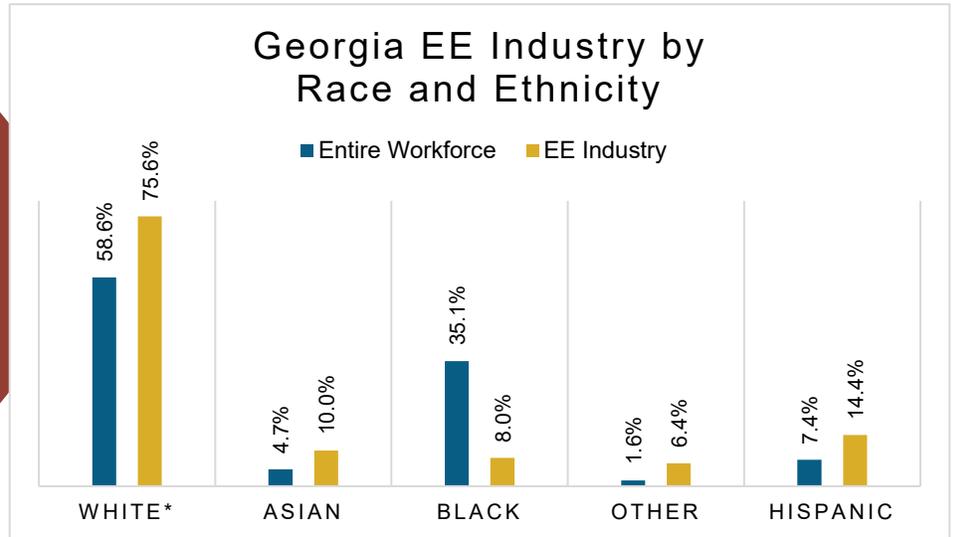
13% of Georgia EE workers are Veterans

*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

How is EE doing on diversity in Georgia?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Georgia communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Georgia's EE Potential

Decades of work, ready for Georgia's growing energy efficiency workforce.

Weatherization Assistance Program:



668* units weatherized in 2018, out of **~520,000** total low-income households

2,610,609

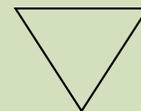
Georgia homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

42%



*National Association for State Community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|--------------------------------|--------|
| District | Jobs | Area | Jobs |
| 1 | 3,231 | Albany | 710 |
| 2 | 3,837 | Athens-Clark County | 910 |
| 3 | 3,321 | Atlanta-Sandy Springs-Marietta | 33,338 |
| 4 | 5,558 | Augusta-Richmond County | 1,609 |
| 5 | 7,150 | Brunswick | 649 |
| 6 | 9,704 | Chattanooga | 479 |
| 7 | 3,151 | Columbus | 895 |
| 8 | 1,953 | Dalton | 545 |
| 9 | 3,472 | Gainesville | 865 |
| 10 | 1,580 | Hinesville-Fort Stewart | 129 |
| 11 | 3,201 | Macon | 1,429 |
| 12 | 2,393 | Rome | 404 |
| 13 | 1,043 | Savannah | 1,767 |
| 14 | 1,530 | Valdosta | 691 |
| | | Warner Robins | 433 |
| | | Rural | 6,269 |

| State Senate | | | | | | | |
|--------------|-------|----------|-------|----------|-------|----------|------|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
| 1 | 1,319 | 15 | 793 | 29 | 222 | 43 | 398 |
| 2 | 440 | 16 | 1,486 | 30 | 785 | 44 | 14 |
| 3 | 870 | 17 | 740 | 31 | 364 | 45 | 452 |
| 4 | 760 | 18 | 1,276 | 32 | 1,285 | 46 | 846 |
| 5 | 3,363 | 19 | 307 | 33 | 721 | 47 | 188 |
| 6 | 5,935 | 20 | 205 | 34 | 782 | 48 | <5 |
| 7 | 679 | 21 | 2,612 | 35 | 298 | 49 | 937 |
| 8 | 1,005 | 22 | 1,223 | 36 | 3,033 | 50 | 389 |
| 9 | 1,523 | 23 | 346 | 37 | 140 | 51 | 571 |
| 10 | 1,561 | 24 | 695 | 38 | 113 | 52 | 429 |
| 11 | 576 | 25 | 792 | 39 | 105 | 53 | 443 |
| 12 | 783 | 26 | 430 | 40 | 1,625 | 54 | 531 |
| 13 | 280 | 27 | 1,834 | 41 | 439 | | |
| 14 | 2,613 | 28 | 1,207 | 42 | 358 | | |

State House of Representatives

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|-------|----------|-------|----------|------|----------|------|
| 1 | 286 | 46 | <5 | 91 | 276 | 136 | <5 |
| 2 | 448 | 47 | 1,123 | 92 | 251 | 137 | 36 |
| 3 | <5 | 48 | <5 | 93 | 572 | 138 | 73 |
| 4 | 234 | 49 | <5 | 94 | 172 | 139 | 183 |
| 5 | 241 | 50 | <5 | 95 | 412 | 140 | 207 |
| 6 | <5 | 51 | 1,058 | 96 | <5 | 141 | 398 |
| 7 | 804 | 52 | 956 | 97 | <5 | 142 | 191 |
| 8 | 308 | 53 | 1,126 | 98 | 651 | 143 | 393 |
| 9 | 155 | 54 | 861 | 99 | <5 | 144 | 453 |
| 10 | 92 | 55 | 933 | 100 | 196 | 145 | <5 |
| 11 | 20 | 56 | 1,273 | 101 | 256 | 146 | 20 |
| 12 | 256 | 57 | 312 | 102 | <5 | 147 | <5 |
| 13 | 25 | 58 | 280 | 103 | 160 | 148 | 134 |
| 14 | 486 | 59 | 258 | 104 | 130 | 149 | 105 |
| 15 | 386 | 60 | 601 | 105 | 78 | 150 | 139 |
| 16 | 151 | 61 | 285 | 106 | <5 | 151 | 251 |
| 17 | 359 | 62 | 260 | 107 | <5 | 152 | 709 |
| 18 | 239 | 63 | 643 | 108 | <5 | 153 | <5 |
| 19 | 263 | 64 | 398 | 109 | 51 | 154 | 9 |
| 20 | 849 | 65 | 43 | 110 | 227 | 155 | 362 |
| 21 | 155 | 66 | <5 | 111 | <5 | 156 | 121 |
| 22 | 1,384 | 67 | 34 | 112 | 200 | 157 | 185 |
| 23 | <5 | 68 | 10 | 113 | <5 | 158 | 333 |
| 24 | 252 | 69 | 524 | 114 | 149 | 159 | 191 |
| 25 | 1,439 | 70 | 104 | 115 | <5 | 160 | 79 |
| 26 | 135 | 71 | 90 | 116 | 6 | 161 | 635 |
| 27 | 540 | 72 | 14 | 117 | 602 | 162 | 358 |
| 28 | 253 | 73 | 271 | 118 | 5 | 163 | 415 |
| 29 | 44 | 74 | 334 | 119 | <5 | 164 | 164 |
| 30 | 506 | 75 | 20 | 120 | 193 | 165 | 59 |
| 31 | 273 | 76 | 261 | 121 | 501 | 166 | 55 |
| 32 | 288 | 77 | <5 | 122 | 235 | 167 | 647 |
| 33 | 349 | 78 | 14 | 123 | 287 | 168 | 11 |
| 34 | 2,173 | 79 | 1,148 | 124 | 441 | 169 | 84 |
| 35 | <5 | 80 | 195 | 125 | 59 | 170 | 90 |
| 36 | <5 | 81 | 2,156 | 126 | 108 | 171 | 275 |
| 37 | 79 | 82 | 432 | 127 | 36 | 172 | 290 |
| 38 | 337 | 83 | 168 | 128 | 238 | 173 | 68 |
| 39 | 525 | 84 | 121 | 129 | 200 | 174 | 640 |
| 40 | 1,095 | 85 | 405 | 130 | 44 | 175 | 279 |
| 41 | <5 | 86 | 41 | 131 | 336 | 176 | <5 |
| 42 | 641 | 87 | 286 | 132 | 16 | 177 | <5 |
| 43 | <5 | 88 | <5 | 133 | 305 | 178 | 80 |
| 44 | <5 | 89 | <5 | 134 | 547 | 179 | <5 |
| 45 | 677 | 90 | 530 | 135 | 41 | 180 | 85 |



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Data Source: Unless otherwise stated, all data are from the U.S. Energy and Employment Report, July 2021, by the U.S. Department of Energy (see Appendix A for methodology details). This methodology -- adopted by the U.S. Dept. of Energy for its 2017 U.S. Energy and Employment Report, approved by the Office of Management and Budget and grounded on data collected by the Bureau of Labor Statistics -- provides the broadly accepted best accounting of all U.S. energy workers.

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Hawaii

Energy Efficiency Jobs in America



Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Hawaii, there are EE jobs in nearly every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



83%
of Hawaii
counties have
energy efficiency
workers

~11,700
new EE construction
jobs to retrofit Hawaii
homes by 2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of HI residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



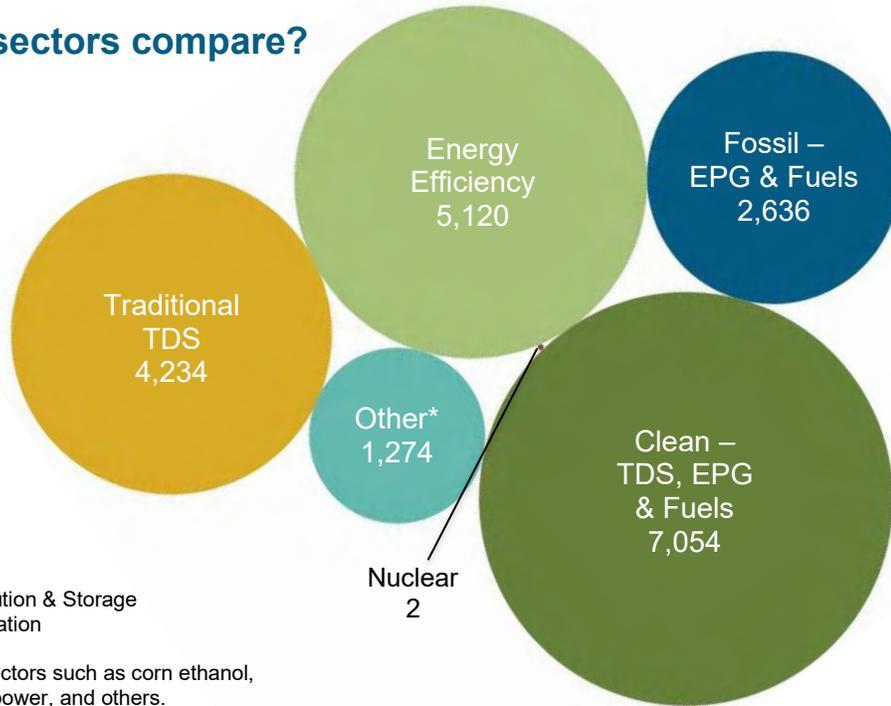
Key EE Statistics for Hawaii

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Hawaii's energy sectors compare?

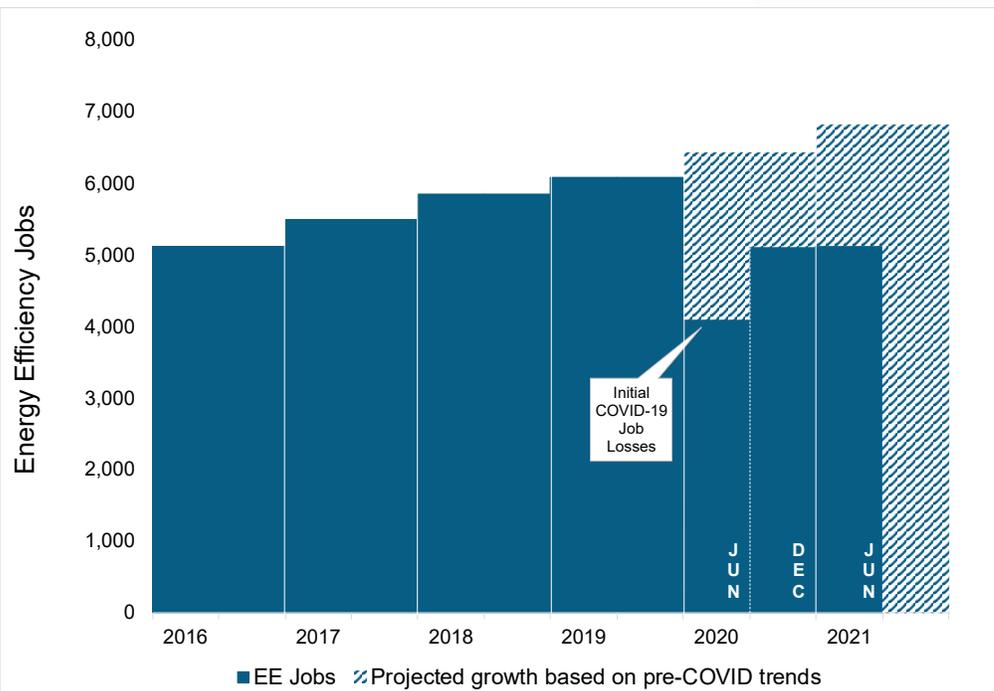
Energy Efficiency is the second largest energy sector in Hawaii.



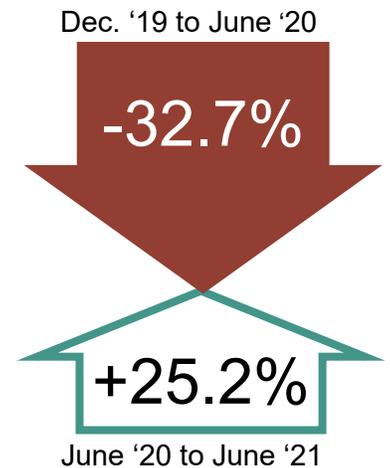
TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



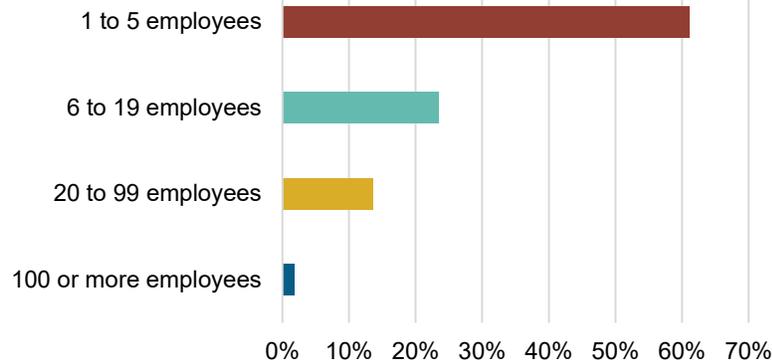
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Hawaii?

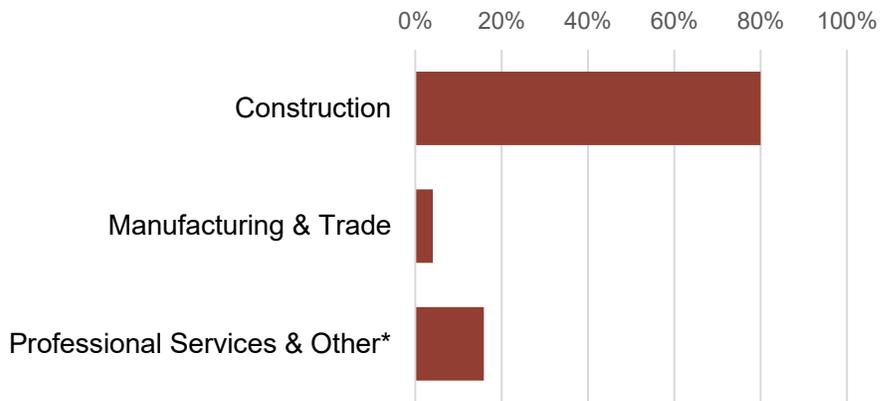
98.1% of HI EE Businesses Have Less Than 100 Employees



1,460
EE businesses in Hawaii

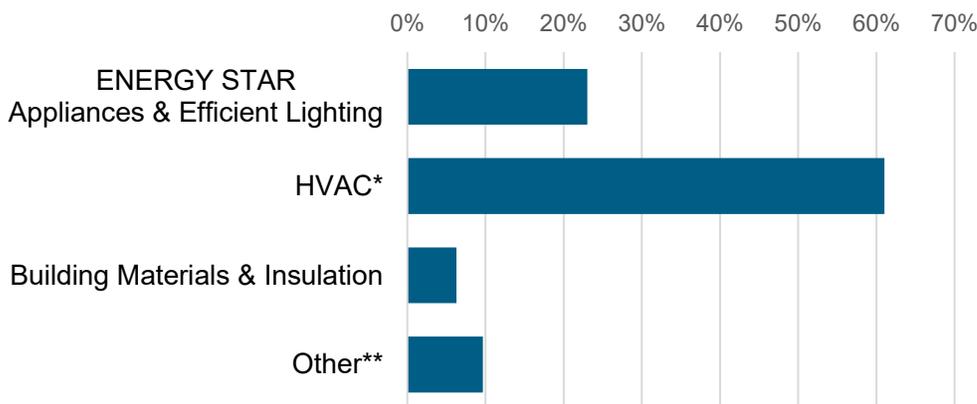
EE construction workers comprise **11%** of Hawaii construction workers

What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



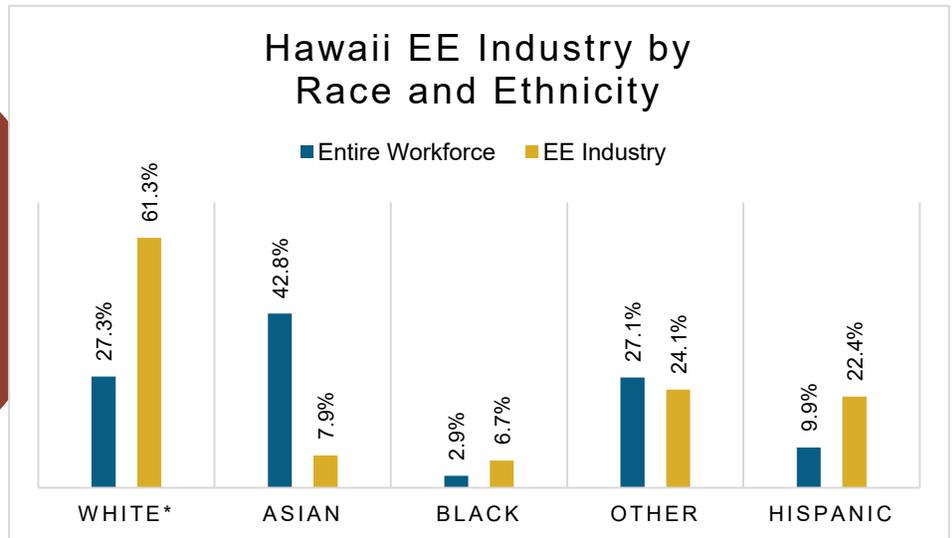
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

8% of Hawaii EE workers are Veterans

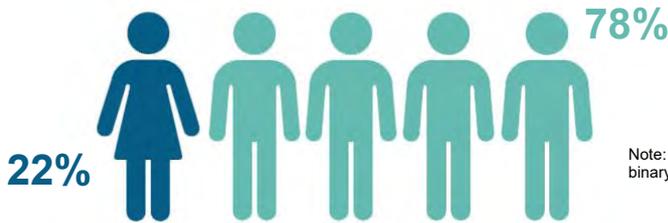
How is EE doing on diversity in Hawaii?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Hawaii communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Hawaii's EE Potential

Decades of work, ready for Hawaii's growing energy efficiency workforce.

Weatherization Assistance Program:



108* units weatherized in 2018, out of **~45,000** total low-income households

403,578

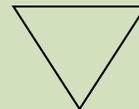
Hawaii homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

22%



*National Association for State community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|--------------------|-------|
| District | Jobs | Area | Jobs |
| 1 | 3,590 | Honolulu | 3,834 |
| 2 | 1,530 | Rural | 1,286 |

| State Senate | | | | | |
|--------------|------|----------|-------|----------|------|
| District | Jobs | District | Jobs | District | Jobs |
| 1 | 216 | 11 | 858 | 21 | 26 |
| 2 | 38 | 12 | <5 | 22 | 23 |
| 3 | 213 | 13 | 155 | 23 | 94 |
| 4 | 116 | 14 | 370 | 24 | 102 |
| 5 | 242 | 15 | 1,502 | 25 | 10 |
| 6 | 165 | 16 | 62 | | |
| 7 | 82 | 17 | 157 | | |
| 8 | 217 | 18 | 73 | | |
| 9 | 231 | 19 | 31 | | |
| 10 | 66 | 20 | 71 | | |

| State House of Representatives | | | |
|--------------------------------|-------|----------|------|
| District | Jobs | District | Jobs |
| 1 | 296 | 28 | 263 |
| 2 | <5 | 29 | <5 |
| 3 | 38 | 30 | 199 |
| 4 | <5 | 31 | <5 |
| 5 | 216 | 32 | <5 |
| 6 | <5 | 33 | <5 |
| 7 | 28 | 34 | <5 |
| 8 | 241 | 35 | 161 |
| 9 | <5 | 36 | 80 |
| 10 | 149 | 37 | <5 |
| 11 | 13 | 38 | <5 |
| 12 | 61 | 39 | 100 |
| 13 | 20 | 40 | <5 |
| 14 | 60 | 41 | <5 |
| 15 | 127 | 42 | <5 |
| 16 | 26 | 43 | 25 |
| 17 | 56 | 44 | <5 |
| 18 | 112 | 45 | 34 |
| 19 | 59 | 46 | <5 |
| 20 | <5 | 47 | 82 |
| 21 | 65 | 48 | <5 |
| 22 | 2,320 | 49 | 101 |
| 23 | 27 | 50 | <5 |
| 24 | <5 | 51 | 10 |
| 25 | 154 | | |
| 26 | <5 | | |
| 27 | <5 | | |



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Idaho

Energy Efficiency Jobs in America

June 2021*

8,327

Dec 2020

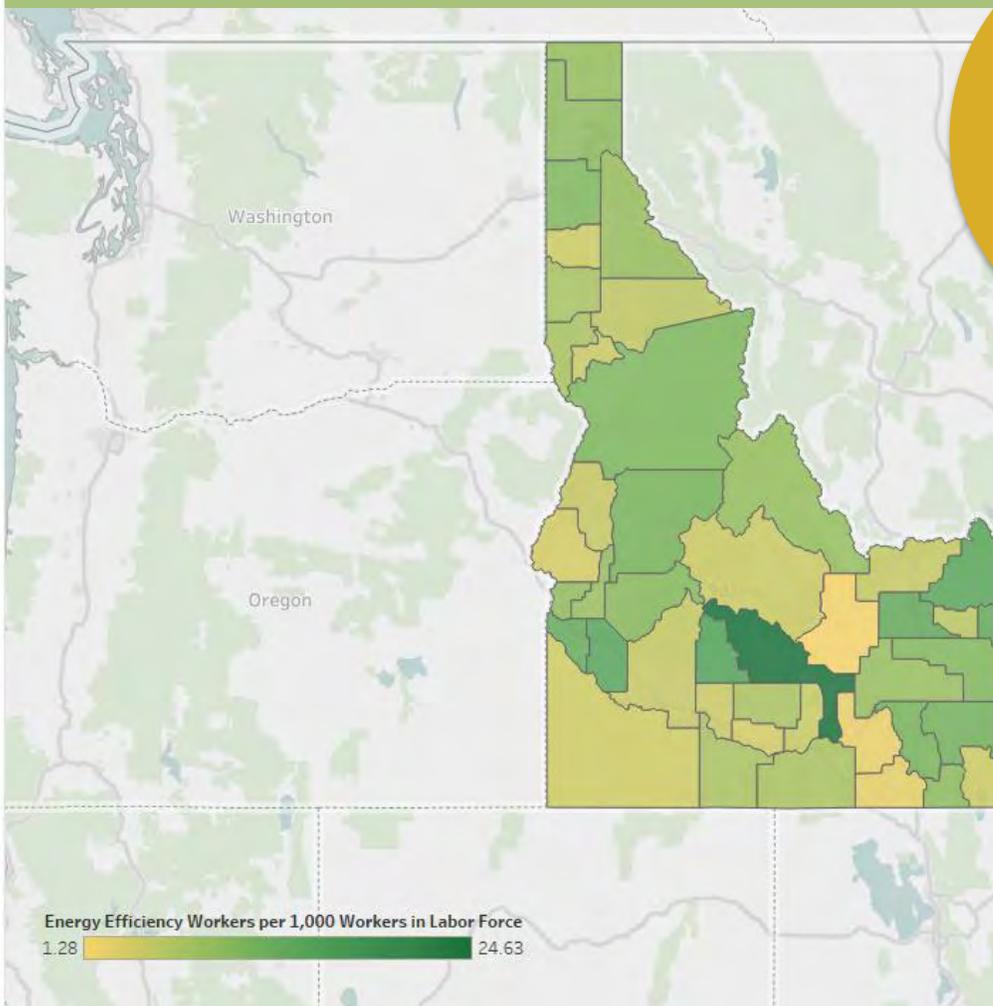
8,319

Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Idaho, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Idaho counties
have energy
efficiency
workers

~6,900
new EE construction
jobs to retrofit Idaho
homes by 2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of ID residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:

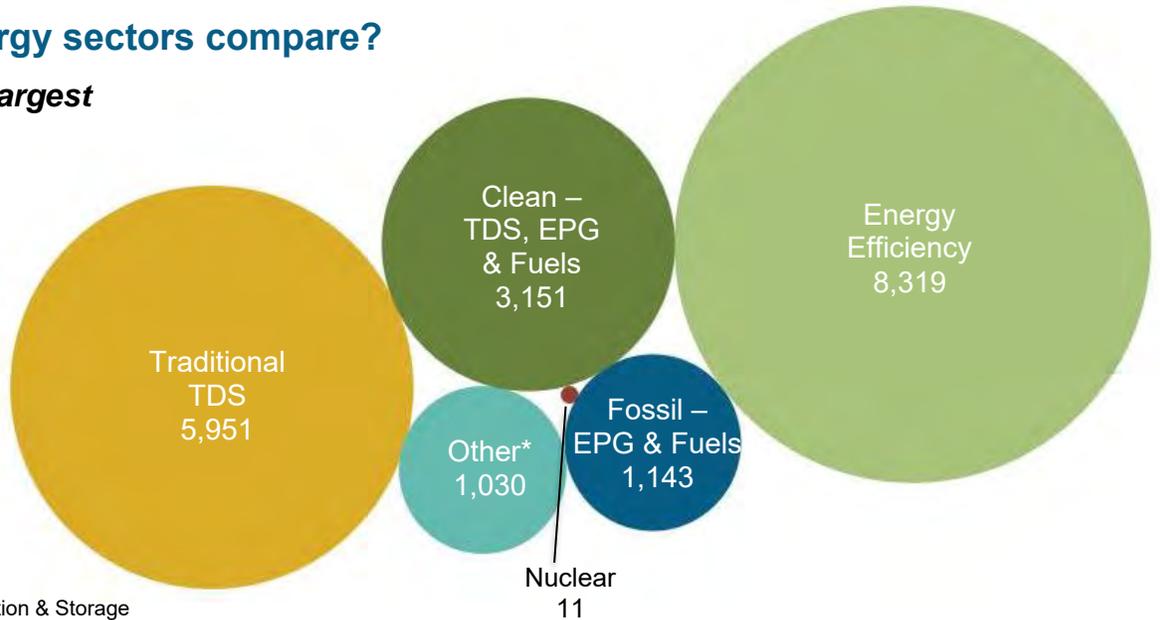


What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Idaho's energy sectors compare?

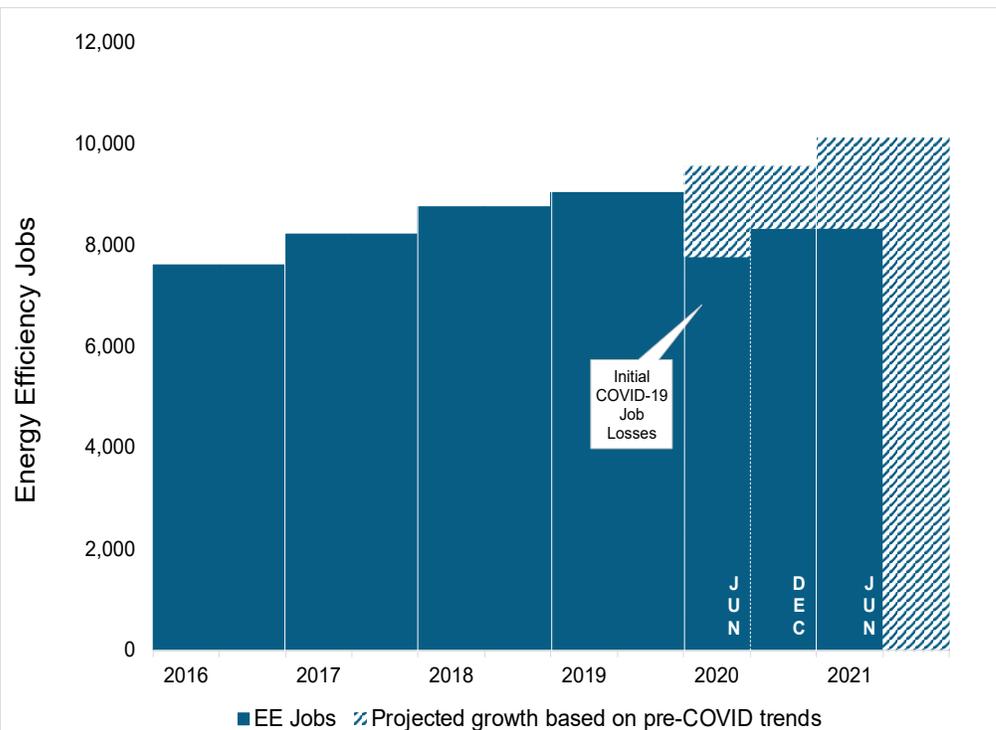
Energy Efficiency is the **largest** energy sector in Idaho.



TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



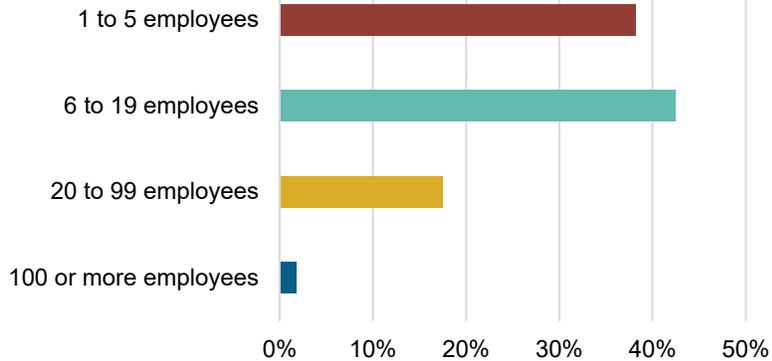
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Idaho?

98% of ID EE Businesses Have Less Than 100 Employees

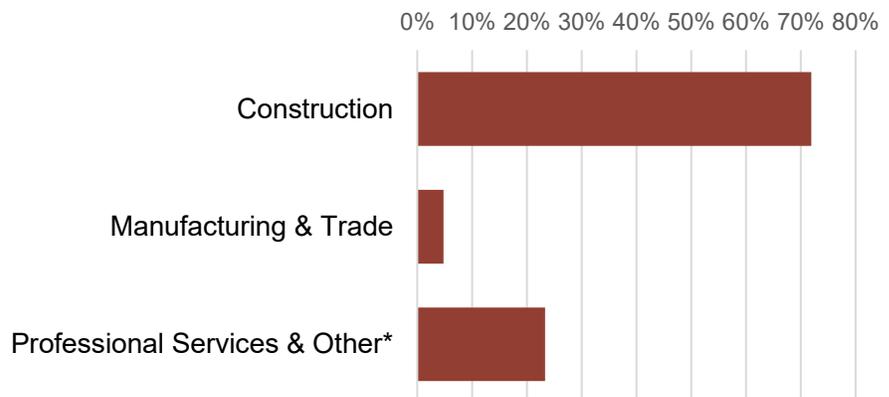


1,274
EE businesses in Idaho

EE construction workers comprise **11%** of Idaho construction workers

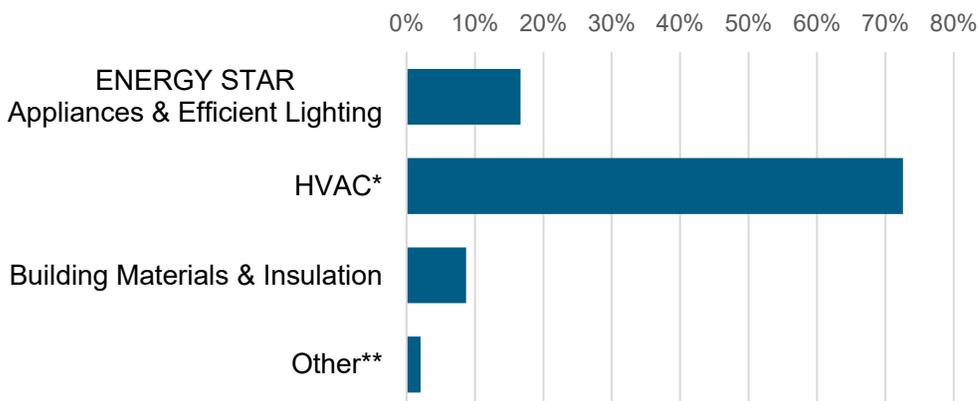


What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



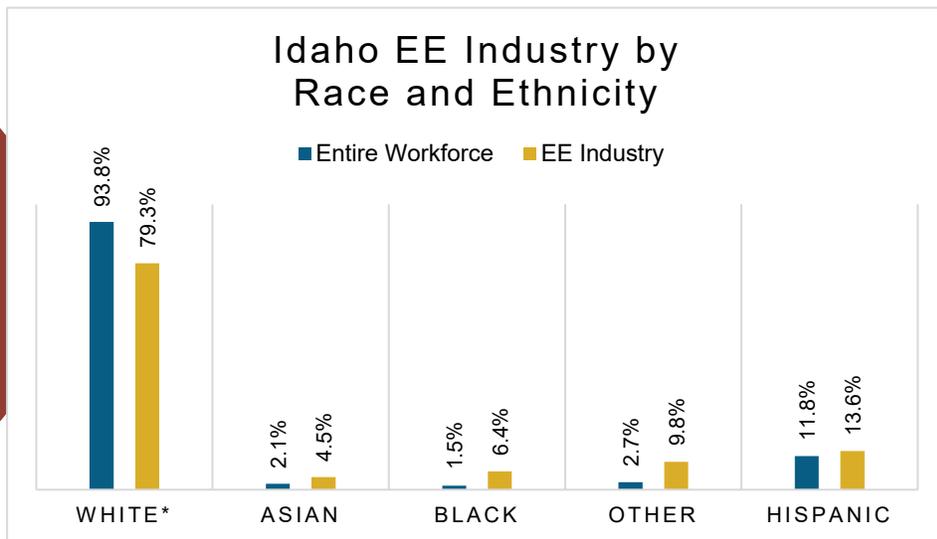
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

6% of Idaho EE workers are **Veterans**

How is EE doing on diversity in Idaho?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Idaho communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Idaho's EE Potential

Decades of work, ready for Idaho's growing energy efficiency workforce.

Weatherization Assistance Program:



730* units weatherized in 2018, out of **~75,000** total low-income households

445,167

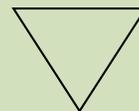
Idaho homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

27%



*National Association for State Community Services Programs (NASCCSP) [Weatherization Assistance Program Annual Funding Survey](#)
Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|--------------------|-------|
| District | Jobs | Area | Jobs |
| 1 | 4,969 | Boise City-Nampa | 3,419 |
| 2 | 3,350 | Coeur d'Alene | 832 |
| | | Idaho Falls | 744 |
| | | Lewiston | 248 |
| | | Logan | 44 |
| | | Pocatello | 470 |
| | | Rural | 2,561 |

| State Senate | | | | | | | |
|--------------|-------|----------|------|----------|------|----------|------|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
| 1 | 332 | 11 | 223 | 21 | <5 | 31 | 92 |
| 2 | 839 | 12 | <5 | 22 | <5 | 32 | 172 |
| 3 | <5 | 13 | <5 | 23 | 145 | 33 | - |
| 4 | <5 | 14 | 770 | 24 | 403 | 34 | 178 |
| 5 | 140 | 15 | 401 | 25 | 164 | 35 | 121 |
| 6 | 295 | 16 | 225 | 26 | 379 | | |
| 7 | 207 | 17 | 175 | 27 | 177 | | |
| 8 | 1,152 | 18 | 41 | 28 | 440 | | |
| 9 | 170 | 19 | <5 | 29 | <5 | | |
| 10 | 404 | 20 | <5 | 30 | 675 | | |

State House of Representatives

| District | Jobs | District | Jobs | District | Jobs |
|----------|-------|----------|------|----------|------|
| 1 | 331 | 28 | 438 | 55 | <5 |
| 2 | 837 | 29 | <5 | 56 | <5 |
| 3 | <5 | 30 | 674 | 57 | <5 |
| 4 | <5 | 31 | 92 | 58 | <5 |
| 5 | 140 | 32 | 172 | 59 | <5 |
| 6 | 294 | 33 | <5 | 60 | <5 |
| 7 | 206 | 34 | 177 | 61 | <5 |
| 8 | 1,173 | 35 | 121 | 62 | <5 |
| 9 | 169 | 36 | <5 | 63 | <5 |
| 10 | 402 | 37 | <5 | 64 | <5 |
| 11 | 222 | 38 | <5 | 65 | <5 |
| 12 | <5 | 39 | <5 | 66 | <5 |
| 13 | <5 | 40 | <5 | 67 | <5 |
| 14 | 767 | 41 | <5 | 68 | <5 |
| 15 | 400 | 42 | <5 | 69 | <5 |
| 16 | 224 | 43 | <5 | 70 | <5 |
| 17 | 174 | 44 | <5 | | |
| 18 | 41 | 45 | <5 | | |
| 19 | <5 | 46 | <5 | | |
| 20 | <5 | 47 | <5 | | |
| 21 | <5 | 48 | <5 | | |
| 22 | <5 | 49 | <5 | | |
| 23 | 144 | 50 | <5 | | |
| 24 | 402 | 51 | <5 | | |
| 25 | 163 | 52 | <5 | | |
| 26 | 379 | 53 | <5 | | |
| 27 | 176 | 54 | <5 | | |



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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. Visit www.e2.org



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 www.bwresearch.com

Data Source: Unless otherwise stated, all data are from the U.S. Energy and Employment Report, July 2021, by the U.S. Department of Energy (see Appendix A for methodology details). This methodology -- adopted by the U.S. Dept. of Energy for its 2017 U.S. Energy and Employment Report, approved by the Office of Management and Budget and grounded on data collected by the Bureau of Labor Statistics -- provides the broadly accepted best accounting of all U.S. energy workers.

For questions on E4TheFuture analyses please email: policy@e4thefuture.org.

Illinois

Energy Efficiency Jobs in America

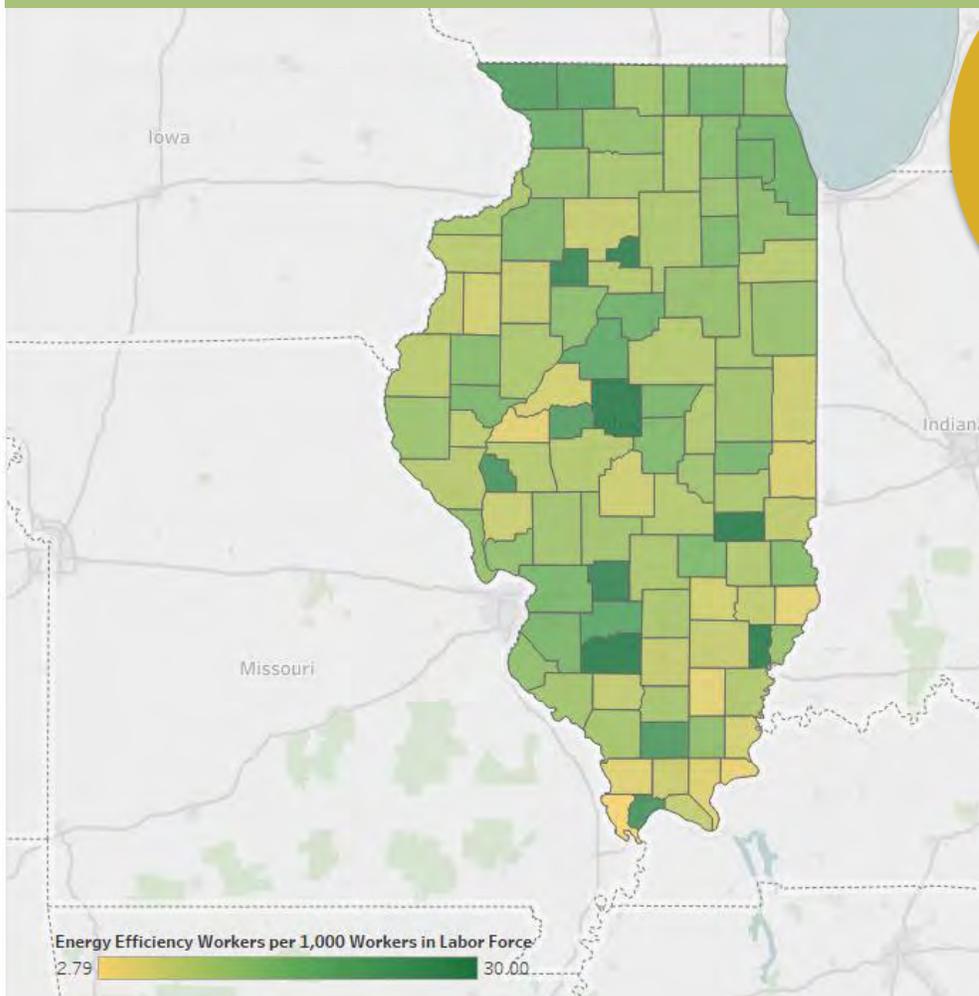


Energy efficiency (EE) workers are a crucial part of America’s workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Illinois, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Illinois
counties have
energy efficiency
workers

~71,500
new EE construction
jobs to retrofit Illinois
homes by 2030

Number of full-time workers required for eight years 2022-2030 to improve 80% of IL residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



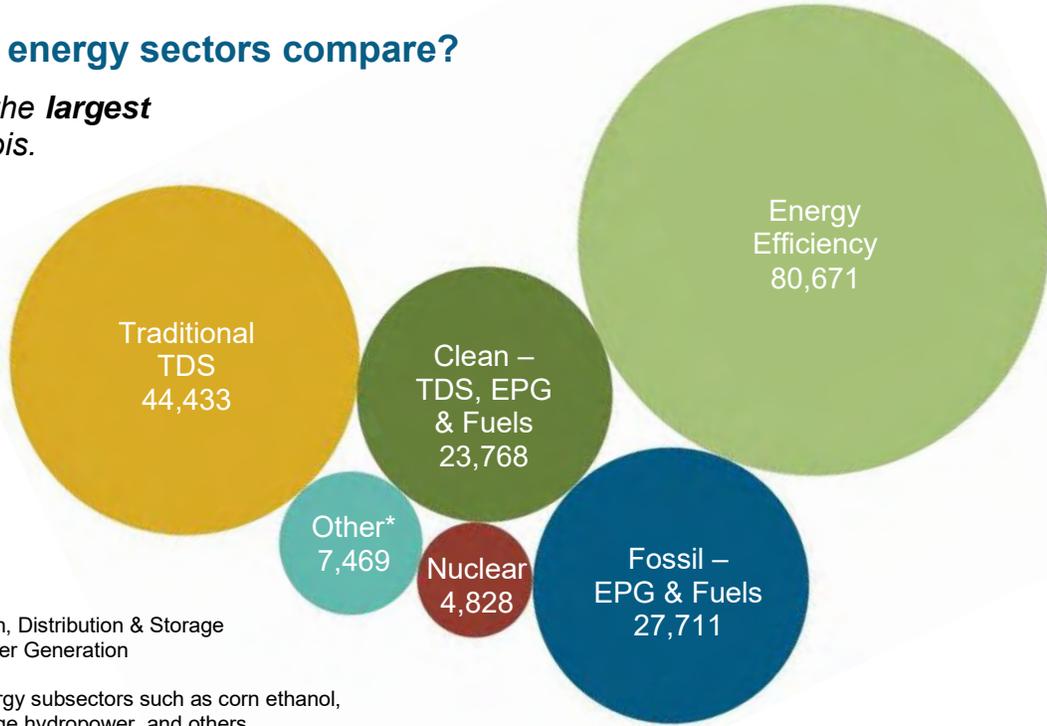
Key EE Statistics for Illinois

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Illinois's energy sectors compare?

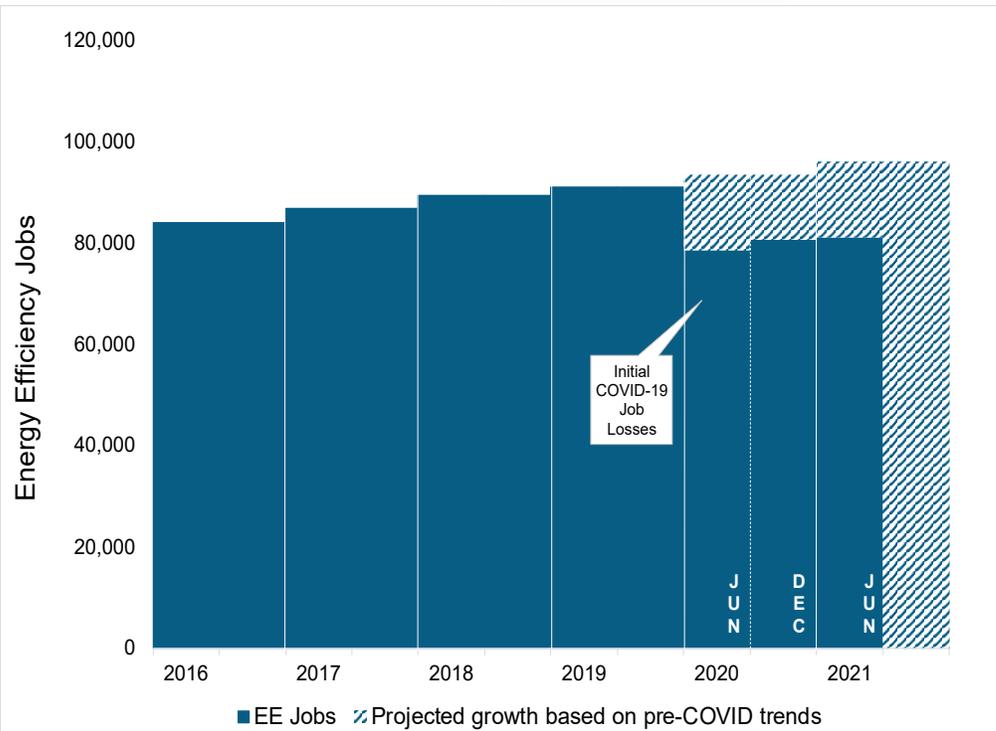
Energy Efficiency is the **largest** energy sector in Illinois.



TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?

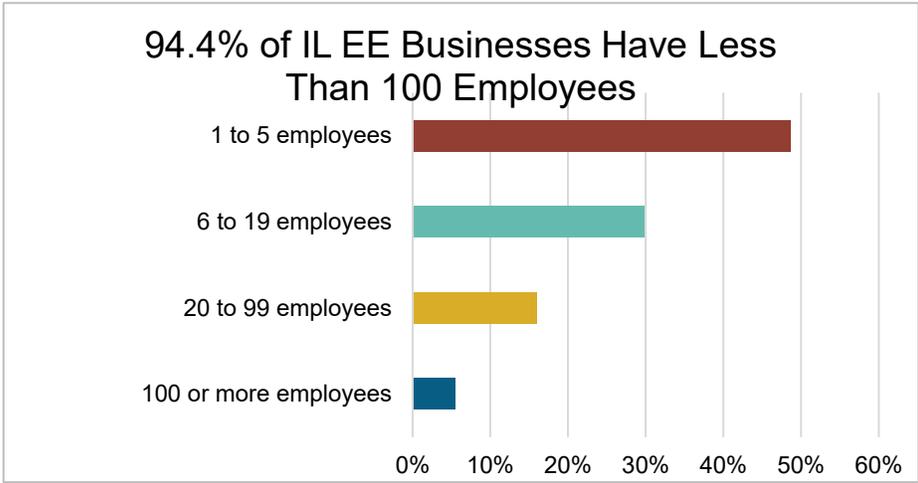


Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



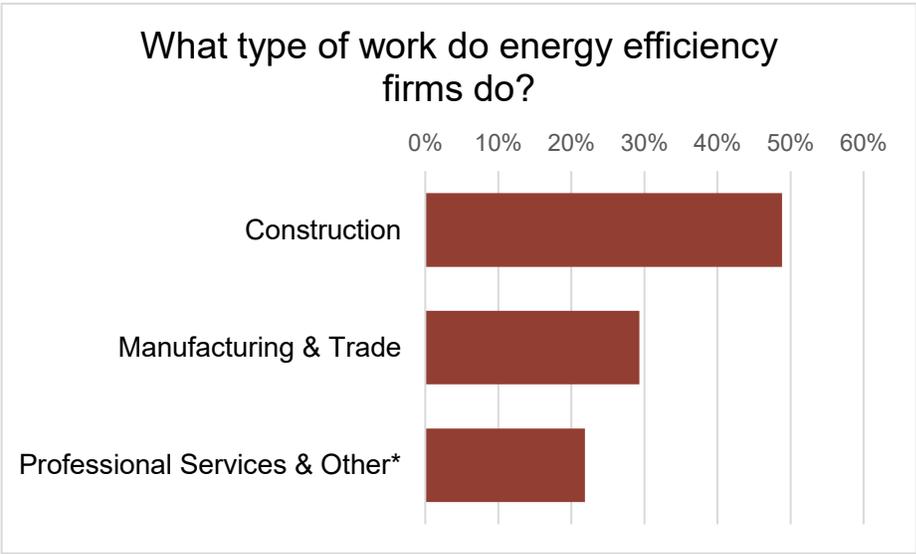
Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Illinois?

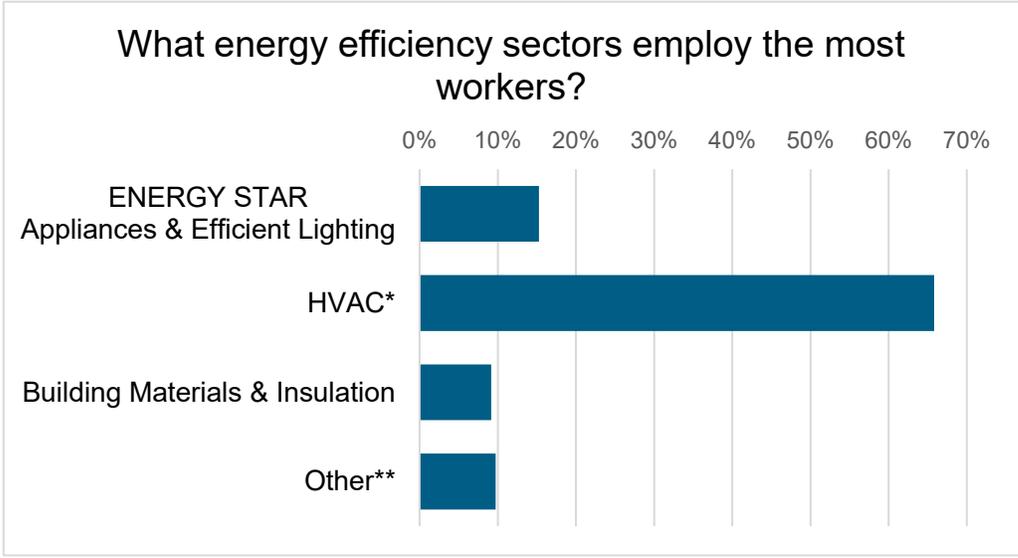


15,240
EE businesses in Illinois

EE construction workers comprise **18%** of Illinois construction workers



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



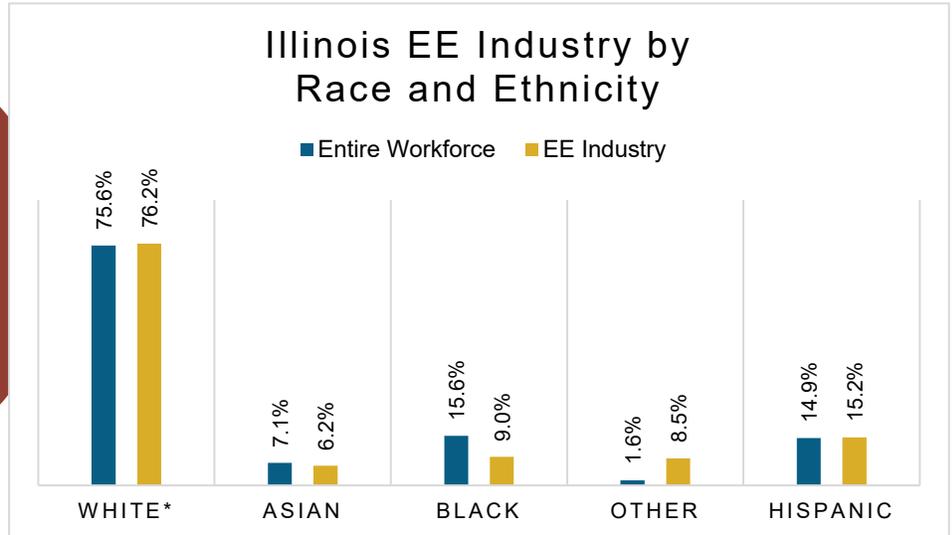
7% of Illinois EE workers are **Veterans**

*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

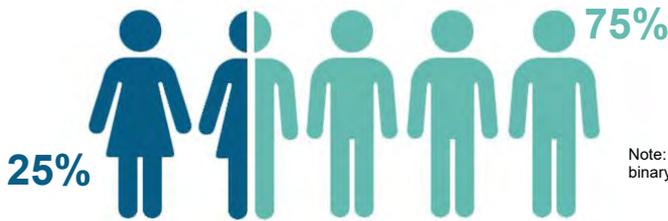
How is EE doing on diversity in Illinois?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Illinois communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Illinois's EE Potential

Decades of work, ready for Illinois's growing energy efficiency workforce.

Weatherization Assistance Program:


2,633* units weatherized in 2018, out of **~570,000** total low-income households

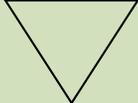
4,054,850

Illinois homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

18%


*National Association for State community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|--------|------------------------------|--------|
| District | Jobs | Area | Jobs |
| 1 | 4,641 | Bloomington-Normal | 820 |
| 2 | 1,916 | Cape Girardeau-Jackson | 13 |
| 3 | 3,727 | Champaign-Urbana | 1,273 |
| 4 | 3,705 | Chicago-Naperville-Joliet | 56,920 |
| 5 | 6,867 | Danville | 453 |
| 6 | 9,527 | Davenport-Moline-Rock Island | 1,180 |
| 7 | 11,750 | Decatur | 628 |
| 8 | 2,747 | Kankakee-Bradley | 546 |
| 9 | 3,821 | Peoria | 2,335 |
| 10 | 3,876 | Rockford | 2,055 |
| 11 | 2,543 | Springfield | 1,639 |
| 12 | 4,590 | St. Louis | 4,004 |
| 13 | 4,780 | Rural | 8,807 |
| 14 | 2,513 | | |
| 15 | 3,242 | | |
| 16 | 4,267 | | |
| 17 | 3,843 | | |
| 18 | 2,316 | | |

| State Senate | | | | | | | |
|--------------|--------|----------|-------|----------|-------|----------|-------|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
| 1 | 1,235 | 16 | 612 | 31 | 671 | 46 | 697 |
| 2 | 1,986 | 17 | 469 | 32 | 857 | 47 | 1,031 |
| 3 | 11,698 | 18 | 169 | 33 | 343 | 48 | 2,094 |
| 4 | 2,269 | 19 | 1,362 | 34 | 1,763 | 49 | 93 |
| 5 | 559 | 20 | <5 | 35 | 696 | 50 | 721 |
| 6 | 1,250 | 21 | 3,030 | 36 | 1,369 | 51 | 1,633 |
| 7 | 588 | 22 | 2,466 | 37 | 2,144 | 52 | 875 |
| 8 | 2,543 | 23 | 3,608 | 38 | 1,503 | 53 | 504 |
| 9 | 2,447 | 24 | 1,945 | 39 | 347 | 54 | 1,679 |
| 10 | 1,037 | 25 | 2,602 | 40 | 203 | 55 | 1,220 |
| 11 | 259 | 26 | 3,406 | 41 | 584 | 56 | 767 |
| 12 | 230 | 27 | 2,335 | 42 | 6 | 57 | 588 |
| 13 | 129 | 28 | <5 | 43 | 593 | 58 | 1,164 |
| 14 | 1,842 | 29 | 948 | 44 | 2,225 | 59 | 919 |
| 15 | 1,307 | 30 | 320 | 45 | 729 | | |

State House of Representatives

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|-------|----------|-------|----------|-------|----------|-------|
| 1 | 806 | 32 | <5 | 63 | 808 | 94 | 552 |
| 2 | 425 | 33 | <5 | 64 | 47 | 95 | 1,004 |
| 3 | 1,113 | 34 | 450 | 65 | 342 | 96 | 1,088 |
| 4 | 867 | 35 | 168 | 66 | <5 | 97 | 92 |
| 5 | 7,913 | 36 | <5 | 67 | 1,139 | 98 | <5 |
| 6 | 3,912 | 37 | 1,184 | 68 | 619 | 99 | 278 |
| 7 | 1,790 | 38 | 174 | 69 | 284 | 100 | 441 |
| 8 | 474 | 39 | <5 | 70 | 406 | 101 | 663 |
| 9 | 558 | 40 | <5 | 71 | 1,070 | 102 | 967 |
| 10 | <5 | 41 | 1,768 | 72 | 297 | 103 | 449 |
| 11 | 1,000 | 42 | 1,258 | 73 | 1,510 | 104 | 425 |
| 12 | 253 | 43 | 1,657 | 74 | 630 | 105 | 135 |
| 13 | 401 | 44 | 803 | 75 | 1,077 | 106 | 367 |
| 14 | 188 | 45 | 2,371 | 76 | 418 | 107 | 721 |
| 15 | 2,243 | 46 | 1,232 | 77 | 7 | 108 | 959 |
| 16 | 304 | 47 | 1,941 | 78 | 340 | 109 | 776 |
| 17 | 2,003 | 48 | <5 | 79 | 204 | 110 | 441 |
| 18 | 439 | 49 | 1,417 | 80 | <5 | 111 | 361 |
| 19 | 236 | 50 | 1,183 | 81 | 428 | 112 | 405 |
| 20 | 798 | 51 | 2,430 | 82 | 154 | 113 | 426 |
| 21 | 65 | 52 | 975 | 83 | <5 | 114 | 161 |
| 22 | 193 | 53 | 1,240 | 84 | 6 | 115 | 744 |
| 23 | 229 | 54 | 1,097 | 85 | 219 | 116 | 418 |
| 24 | <5 | 55 | <5 | 86 | 373 | 117 | 589 |
| 25 | 128 | 56 | <5 | 87 | 1,404 | 118 | 327 |
| 26 | <5 | 57 | <5 | 88 | 819 | | |
| 27 | 1,358 | 58 | 947 | 89 | 647 | | |
| 28 | 480 | 59 | 178 | 90 | 80 | | |
| 29 | 1,141 | 60 | 141 | 91 | 239 | | |
| 30 | 162 | 61 | 464 | 92 | 460 | | |
| 31 | 612 | 62 | 206 | 93 | 477 | | |



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Data Source: Unless otherwise stated, all data are from the U.S. Energy and Employment Report, July 2021, by the U.S. Department of Energy (see Appendix A for methodology details). This methodology -- adopted by the U.S. Dept. of Energy for its 2017 U.S. Energy and Employment Report, approved by the Office of Management and Budget and grounded on data collected by the Bureau of Labor Statistics -- provides the broadly accepted best accounting of all U.S. energy workers.

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Indiana

Energy Efficiency Jobs in America

June 2021*

49,146

Dec 2020

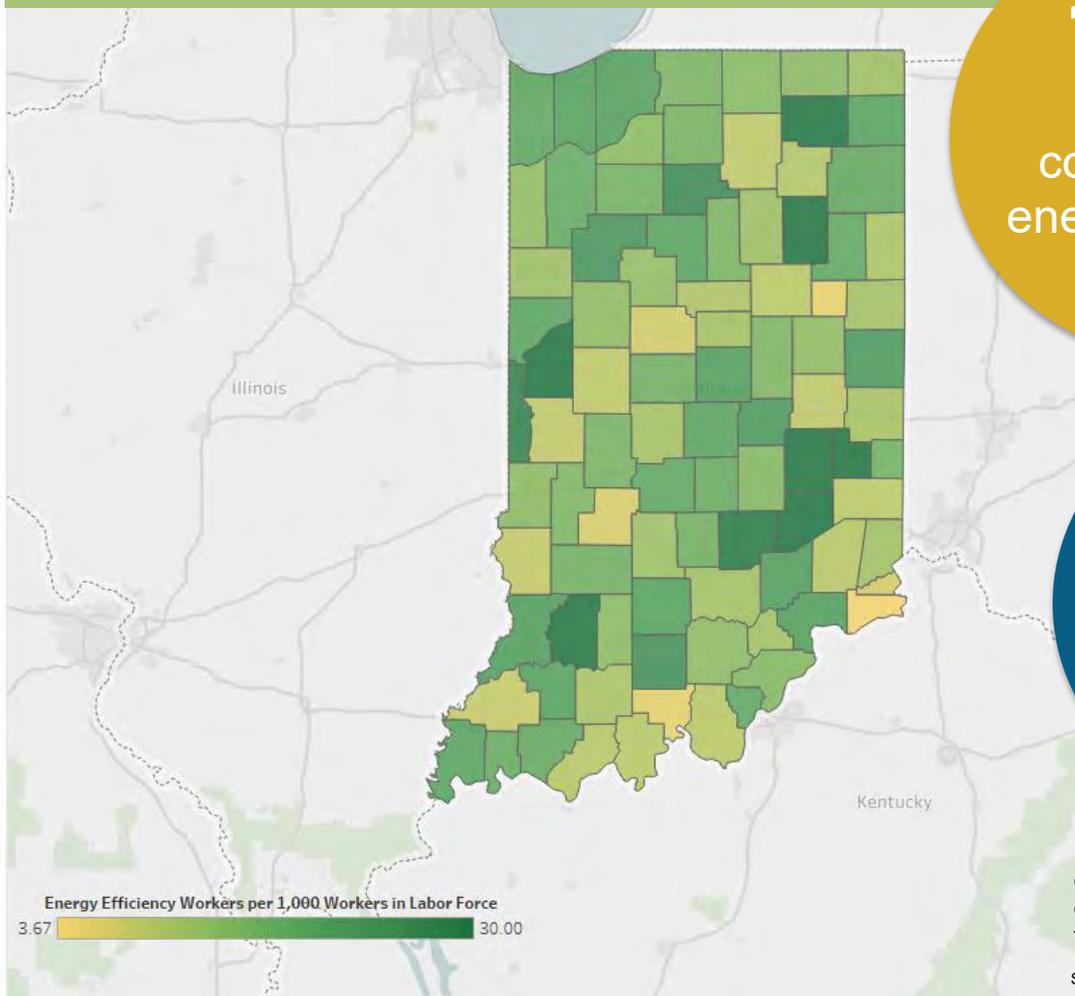
49,068

Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Indiana, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Indiana
counties have
energy efficiency
workers

~26,700
new EE construction
jobs to retrofit Indiana
homes by 2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of IN residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:

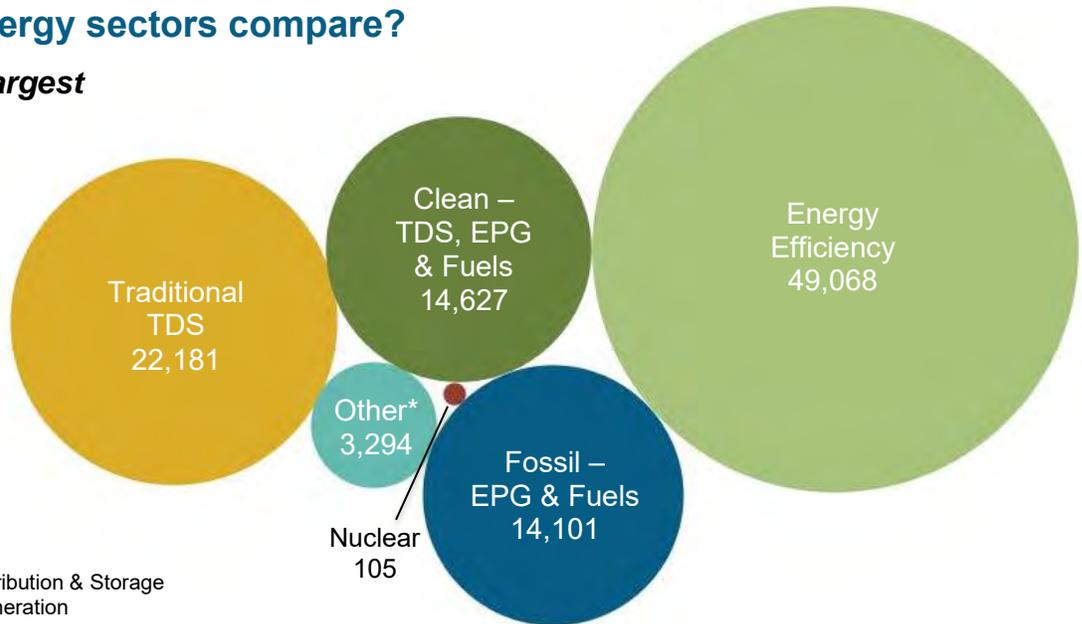


What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Indiana's energy sectors compare?

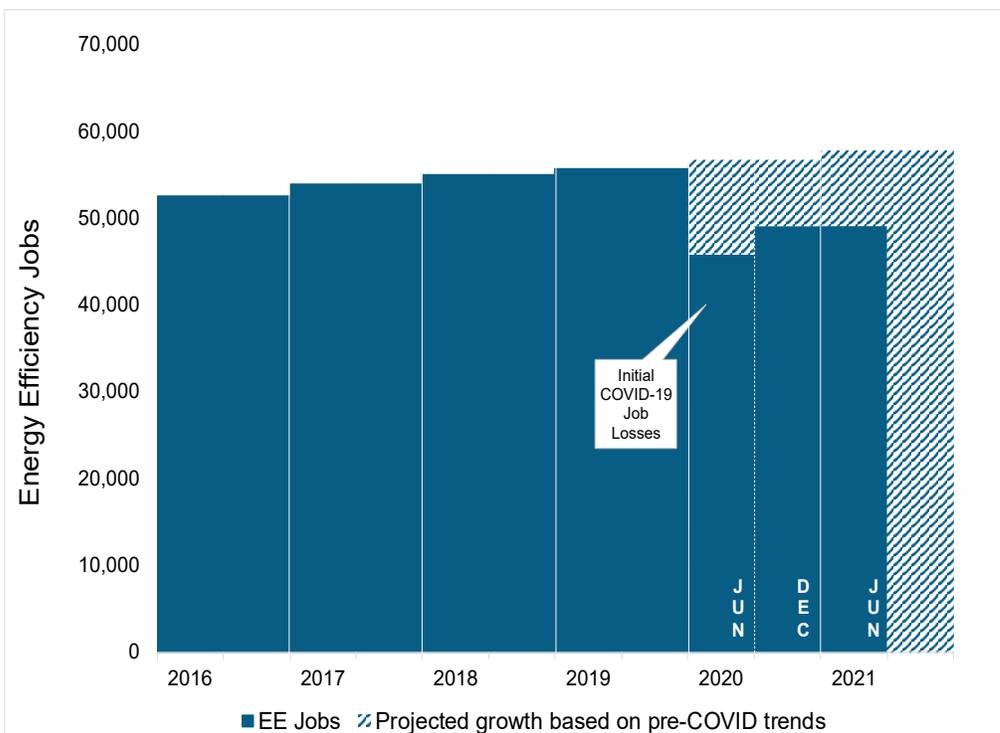
Energy Efficiency is the **largest** energy sector in Indiana.



TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



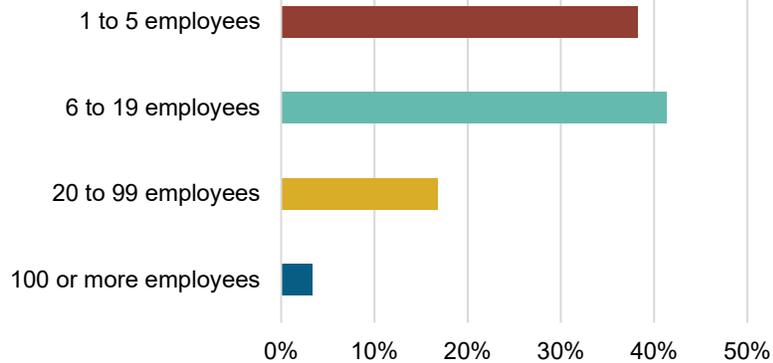
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Indiana?

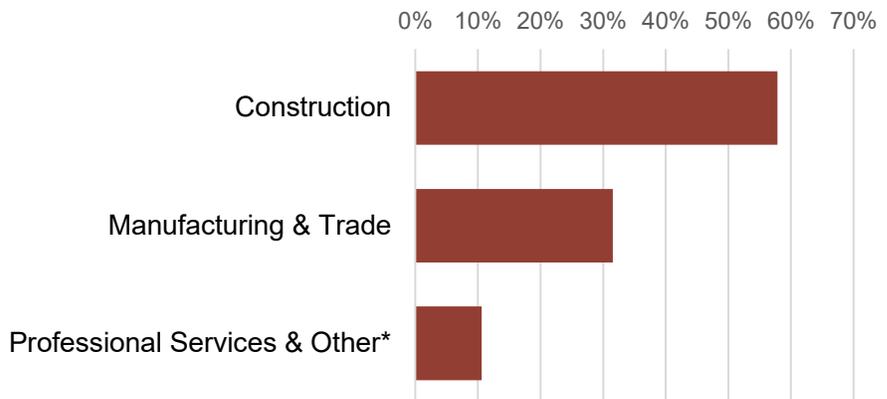
96.4% of IN EE Businesses Have Less Than 100 Employees



8,157
EE businesses in Indiana

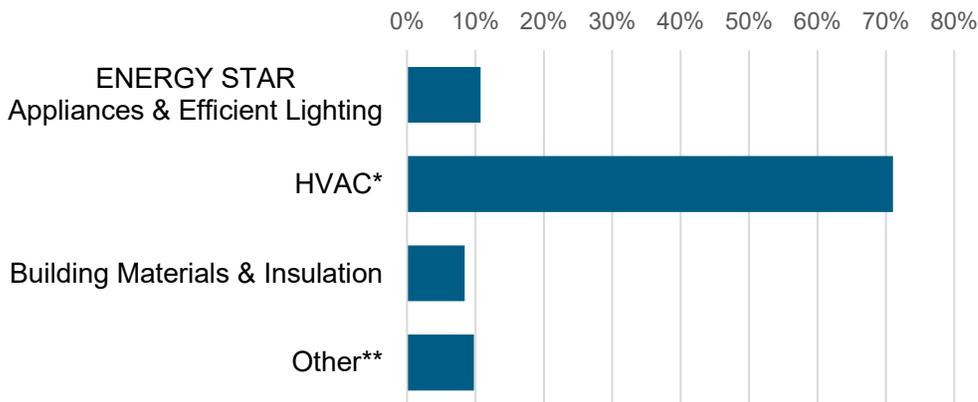
EE construction workers comprise **19%** of Indiana construction workers

What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



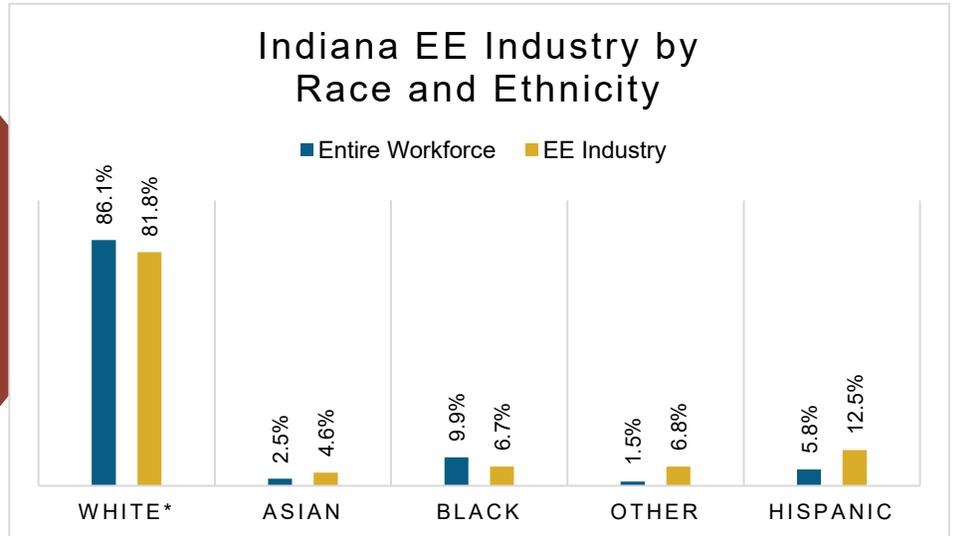
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

7% of Indiana EE workers are Veterans

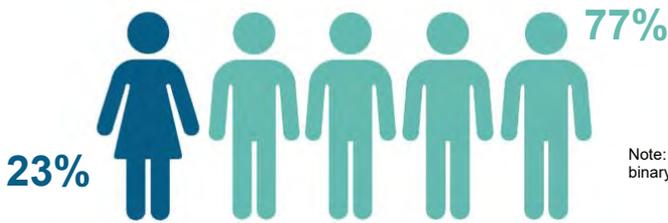
How is EE doing on diversity in Indiana?

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The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Indiana's EE Potential

Decades of work, ready for Indiana's growing energy efficiency workforce.

Weatherization Assistance Program:


1,000* units weatherized in 2018, out of **~320,000** total low-income households

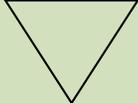
2,083,634

Indiana homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

18%


*National Association for State Community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
 Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|-----------------------------|--------|
| District | Jobs | Area | Jobs |
| 1 | 5,087 | Anderson | 657 |
| 2 | 6,149 | Bloomington | 1,233 |
| 3 | 7,126 | Chicago-Naperville-Joliet | 5,854 |
| 4 | 5,084 | Cincinnati-Middletown | 523 |
| 5 | 6,862 | Columbus | 681 |
| 6 | 4,981 | Elkhart-Goshen | 1,451 |
| 7 | 3,969 | Evansville | 2,354 |
| 8 | 5,904 | Fort Wayne | 4,816 |
| 9 | 3,906 | Indianapolis-Carmel | 13,708 |
| | | Kokomo | 707 |
| | | Lafayette | 1,130 |
| | | Louisville/Jefferson County | 2,261 |
| | | Michigan City-La Porte | 659 |
| | | Muncie | 562 |
| | | South Bend-Mishawaka | 2,266 |
| | | Terre Haute | 1,116 |
| | | Rural | 9,089 |

| State Senate | | | | | | | | | |
|--------------|-------|----------|-------|----------|-------|----------|-------|--|--|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs | | |
| 1 | 1,548 | 16 | 1,010 | 31 | 259 | 46 | 109 | | |
| 2 | 1,158 | 17 | 1,047 | 32 | 937 | 47 | 873 | | |
| 3 | 173 | 18 | 1,617 | 33 | 1,799 | 48 | 705 | | |
| 4 | 1,888 | 19 | 534 | 34 | <5 | 49 | 1,437 | | |
| 5 | 516 | 20 | 2,160 | 35 | 733 | 50 | 464 | | |
| 6 | 391 | 21 | 400 | 36 | 834 | | | | |
| 7 | 2,022 | 22 | 77 | 37 | 696 | | | | |
| 8 | 852 | 23 | 1,042 | 38 | 746 | | | | |
| 9 | 1,991 | 24 | 954 | 39 | 1,627 | | | | |
| 10 | 1,242 | 25 | 1,005 | 40 | 488 | | | | |
| 11 | 578 | 26 | 469 | 41 | 763 | | | | |
| 12 | 276 | 27 | 961 | 42 | 429 | | | | |
| 13 | 2,917 | 28 | 1,506 | 43 | 814 | | | | |
| 14 | 1,554 | 29 | 1,030 | 44 | 280 | | | | |
| 15 | 598 | 30 | 2,211 | 45 | 1,350 | | | | |

State House of Representatives

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|-------|----------|-------|----------|-------|----------|-------|
| 1 | 442 | 28 | 942 | 55 | 512 | 82 | 1,860 |
| 2 | 398 | 29 | 906 | 56 | 424 | 83 | 67 |
| 3 | 297 | 30 | 363 | 57 | 1,237 | 84 | 350 |
| 4 | 1,367 | 31 | 483 | 58 | <5 | 85 | 76 |
| 5 | 942 | 32 | 213 | 59 | 240 | 86 | 771 |
| 6 | 1,016 | 33 | 321 | 60 | 434 | 87 | 209 |
| 7 | 432 | 34 | 106 | 61 | 207 | 88 | 182 |
| 8 | 888 | 35 | 196 | 62 | 211 | 89 | 939 |
| 9 | <5 | 36 | 445 | 63 | 549 | 90 | <5 |
| 10 | 352 | 37 | 957 | 64 | 1,033 | 91 | 531 |
| 11 | 682 | 38 | 44 | 65 | 257 | 92 | 339 |
| 12 | 404 | 39 | 1,045 | 66 | 479 | 93 | <5 |
| 13 | 1,204 | 40 | 124 | 67 | 581 | 94 | 46 |
| 14 | 474 | 41 | 23 | 68 | 92 | 95 | 247 |
| 15 | <5 | 42 | 550 | 69 | 44 | 96 | 1,845 |
| 16 | 544 | 43 | 506 | 70 | 882 | 97 | 184 |
| 17 | 380 | 44 | 611 | 71 | 1,085 | 98 | <5 |
| 18 | 960 | 45 | 612 | 72 | <5 | 99 | <5 |
| 19 | <5 | 46 | 476 | 73 | 170 | 100 | <5 |
| 20 | 32 | 47 | 1,049 | 74 | 325 | | |
| 21 | 1,067 | 48 | 60 | 75 | 381 | | |
| 22 | 355 | 49 | 123 | 76 | 220 | | |
| 23 | 630 | 50 | 1,734 | 77 | 844 | | |
| 24 | 2,346 | 51 | 582 | 78 | <5 | | |
| 25 | 422 | 52 | 1,252 | 79 | 243 | | |
| 26 | 15 | 53 | 403 | 80 | 283 | | |
| 27 | 395 | 54 | 357 | 81 | 165 | | |



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



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Data Source: Unless otherwise stated, all data are from the U.S. Energy and Employment Report, July 2021, by the U.S. Department of Energy (see Appendix A for methodology details). This methodology -- adopted by the U.S. Dept. of Energy for its 2017 U.S. Energy and Employment Report, approved by the Office of Management and Budget and grounded on data collected by the Bureau of Labor Statistics -- provides the broadly accepted best accounting of all U.S. energy workers.

For questions on E4TheFuture analyses please email: policy@e4thefuture.org.

Iowa

Energy Efficiency Jobs in America

June 2021*

18,263

Dec 2020

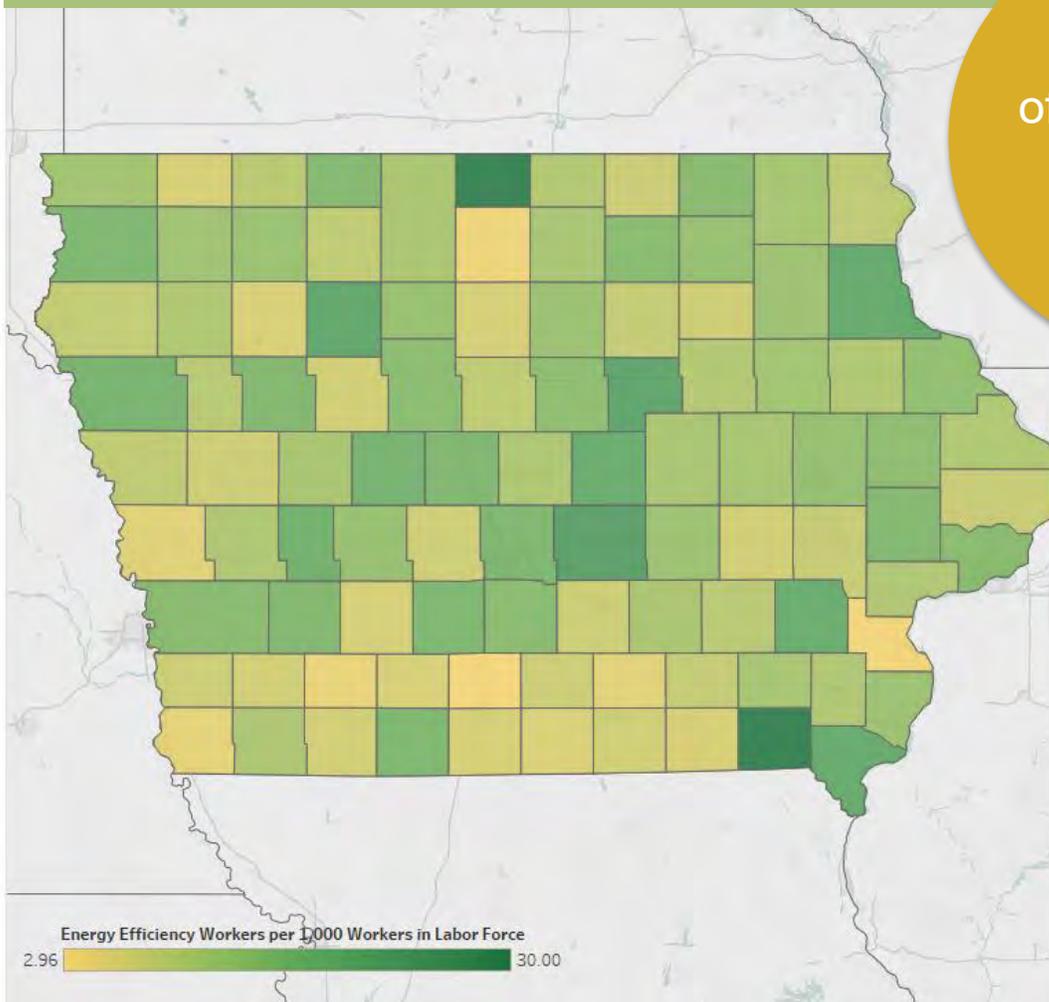
18,240

Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Iowa, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Iowa counties
have energy
efficiency
workers

~12,100
new EE construction
jobs to retrofit Iowa
homes by 2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of IA residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



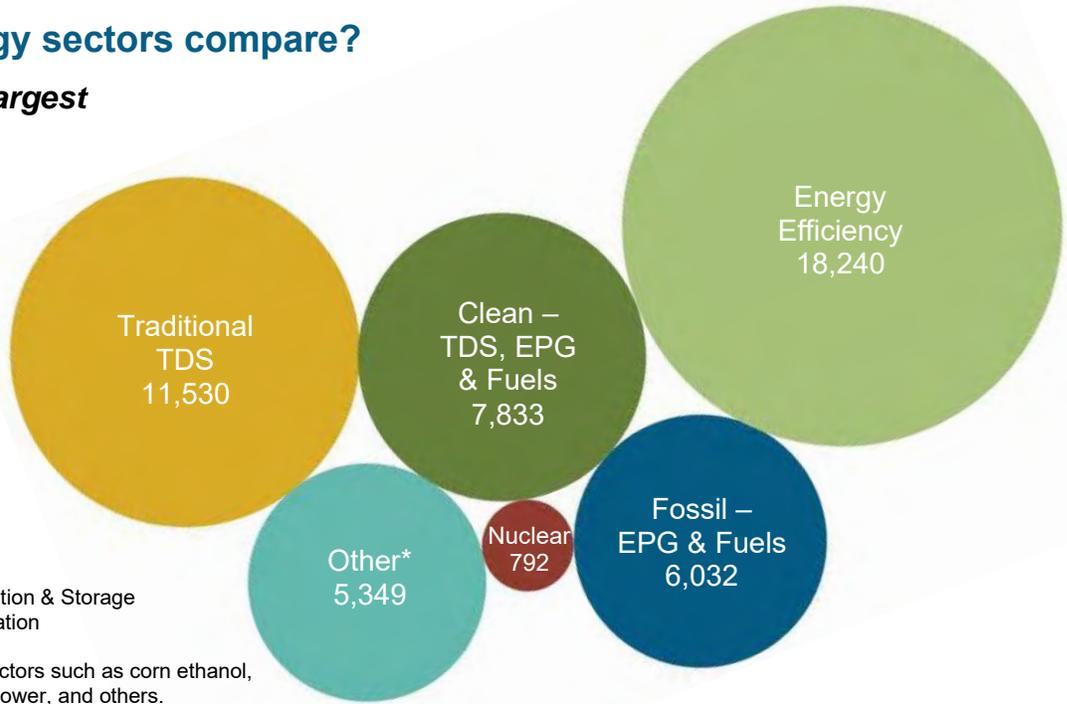
Key EE Statistics for Iowa

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Iowa's energy sectors compare?

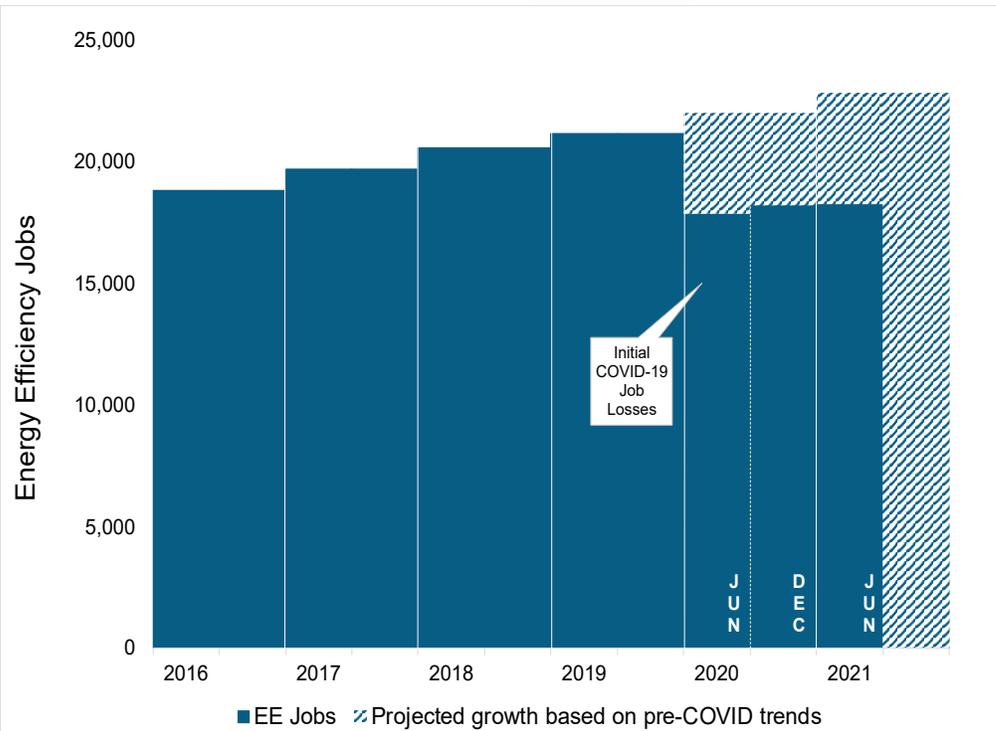
Energy Efficiency is the **largest** energy sector in Iowa.



TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



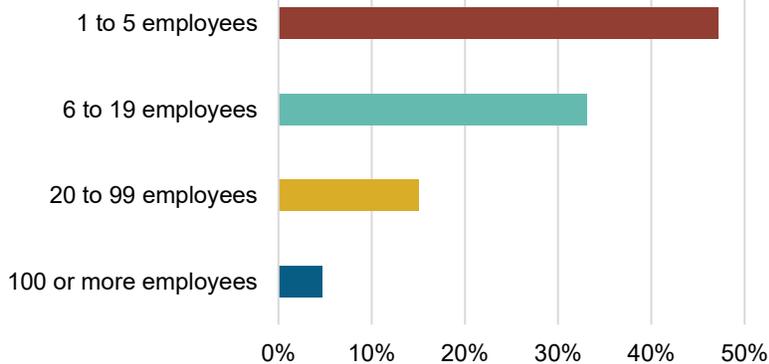
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



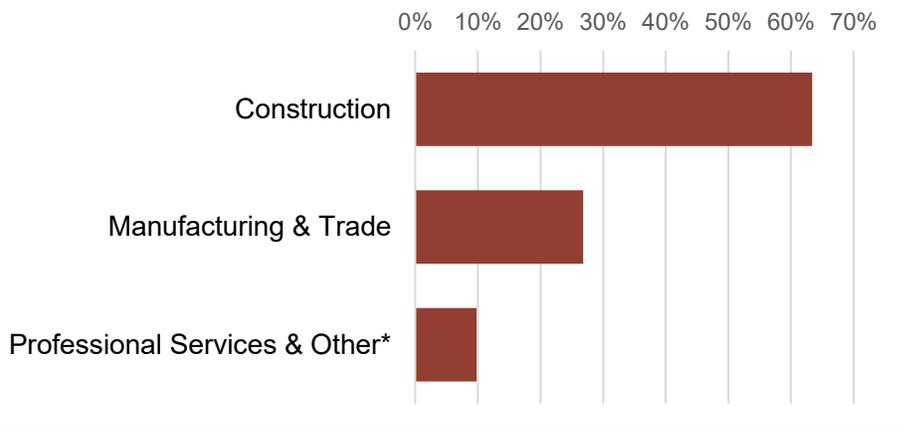
Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Iowa?

95.3% of IA EE Businesses Have Less Than 100 Employees

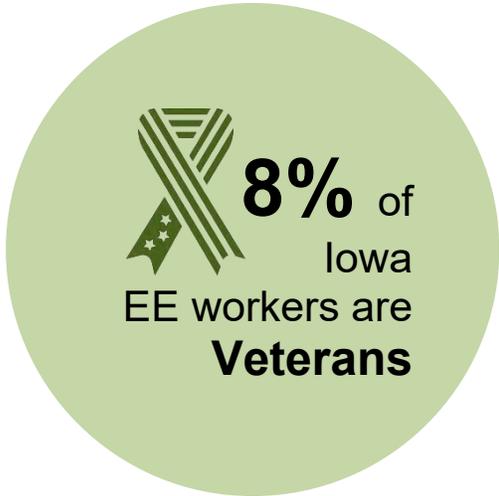
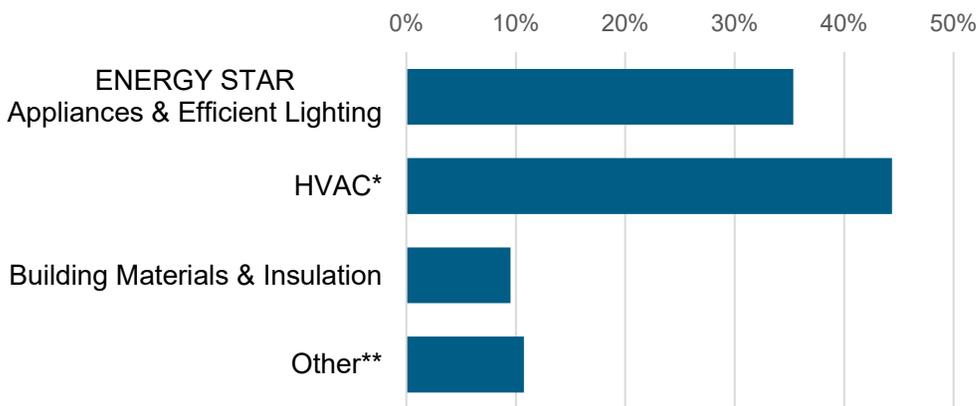


What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?

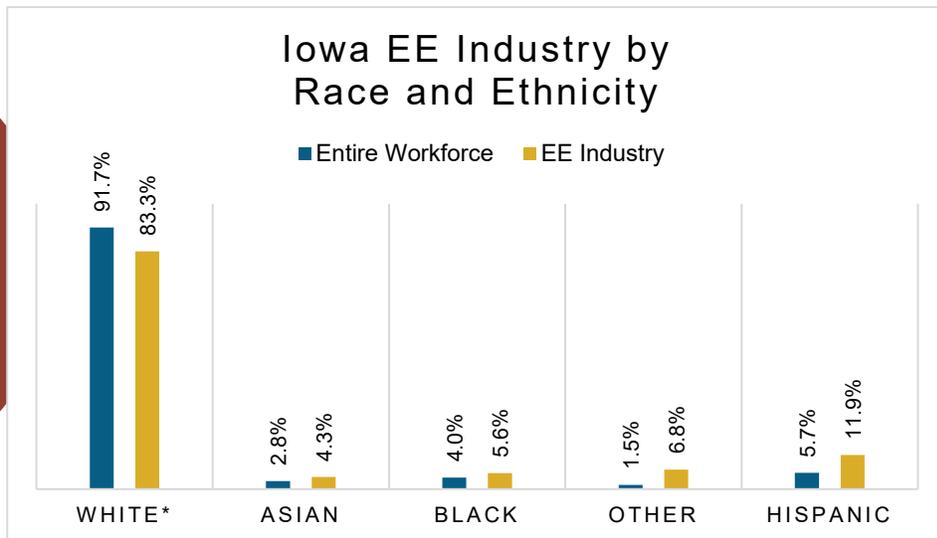


*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

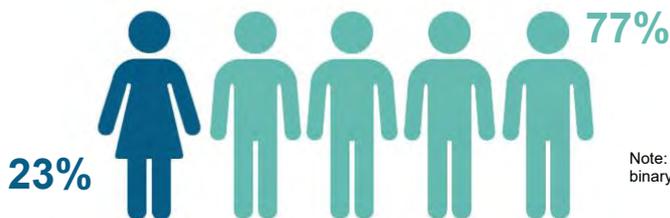
How is EE doing on diversity in Iowa?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Iowa communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Iowa's EE Potential

Decades of work, ready for Iowa's growing energy efficiency workforce.

Weatherization Assistance Program:


1,012* units weatherized in 2018, out of **~150,000** total low-income households

1,012,393

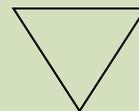
Iowa homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

25%



*National Association for State Community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
 Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|------------------------------|-------|
| District | Jobs | Area | Jobs |
| 1 | 4,764 | Ames | 545 |
| 2 | 3,939 | Cedar Rapids | 1,560 |
| 3 | 4,848 | Davenport-Moline-Rock Island | 873 |
| 4 | 4,689 | Des Moines-West Des Moines | 3,802 |
| | | Dubuque | 500 |
| | | Iowa City | 879 |
| | | Omaha-Council Bluffs | 636 |
| | | Sioux City | 524 |
| | | Waterloo-Cedar Falls | 839 |
| | | Rural | 8,082 |

| State Senate | | | | | | | | | |
|--------------|-------|----------|------|----------|-------|----------|------|--|--|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs | | |
| 1 | 774 | 14 | 477 | 27 | 106 | 40 | 283 | | |
| 2 | 385 | 15 | 412 | 28 | 303 | 41 | 384 | | |
| 3 | 574 | 16 | 764 | 29 | 844 | 42 | 257 | | |
| 4 | 567 | 17 | 159 | 30 | 262 | 43 | <5 | | |
| 5 | 327 | 18 | 649 | 31 | 192 | 44 | 385 | | |
| 6 | 576 | 19 | 139 | 32 | 315 | 45 | 392 | | |
| 7 | 45 | 20 | <5 | 33 | 1,027 | 46 | 255 | | |
| 8 | 271 | 21 | 442 | 34 | 160 | 47 | 223 | | |
| 9 | 313 | 22 | 59 | 35 | 63 | 48 | 109 | | |
| 10 | 1,176 | 23 | 468 | 36 | 302 | 49 | 210 | | |
| 11 | 232 | 24 | 274 | 37 | 841 | 50 | <5 | | |
| 12 | 221 | 25 | 495 | 38 | 334 | | | | |
| 13 | 241 | 26 | 745 | 39 | 200 | | | | |

State House of Representatives

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|------|----------|------|----------|------|----------|------|
| 1 | 483 | 28 | 369 | 55 | 157 | 82 | 327 |
| 2 | 262 | 29 | 27 | 56 | 146 | 83 | 147 |
| 3 | 224 | 30 | 383 | 57 | 515 | 84 | 109 |
| 4 | 159 | 31 | 68 | 58 | 328 | 85 | <5 |
| 5 | 138 | 32 | 699 | 59 | <5 | 86 | <5 |
| 6 | 434 | 33 | 90 | 60 | 261 | 87 | 166 |
| 7 | 409 | 34 | 68 | 61 | 191 | 88 | 220 |
| 8 | 157 | 35 | 277 | 62 | <5 | 89 | 241 |
| 9 | 211 | 36 | 375 | 63 | 145 | 90 | 149 |
| 10 | 114 | 37 | 138 | 64 | 168 | 91 | 18 |
| 11 | 180 | 38 | <5 | 65 | 852 | 92 | 236 |
| 12 | 398 | 39 | <5 | 66 | 172 | 93 | 204 |
| 13 | 45 | 40 | <5 | 67 | 146 | 94 | 18 |
| 14 | <5 | 41 | <5 | 68 | 14 | 95 | 32 |
| 15 | 270 | 42 | 441 | 69 | 63 | 96 | 77 |
| 16 | <5 | 43 | 59 | 70 | <5 | 97 | 205 |
| 17 | 165 | 44 | <5 | 71 | 220 | 98 | <5 |
| 18 | 147 | 45 | 465 | 72 | 82 | 99 | <5 |
| 19 | 951 | 46 | 9 | 73 | 519 | 100 | <5 |
| 20 | 223 | 47 | 178 | 74 | 341 | | |
| 21 | 185 | 48 | 96 | 75 | 257 | | |
| 22 | 46 | 49 | 79 | 76 | 100 | | |
| 23 | 92 | 50 | 414 | 77 | 65 | | |
| 24 | 128 | 51 | 293 | 78 | 134 | | |
| 25 | 176 | 52 | 449 | 79 | 69 | | |
| 26 | 64 | 53 | <5 | 80 | 213 | | |
| 27 | 106 | 54 | 106 | 81 | 77 | | |



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Kansas

Energy Efficiency Jobs in America

June 2021*

15,883

Dec 2020

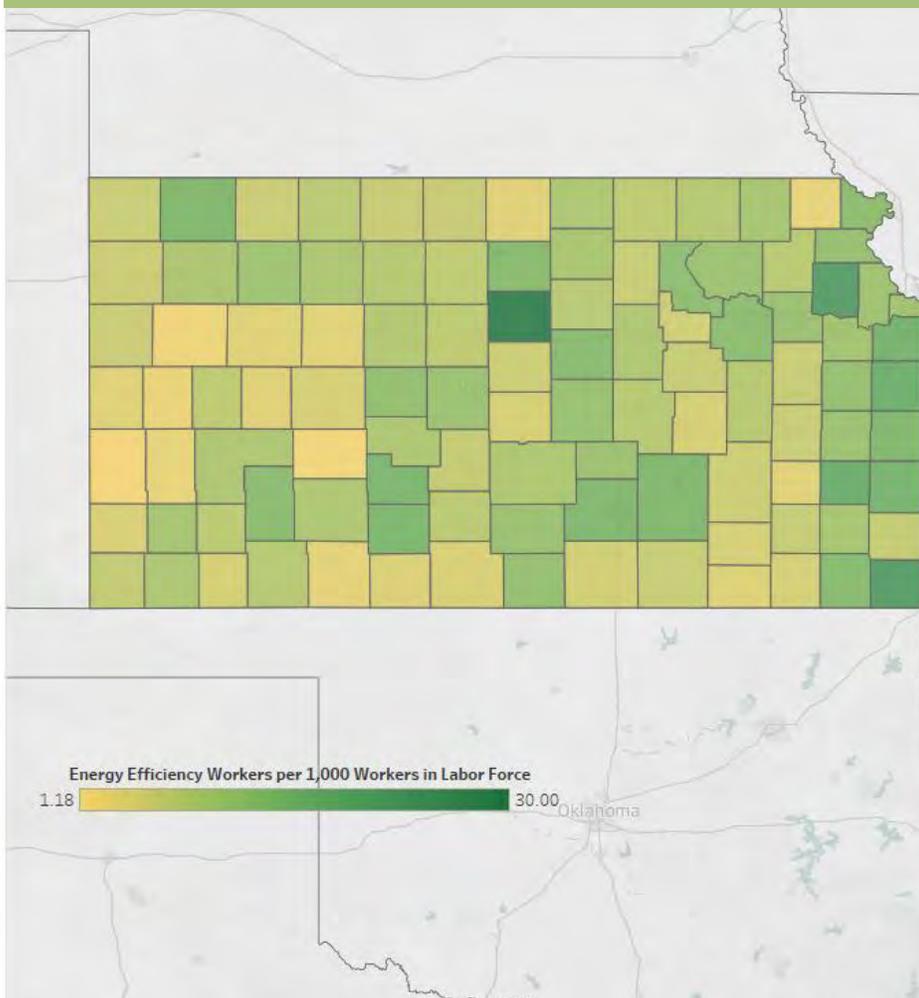
15,820

Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Kansas, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Kansas
counties have
energy efficiency
workers

~11,200
new EE construction
jobs to retrofit Kansas
homes by 2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of KS residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



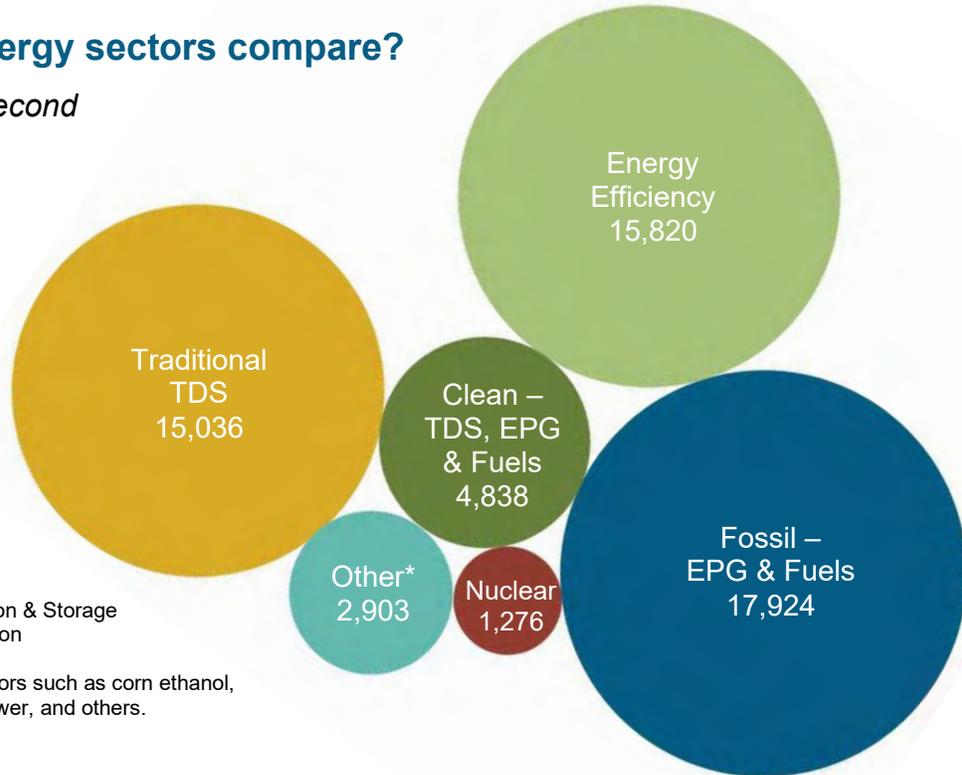
Key EE Statistics for Kansas

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Kansas's energy sectors compare?

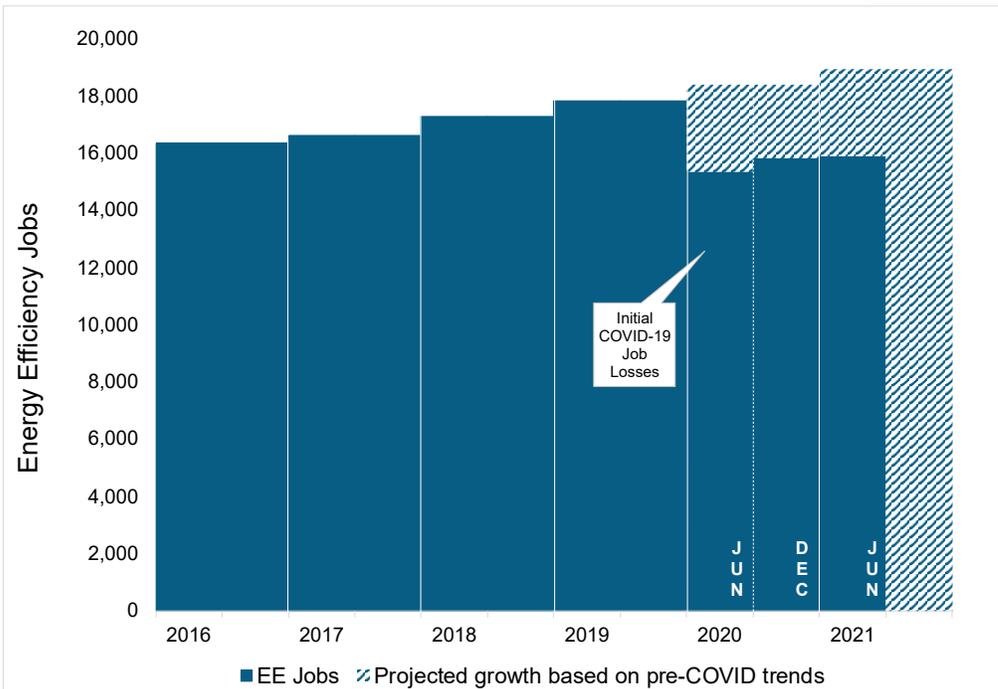
Energy Efficiency is the second largest energy sector in Kansas.



TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



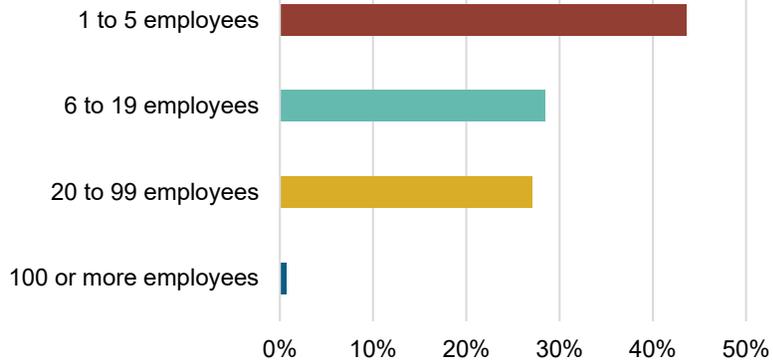
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Kansas?

99.1% of KS EE Businesses Have Less Than 100 Employees

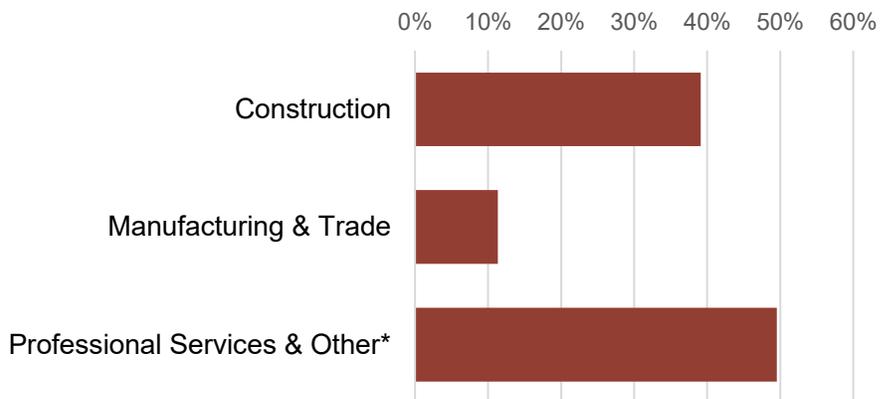


1,967
EE businesses in
Kansas

EE construction workers comprise **10%** of Kansas construction workers

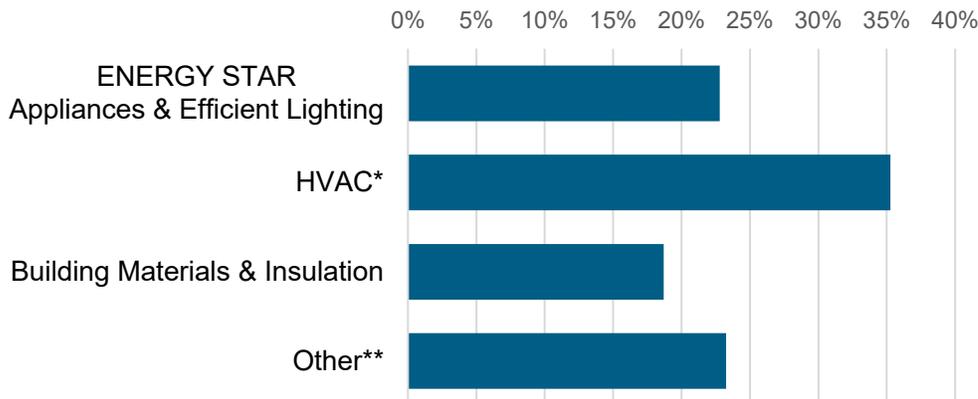


What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



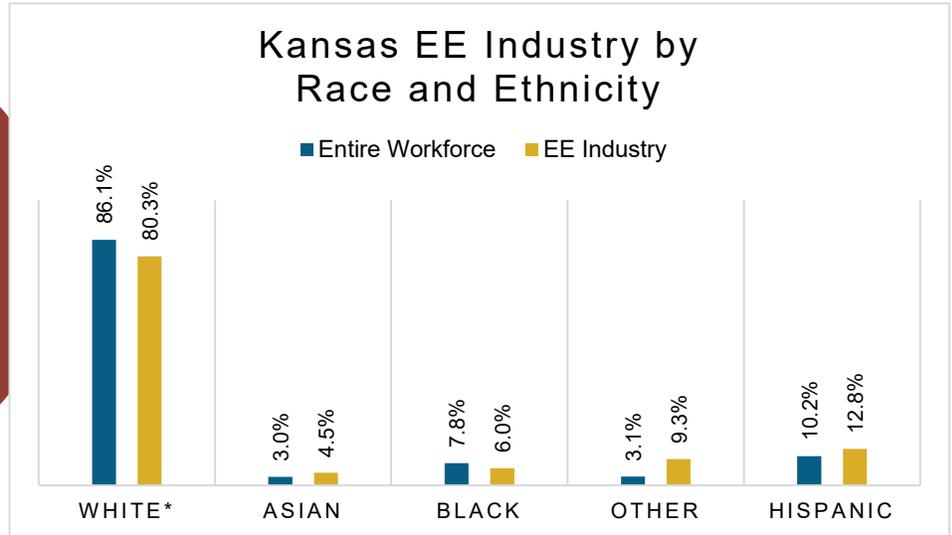
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

7% of
Kansas
EE workers are
Veterans

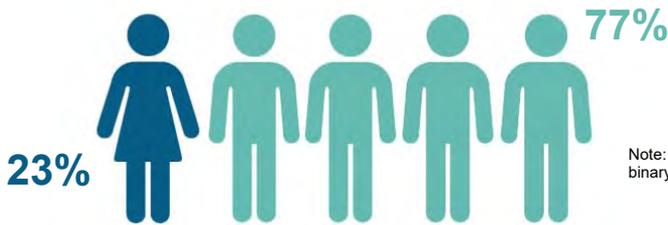
How is EE doing on diversity in Kansas?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Kansas communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Kansas's EE Potential

Decades of work, ready for Kansas's growing energy efficiency workforce.

Weatherization Assistance Program:



872* units weatherized in 2018, out of **~130,000** total low-income households

938,261

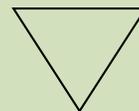
Kansas homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

23%



*National Association for State community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|--------------------|-------|
| District | Jobs | Area | Jobs |
| 1 | 4,550 | Kansas City | 5,405 |
| 2 | 3,144 | Lawrence | 565 |
| 3 | 4,669 | Manhattan | 525 |
| 4 | 3,456 | St. Joseph | 36 |
| | | Topeka | 1,129 |
| | | Wichita | 3,199 |
| | | Rural | 4,960 |

| State Senate | | | | | | | |
|--------------|-------|----------|------|----------|------|----------|------|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
| 1 | 764 | 14 | 774 | 27 | 117 | 40 | 603 |
| 2 | 580 | 15 | 146 | 28 | 59 | | |
| 3 | 299 | 16 | 648 | 29 | 722 | | |
| 4 | 294 | 17 | 298 | 30 | <5 | | |
| 5 | 40 | 18 | 643 | 31 | 83 | | |
| 6 | 517 | 19 | 267 | 32 | 267 | | |
| 7 | 626 | 20 | 24 | 33 | 706 | | |
| 8 | 1,157 | 21 | 29 | 34 | 317 | | |
| 9 | 1,305 | 22 | 196 | 35 | 310 | | |
| 10 | 142 | 23 | <5 | 36 | 353 | | |
| 11 | 570 | 24 | 404 | 37 | 58 | | |
| 12 | 450 | 25 | 865 | 38 | 332 | | |
| 13 | 301 | 26 | 294 | 39 | 261 | | |

State House of Representatives

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|-------|----------|------|----------|------|----------|------|
| 1 | 238 | 33 | 156 | 65 | <5 | 97 | <5 |
| 2 | 234 | 34 | 25 | 66 | <5 | 98 | <5 |
| 3 | <5 | 35 | <5 | 67 | <5 | 99 | <5 |
| 4 | 59 | 36 | <5 | 68 | 39 | 100 | <5 |
| 5 | 219 | 37 | <5 | 69 | 359 | 101 | 310 |
| 6 | 83 | 38 | 185 | 70 | 59 | 102 | <5 |
| 7 | 151 | 39 | 15 | 71 | <5 | 103 | <5 |
| 8 | 447 | 40 | 5 | 72 | 182 | 104 | <5 |
| 9 | 49 | 41 | 10 | 73 | 226 | 105 | <5 |
| 10 | 248 | 42 | 311 | 74 | 73 | 106 | 137 |
| 11 | 25 | 43 | <5 | 75 | 20 | 107 | 127 |
| 12 | 354 | 44 | 84 | 76 | 39 | 108 | 118 |
| 13 | 60 | 45 | 34 | 77 | 116 | 109 | 261 |
| 14 | 1,062 | 46 | 10 | 78 | <5 | 110 | 331 |
| 15 | <5 | 47 | 186 | 79 | 141 | 111 | <5 |
| 16 | 872 | 48 | <5 | 80 | 34 | 112 | <5 |
| 17 | 102 | 49 | <5 | 81 | 283 | 113 | 143 |
| 18 | 117 | 50 | 330 | 82 | <5 | 114 | 26 |
| 19 | 501 | 51 | 583 | 83 | 342 | 115 | 379 |
| 20 | 478 | 52 | <5 | 84 | 579 | 116 | 51 |
| 21 | 77 | 53 | 83 | 85 | 176 | 117 | 99 |
| 22 | <5 | 54 | 69 | 86 | 156 | 118 | 237 |
| 23 | <5 | 55 | 223 | 87 | <5 | 119 | <5 |
| 24 | 207 | 56 | 105 | 88 | <5 | 120 | 148 |
| 25 | 53 | 57 | <5 | 89 | 102 | 121 | 14 |
| 26 | 58 | 58 | <5 | 90 | 132 | 122 | 172 |
| 27 | 170 | 59 | 15 | 91 | 68 | 123 | <5 |
| 28 | <5 | 60 | <5 | 92 | 197 | 124 | 208 |
| 29 | <5 | 61 | 44 | 93 | 263 | 125 | <5 |
| 30 | <5 | 62 | 146 | 94 | 285 | | |
| 31 | 167 | 63 | 34 | 95 | <5 | | |
| 32 | 211 | 64 | 283 | 96 | <5 | | |



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Kentucky

Energy Efficiency Jobs in America

June 2021*

21,977

Dec 2020

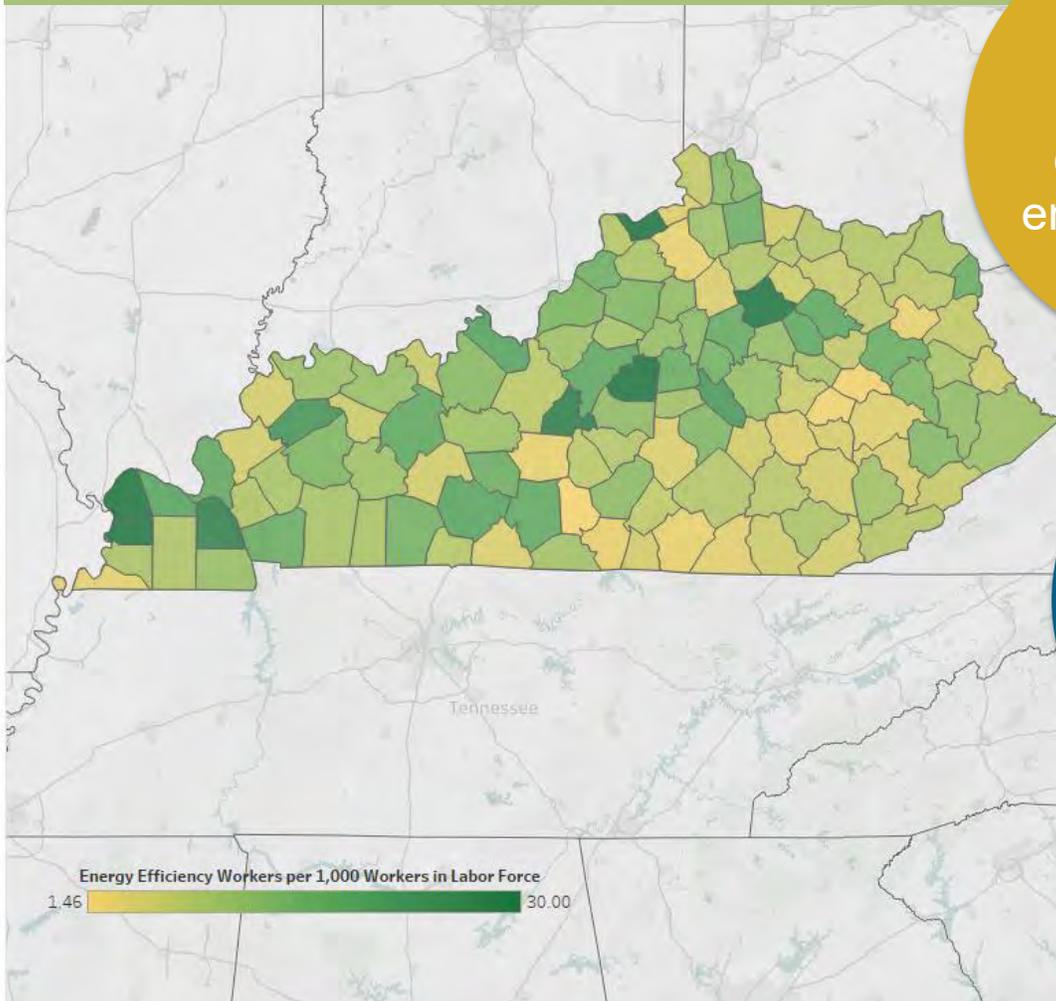
21,910

Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Kentucky, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Kentucky
counties have
energy efficiency
workers

~15,100
new EE construction
jobs to retrofit
Kentucky homes by
2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of KY residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:

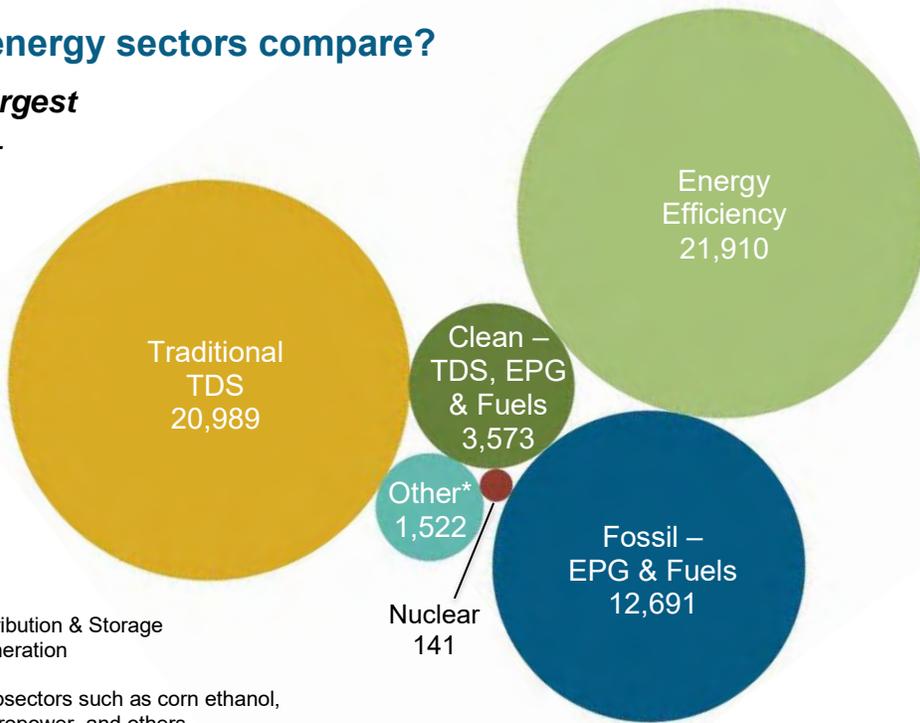


What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Kentucky's energy sectors compare?

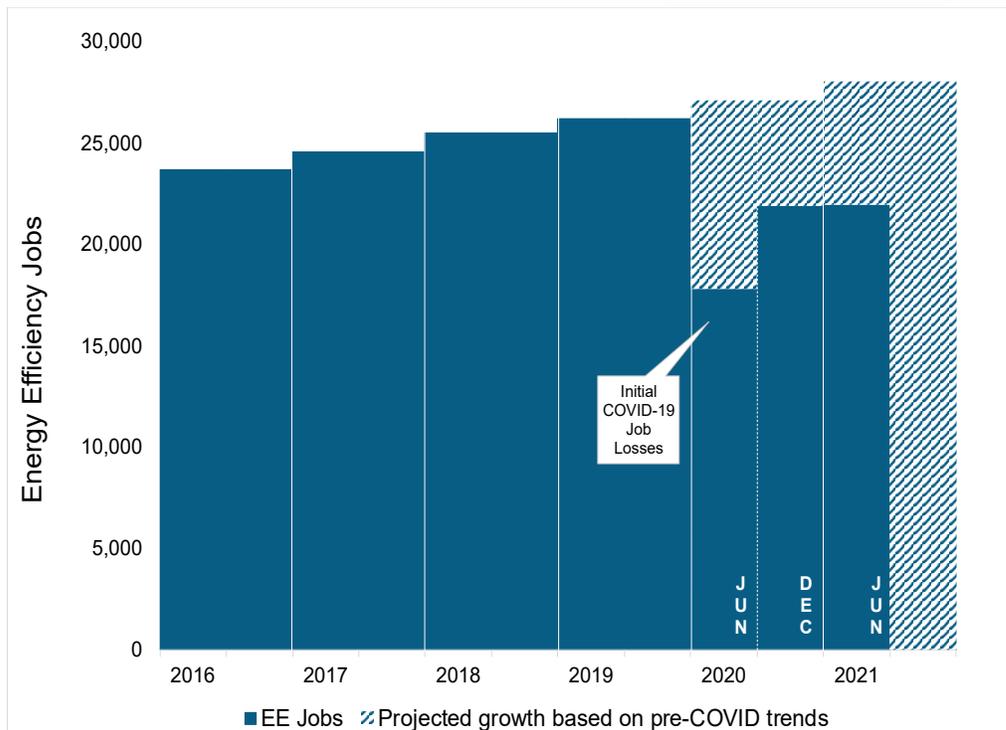
Energy Efficiency is the **largest** energy sector in Kentucky.



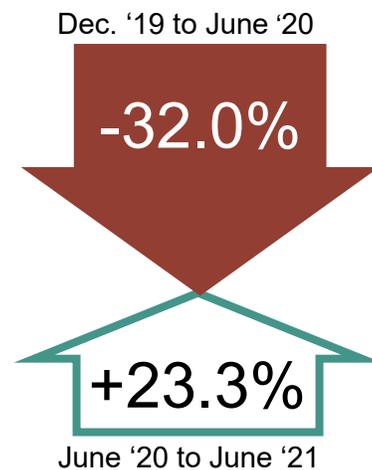
TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



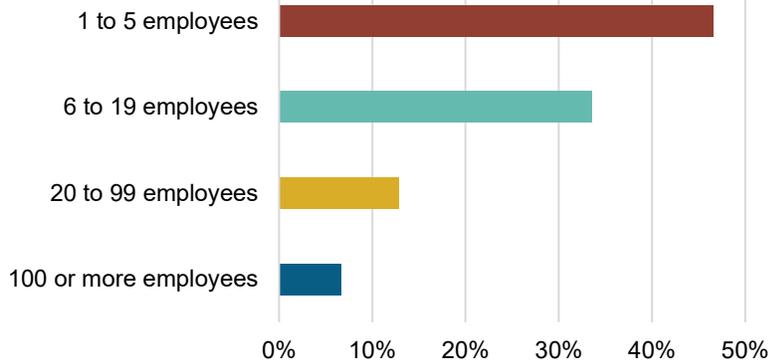
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Kentucky?

93% of KY EE Businesses Have Less Than 100 Employees

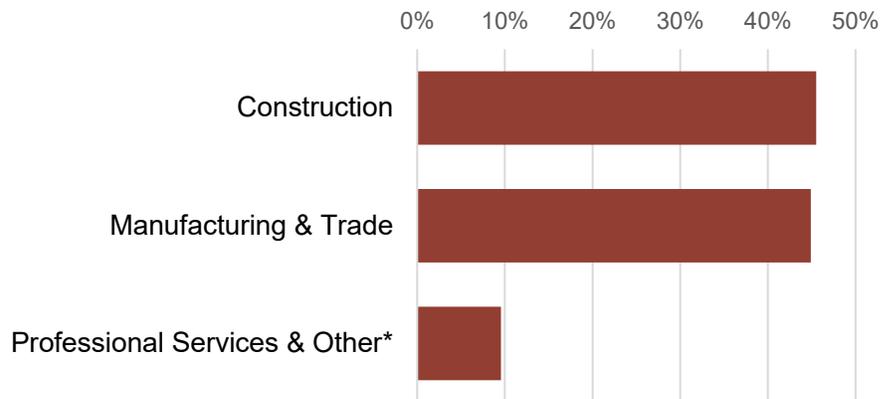


5,366
EE businesses in Kentucky

EE construction workers comprise **13%** of Kentucky construction workers

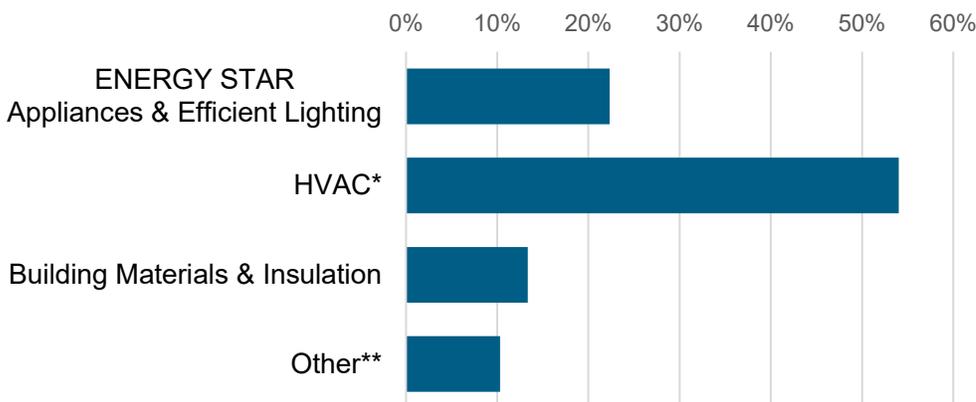


What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



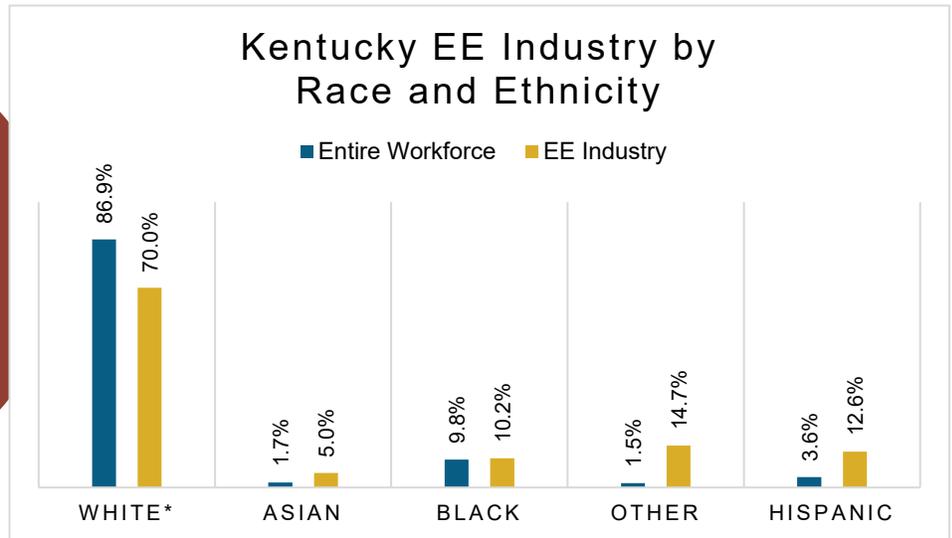
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

10% of Kentucky EE workers are **Veterans**

How is EE doing on diversity in Kentucky?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Kentucky communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Kentucky's EE Potential

Decades of work, ready for Kentucky's growing energy efficiency workforce.

Weatherization Assistance Program:



414* units weatherized in 2018, out of **~290,000** total low-income households

1,306,484

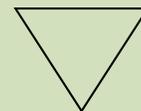
Kentucky homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

37%



*National Association for State community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|-----------------------------|-------|
| District | Jobs | Area | Jobs |
| 1 | 4,020 | Bowling Green | 766 |
| 2 | 4,062 | Cincinnati-Middletown | 2,055 |
| 3 | 4,688 | Clarksville | 347 |
| 4 | 3,534 | Elizabethtown | 624 |
| 5 | 2,341 | Evansville | 272 |
| 6 | 3,265 | Huntington-Ashland | 386 |
| | | Lexington-Fayette | 2,995 |
| | | Louisville/Jefferson County | 6,472 |
| | | Owensboro | 582 |
| | | Rural | 7,411 |

| State Senate | | | | | | | |
|--------------|-------|----------|-------|----------|------|----------|-------|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
| 1 | 614 | 11 | 833 | 21 | 714 | 31 | 400 |
| 2 | 774 | 12 | 1,130 | 22 | 410 | 32 | 117 |
| 3 | 590 | 13 | 987 | 23 | 261 | 33 | 1,527 |
| 4 | 635 | 14 | 1,400 | 24 | 414 | 34 | 313 |
| 5 | 1,067 | 15 | 566 | 25 | 168 | 35 | 62 |
| 6 | 450 | 16 | 386 | 26 | 602 | 36 | 375 |
| 7 | 645 | 17 | 570 | 27 | 369 | 37 | 99 |
| 8 | 301 | 18 | 558 | 28 | 190 | 38 | 191 |
| 9 | 535 | 19 | 1,834 | 29 | 498 | | |
| 10 | 555 | 20 | 557 | 30 | 216 | | |

State House of Representatives

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|------|----------|-------|----------|------|----------|------|
| 1 | 728 | 28 | 277 | 55 | 230 | 82 | 261 |
| 2 | 429 | 29 | 690 | 56 | 299 | 83 | 76 |
| 3 | <5 | 30 | 694 | 57 | <5 | 84 | 229 |
| 4 | 351 | 31 | 418 | 58 | 36 | 85 | 173 |
| 5 | 75 | 32 | 733 | 59 | 24 | 86 | 44 |
| 6 | 105 | 33 | 383 | 60 | 607 | 87 | 63 |
| 7 | 811 | 34 | 258 | 61 | 367 | 88 | <5 |
| 8 | 27 | 35 | 128 | 62 | 13 | 89 | 13 |
| 9 | 210 | 36 | 17 | 63 | 676 | 90 | 55 |
| 10 | 742 | 37 | 24 | 64 | 138 | 91 | 107 |
| 11 | <5 | 38 | 121 | 65 | 12 | 92 | 314 |
| 12 | 34 | 39 | 694 | 66 | <5 | 93 | 87 |
| 13 | <5 | 40 | 109 | 67 | 202 | 94 | 59 |
| 14 | 101 | 41 | 1,325 | 68 | 24 | 95 | 183 |
| 15 | 109 | 42 | <5 | 69 | <5 | 96 | 212 |
| 16 | 734 | 43 | <5 | 70 | 256 | 97 | 126 |
| 17 | 322 | 44 | <5 | 71 | 459 | 98 | 347 |
| 18 | 31 | 45 | 261 | 72 | 524 | 99 | 57 |
| 19 | 49 | 46 | <5 | 73 | 190 | 100 | <5 |
| 20 | <5 | 47 | 598 | 74 | 78 | | |
| 21 | 184 | 48 | 126 | 75 | 687 | | |
| 22 | 56 | 49 | 54 | 76 | 270 | | |
| 23 | 235 | 50 | 196 | 77 | <5 | | |
| 24 | 272 | 51 | 172 | 78 | <5 | | |
| 25 | <5 | 52 | 541 | 79 | <5 | | |
| 26 | 457 | 53 | 245 | 80 | 30 | | |
| 27 | 60 | 54 | 194 | 81 | <5 | | |



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Data Source: Unless otherwise stated, all data are from the U.S. Energy and Employment Report, July 2021, by the U.S. Department of Energy (see Appendix A for methodology details). This methodology -- adopted by the U.S. Dept. of Energy for its 2017 U.S. Energy and Employment Report, approved by the Office of Management and Budget and grounded on data collected by the Bureau of Labor Statistics -- provides the broadly accepted best accounting of all U.S. energy workers.

For questions on E4TheFuture analyses please email: policy@e4thefuture.org.

Louisiana

Energy Efficiency Jobs in America

June 2021*

19,177

Dec 2020

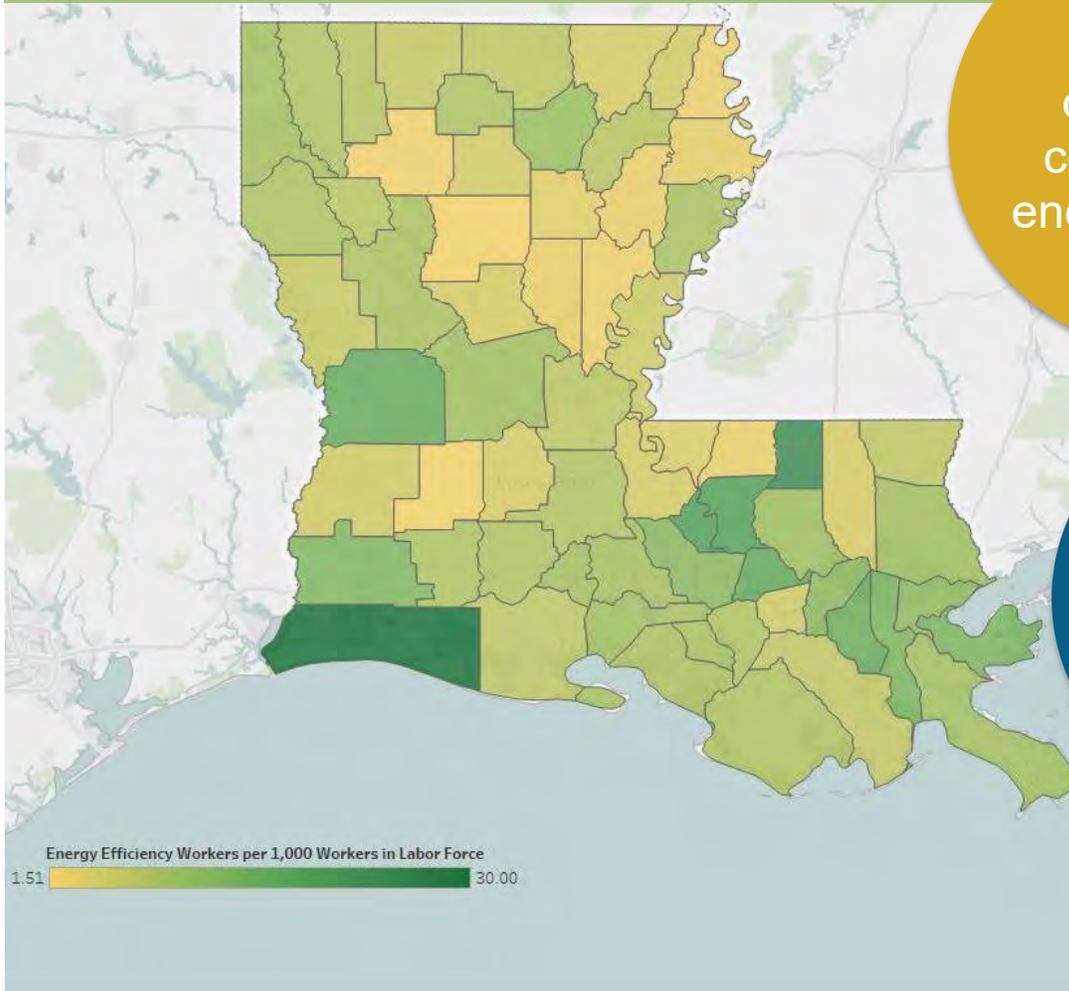
19,139

Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Louisiana, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Louisiana
counties have
energy efficiency
workers

~15,700
new EE construction
jobs to retrofit
Louisiana homes by
2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of LA residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



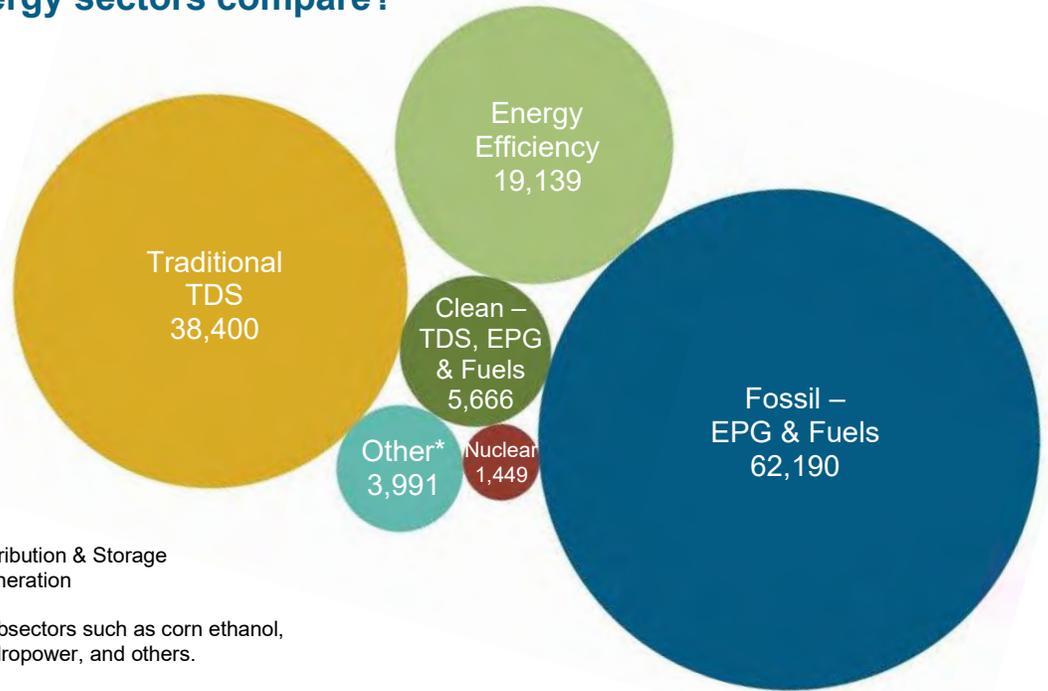
Key EE Statistics for Louisiana

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Louisiana's energy sectors compare?

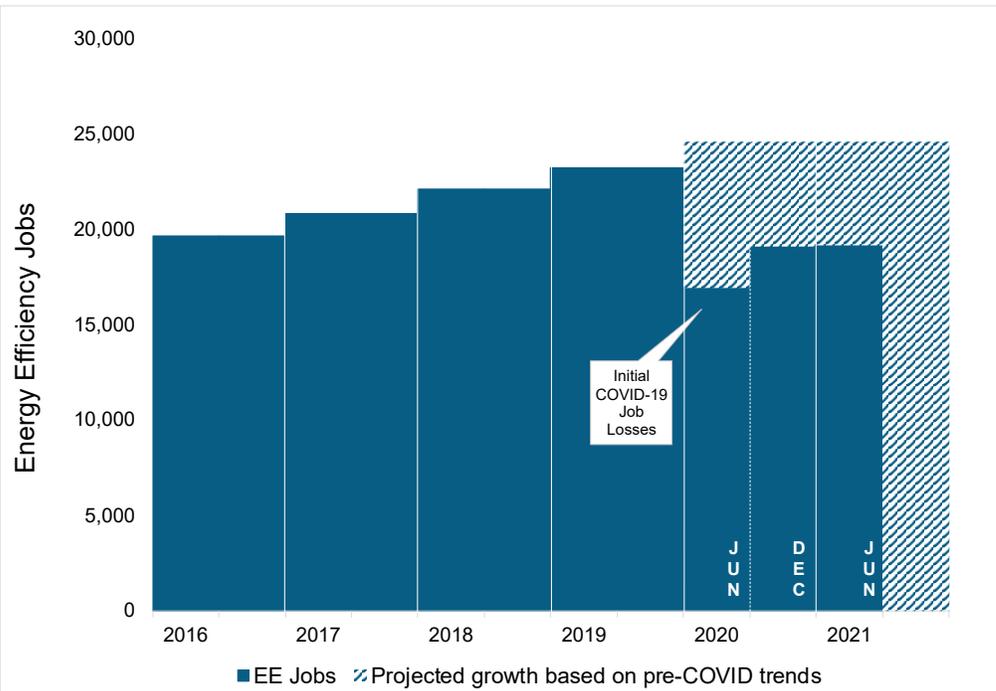
Energy Efficiency is the third largest energy sector in Louisiana.



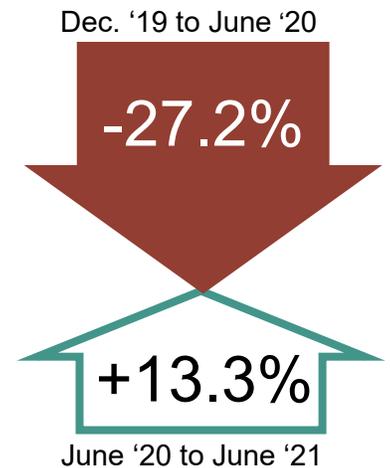
TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



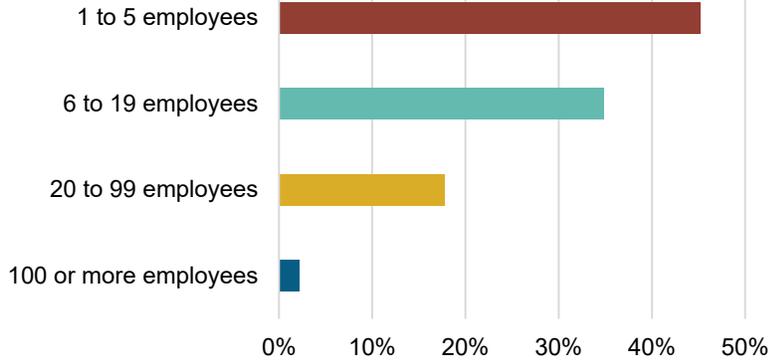
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Louisiana?

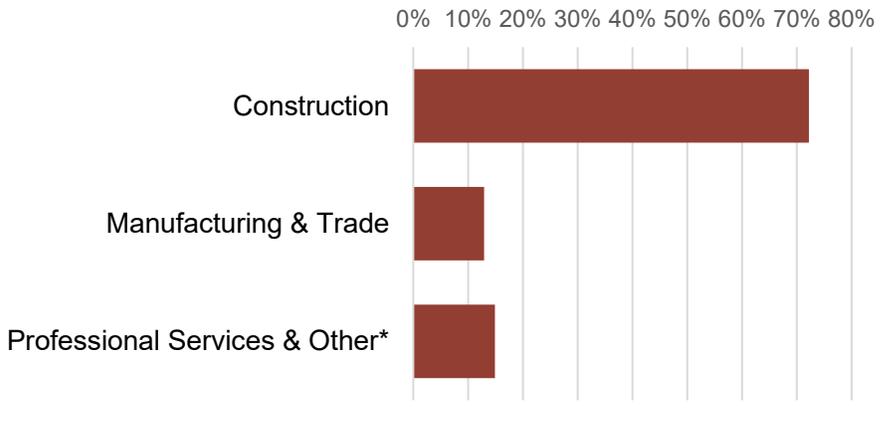
97.8% of LA EE Businesses Have Less Than 100 Employees



3,027
EE businesses in Louisiana

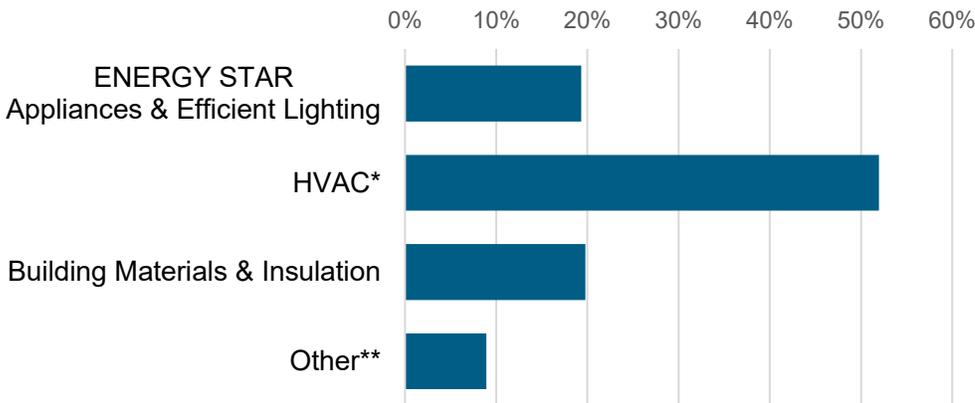
EE construction workers comprise **11%** of Louisiana construction workers

What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



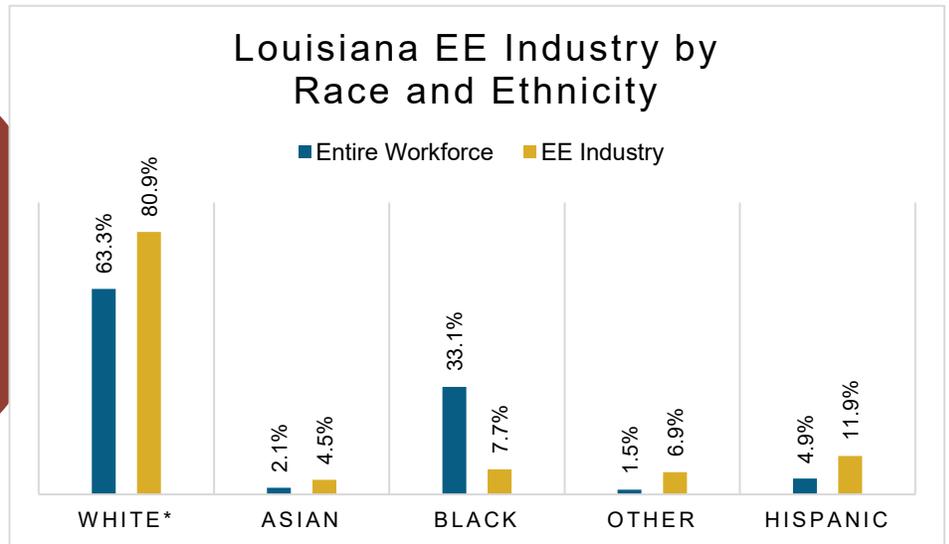
9% of Louisiana EE workers are Veterans

*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

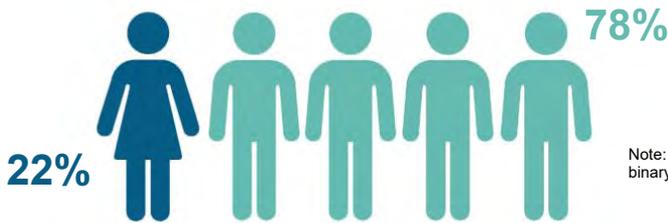
How is EE doing on diversity in Louisiana?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Louisiana communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Louisiana's EE Potential

Decades of work, ready for Louisiana's growing energy efficiency workforce.

Weatherization Assistance Program:


540* units weatherized in 2018, out of **~340,000** total low-income households

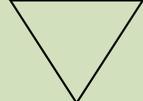
1,265,130

Louisiana homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

46%


*National Association for State Community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
 Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|-----------------------------|-------|
| District | Jobs | Area | Jobs |
| 1 | 5,568 | Alexandria | 558 |
| 2 | 3,356 | Baton Rouge | 3,468 |
| 3 | 3,513 | Houma-Bayou Cane-Thibodaux | 839 |
| 4 | 2,624 | Lafayette | 1,579 |
| 5 | 1,979 | Lake Charles | 863 |
| 6 | 2,099 | Monroe | 654 |
| | | New Orleans-Metairie-Kenner | 6,431 |
| | | Shreveport-Bossier City | 1,700 |
| | | Rural | 3,047 |

| State Senate | | | | | | | | | |
|--------------|-------|----------|-------|----------|-------|----------|------|--|--|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs | | |
| 1 | 629 | 11 | 840 | 21 | 353 | 31 | 170 | | |
| 2 | 841 | 12 | 105 | 22 | 558 | 32 | 389 | | |
| 3 | 741 | 13 | 225 | 23 | 1,114 | 33 | 680 | | |
| 4 | 1,125 | 14 | 1,512 | 24 | 216 | 34 | 41 | | |
| 5 | 1,057 | 15 | 251 | 25 | 914 | 35 | 6 | | |
| 6 | 1,013 | 16 | <5 | 26 | 115 | 36 | 530 | | |
| 7 | 236 | 17 | 279 | 27 | 235 | 37 | 921 | | |
| 8 | 22 | 18 | 184 | 28 | 158 | 38 | 279 | | |
| 9 | 786 | 19 | 234 | 29 | 841 | 39 | 78 | | |
| 10 | 626 | 20 | 637 | 30 | 197 | | | | |

State House of Representatives

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|------|----------|------|----------|------|----------|-------|
| 1 | 361 | 28 | 57 | 55 | <5 | 82 | 269 |
| 2 | 949 | 29 | 295 | 56 | 236 | 83 | 111 |
| 3 | 211 | 30 | <5 | 57 | 33 | 84 | 181 |
| 4 | <5 | 31 | 977 | 58 | 330 | 85 | 173 |
| 5 | 28 | 32 | 52 | 59 | 129 | 86 | 10 |
| 6 | <5 | 33 | 377 | 60 | 19 | 87 | <5 |
| 7 | 92 | 34 | 237 | 61 | 408 | 88 | <5 |
| 8 | <5 | 35 | 13 | 62 | 125 | 89 | 136 |
| 9 | <5 | 36 | 125 | 63 | 10 | 90 | 66 |
| 10 | 105 | 37 | 90 | 64 | 251 | 91 | 1,006 |
| 11 | 188 | 38 | 217 | 65 | 294 | 92 | <5 |
| 12 | 56 | 39 | 191 | 66 | 786 | 93 | 426 |
| 13 | 258 | 40 | <5 | 67 | 271 | 94 | 106 |
| 14 | 472 | 41 | 76 | 68 | <5 | 95 | 7 |
| 15 | 17 | 42 | 7 | 69 | <5 | 96 | <5 |
| 16 | <5 | 43 | 212 | 70 | <5 | 97 | 28 |
| 17 | 57 | 44 | 157 | 71 | <5 | 98 | <5 |
| 18 | 226 | 45 | <5 | 72 | 275 | 99 | 53 |
| 19 | 113 | 46 | 66 | 73 | 384 | 100 | 25 |
| 20 | 91 | 47 | 162 | 74 | 429 | 101 | <5 |
| 21 | 35 | 48 | 228 | 75 | <5 | 102 | 87 |
| 22 | 117 | 49 | 30 | 76 | 285 | 103 | 108 |
| 23 | 13 | 50 | 194 | 77 | 54 | 104 | <5 |
| 24 | 217 | 51 | 682 | 78 | 640 | | |
| 25 | 419 | 52 | 40 | 79 | 97 | | |
| 26 | <5 | 53 | 40 | 80 | 982 | | |
| 27 | 54 | 54 | 66 | 81 | 82 | | |



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Data Source: Unless otherwise stated, all data are from the U.S. Energy and Employment Report, July 2021, by the U.S. Department of Energy (see Appendix A for methodology details). This methodology -- adopted by the U.S. Dept. of Energy for its 2017 U.S. Energy and Employment Report, approved by the Office of Management and Budget and grounded on data collected by the Bureau of Labor Statistics -- provides the broadly accepted best accounting of all U.S. energy workers.

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Maine

Energy Efficiency Jobs in America

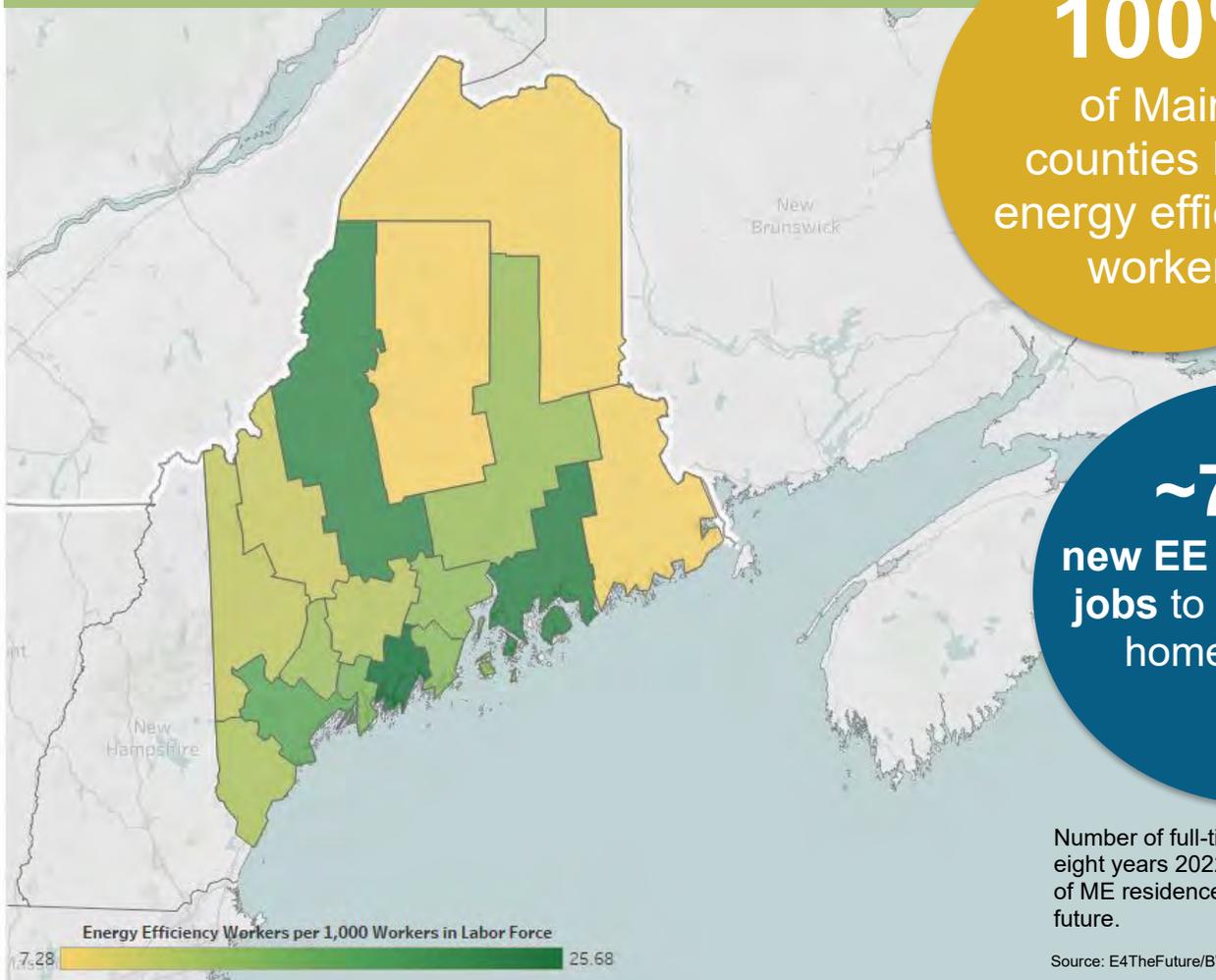


Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Maine, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Maine
counties have
energy efficiency
workers

~7,400
new EE construction
jobs to retrofit Maine
homes by 2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of ME residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



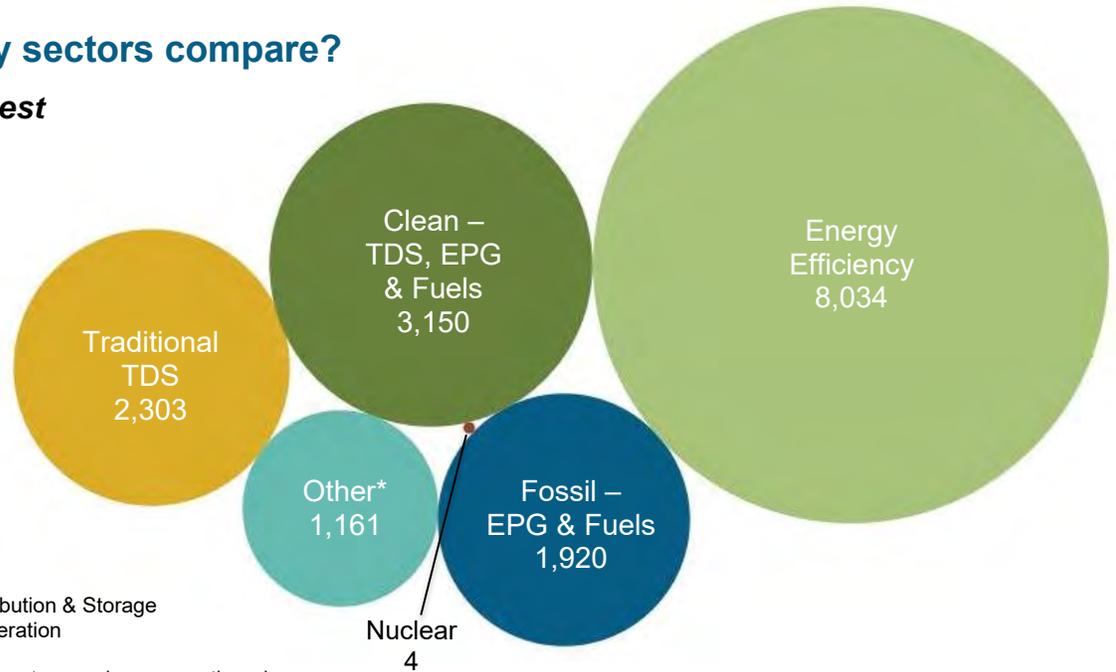
Key EE Statistics for Maine

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Maine's energy sectors compare?

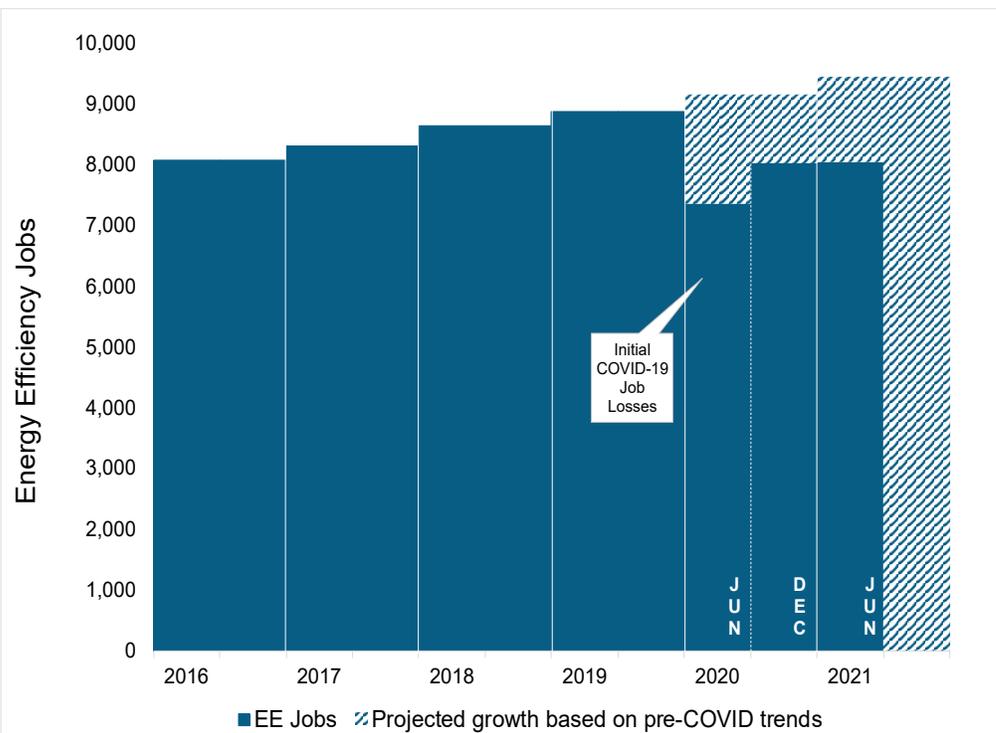
Energy Efficiency is the **largest** energy sector in Maine.



TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



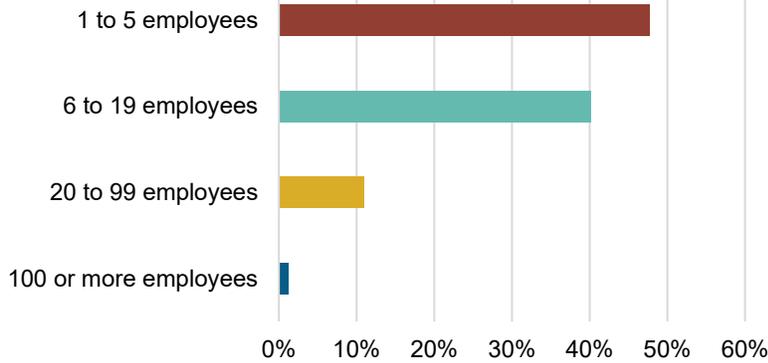
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Maine?

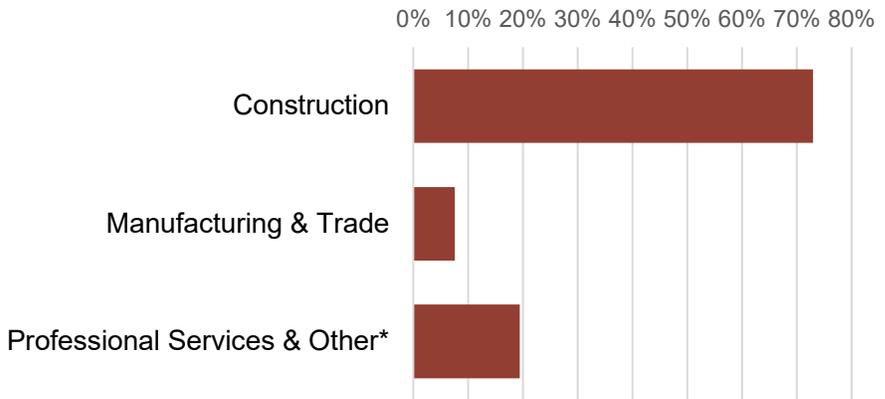
98.8% of ME EE Businesses Have Less Than 100 Employees



1,611
EE businesses in
Maine

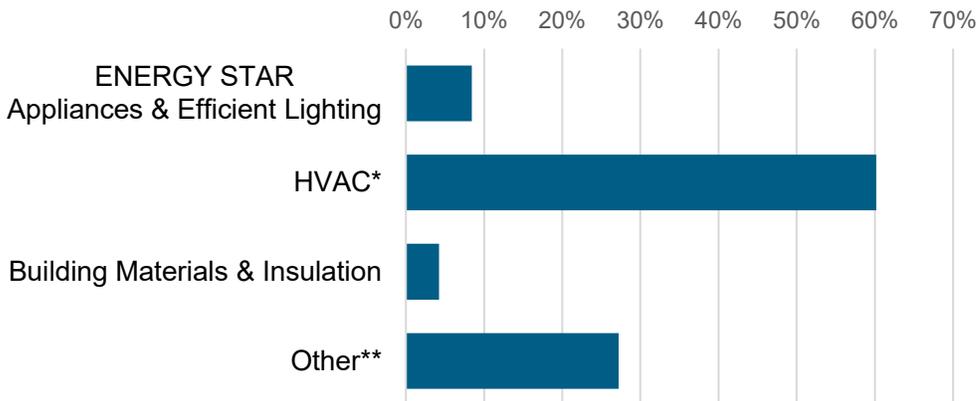
EE construction workers comprise **18%** of Maine construction workers

What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



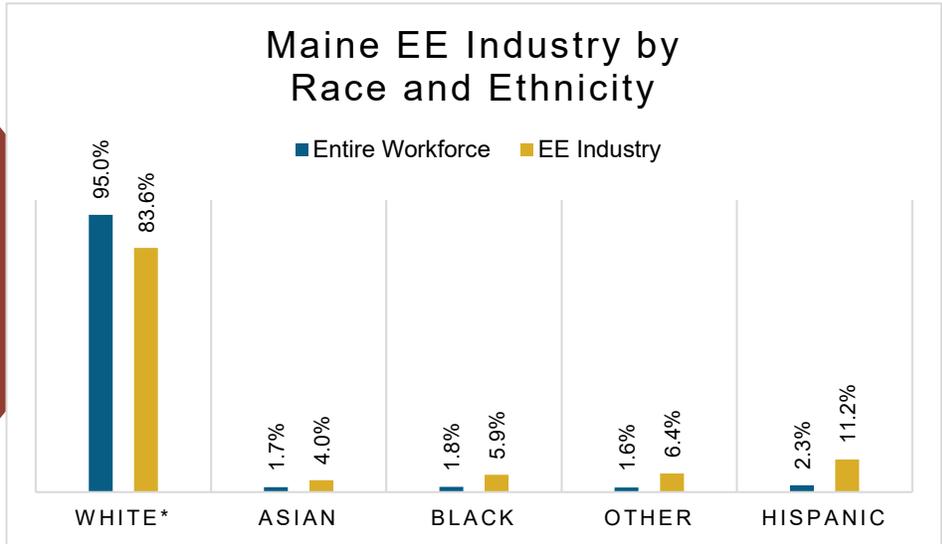
8% of
Maine
EE workers are
Veterans

*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

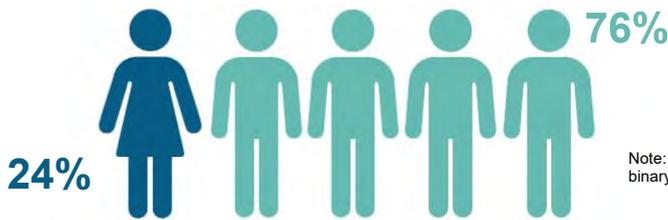
How is EE doing on diversity in Maine?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Maine communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Maine's EE Potential

Decades of work, ready for Maine's growing energy efficiency workforce.

Weatherization Assistance Program:



468* units weatherized in 2018, out of **~64,000** total low-income households

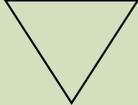
563,318 Maine homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

25%



*National Association for State community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
 Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|-----------------------------|-------|
| District | Jobs | Area | Jobs |
| 1 | 4,636 | Bangor | 792 |
| 2 | 3,397 | Lewiston-Auburn | 489 |
| | | Portland- South Portland | 3,524 |
| | | Rural | 3,228 |

| State Upper House | | | | | | | | | |
|-------------------|------|----------|------|----------|------|----------|------|--|--|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs | | |
| 1 | 128 | 11 | 505 | 21 | 159 | 31 | 174 | | |
| 2 | 200 | 12 | 286 | 22 | 165 | 32 | 364 | | |
| 3 | 204 | 13 | 272 | 23 | 218 | 33 | 207 | | |
| 4 | 135 | 14 | 440 | 24 | 341 | 34 | 126 | | |
| 5 | 397 | 15 | 24 | 25 | 456 | 35 | 255 | | |
| 6 | 175 | 16 | 165 | 26 | 58 | | | | |
| 7 | 393 | 17 | 159 | 27 | 672 | | | | |
| 8 | 156 | 18 | 202 | 28 | <5 | | | | |
| 9 | 46 | 19 | 188 | 29 | 318 | | | | |
| 10 | 123 | 20 | 191 | 30 | 135 | | | | |

State Lower House

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|------|----------|------|----------|------|----------|------|
| 1 | 116 | 40 | <5 | 79 | 35 | 118 | 29 |
| 2 | 23 | 41 | <5 | 80 | 23 | 119 | 68 |
| 3 | 116 | 42 | <5 | 81 | 106 | 120 | <5 |
| 4 | 151 | 43 | 73 | 82 | 5 | 121 | 27 |
| 5 | 57 | 44 | <5 | 83 | 22 | 122 | 17 |
| 6 | <5 | 45 | 127 | 84 | 17 | 123 | 19 |
| 7 | <5 | 46 | 27 | 85 | <5 | 124 | <5 |
| 8 | 82 | 47 | 56 | 86 | <5 | 125 | <5 |
| 9 | 222 | 48 | 95 | 87 | 33 | 126 | <5 |
| 10 | 55 | 49 | 121 | 88 | 12 | 127 | <5 |
| 11 | <5 | 50 | <5 | 89 | 70 | 128 | 71 |
| 12 | <5 | 51 | 82 | 90 | 108 | 129 | 42 |
| 13 | 26 | 52 | <5 | 91 | 67 | 130 | 37 |
| 14 | 108 | 53 | 62 | 92 | 42 | 131 | 154 |
| 15 | <5 | 54 | 59 | 93 | 79 | 132 | <5 |
| 16 | 56 | 55 | 83 | 94 | 89 | 133 | 54 |
| 17 | 26 | 56 | 30 | 95 | 46 | 134 | 96 |
| 18 | 25 | 57 | 62 | 96 | 296 | 135 | 71 |
| 19 | <5 | 58 | 157 | 97 | 80 | 136 | 66 |
| 20 | 58 | 59 | <5 | 98 | 61 | 137 | 65 |
| 21 | 17 | 60 | <5 | 99 | 20 | 138 | 29 |
| 22 | 61 | 61 | <5 | 100 | 54 | 139 | 31 |
| 23 | 42 | 62 | 121 | 101 | 358 | 140 | 41 |
| 24 | 136 | 63 | <5 | 102 | 53 | 141 | 40 |
| 25 | <5 | 64 | 13 | 103 | <5 | 142 | <5 |
| 26 | 94 | 65 | 45 | 104 | 37 | 143 | 7 |
| 27 | 268 | 66 | 20 | 105 | 25 | 144 | 70 |
| 28 | 125 | 67 | <5 | 106 | 51 | 145 | 15 |
| 29 | <5 | 68 | 46 | 107 | 59 | 146 | 51 |
| 30 | 33 | 69 | 76 | 108 | 55 | 147 | 57 |
| 31 | <5 | 70 | 56 | 109 | <5 | 148 | 25 |
| 32 | <5 | 71 | 32 | 110 | <5 | 149 | <5 |
| 33 | <5 | 72 | 35 | 111 | <5 | 150 | 52 |
| 34 | <5 | 73 | 45 | 112 | 97 | 151 | 6 |
| 35 | <5 | 74 | 36 | 113 | 39 | 152 | <5 |
| 36 | 453 | 75 | 44 | 114 | <5 | 153 | <5 |
| 37 | <5 | 76 | 63 | 115 | 25 | | |
| 38 | 298 | 77 | 233 | 116 | 15 | | |
| 39 | 5 | 78 | 105 | 117 | 53 | | |



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Maryland

Energy Efficiency Jobs in America

June 2021*

65,493

Dec 2020

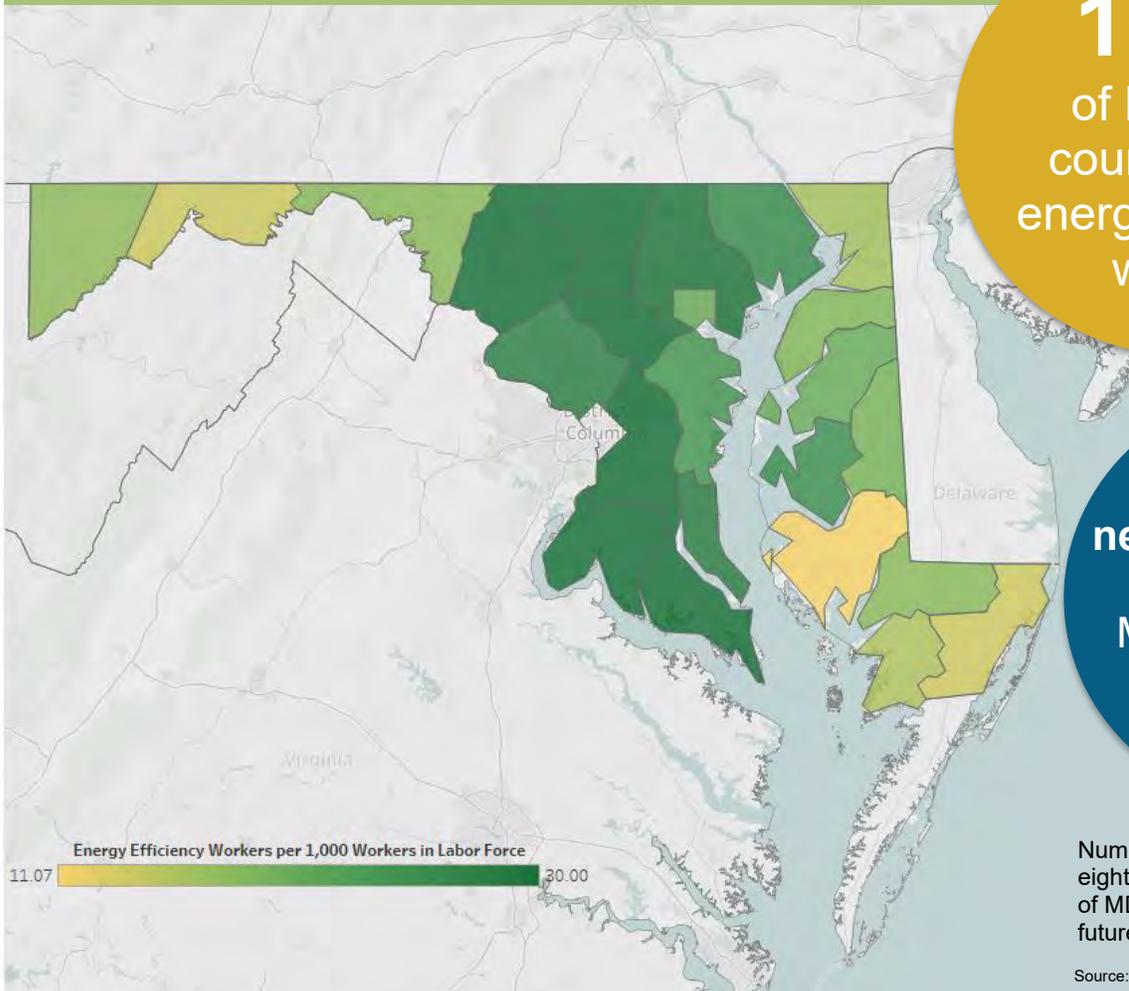
65,412

Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Maryland, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Maryland
counties have
energy efficiency
workers

~20,800
new EE construction
jobs to retrofit
Maryland homes by
2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of MD residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:

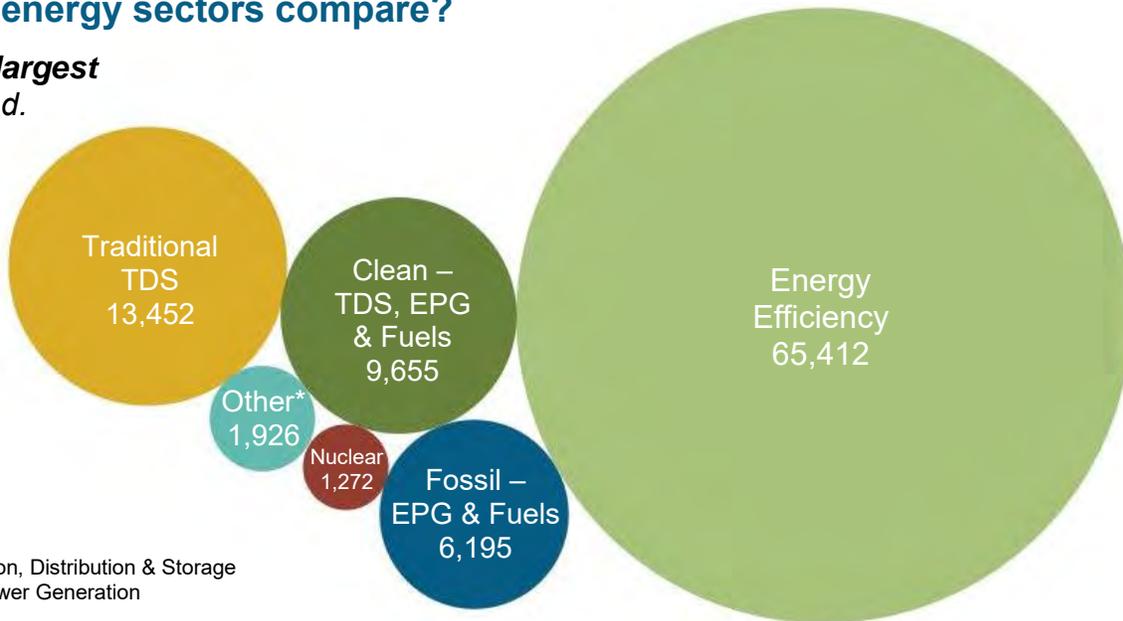


What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Maryland's energy sectors compare?

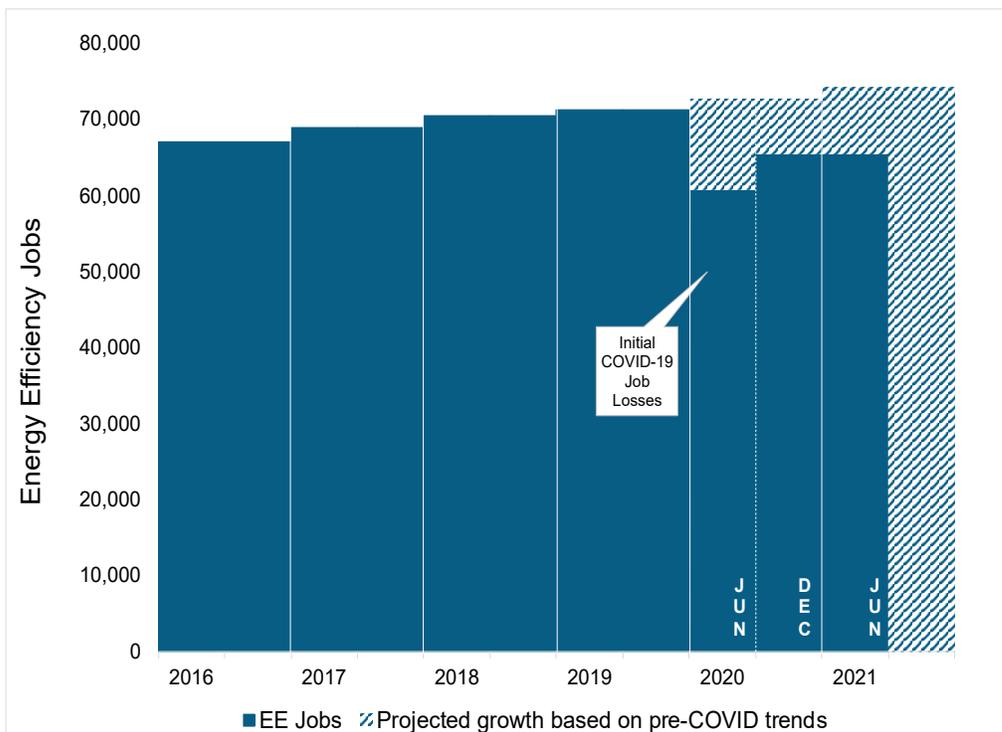
Energy Efficiency is the **largest** energy sector in Maryland.



TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



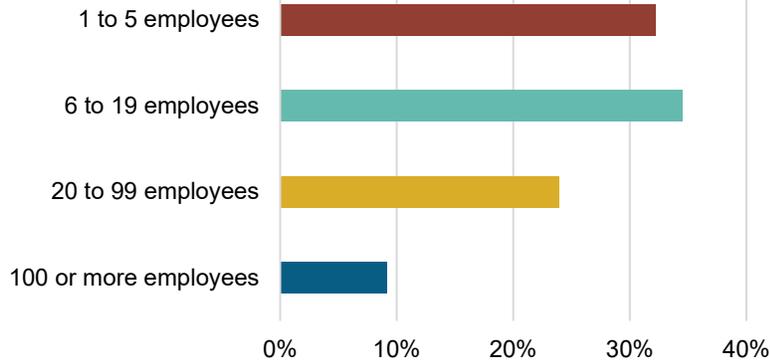
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Maryland?

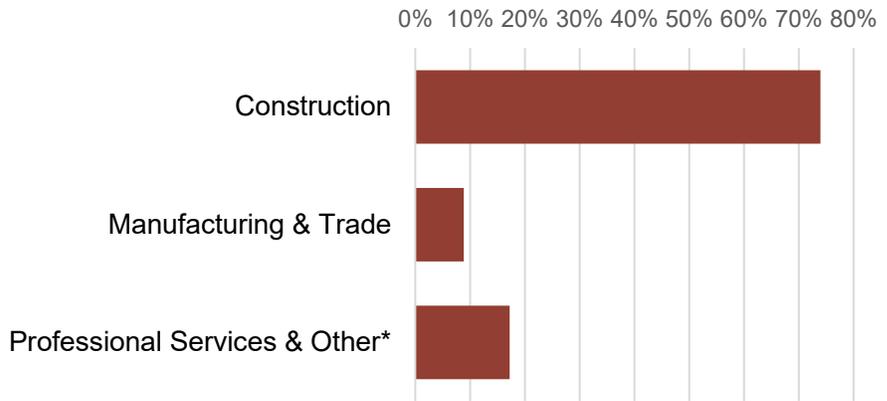
90.7% of MD EE Businesses Have Less Than 100 Employees



7,119
EE businesses in Maryland

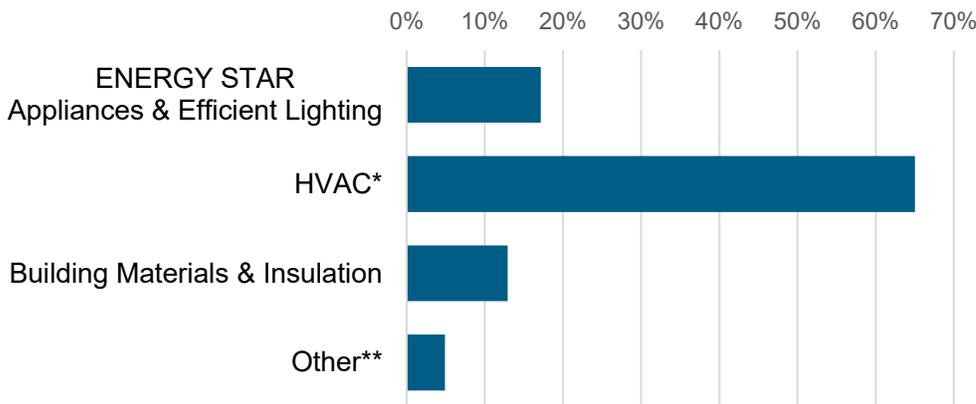
EE construction workers comprise **29%** of Maryland construction workers

What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



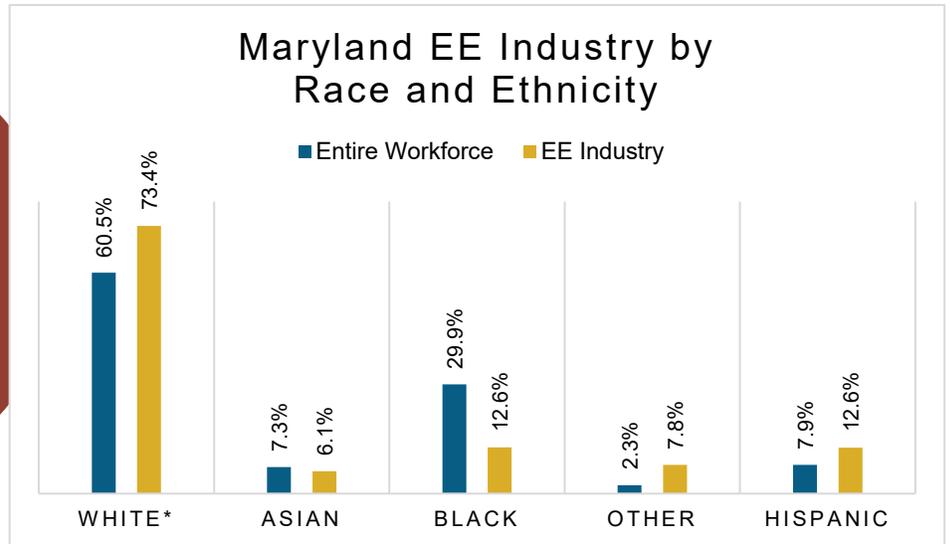
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

8% of Maryland EE workers are Veterans

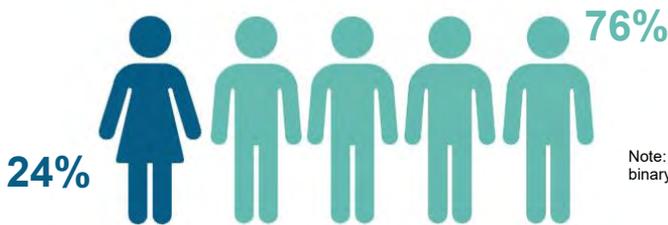
How is EE doing on diversity in Maryland?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Maryland communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Maryland's EE Potential

Decades of work, ready for Maryland's growing energy efficiency workforce.

Weatherization Assistance Program:


6,596* units weatherized in 2018, out of **~200,000** total low-income households

1,839,365

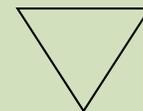
Maryland homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

39%



*National Association for State community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|--------|---------------------------------|--------|
| District | Jobs | Area | Jobs |
| 1 | 12,269 | Baltimore-Towson | 29,912 |
| 2 | 11,819 | Cumberland | 597 |
| 3 | 12,962 | Hagerstown-Martinsburg | 1,385 |
| 4 | 5,576 | Philadelphia-Camden-Wilmington | 1,894 |
| 5 | 4,476 | Salisbury | 1,131 |
| 6 | 11,574 | Washington-Arlington-Alexandria | 26,582 |
| 7 | 1,586 | Rural | 3,911 |
| 8 | 5,150 | | |

| State Upper House | | | | | | | | | | |
|-------------------|-------|--|----------|-------|--|----------|-------|--|----------|------|
| District | Jobs | | District | Jobs | | District | Jobs | | District | Jobs |
| 1 | 1,990 | | 15 | 3,915 | | 29 | 696 | | 43 | 241 |
| 2 | 567 | | 16 | 3,413 | | 30 | 2,625 | | 44 | <5 |
| 3 | 2,627 | | 17 | 1,989 | | 31 | 2,674 | | 45 | 221 |
| 4 | 2,025 | | 18 | 1,216 | | 32 | 37 | | 46 | <5 |
| 5 | 1,479 | | 19 | 172 | | 33 | 332 | | 47 | 117 |
| 6 | 1,927 | | 20 | 1,362 | | 34 | 543 | | | |
| 7 | 2,743 | | 21 | 1,867 | | 35 | 799 | | | |
| 8 | 904 | | 22 | 1,857 | | 36 | 1,595 | | | |
| 9 | 2,749 | | 23 | 884 | | 37 | 2,248 | | | |
| 10 | 1,829 | | 24 | 656 | | 38 | 927 | | | |
| 11 | 3,261 | | 25 | 623 | | 39 | <5 | | | |
| 12 | 2,292 | | 26 | 336 | | 40 | 3,942 | | | |
| 13 | 1,303 | | 27 | 961 | | 41 | <5 | | | |
| 14 | 2,046 | | 28 | 1,272 | | 42 | 151 | | | |

State House of Delegates

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|-------|----------|-------|----------|-------|----------|-------|
| 4 | 4,757 | 22 | 1,869 | 03B | 14 | 37B | 1,021 |
| 5 | 1,457 | 24 | 648 | 09A | 72 | 38A | 418 |
| 6 | 1,943 | 25 | 1,124 | 23A | 179 | 38B | 117 |
| 7 | 2,702 | 26 | 331 | 23B | 184 | 38C | 382 |
| 8 | 888 | 28 | 1,384 | 27A | 72 | 42A | 12 |
| 10 | 1,983 | 32 | 1,419 | 27B | 384 | 42B | 132 |
| 11 | 3,328 | 33 | 2,707 | 27C | 449 | 47A | 116 |
| 12 | 4,320 | 36 | 2,132 | 29A | 245 | | |
| 13 | 1,650 | 40 | 3,883 | 29B | 420 | | |
| 14 | 2,112 | 43 | 242 | 29C | 25 | | |
| 15 | 3,934 | 45 | 217 | 30A | 316 | | |
| 16 | 3,370 | 46 | 270 | 30B | 236 | | |
| 17 | 1,965 | 01A | 899 | 31A | 682 | | |
| 18 | 1,229 | 01B | 23 | 34A | 535 | | |
| 19 | 170 | 01C | 1,048 | 35A | 143 | | |
| 20 | 1,530 | 02A | 265 | 35B | 101 | | |
| 21 | 1,853 | 03A | 288 | 37A | 1,217 | | |



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



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. Visit www.e2.org



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 www.bwresearch.com

Data Source: Unless otherwise stated, all data are from the U.S. Energy and Employment Report, July 2021, by the U.S. Department of Energy (see Appendix A for methodology details). This methodology -- adopted by the U.S. Dept. of Energy for its 2017 U.S. Energy and Employment Report, approved by the Office of Management and Budget and grounded on data collected by the Bureau of Labor Statistics -- provides the broadly accepted best accounting of all U.S. energy workers.

For questions on E4TheFuture analyses please email: policy@e4thefuture.org.

Massachusetts

Energy Efficiency Jobs in America

June 2021*

77,468

Dec 2020

76,900

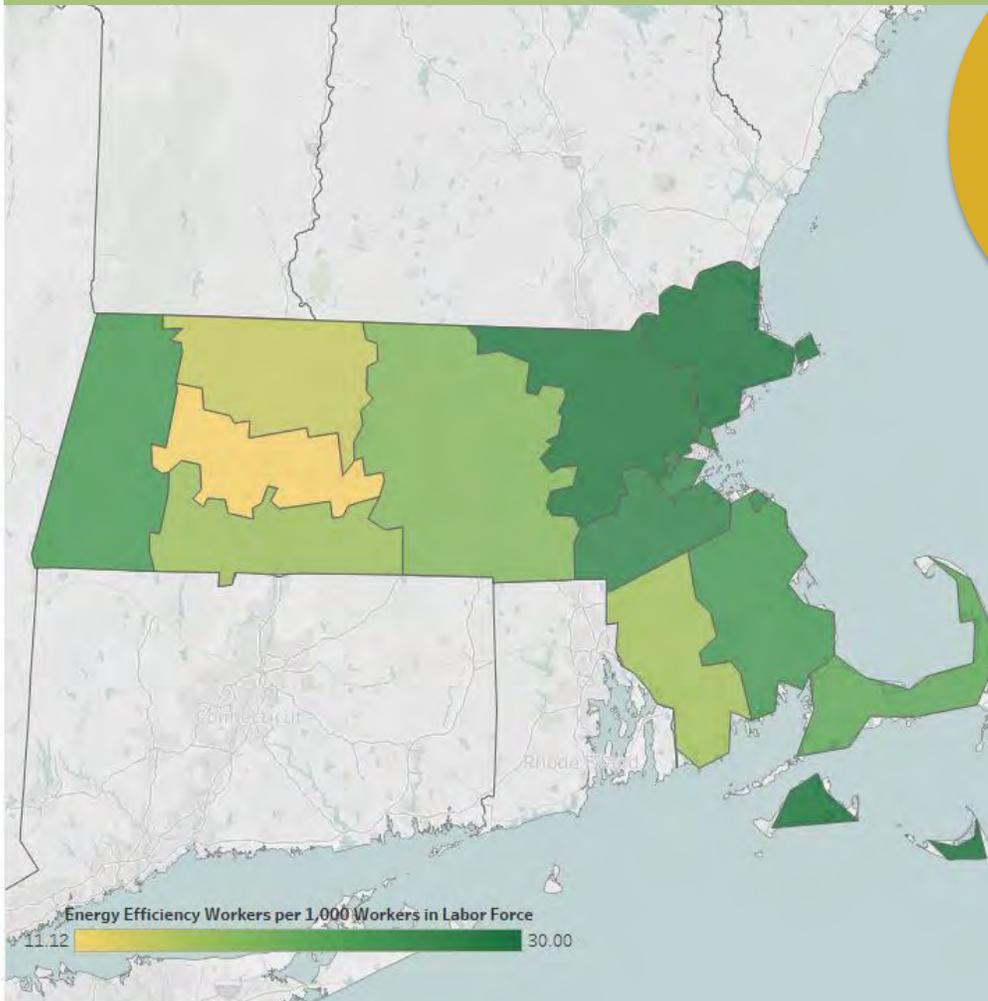


Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Massachusetts, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Massachusetts
counties have
energy efficiency
workers

~35,600
new EE construction
jobs to retrofit
Massachusetts homes
by 2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of MA residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



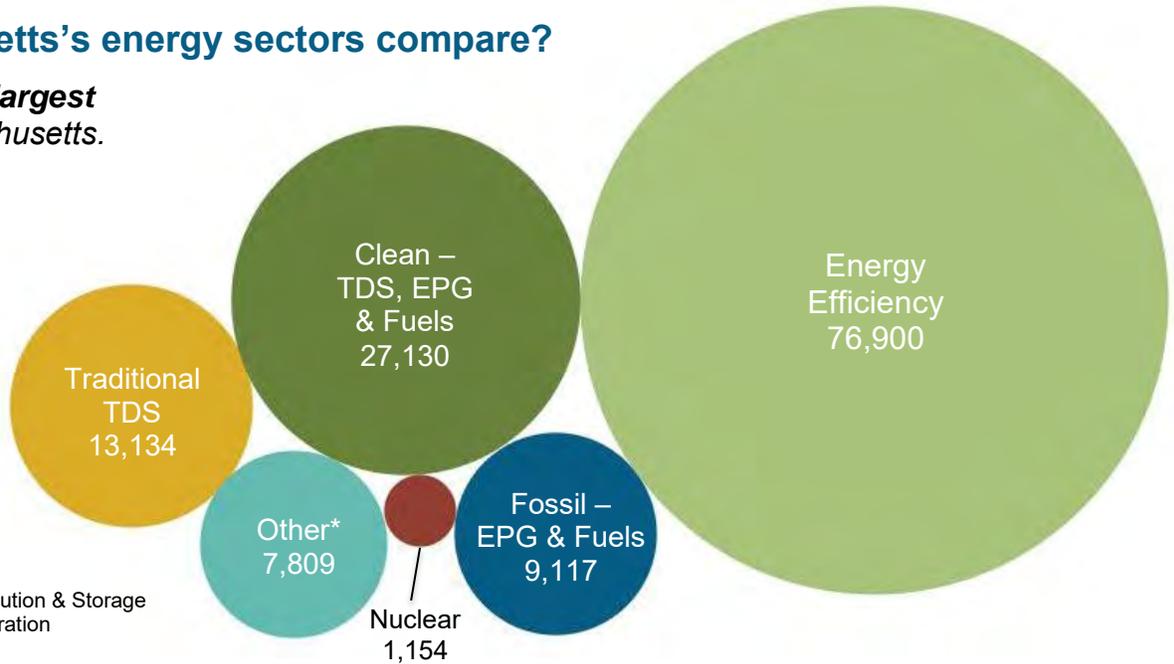
Key EE Statistics for Massachusetts

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Massachusetts's energy sectors compare?

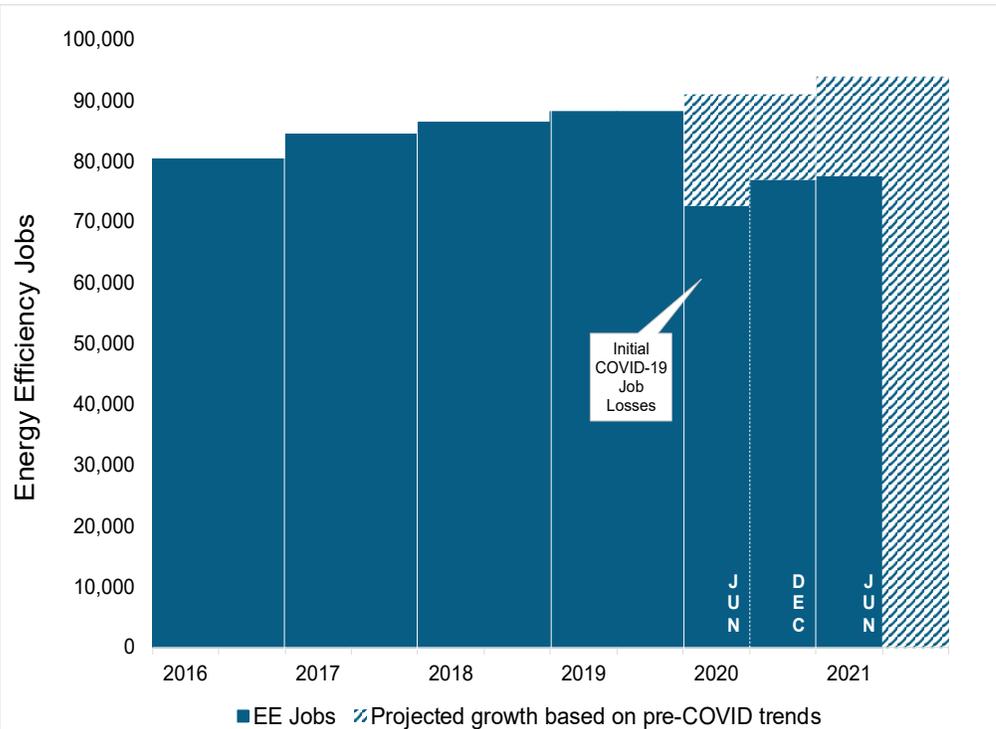
Energy Efficiency is the **largest** energy sector in Massachusetts.



TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



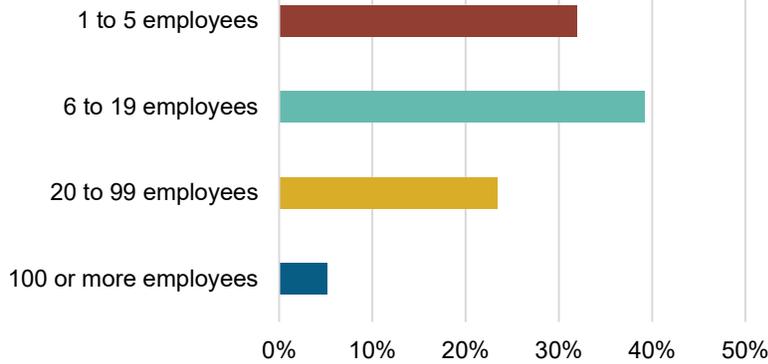
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Massachusetts?

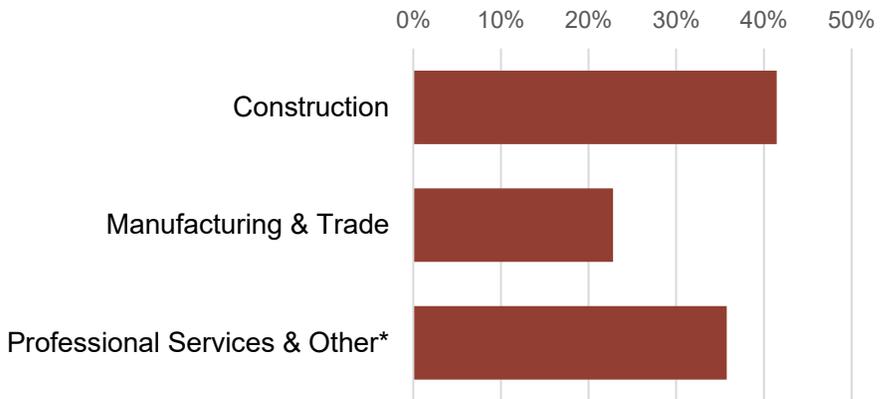
94.7% of MA EE Businesses Have Less Than 100 Employees



9,621
EE businesses in
Massachusetts

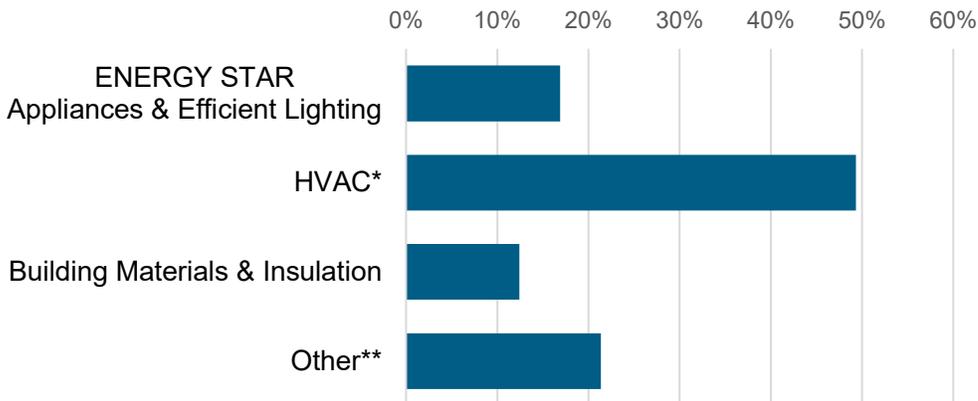
EE construction workers comprise **20%** of Massachusetts construction workers

What type of work do energy efficiency firms do?



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What energy efficiency sectors employ the most workers?



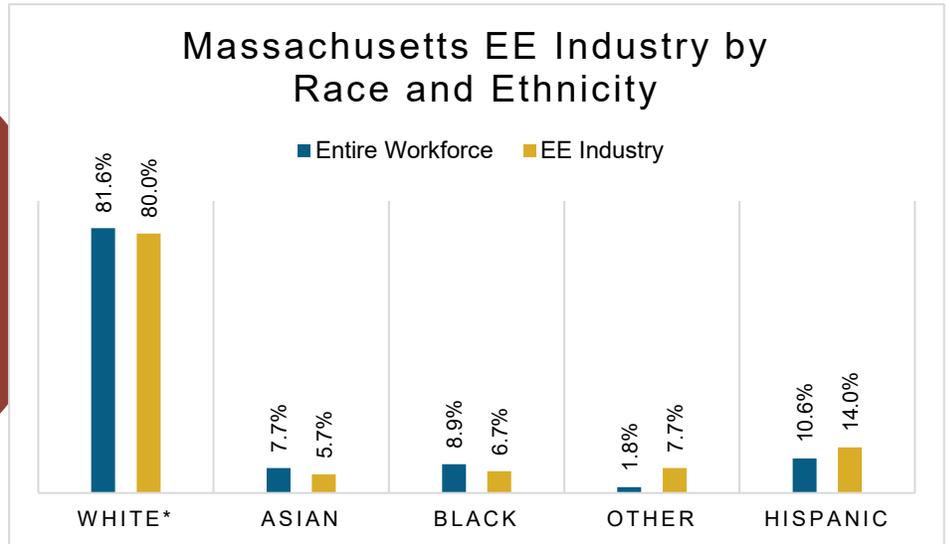
7% of
Massachusetts
EE workers are
Veterans

*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

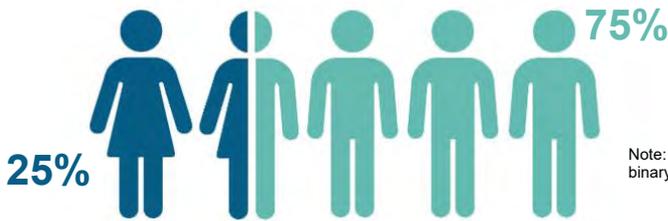
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Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Massachusetts communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Massachusetts's EE Potential

Decades of work, ready for Massachusetts's growing energy efficiency workforce.

Weatherization Assistance Program:


18,189* units weatherized in 2018, out of **~260,000** total low-income households

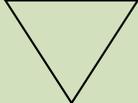
2,329,800

Massachusetts homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

16%


*National Association for State Community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
 Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|--------|-----------------------------------|--------|
| District | Jobs | Area | Jobs |
| 1 | 6,560 | Barnstable Town | 3,255 |
| 2 | 6,654 | Boston-Cambridge-Quincy | 54,814 |
| 3 | 10,537 | Pittsfield | 1,348 |
| 4 | 9,422 | Providence-New Bedford-Fall River | 4,721 |
| 5 | 9,059 | Springfield | 6,051 |
| 6 | 9,416 | Worcester | 6,228 |
| 7 | 8,277 | Rural | 483 |
| 8 | 9,533 | | |
| 9 | 7,443 | | |

| State Upper House | | | | | | | | | | |
|-------------------|-------|--|----------|-------|--|----------|-------|--|----------|-------|
| District | Jobs | | District | Jobs | | District | Jobs | | District | Jobs |
| 1 | 2,289 | | 12 | 820 | | 23 | 3,124 | | 34 | 1,528 |
| 2 | 2,286 | | 13 | 2,231 | | 24 | 1,377 | | 35 | 992 |
| 3 | 1,815 | | 14 | 3,687 | | 25 | 1,370 | | 36 | 1,957 |
| 4 | 1,740 | | 15 | 2,807 | | 26 | 2,633 | | 37 | 1,249 |
| 5 | 851 | | 16 | 3,045 | | 27 | 4,984 | | 38 | 1,042 |
| 6 | 1,620 | | 17 | 2,231 | | 28 | 753 | | 39 | 2,095 |
| 7 | 1,058 | | 18 | 3,679 | | 29 | 1,526 | | 40 | 2,360 |
| 8 | 1,063 | | 19 | 2,086 | | 30 | 1,171 | | | |
| 9 | 1,091 | | 20 | 2,529 | | 31 | 1,422 | | | |
| 10 | 2,148 | | 21 | 2,476 | | 32 | 2,381 | | | |
| 11 | 989 | | 22 | 825 | | 33 | 1,572 | | | |

State Lower House

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|-------|----------|-------|----------|-------|----------|------|
| 60 | 1,252 | 101 | 394 | 143 | 790 | 189 | 652 |
| 61 | 209 | 102 | 566 | 144 | 189 | 190 | 200 |
| 62 | 664 | 103 | 393 | 145 | 500 | 192 | 388 |
| 63 | 412 | 104 | 316 | 147 | 167 | 193 | 124 |
| 64 | 798 | 105 | 294 | 148 | 198 | 200 | 361 |
| 65 | 799 | 106 | 204 | 149 | 149 | 201 | <5 |
| 66 | 559 | 107 | 728 | 153 | 367 | 203 | 282 |
| 68 | 482 | 108 | 318 | 154 | 453 | 204 | 109 |
| 69 | 620 | 109 | 182 | 155 | 247 | 206 | 399 |
| 70 | 308 | 110 | 141 | 156 | 1,184 | 207 | 166 |
| 71 | 917 | 111 | 794 | 157 | 1,304 | 208 | 283 |
| 72 | 353 | 114 | 212 | 159 | 453 | 209 | 630 |
| 73 | 103 | 115 | 720 | 160 | 427 | 210 | 425 |
| 74 | 815 | 116 | 231 | 161 | 456 | 211 | 489 |
| 75 | 33 | 117 | <5 | 162 | 971 | 212 | 78 |
| 76 | 435 | 118 | 445 | 164 | 365 | 213 | 364 |
| 77 | 479 | 119 | 1,244 | 165 | 539 | 214 | 261 |
| 78 | 364 | 120 | 481 | 166 | 466 | 215 | 573 |
| 79 | 42 | 121 | 1,722 | 167 | 624 | 216 | 85 |
| 80 | 411 | 122 | 1,031 | 168 | 369 | 217 | 496 |
| 81 | 33 | 123 | 581 | 169 | 555 | 218 | 100 |
| 82 | 220 | 124 | 265 | 170 | 786 | 219 | 39 |
| 83 | 680 | 125 | 919 | 171 | 417 | | |
| 84 | 863 | 126 | 1,379 | 172 | <5 | | |
| 85 | 107 | 127 | 684 | 173 | 293 | | |
| 86 | 351 | 128 | 809 | 174 | 340 | | |
| 87 | 666 | 129 | 80 | 175 | 245 | | |
| 88 | 519 | 130 | 275 | 176 | 770 | | |
| 89 | 765 | 131 | 842 | 177 | 343 | | |
| 90 | 366 | 132 | 1,726 | 178 | 288 | | |
| 91 | 1,010 | 133 | 671 | 179 | 248 | | |
| 92 | 116 | 134 | 884 | 180 | 535 | | |
| 93 | 8 | 136 | 1,040 | 181 | 151 | | |
| 94 | 591 | 137 | 488 | 183 | 191 | | |
| 95 | 555 | 138 | 813 | 184 | 337 | | |
| 96 | 2,263 | 139 | 305 | 185 | 419 | | |
| 98 | 119 | 140 | 628 | 186 | 7,839 | | |
| 99 | 1,274 | 141 | 963 | 187 | 618 | | |
| 100 | 569 | 142 | 581 | 188 | 320 | | |



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Michigan

Energy Efficiency Jobs in America

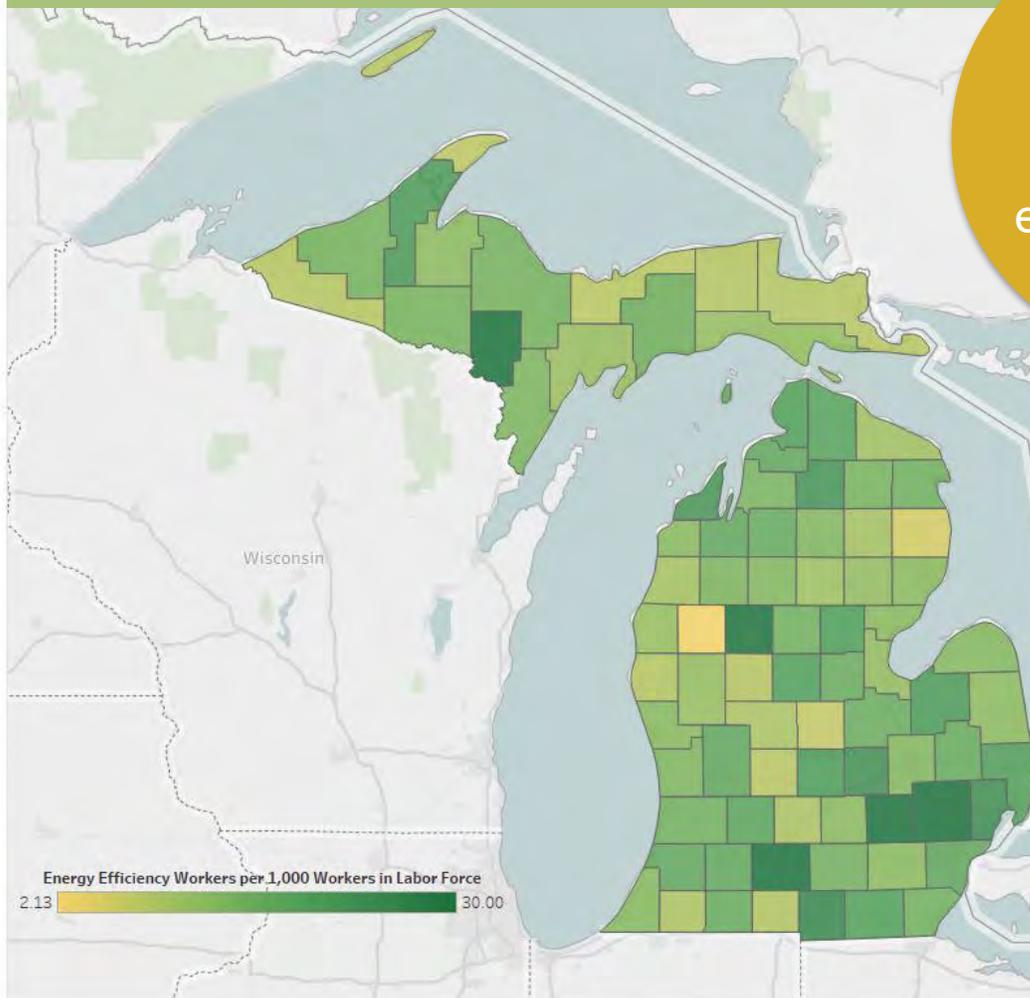


Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Michigan, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Michigan
counties have
energy efficiency
workers

~54,300
new EE construction
jobs to retrofit
Michigan homes by
2030

Number of full-time workers required for eight years 2022-2030 to improve 80% of MI residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:

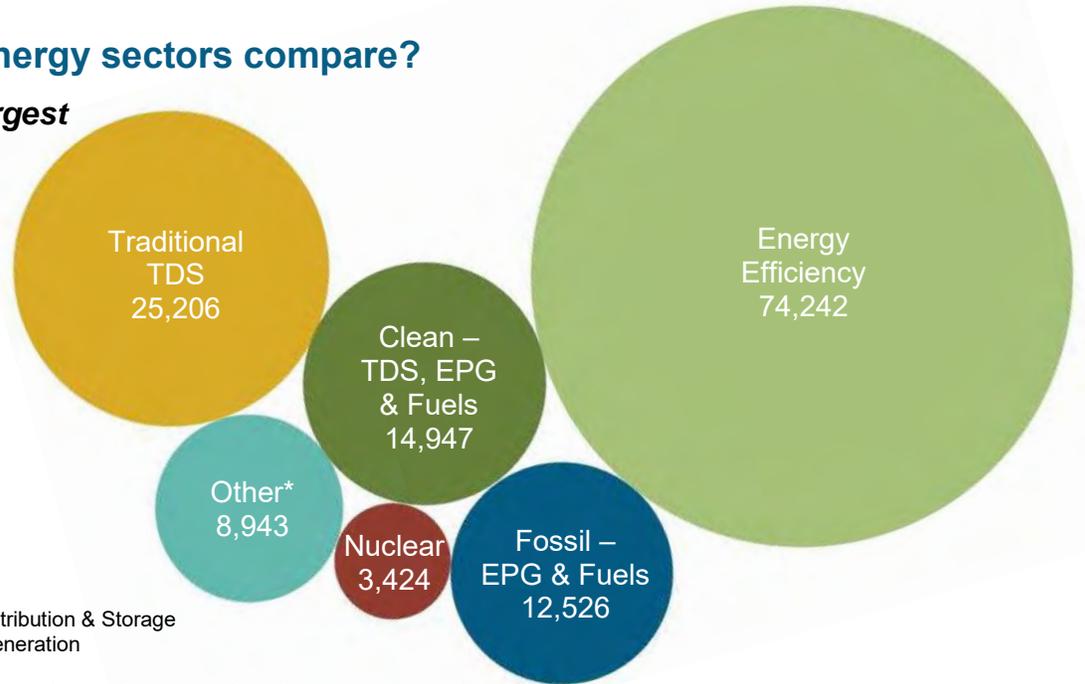


What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Michigan's energy sectors compare?

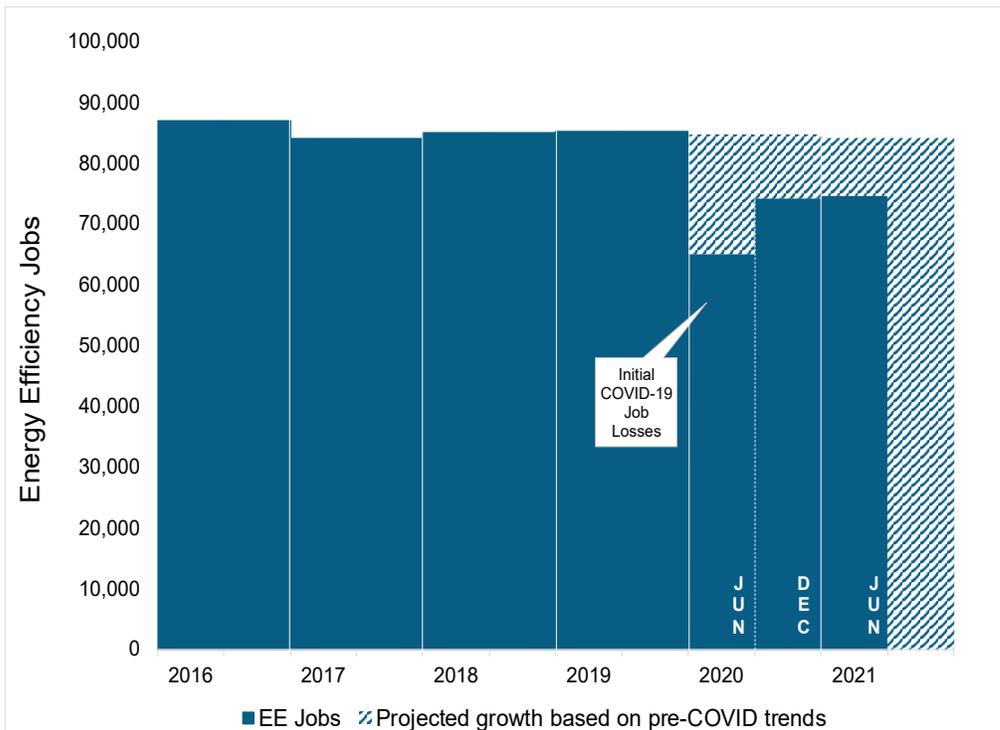
Energy Efficiency is the **largest** energy sector in Michigan.



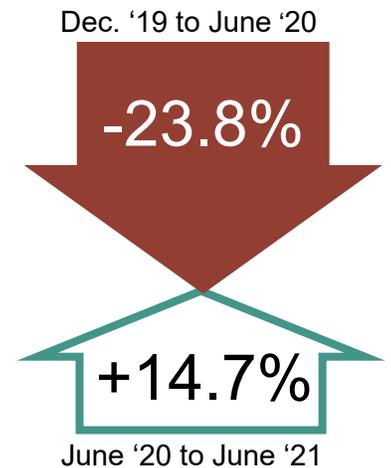
TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



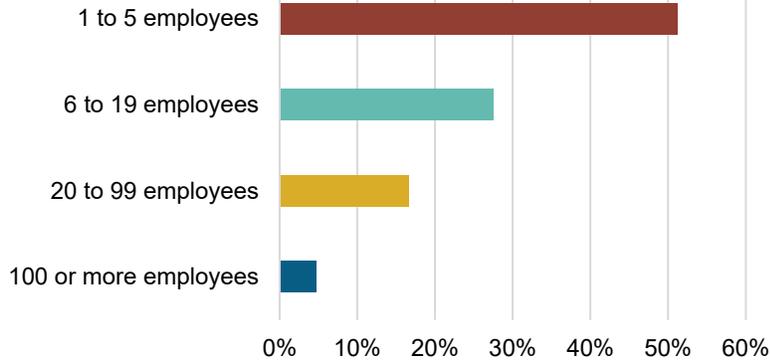
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What does EE look like in Michigan?

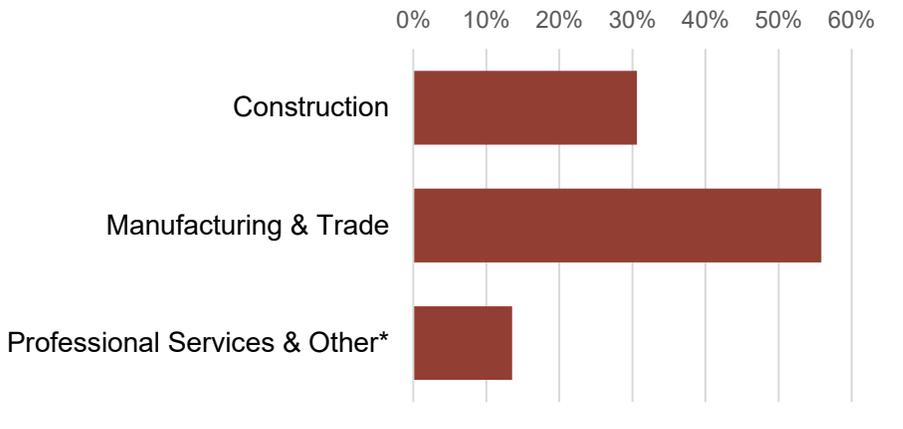
95.3% of MI EE Businesses Have Less Than 100 Employees



17,513
EE businesses in Michigan

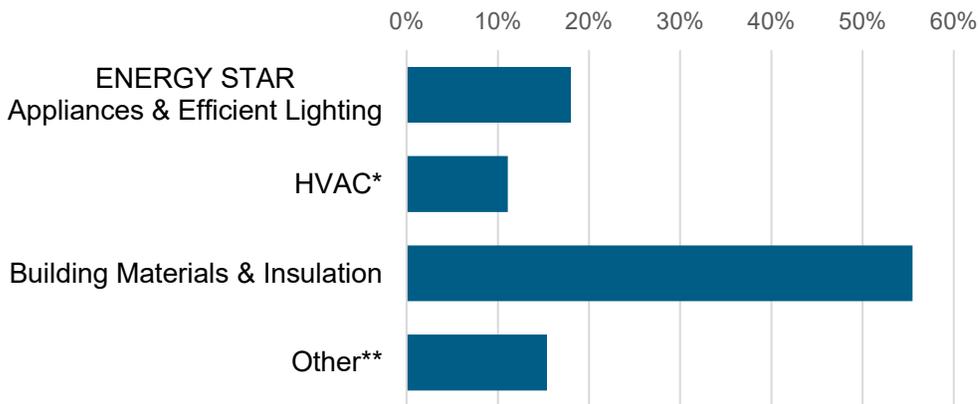
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What type of work do energy efficiency firms do?



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What energy efficiency sectors employ the most workers?



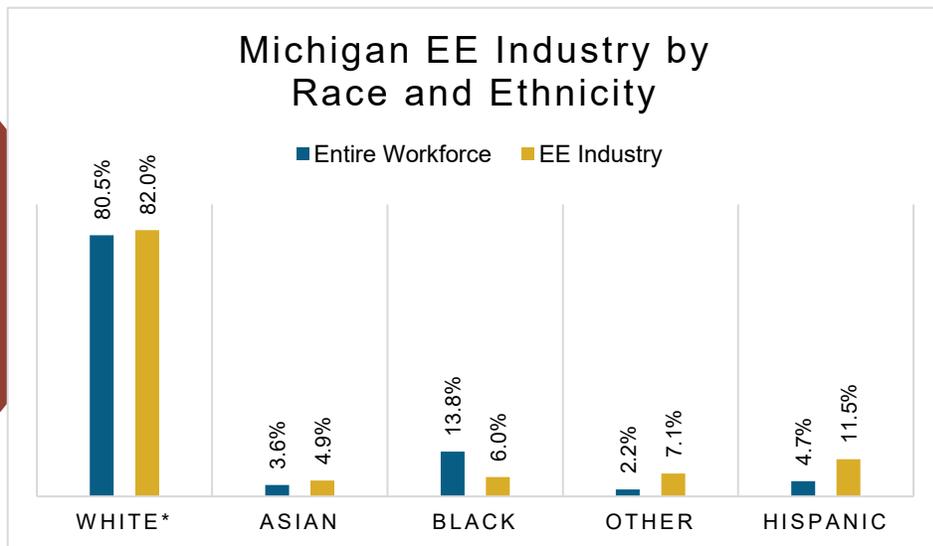
7% of Michigan EE workers are **Veterans**

*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

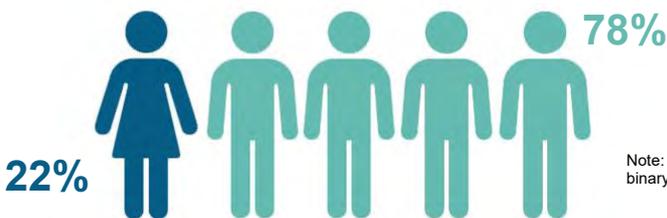
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The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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Michigan's EE Potential

Decades of work, ready for Michigan's growing energy efficiency workforce.

Weatherization Assistance Program:



861* units weatherized in 2018, out of **~530,000** total low-income households

3,479,745

Michigan homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

18%

*National Association for State community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|--------------------------------|--------|
| District | Jobs | Area | Jobs |
| 1 | 7,395 | Ann Arbor | 2,890 |
| 2 | 7,846 | Battle Creek | 876 |
| 3 | 3,800 | Bay City | 575 |
| 4 | 5,623 | Detroit-Warren-Livonia | 32,651 |
| 5 | 3,434 | Flint | 2,263 |
| 6 | 5,041 | Grand Rapids-Wyoming | 6,299 |
| 7 | 7,265 | Holland-Grand Haven | 2,118 |
| 8 | 4,828 | Jackson | 969 |
| 9 | 8,870 | Kalamazoo-Portage | 2,394 |
| 10 | 4,618 | Lansing-East Lansing | 3,165 |
| 11 | 5,446 | Monroe | 809 |
| 12 | 3,338 | Muskegon-Norton Shores | 996 |
| 13 | 3,557 | Niles-Benton Harbor | 1,606 |
| 14 | 3,182 | Saginaw-Saginaw Township North | 1,494 |
| | | South Bend-Mishawaka | 305 |
| | | Rural | 14,831 |

| State Upper House | | | | | | | |
|-------------------|-------|----------|-------|----------|-------|----------|-------|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
| 1 | 2,951 | 11 | 4,937 | 21 | 2,276 | 31 | 1,877 |
| 2 | 611 | 12 | 3,860 | 22 | 1,916 | 32 | 1,087 |
| 3 | 1,710 | 13 | 2,651 | 23 | 2,411 | 33 | 1,556 |
| 4 | 295 | 14 | 1,711 | 24 | 912 | 34 | 1,272 |
| 5 | 606 | 15 | 1,888 | 25 | 1,982 | 35 | 2,771 |
| 6 | 1,108 | 16 | 1,971 | 26 | 3,348 | 36 | 1,572 |
| 7 | 2,387 | 17 | 1,694 | 27 | 1,066 | 37 | 2,119 |
| 8 | 3,242 | 18 | 2,267 | 28 | 3,536 | 38 | 2,240 |
| 9 | 1,571 | 19 | 2,235 | 29 | 358 | | |
| 10 | 1,133 | 20 | 1,909 | 30 | 1,206 | | |

State Lower House

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|-------|----------|-------|----------|-------|----------|-------|
| 1 | 520 | 35 | 2,000 | 69 | 47 | 103 | 858 |
| 2 | 258 | 36 | 512 | 70 | 700 | 104 | 430 |
| 3 | 501 | 37 | 1,707 | 71 | 213 | 105 | 1,231 |
| 4 | 576 | 38 | 1,680 | 72 | 1,989 | 106 | 907 |
| 5 | 716 | 39 | 361 | 73 | 2,212 | 107 | 568 |
| 6 | 839 | 40 | 1,230 | 74 | 1,205 | 108 | 843 |
| 7 | 88 | 41 | 1,156 | 75 | 329 | 109 | 669 |
| 8 | 481 | 42 | 1,255 | 76 | <5 | 110 | 736 |
| 9 | 170 | 43 | 490 | 77 | 101 | | |
| 10 | <5 | 44 | 347 | 78 | 490 | | |
| 11 | 1,057 | 45 | 405 | 79 | 389 | | |
| 12 | 1,044 | 46 | 429 | 80 | 1,124 | | |
| 13 | 696 | 47 | 799 | 81 | 881 | | |
| 14 | 426 | 48 | 520 | 82 | 508 | | |
| 15 | 84 | 49 | 92 | 83 | 415 | | |
| 16 | <5 | 50 | 322 | 84 | 522 | | |
| 17 | 695 | 51 | 136 | 85 | 606 | | |
| 18 | 1,086 | 52 | 1,728 | 86 | 254 | | |
| 19 | 561 | 53 | 743 | 87 | 200 | | |
| 20 | 1,335 | 54 | 401 | 88 | 661 | | |
| 21 | <5 | 55 | <5 | 89 | 544 | | |
| 22 | 534 | 56 | 400 | 90 | <5 | | |
| 23 | 118 | 57 | 757 | 91 | 886 | | |
| 24 | 896 | 58 | 661 | 92 | 109 | | |
| 25 | 700 | 59 | 1,037 | 93 | 354 | | |
| 26 | 1,761 | 60 | 1,597 | 94 | 1,105 | | |
| 27 | 643 | 61 | 82 | 95 | 249 | | |
| 28 | 471 | 62 | 965 | 96 | 331 | | |
| 29 | 1,714 | 63 | 358 | 97 | 678 | | |
| 30 | 847 | 64 | 763 | 98 | 644 | | |
| 31 | 449 | 65 | 147 | 99 | 399 | | |
| 32 | 479 | 66 | 988 | 100 | 499 | | |
| 33 | 307 | 67 | 1,310 | 101 | 1,498 | | |
| 34 | 1,028 | 68 | 1,058 | 102 | 345 | | |



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



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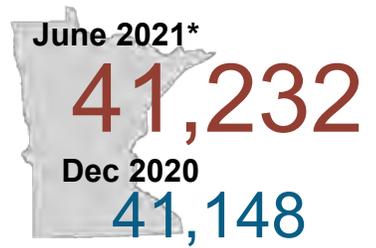
BW Research Partnership is a full-service, economic and workforce research consulting firm with offices in Carlsbad, California and Wrentham, Massachusetts. It is the nation's leading provider of accurate, comprehensive energy and clean energy research studies. Visit www.bwresearch.com

Data Source: Unless otherwise stated, all data are from the U.S. Energy and Employment Report, July 2021, by the U.S. Department of Energy (see Appendix A for methodology details). This methodology -- adopted by the U.S. Dept. of Energy for its 2017 U.S. Energy and Employment Report, approved by the Office of Management and Budget and grounded on data collected by the Bureau of Labor Statistics -- provides the broadly accepted best accounting of all U.S. energy workers.

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Minnesota

Energy Efficiency Jobs in America

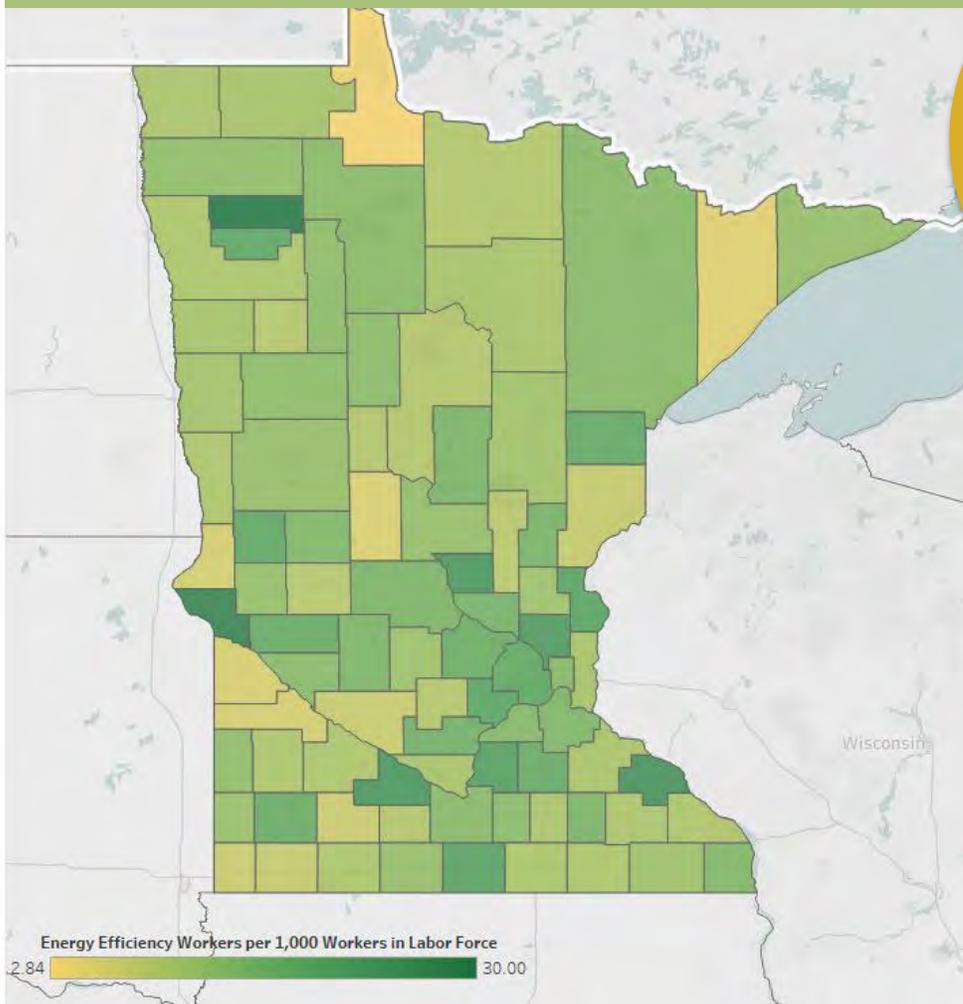


Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Minnesota, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Minnesota
counties have
energy efficiency
workers

~26,700
new EE construction
jobs to retrofit
Minnesota homes by
2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of MN residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



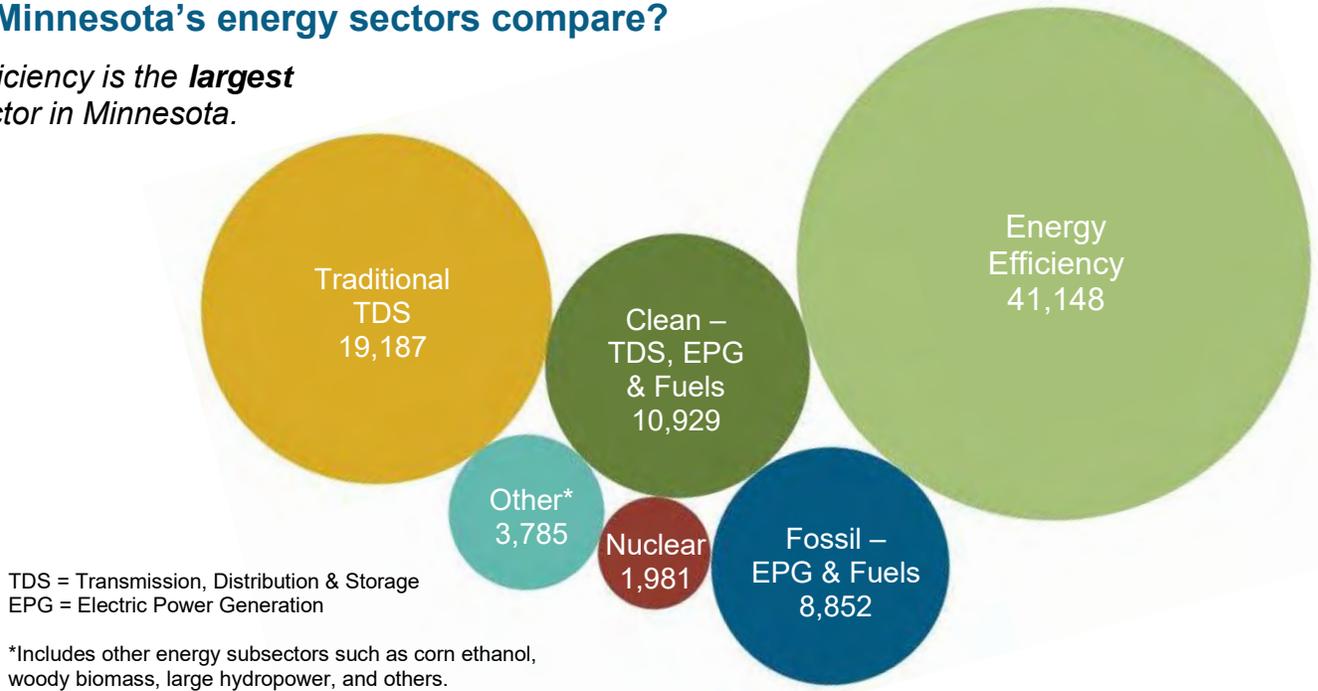
Key EE Statistics for Minnesota

What are energy efficiency (EE) jobs?

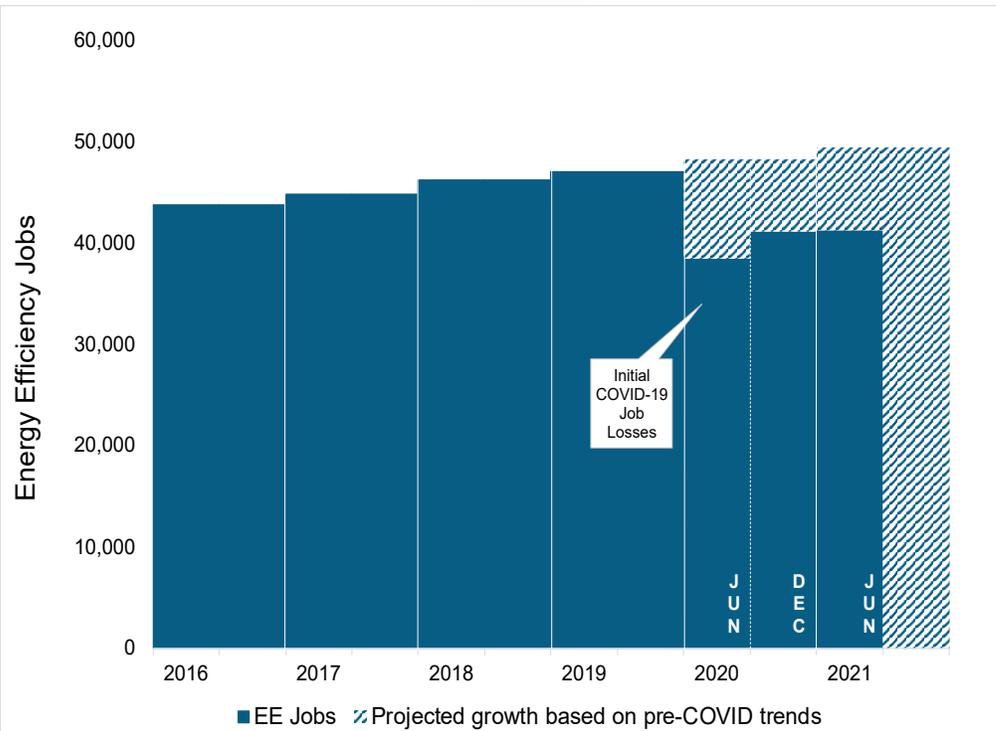
Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Minnesota's energy sectors compare?

Energy Efficiency is the **largest** energy sector in Minnesota.



How is the EE industry recovering?



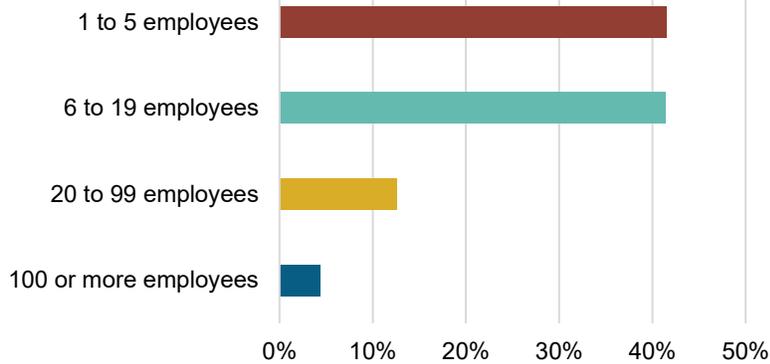
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Minnesota?

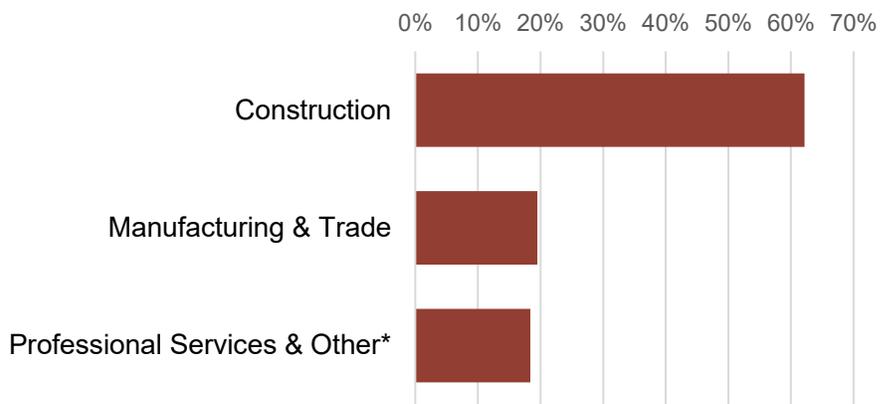
95.5% of MN EE Businesses Have Less Than 100 Employees



6,748
EE businesses in Minnesota

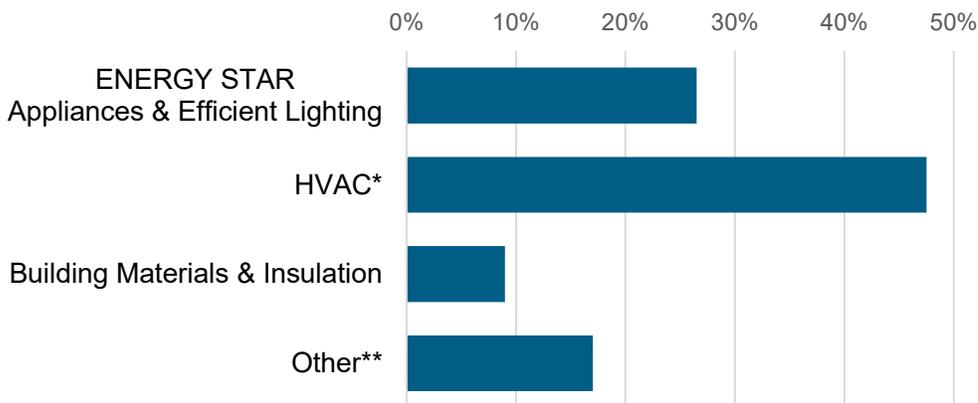
EE construction workers comprise **20%** of Minnesota construction workers

What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



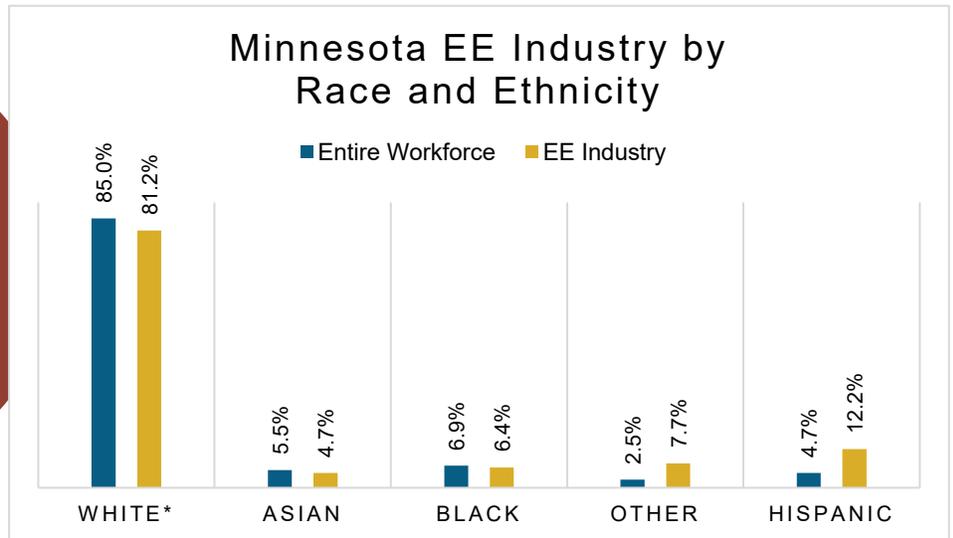
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

8% of Minnesota EE workers are **Veterans**

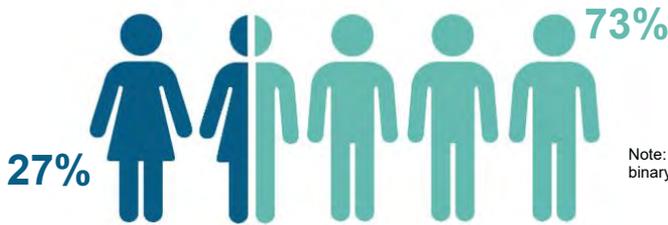
How is EE doing on diversity in Minnesota?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Minnesota communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Minnesota's EE Potential

Decades of work, ready for Minnesota's growing energy efficiency workforce.

Weatherization Assistance Program:


1,227* units weatherized in 2018, out of **~200,000** total low-income households

1,796,412

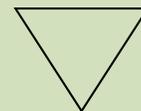
Minnesota homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

25%



*National Association for State community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
 Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|----------------------------------|--------|
| District | Jobs | Area | Jobs |
| 1 | 5,314 | Duluth | 1,323 |
| 2 | 3,013 | Fargo | 368 |
| 3 | 9,449 | Grand Forks | 194 |
| 4 | 5,059 | La Crosse | 130 |
| 5 | 5,722 | Mankato-North Mankato | 644 |
| 6 | 4,146 | Minneapolis-St. Paul-Bloomington | 25,182 |
| 7 | 5,082 | Rochester | 1,237 |
| 8 | 3,361 | St. Cloud | 2,123 |
| | | Rural | 9,948 |

| State Upper House | | | | | | | |
|-------------------|-------|----------|-------|----------|-------|----------|-------|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
| 1 | 528 | 18 | 458 | 35 | 117 | 52 | 449 |
| 2 | 812 | 19 | 547 | 36 | 484 | 53 | 176 |
| 3 | 744 | 20 | 1,041 | 37 | 613 | 54 | 116 |
| 4 | 377 | 21 | 1,020 | 38 | 578 | 55 | 292 |
| 5 | 480 | 22 | 721 | 39 | 557 | 56 | 97 |
| 6 | 370 | 23 | 722 | 40 | 2,775 | 57 | 385 |
| 7 | 331 | 24 | 353 | 41 | 675 | 58 | 6 |
| 8 | 876 | 25 | 541 | 42 | 690 | 59 | 2,046 |
| 9 | 722 | 26 | 327 | 43 | 164 | 60 | 496 |
| 10 | 275 | 27 | 451 | 44 | 1,801 | 61 | 338 |
| 11 | 312 | 28 | 269 | 45 | 230 | 62 | 85 |
| 12 | 1,346 | 29 | 566 | 46 | 537 | 63 | 13 |
| 13 | 1,065 | 30 | 1,389 | 47 | 286 | 64 | 1,169 |
| 14 | <5 | 31 | 990 | 48 | 710 | 65 | 597 |
| 15 | 711 | 32 | 223 | 49 | 1,642 | 66 | <5 |
| 16 | 946 | 33 | 1,308 | 50 | 376 | 67 | <5 |
| 17 | 784 | 34 | 334 | 51 | 709 | | |

State Lower House

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|-------|----------|-------|----------|-------|----------|-------|
| 01A | 268 | 18A | 176 | 36A | 211 | 53A | 145 |
| 01B | 256 | 18B | 279 | 36B | 273 | 53B | 30 |
| 02A | 385 | 19A | 544 | 37A | 496 | 54A | 103 |
| 02B | 426 | 20A | 616 | 37B | 115 | 54B | 12 |
| 03A | 357 | 20B | 423 | 38A | 459 | 55A | 290 |
| 03B | 384 | 21A | 446 | 38B | 116 | 55B | <5 |
| 04A | 205 | 21B | 574 | 39A | 262 | 56A | <5 |
| 04B | 164 | 22A | 413 | 39B | 294 | 56B | 96 |
| 05A | 174 | 22B | 304 | 40A | 307 | 57A | 383 |
| 05B | 304 | 23A | 446 | 40B | 1,893 | 58B | 6 |
| 06A | 295 | 23B | 272 | 41A | 532 | 59A | 12 |
| 06B | 74 | 24A | 255 | 41B | 139 | 59B | 2,031 |
| 07A | 280 | 24B | 96 | 42A | <5 | 60A | 325 |
| 07B | 49 | 25A | 551 | 42B | 725 | 60B | 176 |
| 08A | 335 | 26A | 187 | 43A | 97 | 61A | 154 |
| 08B | 561 | 26B | 139 | 43B | 66 | 61B | 205 |
| 09A | 501 | 27A | 304 | 44A | 722 | 62A | 85 |
| 09B | 217 | 27B | 106 | 44B | 1,005 | 62B | <5 |
| 10A | 121 | 28A | 91 | 45A | 181 | 63A | <5 |
| 10B | 152 | 28B | 176 | 45B | 49 | 63B | 13 |
| 11A | 79 | 29A | 355 | 46A | 420 | 64A | 1,057 |
| 11B | 231 | 29B | 254 | 46B | 135 | 64B | 84 |
| 12A | 461 | 30A | <5 | 47A | 285 | 65A | 73 |
| 12B | 1,034 | 30B | 1,388 | 47B | <5 | 65B | 527 |
| 13A | 772 | 31A | 542 | 48A | 752 | 66A | <5 |
| 13B | 301 | 31B | 444 | 48B | <5 | 66B | <5 |
| 14A | <5 | 32A | 108 | 49A | 923 | 67A | <5 |
| 14B | <5 | 32B | 115 | 49B | 652 | 67B | <5 |
| 15A | 355 | 33A | 1,642 | 50A | 405 | | |
| 15B | 352 | 33B | 153 | 50B | <5 | | |
| 16A | 371 | 34A | 302 | 51A | 706 | | |
| 16B | 569 | 34B | 30 | 51B | <5 | | |
| 17A | 479 | 35A | <5 | 52A | 332 | | |
| 17B | 301 | 35B | 117 | 52B | 131 | | |



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Mississippi

Energy Efficiency Jobs in America

June 2021*

13,637

Dec 2020

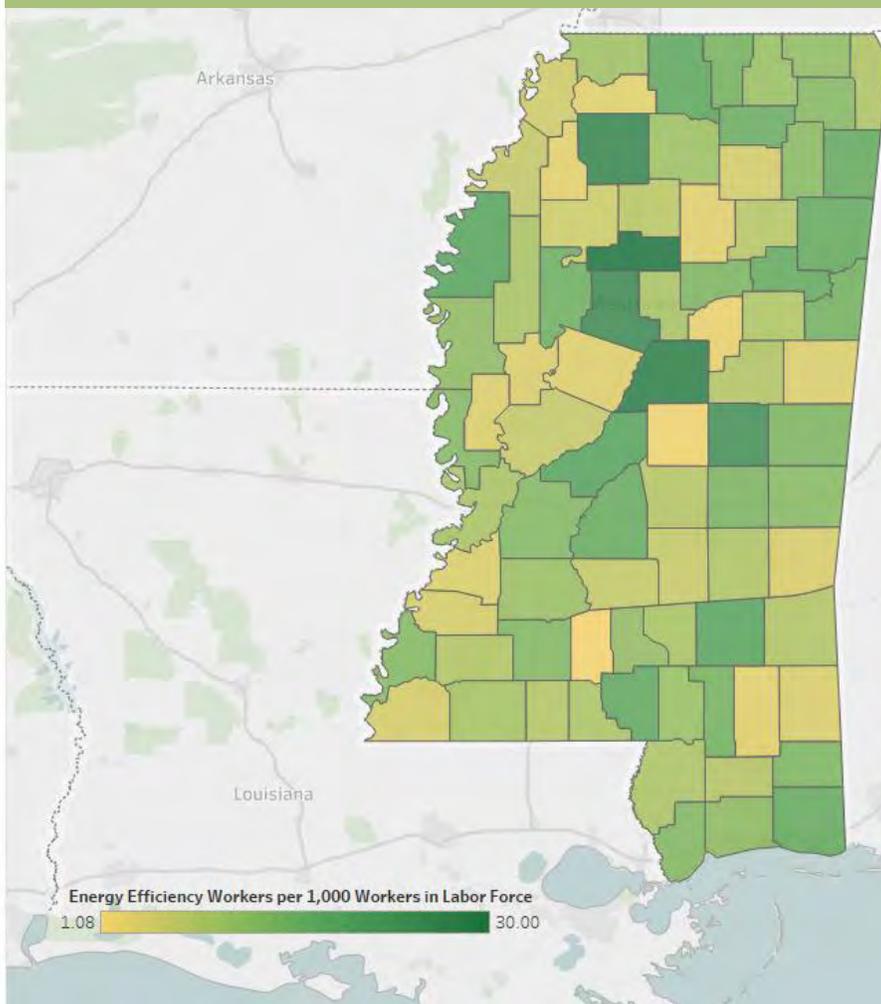
13,611

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Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Mississippi
counties have
energy efficiency
workers

~8,400
new EE construction
jobs to retrofit
Mississippi homes by
2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of MS residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:

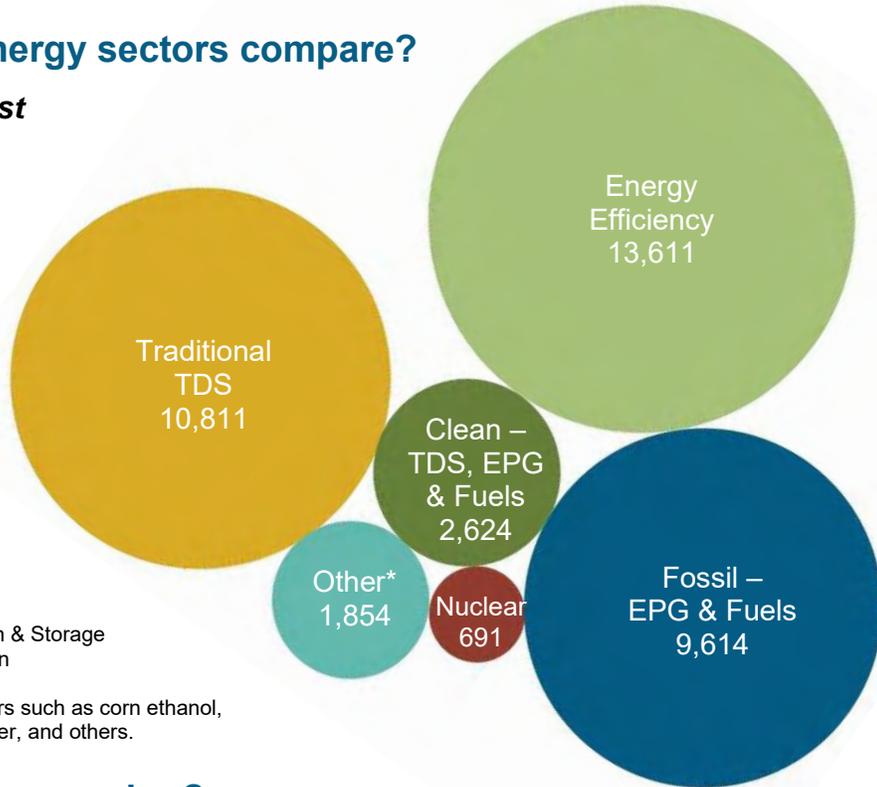


What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Mississippi's energy sectors compare?

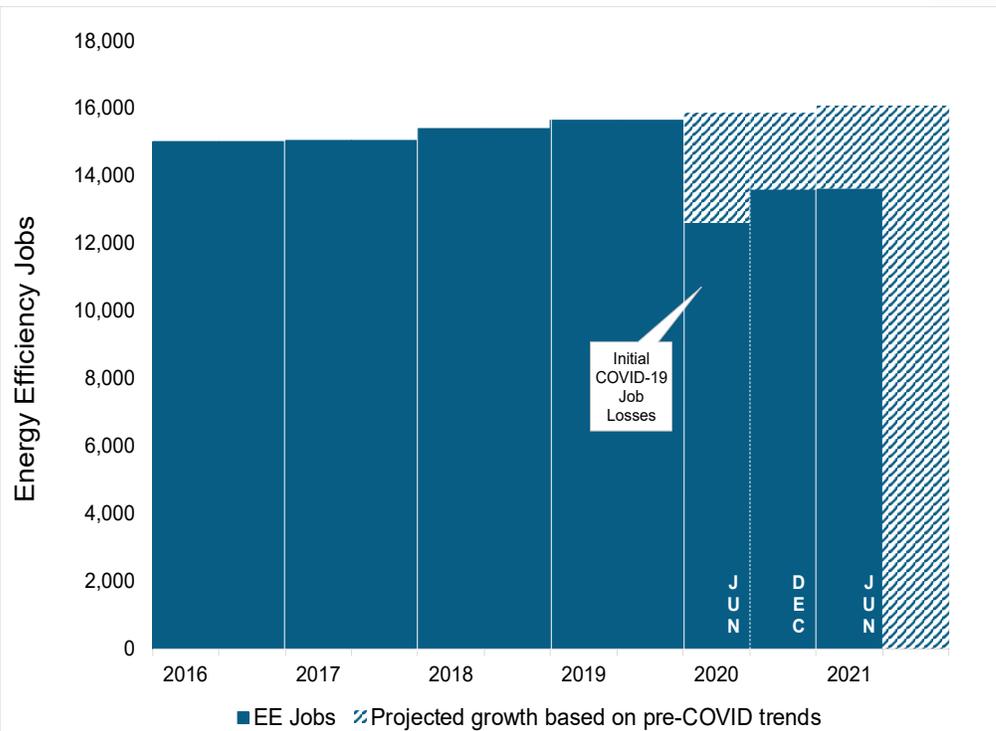
Energy Efficiency is the **largest** energy sector in Mississippi.



TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



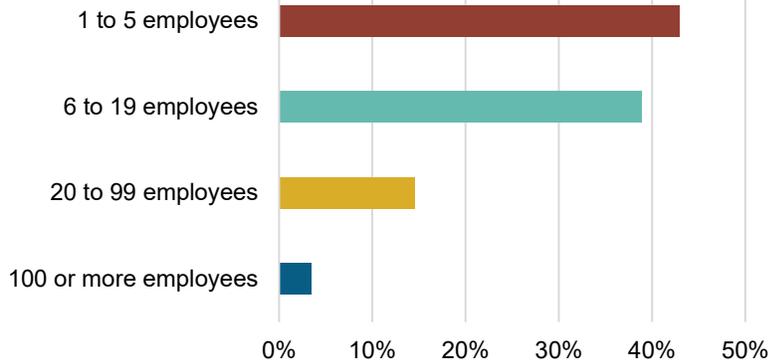
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Mississippi?

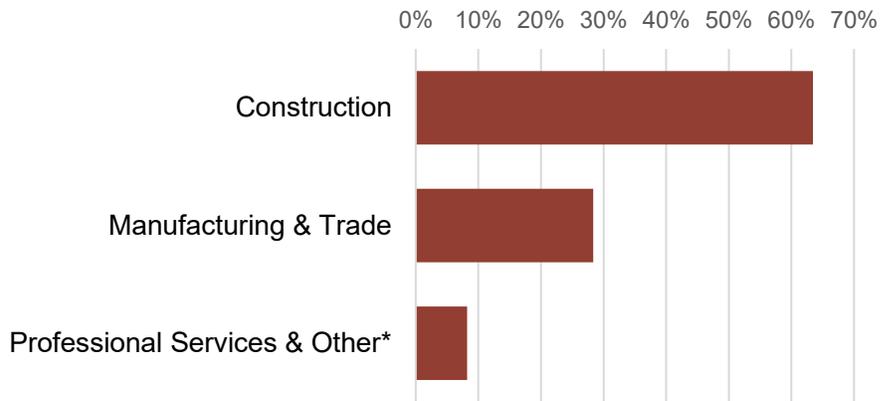
96.4% of MS EE Businesses Have Less Than 100 Employees



2,680
EE businesses in Mississippi

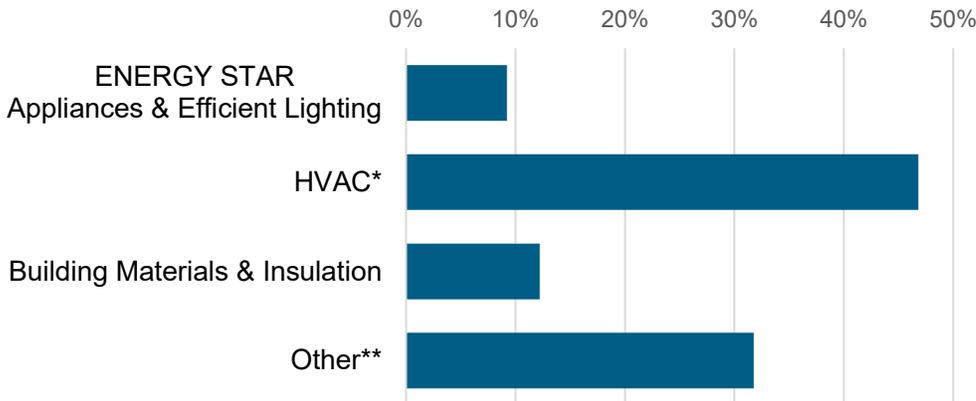
EE construction workers comprise **19%** of Mississippi construction workers

What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



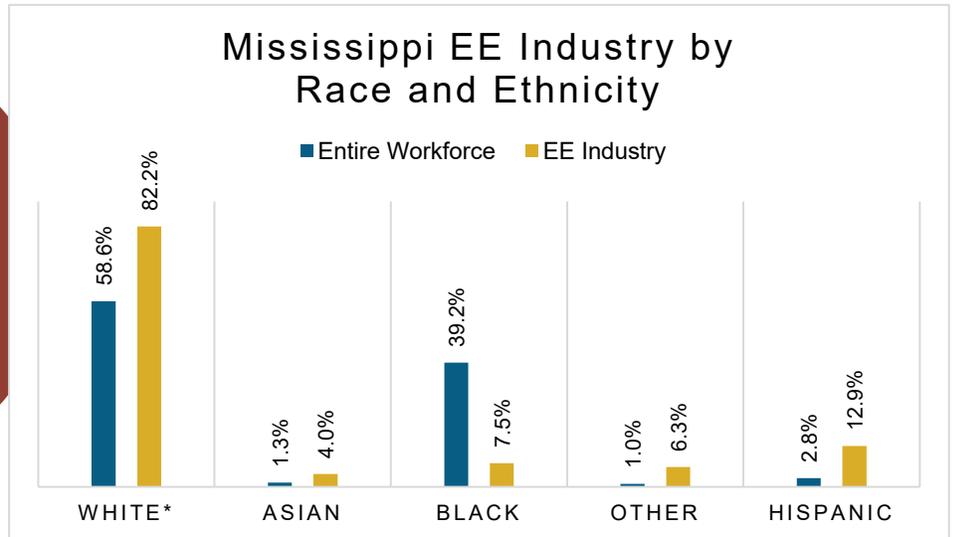
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

9% of Mississippi EE workers are **Veterans**

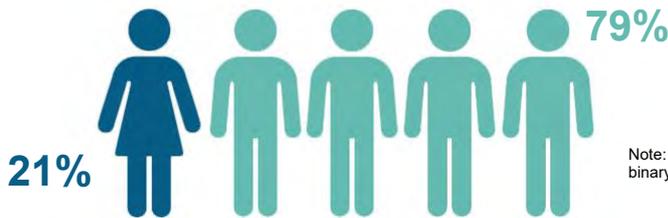
How is EE doing on diversity in Mississippi?

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The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Mississippi's EE Potential

Decades of work, ready for Mississippi's growing energy efficiency workforce.

Weatherization Assistance Program:



68* units weatherized in 2018, out of **~220,000** total low-income households

806,922

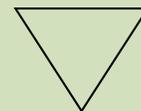
Mississippi homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

37%



*National Association for State Community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|--------------------|-------|
| District | Jobs | Area | Jobs |
| 1 | 3,445 | Gulfport-Biloxi | 1,661 |
| 2 | 3,970 | Hattiesburg | 792 |
| 3 | 2,981 | Jackson | 3,196 |
| 4 | 3,216 | Memphis | 1,135 |
| | | Pascagoula | 760 |
| | | Rural | 6,065 |

| State Upper House | | | | | | | |
|-------------------|------|----------|------|----------|-------|----------|------|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
| 1 | 758 | 15 | 215 | 29 | 490 | 43 | 158 |
| 2 | <5 | 16 | 408 | 30 | 174 | 44 | 53 |
| 3 | 570 | 17 | 28 | 31 | 191 | 45 | 80 |
| 4 | 209 | 18 | 214 | 32 | 343 | 46 | 681 |
| 5 | 86 | 19 | <5 | 33 | 108 | 47 | 487 |
| 6 | 230 | 20 | 644 | 34 | 1,009 | 48 | 555 |
| 7 | 219 | 21 | 425 | 35 | 128 | 49 | 104 |
| 8 | 127 | 22 | 208 | 36 | 322 | 50 | 65 |
| 9 | 364 | 23 | 239 | 37 | 381 | 51 | 362 |
| 10 | 124 | 24 | 10 | 38 | 39 | 52 | <5 |
| 11 | 143 | 25 | 579 | 39 | 59 | | |
| 12 | 309 | 26 | 440 | 40 | 374 | | |
| 13 | 78 | 27 | <5 | 41 | 78 | | |
| 14 | 442 | 28 | 190 | 42 | 110 | | |

State Lower House

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|------|----------|------|----------|------|----------|------|
| 1 | 154 | 32 | 126 | 63 | 120 | 94 | 194 |
| 2 | 7 | 33 | 8 | 64 | 254 | 95 | 613 |
| 3 | 83 | 34 | 44 | 65 | 133 | 96 | 145 |
| 4 | 61 | 35 | 213 | 66 | 148 | 97 | <5 |
| 5 | 453 | 36 | 72 | 67 | <5 | 98 | <5 |
| 6 | 261 | 37 | 550 | 68 | 267 | 99 | 28 |
| 7 | 189 | 38 | <5 | 69 | <5 | 100 | <5 |
| 8 | 36 | 39 | 16 | 70 | 108 | 101 | <5 |
| 9 | 220 | 40 | <5 | 71 | <5 | 102 | 6 |
| 10 | 65 | 41 | <5 | 72 | <5 | 103 | <5 |
| 11 | 12 | 42 | 7 | 73 | <5 | 104 | <5 |
| 12 | <5 | 43 | 7 | 74 | <5 | 105 | 120 |
| 13 | 79 | 44 | 42 | 75 | 72 | 106 | <5 |
| 14 | 17 | 45 | 368 | 76 | 83 | 107 | <5 |
| 15 | 86 | 46 | 32 | 77 | 83 | 108 | <5 |
| 16 | 431 | 47 | 47 | 78 | 54 | 109 | 204 |
| 17 | <5 | 48 | <5 | 79 | 191 | 110 | 159 |
| 18 | 79 | 49 | 128 | 80 | 248 | 111 | 295 |
| 19 | 61 | 50 | 20 | 81 | 75 | 112 | <5 |
| 20 | 104 | 51 | <5 | 82 | <5 | 113 | <5 |
| 21 | 18 | 52 | <5 | 83 | <5 | 114 | 184 |
| 22 | 41 | 53 | 397 | 84 | <5 | 115 | 289 |
| 23 | 177 | 54 | 242 | 85 | 23 | 116 | <5 |
| 24 | 235 | 55 | <5 | 86 | 35 | 117 | 354 |
| 25 | 27 | 56 | 765 | 87 | 713 | 118 | <5 |
| 26 | 10 | 57 | <5 | 88 | 185 | 119 | 80 |
| 27 | 227 | 58 | 323 | 89 | <5 | 120 | <5 |
| 28 | <5 | 59 | 470 | 90 | 89 | 121 | <5 |
| 29 | 109 | 60 | 251 | 91 | 25 | 122 | 41 |
| 30 | 11 | 61 | <5 | 92 | <5 | | |
| 31 | 144 | 62 | 160 | 93 | 287 | | |



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Missouri

Energy Efficiency Jobs in America

June 2021*

37,944

Dec 2020

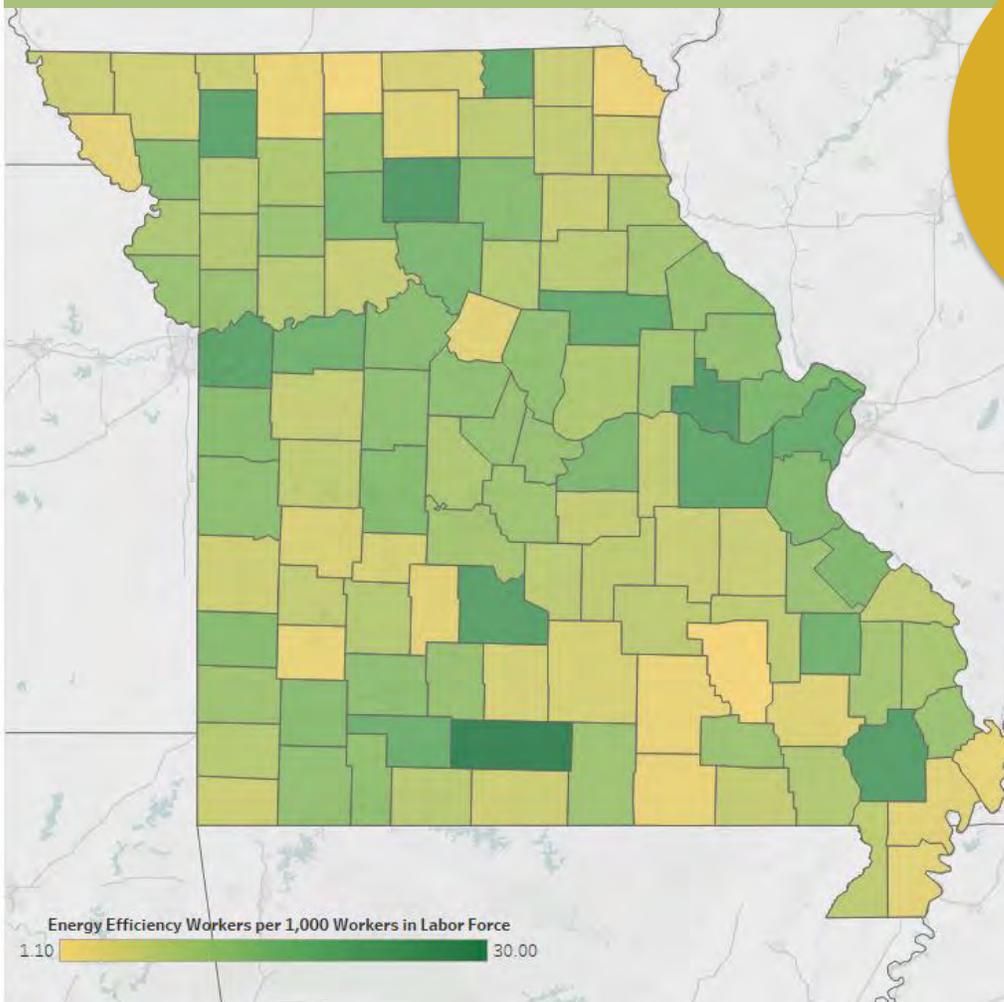
37,866

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Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
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workers

~24,400
new EE construction
jobs to retrofit
Missouri homes by
2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of MO residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



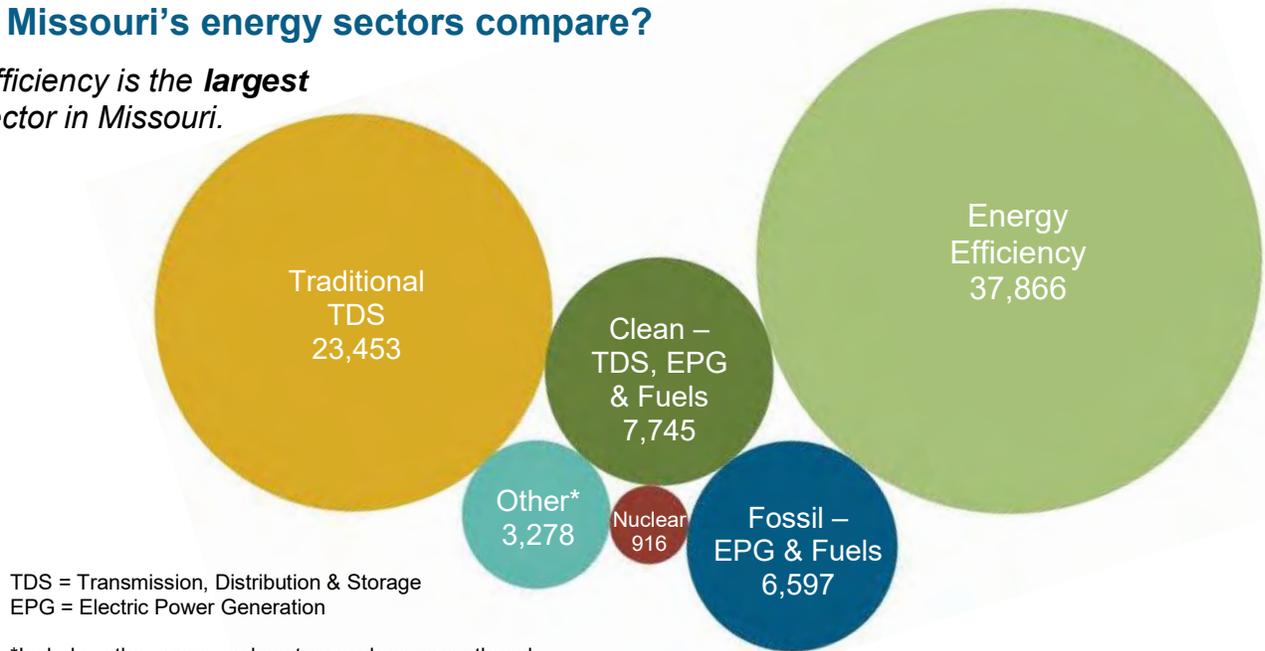
Key EE Statistics for Missouri

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Missouri's energy sectors compare?

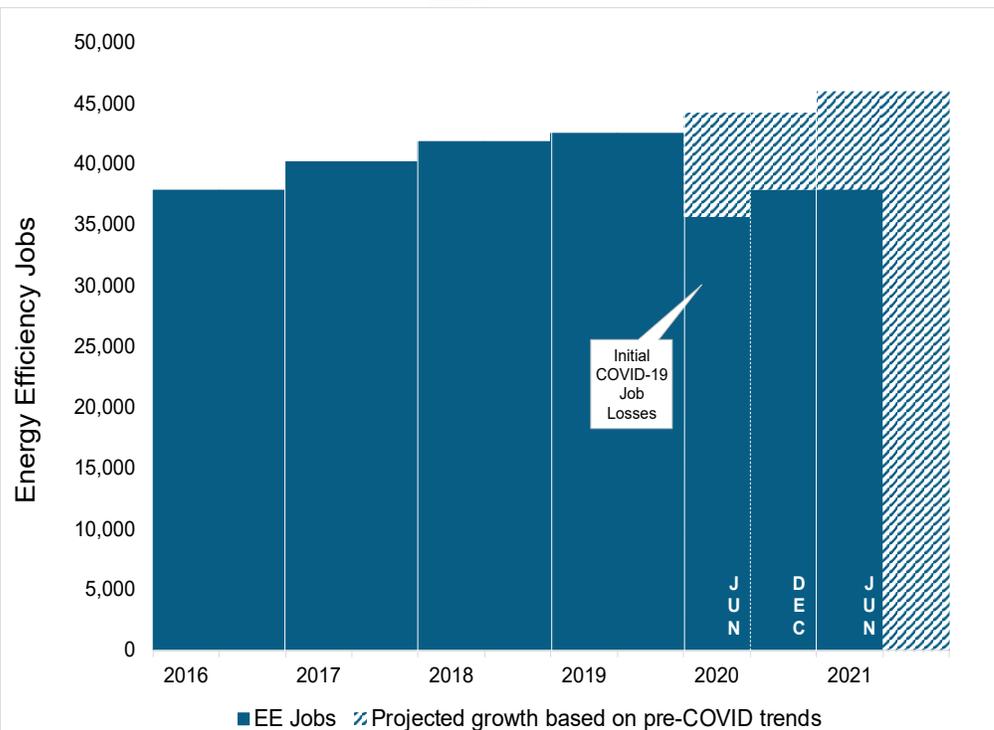
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TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



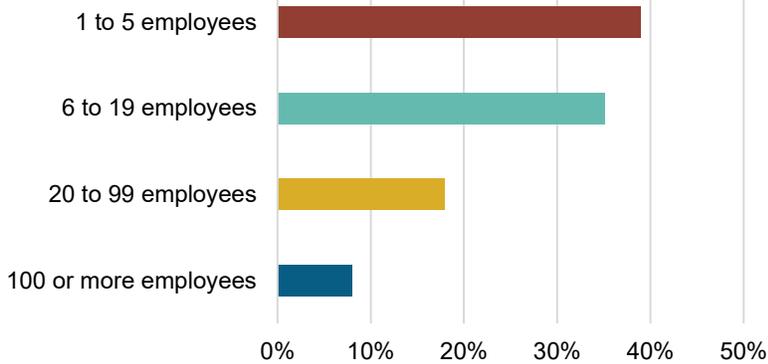
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Missouri?

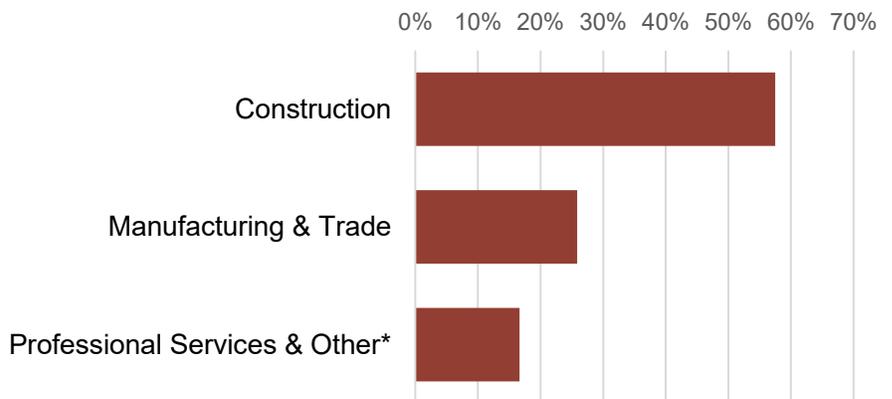
92% of MO EE Businesses Have Less Than 100 Employees



5,847
EE businesses in Missouri

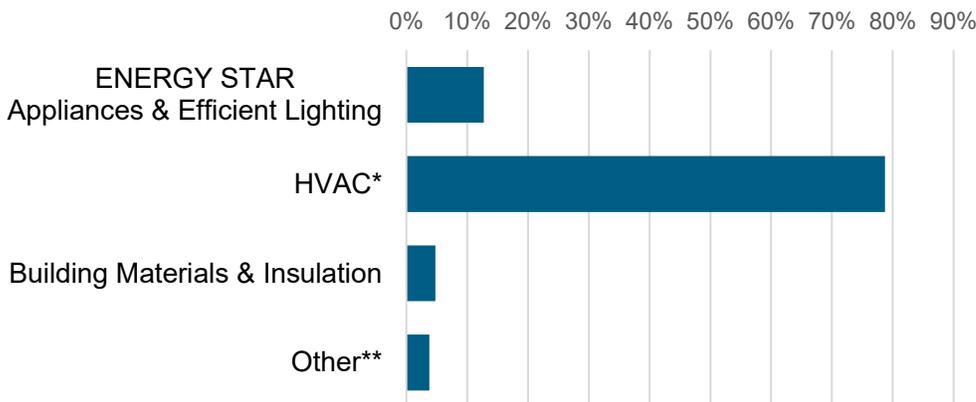
EE construction workers comprise **17%** of Missouri construction workers

What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



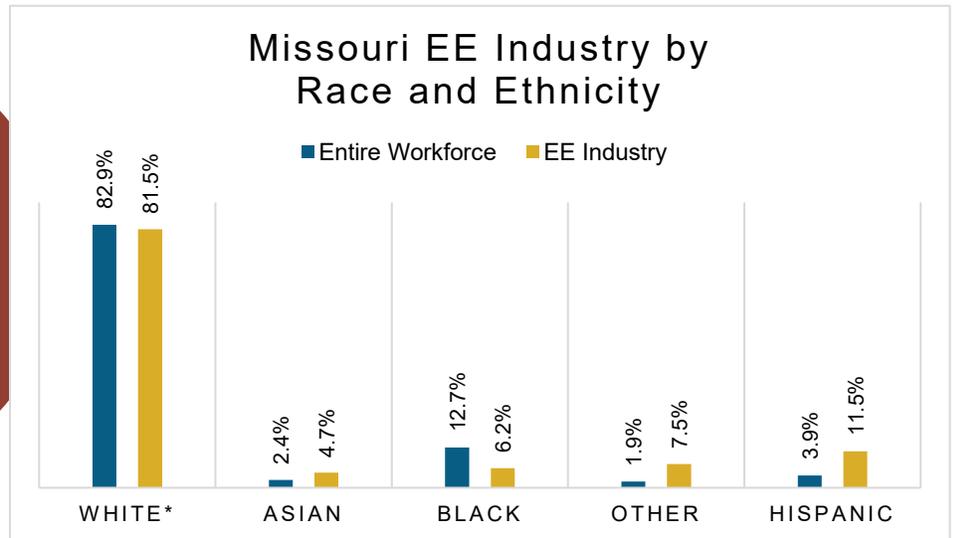
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

8% of Missouri EE workers are **Veterans**

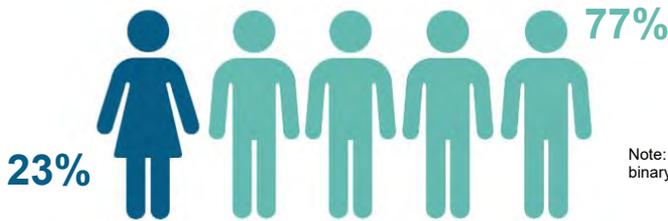
How is EE doing on diversity in Missouri?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Missouri communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Missouri's EE Potential

Decades of work, ready for Missouri's growing energy efficiency workforce.

Weatherization Assistance Program:


1,059* units weatherized in 2018, out of **~325,000** total low-income households

1,972,874

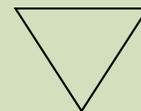
Missouri homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

25%



*National Association for State Community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
 Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|--------------------------------|--------|
| District | Jobs | Area | Jobs |
| 1 | 7,707 | Cape Girardeau-Jackson | 641 |
| 2 | 4,409 | Columbia | 1,105 |
| 3 | 4,591 | Fayetteville-Springdale-Rogers | 121 |
| 4 | 3,837 | Jefferson City | 920 |
| 5 | 6,203 | Joplin | 973 |
| 6 | 3,188 | Kansas City | 8,018 |
| 7 | 4,664 | Springfield | 3,052 |
| 8 | 3,267 | St. Joseph | 563 |
| | | St. Louis | 14,066 |
| | | Rural | 8,407 |

| State Upper House | | | | | | | | | |
|-------------------|-------|----------|-------|----------|-------|----------|-------|--|--|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs | | |
| 1 | 2,609 | 10 | 1,651 | 19 | 451 | 28 | 838 | | |
| 2 | 1,641 | 11 | 381 | 20 | 2,641 | 29 | 1,009 | | |
| 3 | 1,028 | 12 | 1,574 | 21 | 900 | 30 | 257 | | |
| 4 | 2,020 | 13 | 451 | 22 | 570 | 31 | 741 | | |
| 5 | 1,671 | 14 | 1,167 | 23 | <3 | 32 | 774 | | |
| 6 | 1,876 | 15 | 1,872 | 24 | 867 | 33 | 663 | | |
| 7 | 2,919 | 16 | 703 | 25 | 991 | 34 | 786 | | |
| 8 | 1,524 | 17 | 711 | 26 | 480 | | | | |
| 9 | 500 | 18 | 833 | 27 | 767 | | | | |

State Lower House

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|------|----------|-------|----------|------|----------|-------|
| 1 | 236 | 43 | 743 | 85 | <5 | 127 | 434 |
| 2 | 288 | 44 | <5 | 86 | <5 | 128 | 191 |
| 3 | 267 | 45 | 307 | 87 | <5 | 129 | 20 |
| 4 | 196 | 46 | <5 | 88 | 206 | 130 | 1,254 |
| 5 | 205 | 47 | 112 | 89 | 334 | 131 | <5 |
| 6 | 201 | 48 | 460 | 90 | 170 | 132 | 916 |
| 7 | 370 | 49 | 650 | 91 | 128 | 133 | 53 |
| 8 | 167 | 50 | 79 | 92 | 174 | 134 | <5 |
| 9 | 358 | 51 | 219 | 93 | 102 | 135 | 52 |
| 10 | 131 | 52 | 14 | 94 | 168 | 136 | 196 |
| 11 | 128 | 53 | 189 | 95 | <5 | 137 | 126 |
| 12 | 458 | 54 | 36 | 96 | 421 | 138 | 587 |
| 13 | 352 | 55 | 207 | 97 | 279 | 139 | 19 |
| 14 | 874 | 56 | 34 | 98 | 163 | 140 | 23 |
| 15 | 107 | 57 | 237 | 99 | 32 | 141 | 179 |
| 16 | 34 | 58 | 320 | 100 | <5 | 142 | 199 |
| 17 | 103 | 59 | 13 | 101 | 21 | 143 | 307 |
| 18 | <5 | 60 | <5 | 102 | 162 | 144 | 45 |
| 19 | 744 | 61 | 508 | 103 | <5 | 145 | 81 |
| 20 | 567 | 62 | 401 | 104 | <5 | 146 | 439 |
| 21 | 155 | 63 | 33 | 105 | <5 | 147 | 189 |
| 22 | 285 | 64 | 993 | 106 | <5 | 148 | 281 |
| 23 | 545 | 65 | <5 | 107 | <5 | 149 | 118 |
| 24 | 989 | 66 | 182 | 108 | <5 | 150 | 81 |
| 25 | 434 | 67 | 189 | 109 | 141 | 151 | 145 |
| 26 | 40 | 68 | <5 | 110 | <5 | 152 | 228 |
| 27 | 144 | 69 | 312 | 111 | 235 | 153 | <5 |
| 28 | <5 | 70 | 1,501 | 112 | 85 | 154 | 19 |
| 29 | 193 | 71 | 1,134 | 113 | <5 | 155 | 77 |
| 30 | 263 | 72 | 62 | 114 | 184 | 156 | 20 |
| 31 | 62 | 73 | 162 | 115 | 385 | 157 | 220 |
| 32 | 71 | 74 | <5 | 116 | 246 | 158 | 107 |
| 33 | 589 | 75 | <5 | 117 | 39 | 159 | 271 |
| 34 | 245 | 76 | 129 | 118 | 170 | 160 | 155 |
| 35 | <5 | 77 | 1,113 | 119 | 57 | 161 | 305 |
| 36 | 166 | 78 | 874 | 120 | 106 | 162 | 59 |
| 37 | 34 | 79 | <5 | 121 | 68 | 163 | <5 |
| 38 | 72 | 80 | 137 | 122 | 53 | | |
| 39 | 213 | 81 | 90 | 123 | 435 | | |
| 40 | 374 | 82 | 462 | 124 | 217 | | |
| 41 | 357 | 83 | 943 | 125 | 184 | | |
| 42 | 355 | 84 | 1,077 | 126 | 206 | | |



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For questions on E4TheFuture analyses please email: policy@e4thefuture.org.

Montana

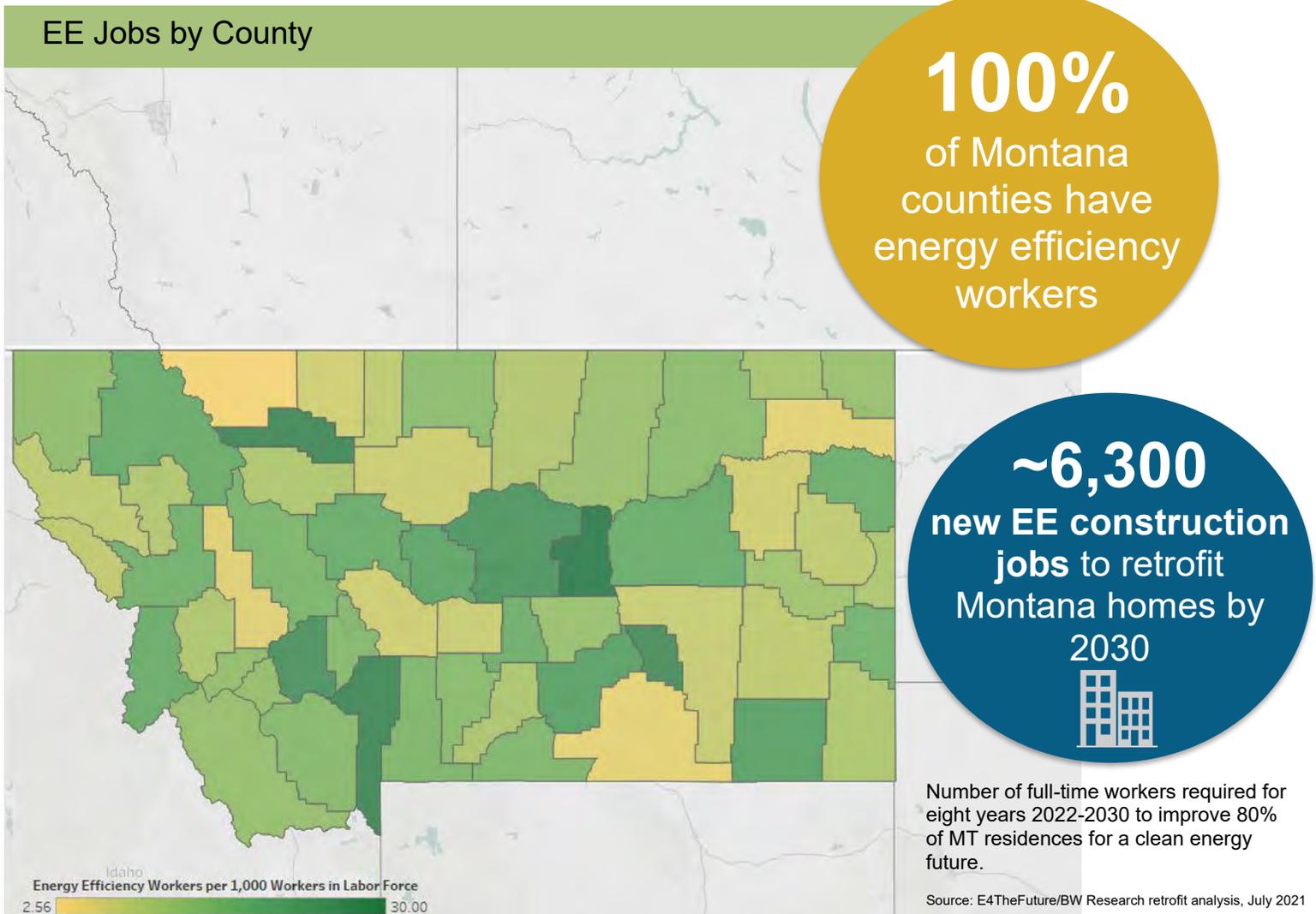
Energy Efficiency Jobs in America



Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Montana, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere



*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



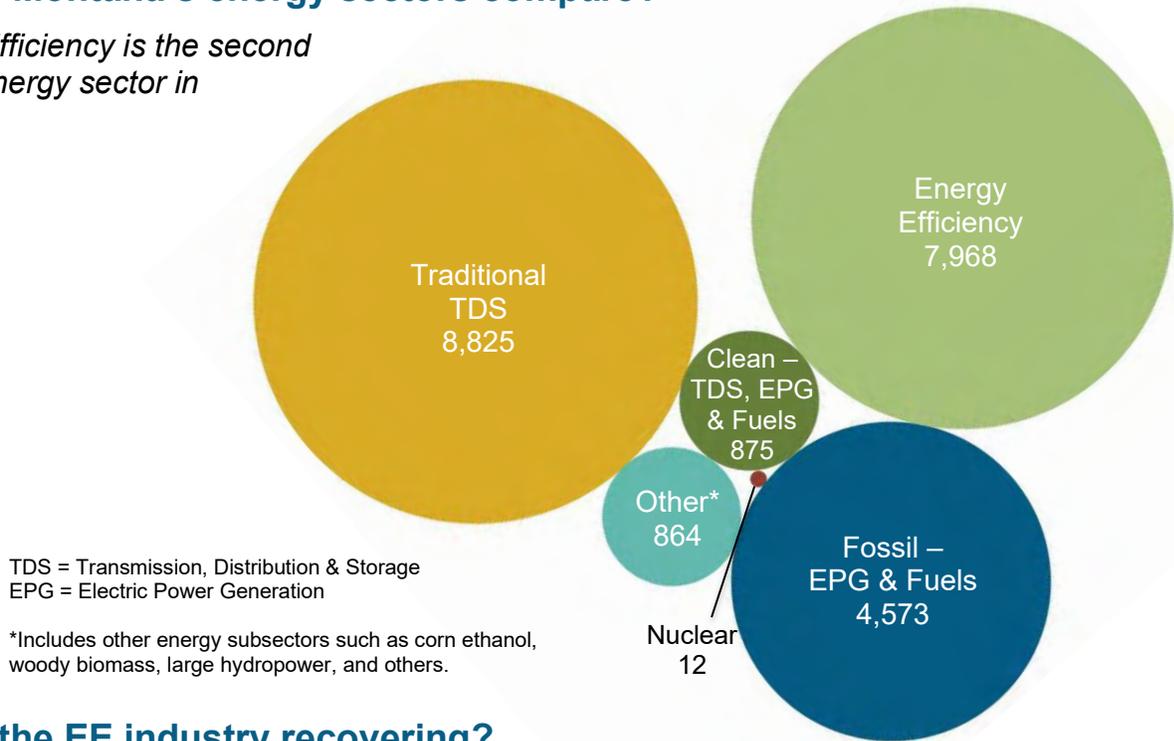
Key EE Statistics for Montana

What are energy efficiency (EE) jobs?

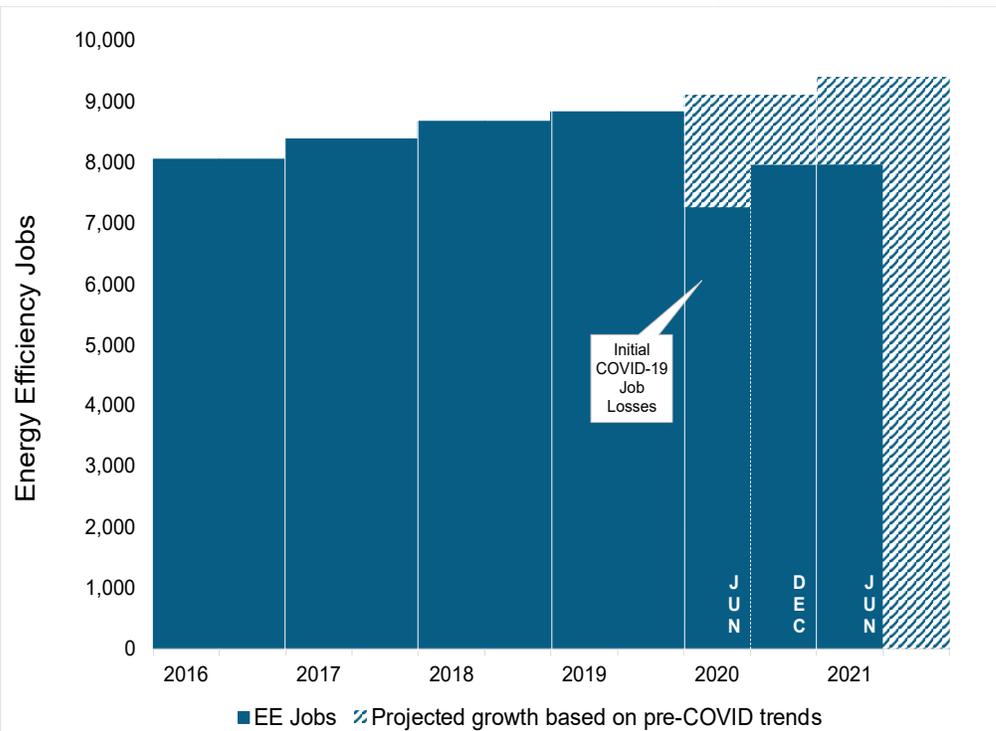
Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Montana's energy sectors compare?

Energy Efficiency is the second largest energy sector in Montana.



How is the EE industry recovering?



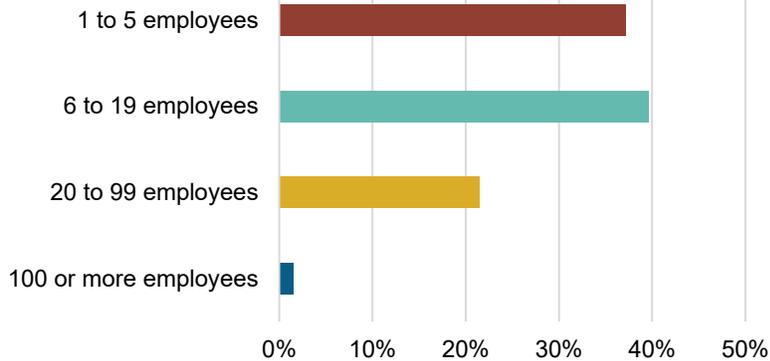
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Montana?

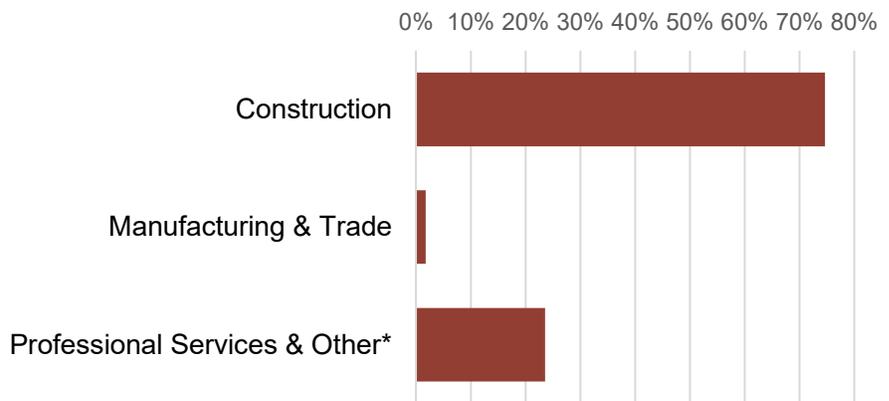
98.3% of MT EE Businesses Have Less Than 100 Employees



1,384
EE businesses in Montana

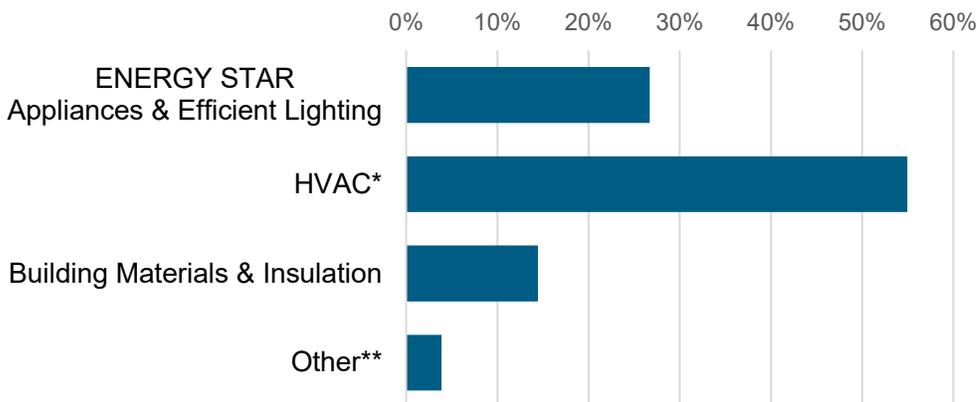
EE construction workers comprise **18%** of Montana construction workers

What type of work do energy efficiency firms do?



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What energy efficiency sectors employ the most workers?



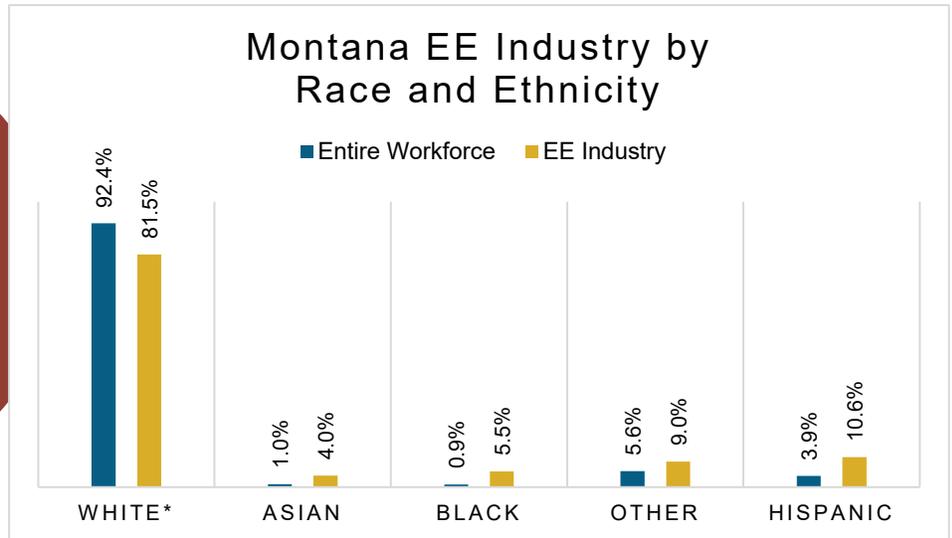
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

8% of Montana EE workers are Veterans

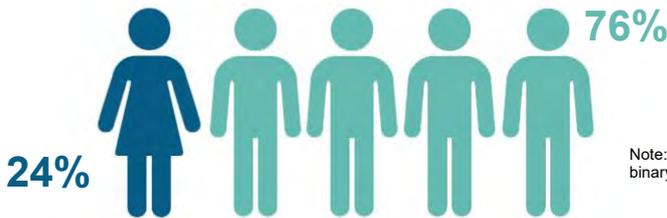
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The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Montana's EE Potential

Decades of work, ready for Montana's growing energy efficiency workforce.

Weatherization Assistance Program:


876* units weatherized in 2018, out of **~57,000** total low-income households

342,792

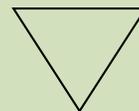
Montana homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

29%



*National Association for State community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|--------------------|-------|
| District | Jobs | Area | Jobs |
| 1 | 7,968 | Billings | 1,670 |
| | | Great Falls | 478 |
| | | Missoula | 944 |
| | | Rural | 4,877 |

| State Senate | | | | | | | |
|--------------|------|----------|------|----------|------|----------|------|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
| 1 | 154 | 16 | 127 | 31 | 262 | 46 | 208 |
| 2 | 818 | 17 | 56 | 32 | 87 | 47 | <5 |
| 3 | 5 | 18 | 196 | 33 | <5 | 48 | 31 |
| 4 | <5 | 19 | 135 | 34 | <5 | 49 | <5 |
| 5 | 116 | 20 | 420 | 35 | 117 | 50 | <5 |
| 6 | 81 | 21 | 730 | 36 | 396 | | |
| 7 | 116 | 22 | <5 | 37 | <5 | | |
| 8 | 108 | 23 | 513 | 38 | 460 | | |
| 9 | 133 | 24 | <5 | 39 | 52 | | |
| 10 | 243 | 25 | <5 | 40 | 36 | | |
| 11 | 220 | 26 | <5 | 41 | <5 | | |
| 12 | <5 | 27 | <5 | 42 | <5 | | |
| 13 | <5 | 28 | 20 | 43 | 293 | | |
| 14 | 172 | 29 | 154 | 44 | 31 | | |
| 15 | 160 | 30 | 686 | 45 | 632 | | |

State House of Representatives

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|------|----------|------|----------|------|----------|------|
| 1 | 77 | 26 | <5 | 51 | <5 | 76 | <5 |
| 2 | 76 | 27 | 171 | 52 | <5 | 77 | 31 |
| 3 | 216 | 28 | <5 | 53 | <5 | 78 | 21 |
| 4 | 601 | 29 | 114 | 54 | <5 | 79 | <5 |
| 5 | <5 | 30 | 46 | 55 | 20 | 80 | 35 |
| 6 | 5 | 31 | 79 | 56 | <5 | 81 | <5 |
| 7 | 16 | 32 | 47 | 57 | 96 | 82 | <5 |
| 8 | <5 | 33 | 5 | 58 | 57 | 83 | <5 |
| 9 | <5 | 34 | 50 | 59 | 689 | 84 | <5 |
| 10 | 116 | 35 | 140 | 60 | <5 | 85 | 297 |
| 11 | <5 | 36 | 55 | 61 | 262 | 86 | <5 |
| 12 | 81 | 37 | 135 | 62 | <5 | 87 | <5 |
| 13 | 63 | 38 | <5 | 63 | <5 | 88 | 31 |
| 14 | 36 | 39 | 58 | 64 | 87 | 89 | 635 |
| 15 | 77 | 40 | 361 | 65 | <5 | 90 | <5 |
| 16 | 30 | 41 | 33 | 66 | <5 | 91 | <5 |
| 17 | 95 | 42 | 696 | 67 | <5 | 92 | 209 |
| 18 | 37 | 43 | <5 | 68 | <5 | 93 | <5 |
| 19 | 242 | 44 | <5 | 69 | 10 | 94 | <5 |
| 20 | <5 | 45 | <5 | 70 | 107 | 95 | 31 |
| 21 | 220 | 46 | 514 | 71 | 336 | 96 | <5 |
| 22 | <5 | 47 | <5 | 72 | 61 | 97 | <5 |
| 23 | <5 | 48 | <5 | 73 | <5 | 98 | <5 |
| 24 | <5 | 49 | <5 | 74 | <5 | 99 | <5 |
| 25 | <5 | 50 | <5 | 75 | 459 | 100 | <5 |



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Nebraska

Energy Efficiency Jobs in America

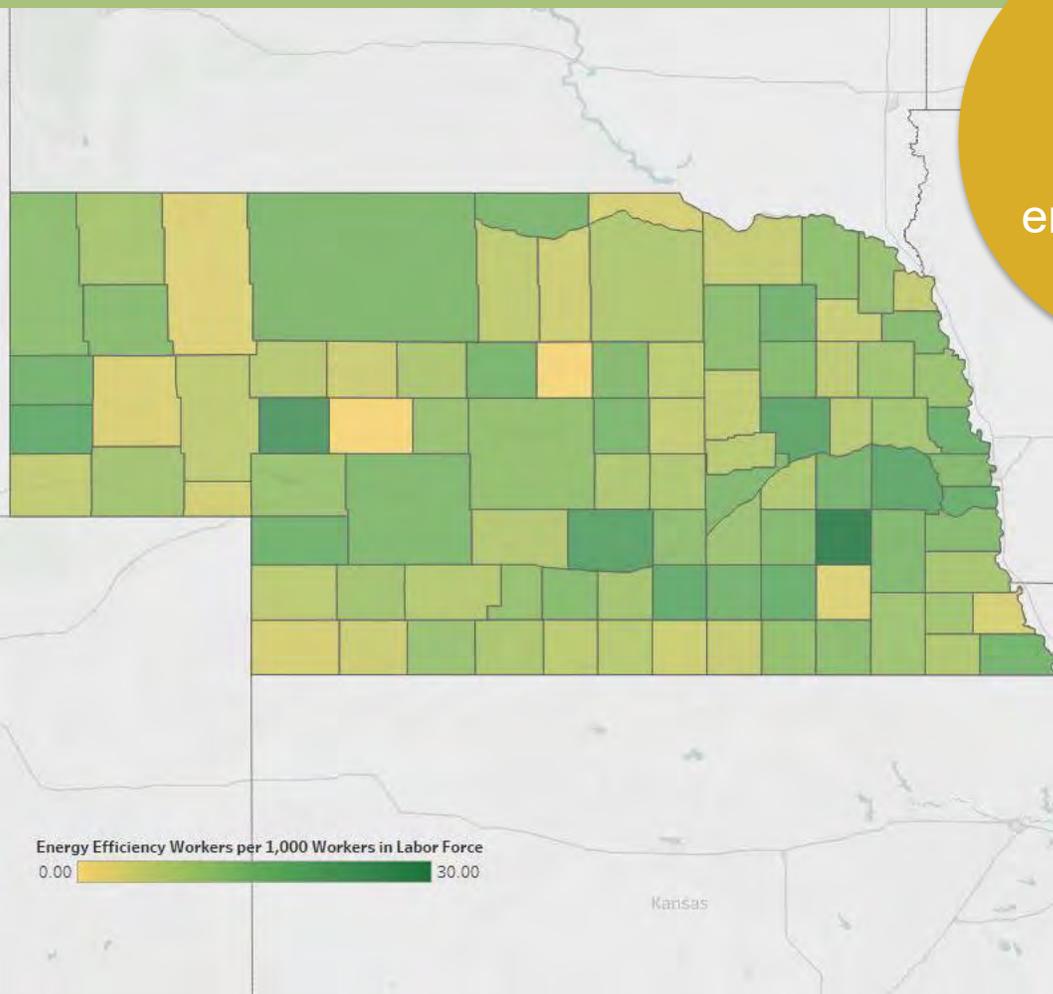


Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Nebraska, there are EE jobs in nearly every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



98%
of Nebraska
counties have
energy efficiency
workers

~7,100
new EE construction
jobs to retrofit
Nebraska homes by
2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of NE residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



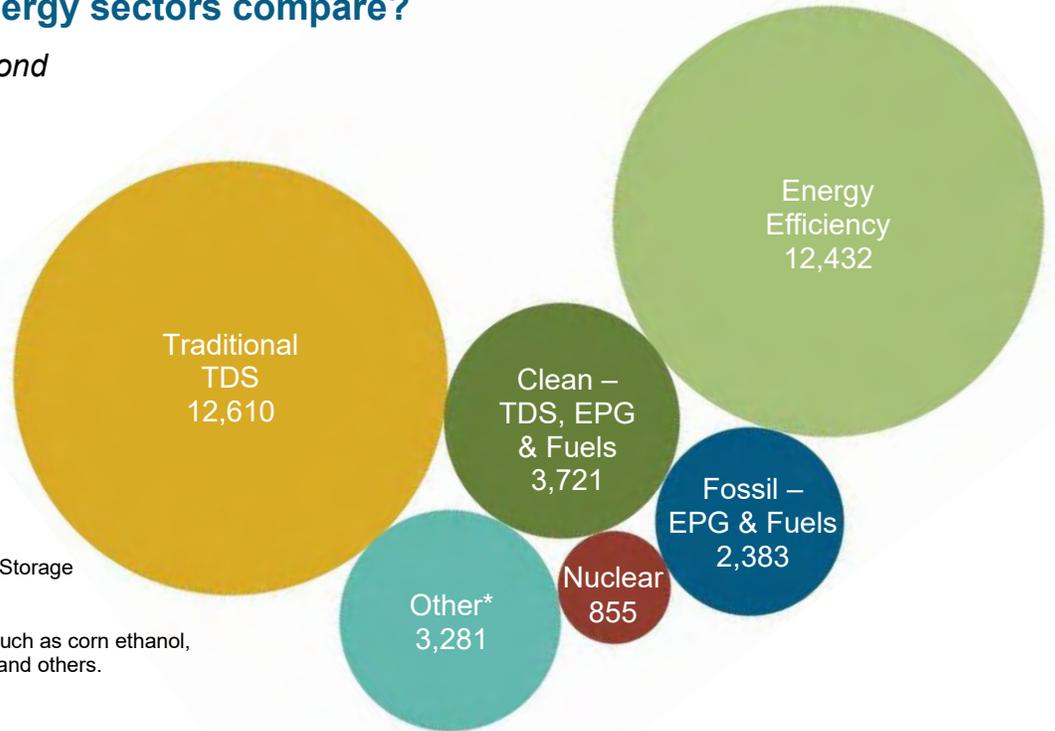
Key EE Statistics for Nebraska

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Nebraska's energy sectors compare?

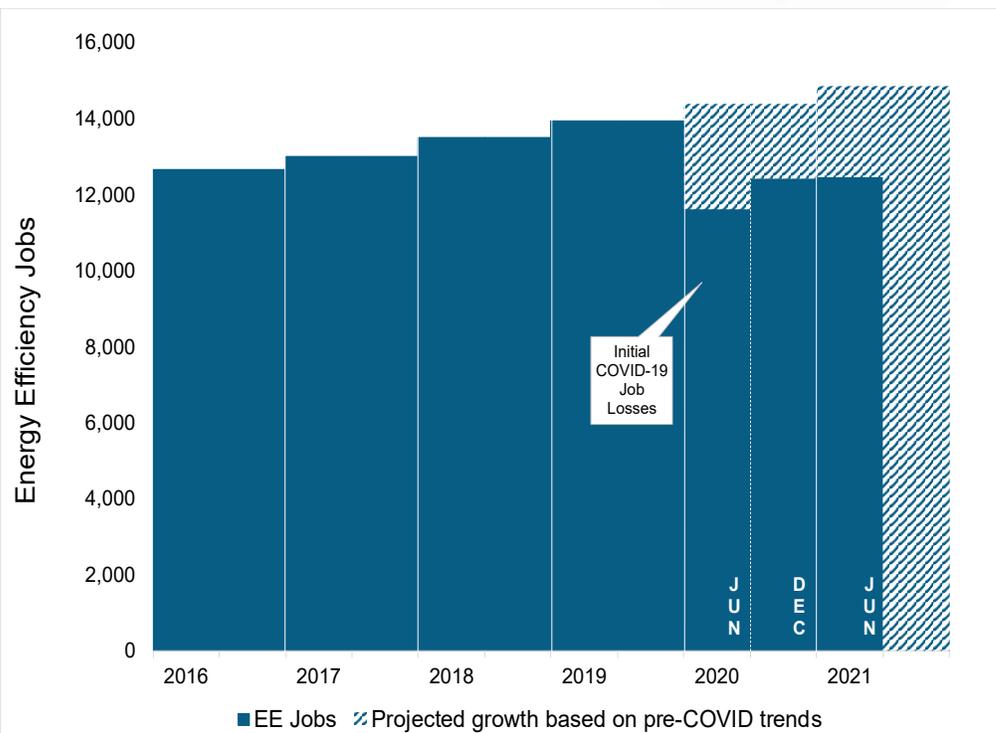
Energy Efficiency is the second largest energy sector in Nebraska.



TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



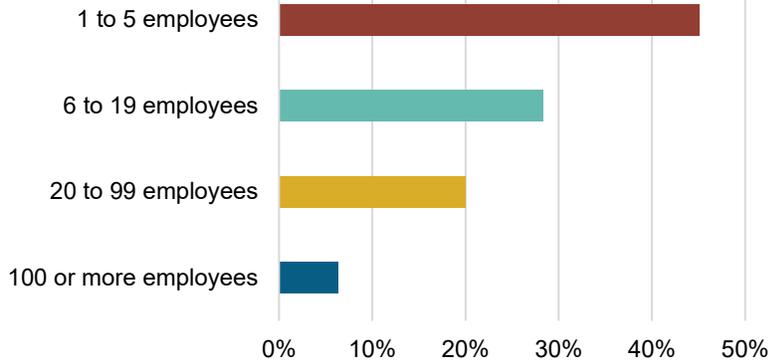
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Nebraska?

93.5% of NE EE Businesses Have Less Than 100 Employees

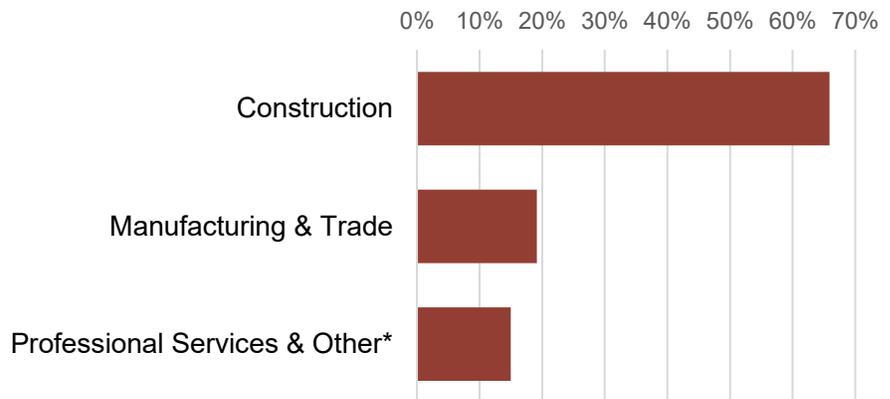


2,029
EE businesses in Nebraska

EE construction workers comprise **14%** of Nebraska construction workers

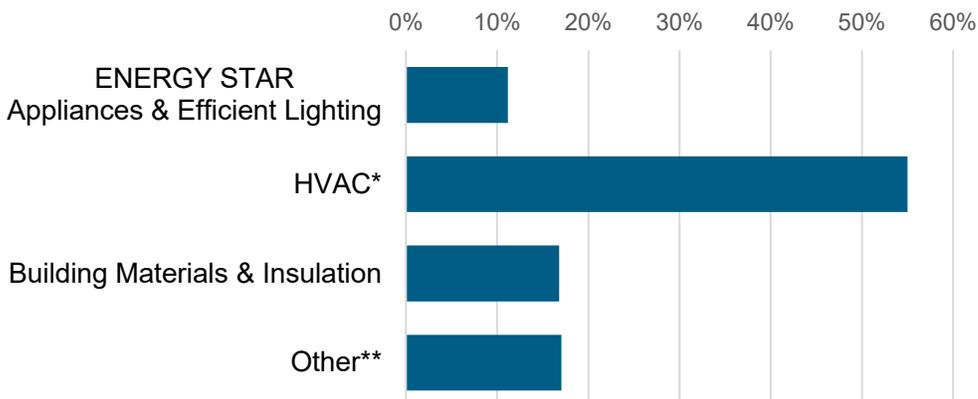


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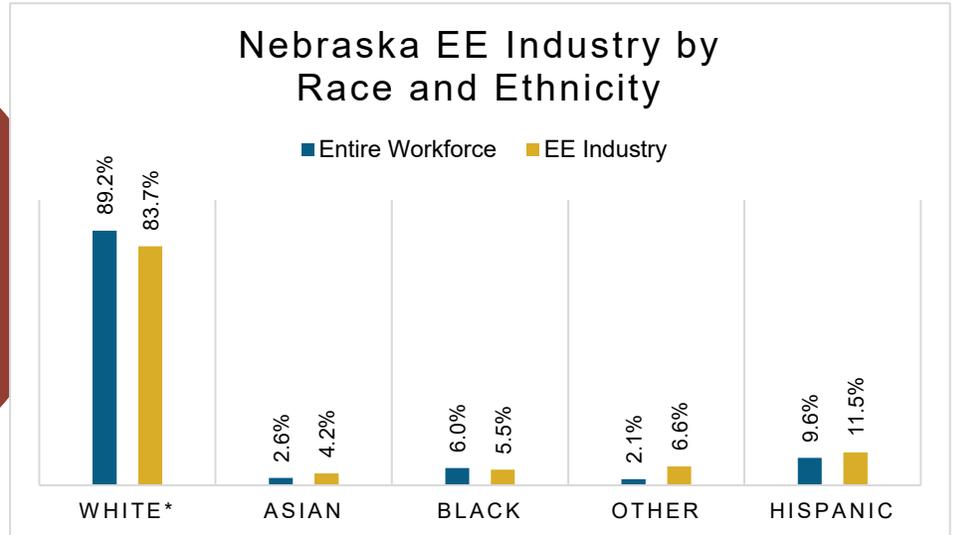
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**Other such as energy audits, building certifications, and software services

8% of Nebraska EE workers are **Veterans**

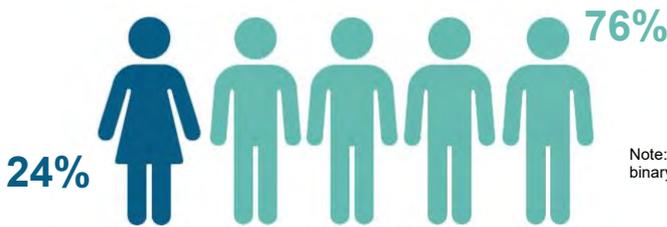
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The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



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Nebraska's EE Potential

Decades of work, ready for Nebraska's growing energy efficiency workforce.

Weatherization Assistance Program:



323* units weatherized in 2018, out of **~78,000** total low-income households

617,052

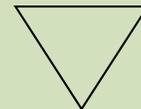
Nebraska homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

22%



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Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|----------------------|-------|
| District | Jobs | Area | Jobs |
| 1 | 4,201 | Lincoln | 2,063 |
| 2 | 4,198 | Omaha-Council Bluffs | 4,963 |
| 3 | 4,033 | Sioux City | 95 |
| | | Rural | 5,310 |

| State Senate | | | | | | | |
|--------------|-------|----------|------|----------|------|----------|------|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
| 1 | 296 | 14 | 162 | 27 | 247 | 40 | 234 |
| 2 | 486 | 15 | 282 | 28 | <5 | 41 | 251 |
| 3 | 100 | 16 | 286 | 29 | 21 | 42 | 244 |
| 4 | 1,192 | 17 | 185 | 30 | 236 | 43 | 250 |
| 5 | 613 | 18 | <5 | 31 | 46 | 44 | 230 |
| 6 | 830 | 19 | 346 | 32 | 197 | 45 | 62 |
| 7 | 526 | 20 | <5 | 33 | 303 | 46 | <5 |
| 8 | 81 | 21 | 831 | 34 | 503 | 47 | 436 |
| 9 | <5 | 22 | 291 | 35 | <5 | 48 | 6 |
| 10 | 199 | 23 | 158 | 36 | 327 | 49 | 53 |
| 11 | <5 | 24 | 291 | 37 | 322 | | |
| 12 | 254 | 25 | 643 | 38 | 173 | | |
| 13 | 79 | 26 | 121 | 39 | 43 | | |



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Nevada

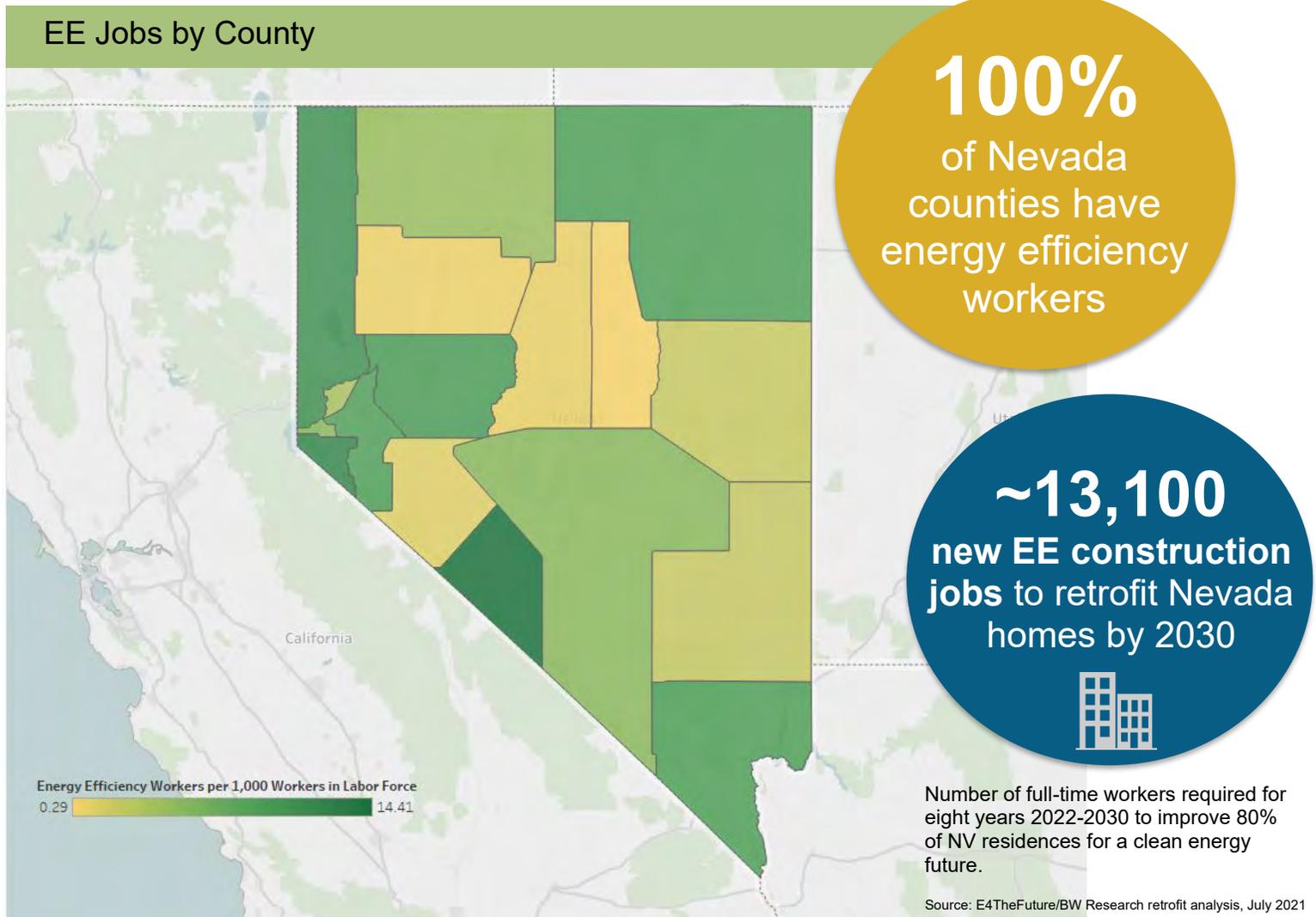
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Energy Efficiency Jobs are Everywhere



*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



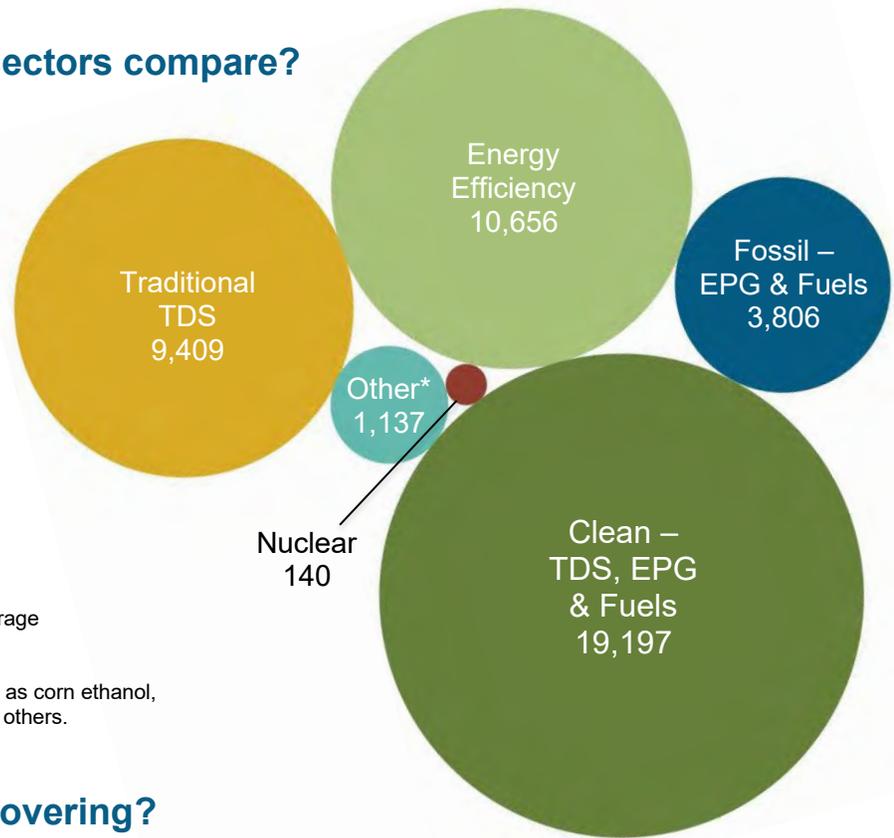
Key EE Statistics for Nevada

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Nevada's energy sectors compare?

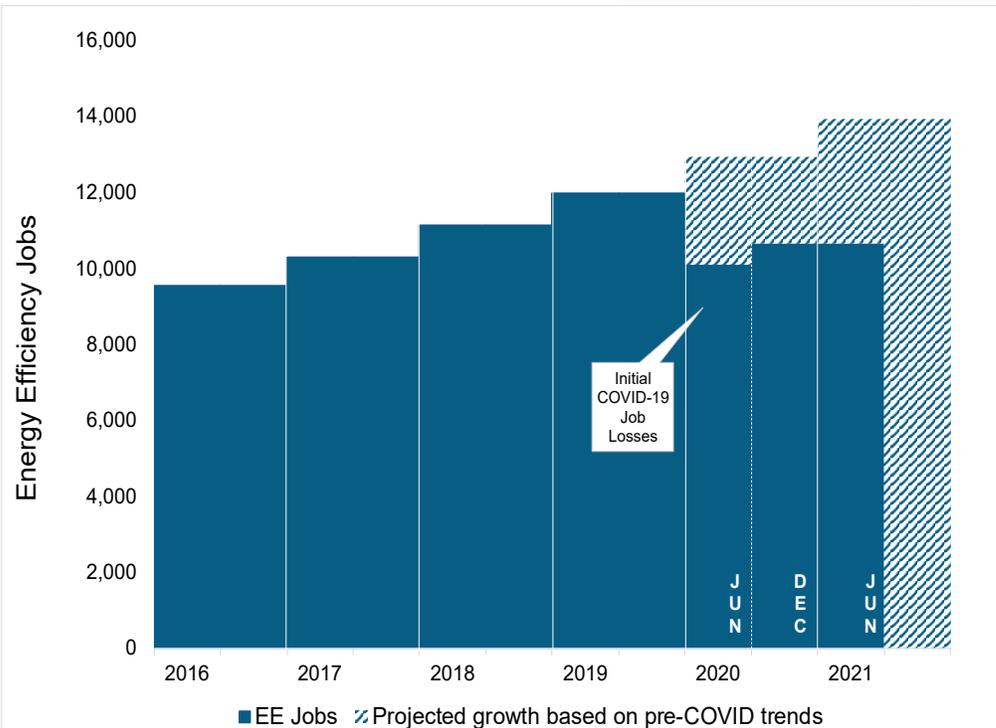
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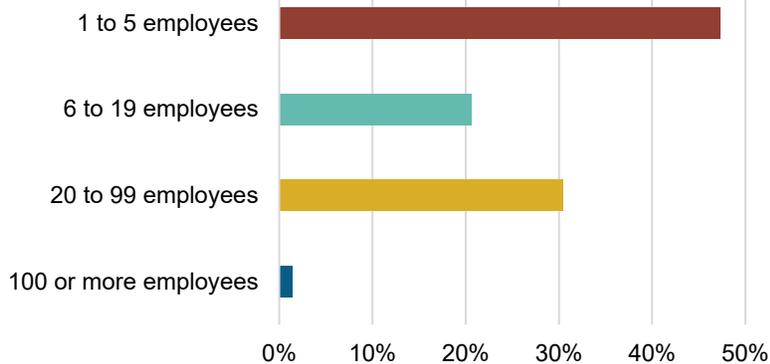
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What does EE look like in Nevada?

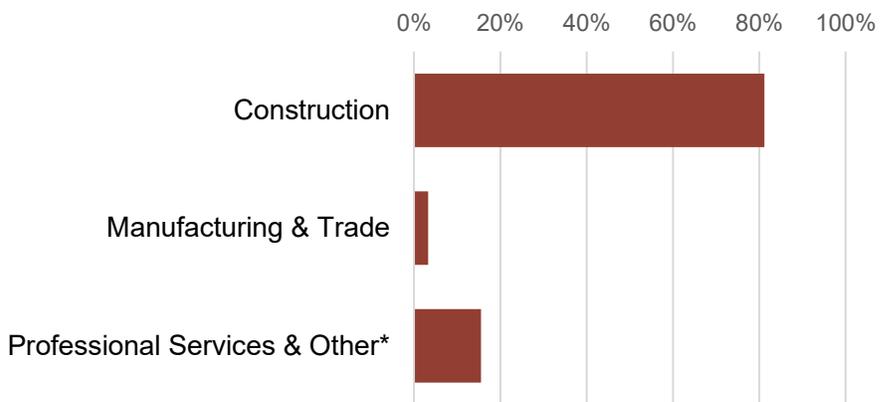
98.3% of NV EE Businesses Have Less Than 100 Employees



2,197
EE businesses in Nevada

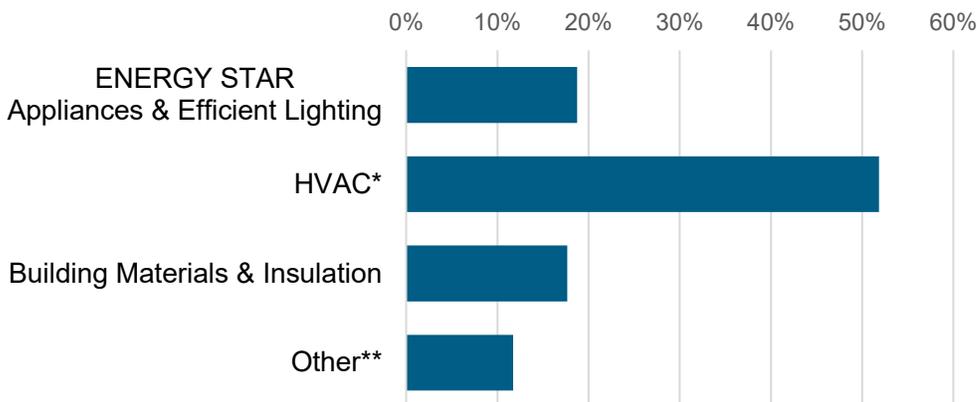
EE construction workers comprise **9%** of Nevada construction workers

What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



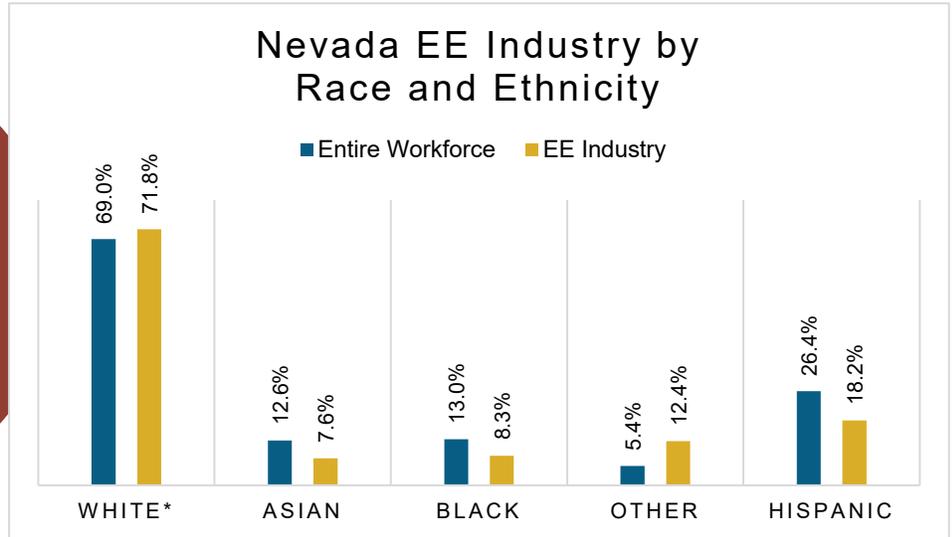
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

7% of Nevada EE workers are **Veterans**

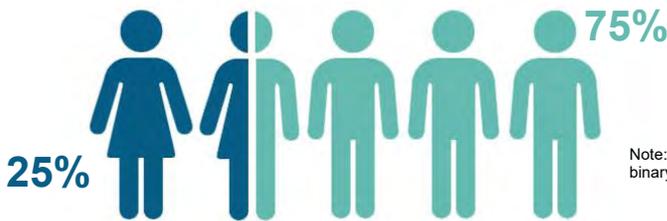
How is EE doing on diversity in Nevada?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Nevada communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Nevada's EE Potential

Decades of work, ready for Nevada's growing energy efficiency workforce.

Weatherization Assistance Program:



195* units weatherized in 2018, out of **~140,000** total low-income households

698,735

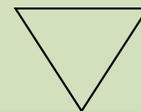
Nevada homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

37%



*National Association for State Community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|--------------------|-------|
| District | Jobs | Area | Jobs |
| 1 | 6,167 | Carson City | 207 |
| 2 | 2,420 | Las Vegas-Paradise | 6,345 |
| 3 | 1,420 | Reno-Sparks | 3,654 |
| 4 | 648 | Rural | 449 |

| State Senate | | | | | | | | | |
|--------------|-------|----------|------|----------|-------|----------|------|--|--|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs | | |
| 1 | 642 | 7 | 407 | 13 | 1,204 | 19 | 226 | | |
| 2 | 803 | 8 | 437 | 14 | 159 | 20 | 50 | | |
| 3 | 1,405 | 9 | 423 | 15 | 165 | 21 | 14 | | |
| 4 | <5 | 10 | 890 | 16 | 442 | | | | |
| 5 | 1,929 | 11 | 184 | 17 | 337 | | | | |
| 6 | 563 | 12 | 369 | 18 | 6 | | | | |

State Assembly

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|-------|----------|------|----------|------|----------|------|
| 1 | 223 | 13 | <5 | 25 | 465 | 37 | <5 |
| 2 | 562 | 14 | <5 | 26 | 182 | 38 | 138 |
| 3 | 496 | 15 | 971 | 27 | 28 | 39 | 359 |
| 4 | 176 | 16 | <5 | 28 | <5 | 40 | 243 |
| 5 | 85 | 17 | <5 | 29 | <5 | 41 | <5 |
| 6 | 713 | 18 | 431 | 30 | 312 | 42 | <5 |
| 7 | 255 | 19 | 159 | 31 | <5 | | |
| 8 | 1,260 | 20 | 142 | 32 | 104 | | |
| 9 | 167 | 21 | 215 | 33 | 216 | | |
| 10 | 628 | 22 | 209 | 34 | 191 | | |
| 11 | 237 | 23 | 60 | 35 | 41 | | |
| 12 | 479 | 24 | 864 | 36 | 40 | | |



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Data Source: Unless otherwise stated, all data are from the U.S. Energy and Employment Report, July 2021, by the U.S. Department of Energy (see Appendix A for methodology details). This methodology -- adopted by the U.S. Dept. of Energy for its 2017 U.S. Energy and Employment Report, approved by the Office of Management and Budget and grounded on data collected by the Bureau of Labor Statistics -- provides the broadly accepted best accounting of all U.S. energy workers.

For questions on E4TheFuture analyses please email: policy@e4thefuture.org.

New Hampshire

Energy Efficiency Jobs in America

June 2021*

10,855

Dec 2020

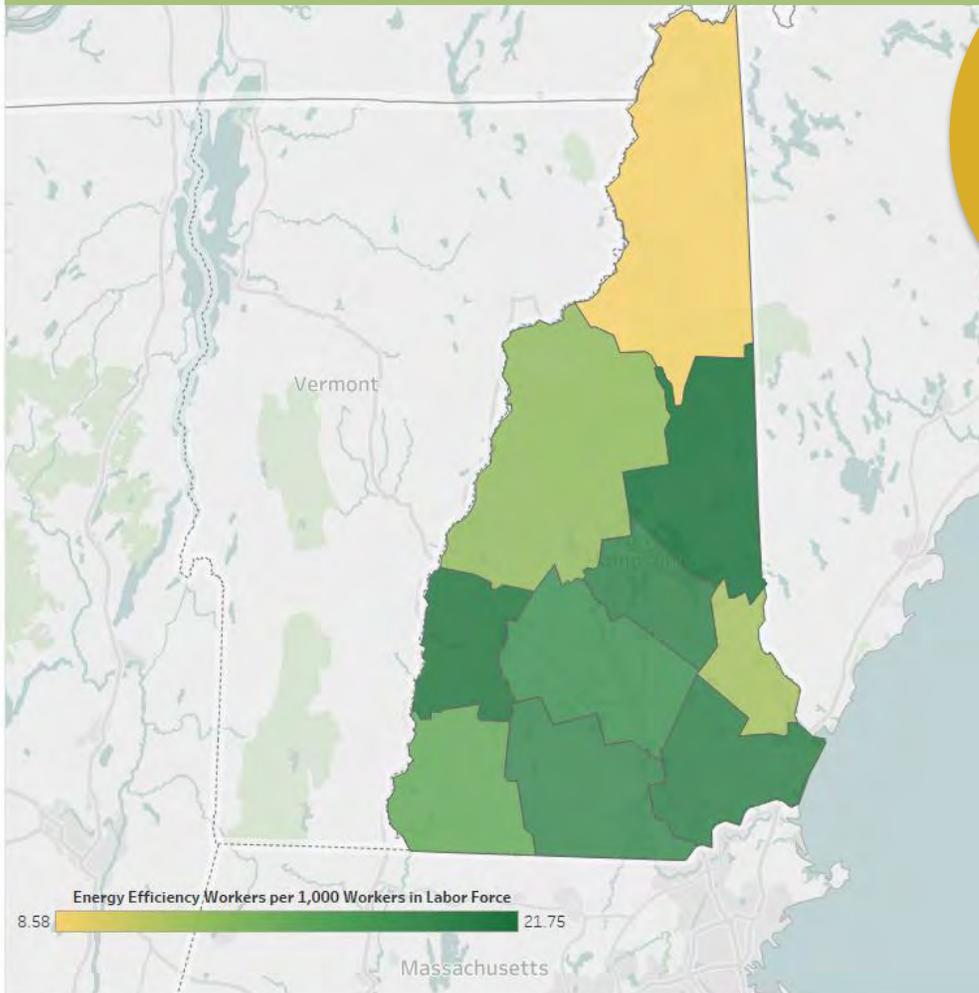
10,838

Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In New Hampshire, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of New Hampshire
counties have
energy efficiency
workers

~6,800
new EE construction
jobs to retrofit New
Hampshire homes by
2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of NH residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



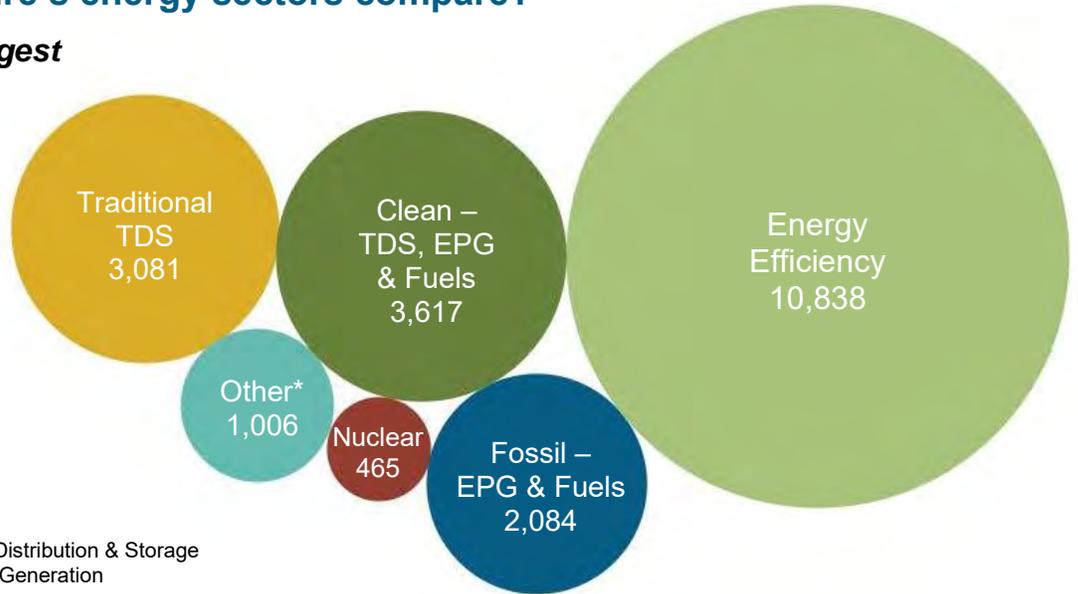
Key EE Statistics for New Hampshire

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do New Hampshire's energy sectors compare?

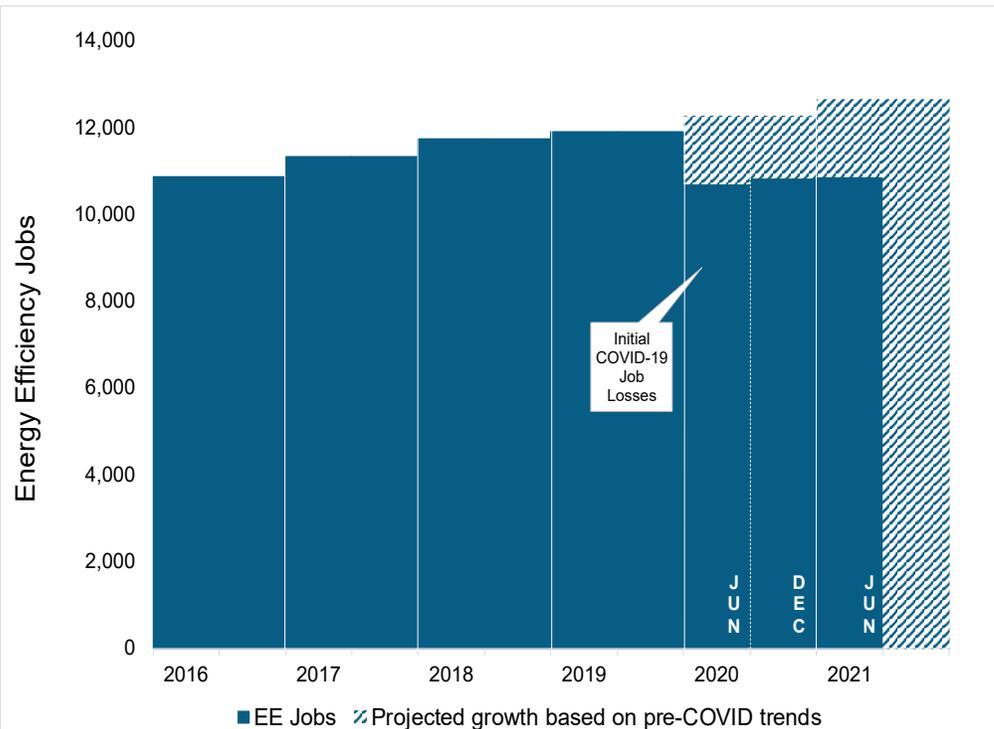
Energy Efficiency is the **largest** energy sector in New Hampshire.



TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



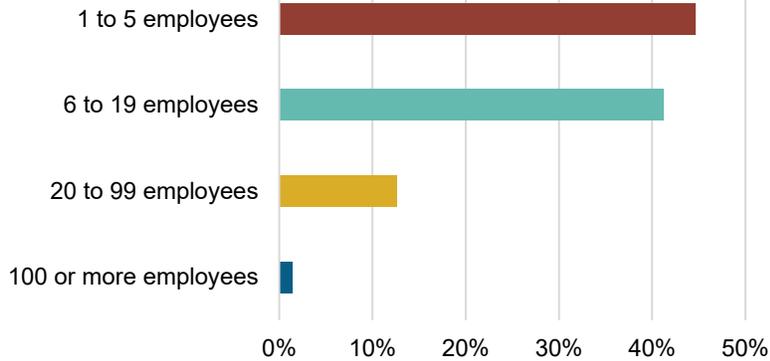
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in New Hampshire?

98.5% of NH EE Businesses Have Less Than 100 Employees



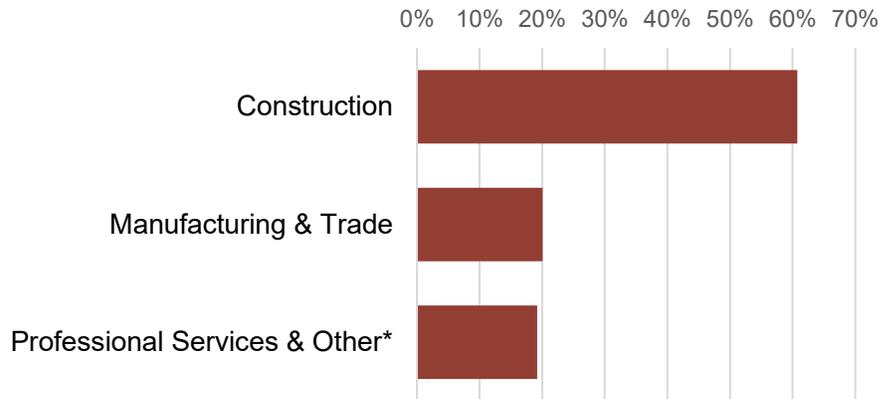
2,033
EE businesses in New Hampshire



EE construction workers comprise **22%** of New Hampshire construction workers

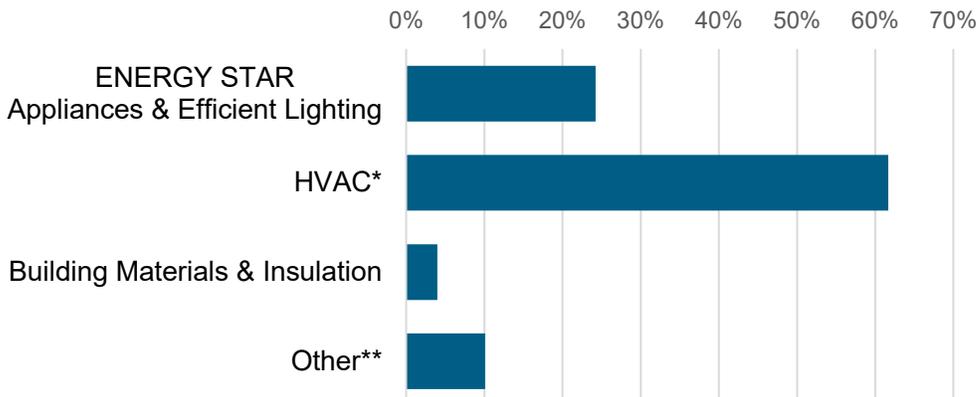


What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

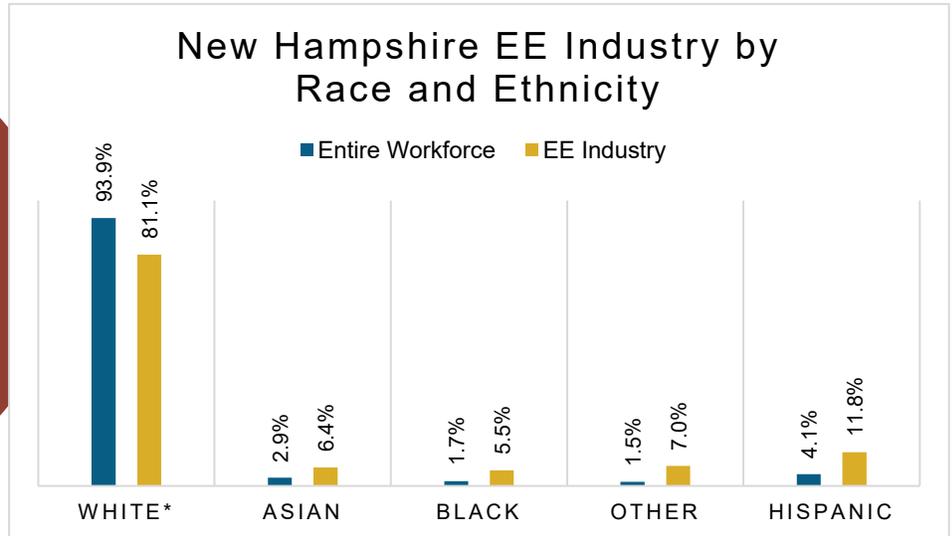


8% of New Hampshire EE workers are **Veterans**

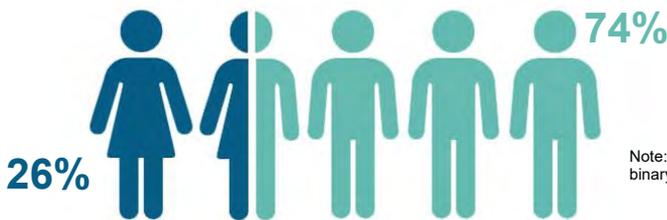
How is EE doing on diversity in New Hampshire?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all New Hampshire communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

New Hampshire's EE Potential

Decades of work, ready for New Hampshire's growing energy efficiency workforce.

Weatherization Assistance Program:

139* units weatherized in 2018, out of **~40,000** total low-income households

497,478

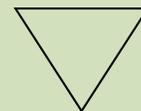
New Hampshire homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

18%



*National Association for State community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|-------------------------|-------|
| District | Jobs | Area | Jobs |
| 1 | 5,885 | Boston-Cambridge-Quincy | 4,869 |
| 2 | 4,953 | Manchester-Nashua | 2,607 |
| | | Rural | 3,362 |

| State Senate | | | | | | | | | |
|--------------|------|----------|------|----------|------|----------|------|--|--|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs | | |
| 1 | 414 | 7 | 531 | 13 | 276 | 19 | 228 | | |
| 2 | 503 | 8 | 486 | 14 | 998 | 20 | 303 | | |
| 3 | 519 | 9 | 525 | 15 | 556 | 21 | 556 | | |
| 4 | 417 | 10 | 335 | 16 | 511 | 22 | 497 | | |
| 5 | 357 | 11 | 516 | 17 | 367 | 23 | 452 | | |
| 6 | 260 | 12 | 560 | 18 | 168 | 24 | 503 | | |

State House of Representatives

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|------|----------|------|----------|------|----------|------|
| 1 | 111 | 405 | 32 | 602 | 8 | 722 | 65 |
| 2 | 253 | 406 | 98 | 604 | 110 | 723 | 408 |
| 4 | 80 | 408 | 70 | 605 | <5 | 724 | 53 |
| 5 | 47 | 409 | 68 | 606 | 47 | 801 | 20 |
| 6 | 74 | 410 | 119 | 607 | 65 | 802 | 36 |
| 7 | 20 | 412 | 58 | 609 | 88 | 803 | 46 |
| 101 | 90 | 413 | 37 | 610 | 515 | 804 | 108 |
| 102 | 105 | 501 | 97 | 620 | 145 | 805 | 22 |
| 103 | 59 | 502 | 73 | 623 | 103 | 806 | 271 |
| 104 | 159 | 503 | 36 | 624 | 123 | 807 | 141 |
| 105 | 78 | 504 | 183 | 701 | 47 | 817 | 64 |
| 117 | 7 | 505 | 15 | 702 | 144 | 818 | 27 |
| 201 | 82 | 506 | 220 | 704 | 197 | 901 | 58 |
| 202 | 181 | 507 | 227 | 705 | 440 | 902 | 105 |
| 203 | 22 | 508 | 134 | 706 | 41 | 903 | 80 |
| 209 | 173 | 510 | 422 | 707 | 73 | 906 | 34 |
| 211 | 56 | 512 | 180 | 708 | 297 | 907 | 21 |
| 212 | 75 | 520 | 260 | 709 | 93 | | |
| 301 | 50 | 521 | 362 | 710 | 321 | | |
| 302 | 34 | 523 | 113 | 712 | 31 | | |
| 303 | 45 | 525 | 11 | 713 | 50 | | |
| 304 | 18 | 526 | 112 | 714 | 89 | | |
| 305 | 13 | 528 | 151 | 715 | 37 | | |
| 306 | 26 | 529 | 60 | 716 | 34 | | |
| 401 | 87 | 530 | 273 | 717 | 17 | | |
| 402 | 49 | 531 | 112 | 719 | 123 | | |
| 403 | 36 | 537 | 108 | 720 | 116 | | |
| 404 | 16 | 601 | 130 | 721 | 113 | | |



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New Jersey

Energy Efficiency Jobs in America

June 2021*

32,936

Dec 2020

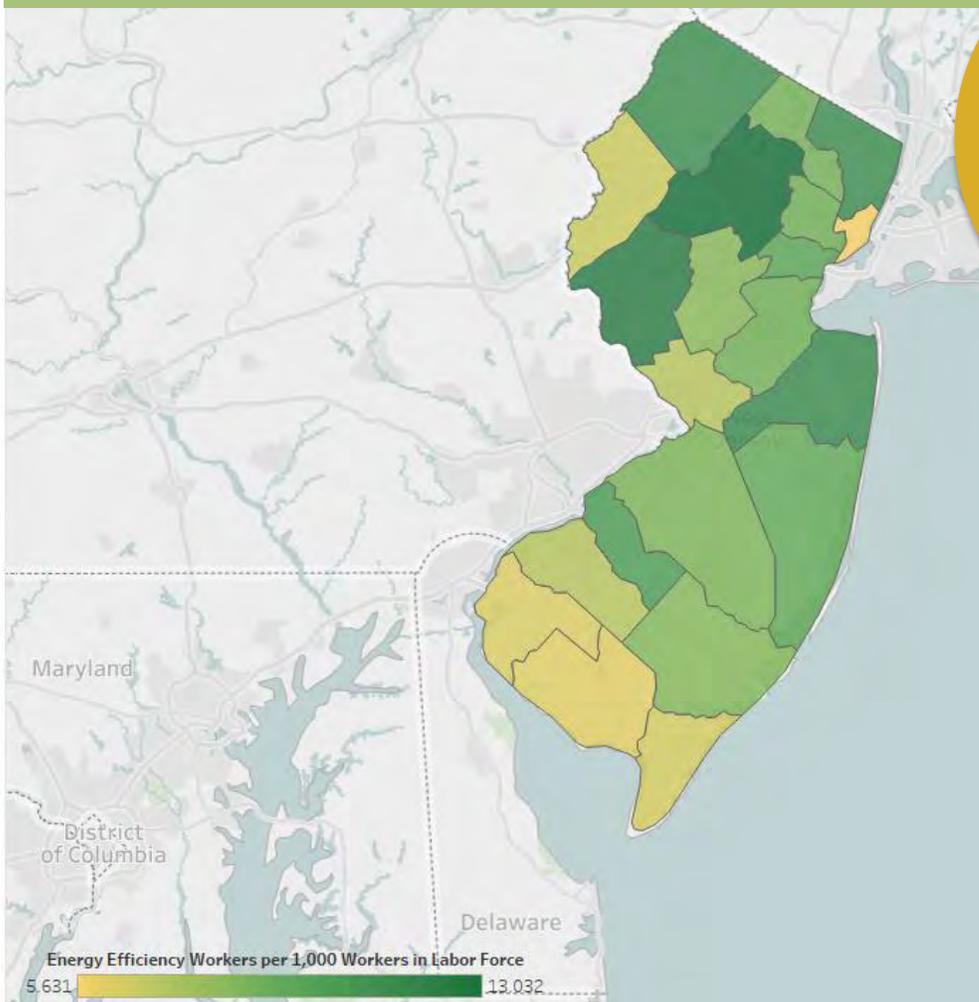
32,880

Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In New Jersey, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of New Jersey
counties have
energy efficiency
workers

~41,500
new EE construction
jobs to retrofit New
Jersey homes by
2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of NJ residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



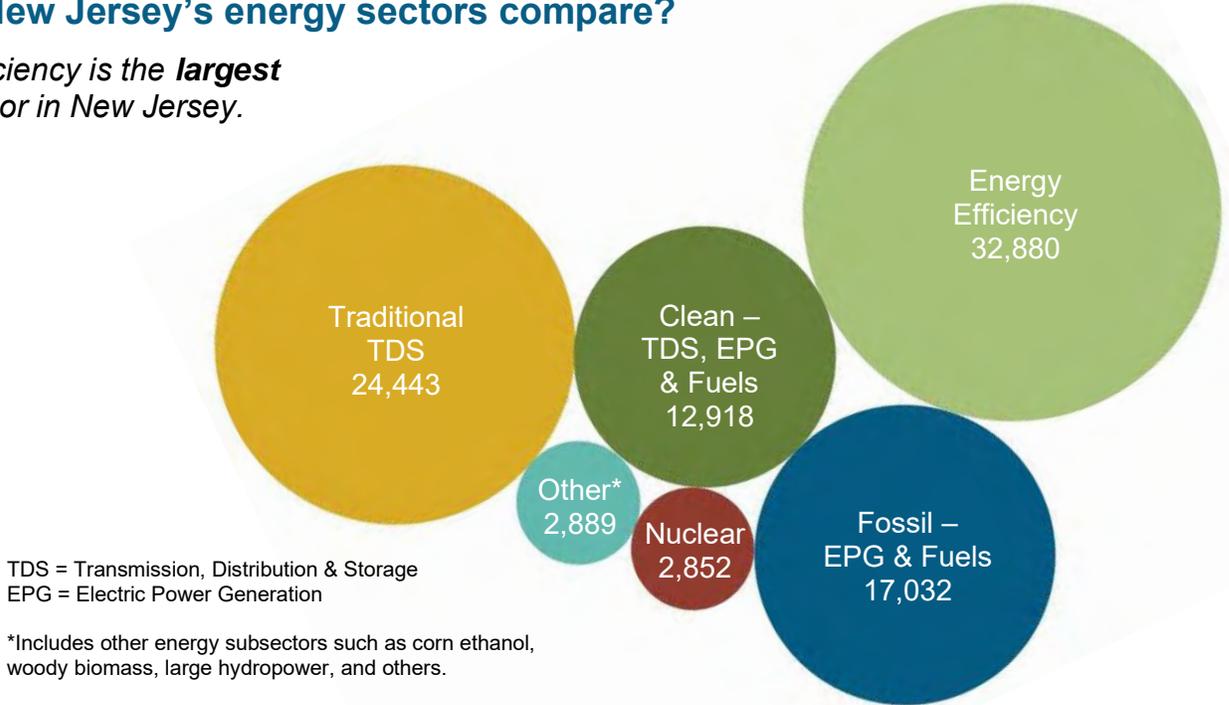
Key EE Statistics for New Jersey

What are energy efficiency (EE) jobs?

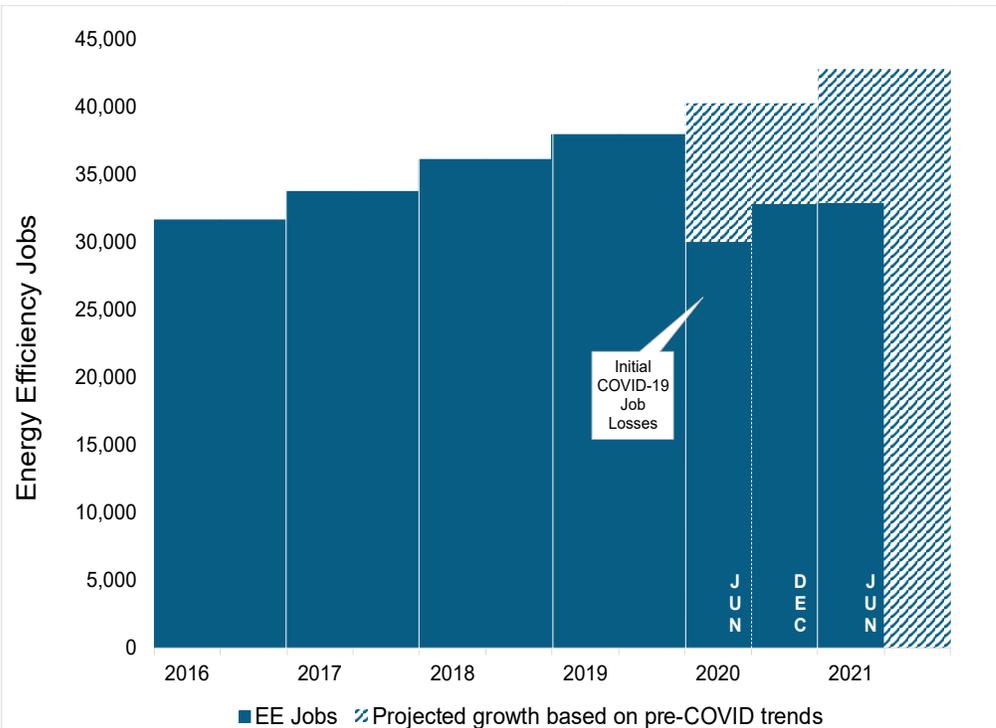
Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do New Jersey's energy sectors compare?

Energy Efficiency is the **largest** energy sector in New Jersey.



How is the EE industry recovering?



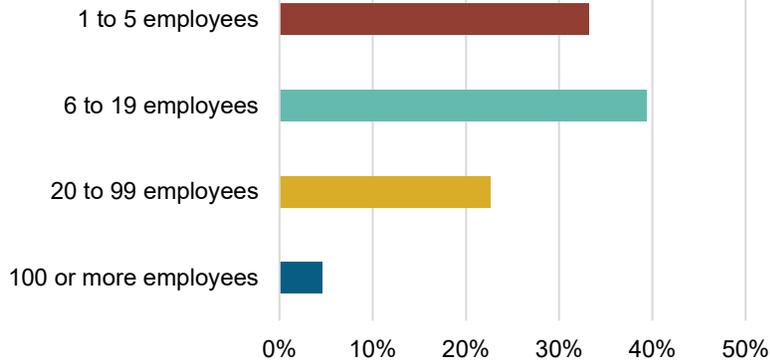
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in New Jersey?

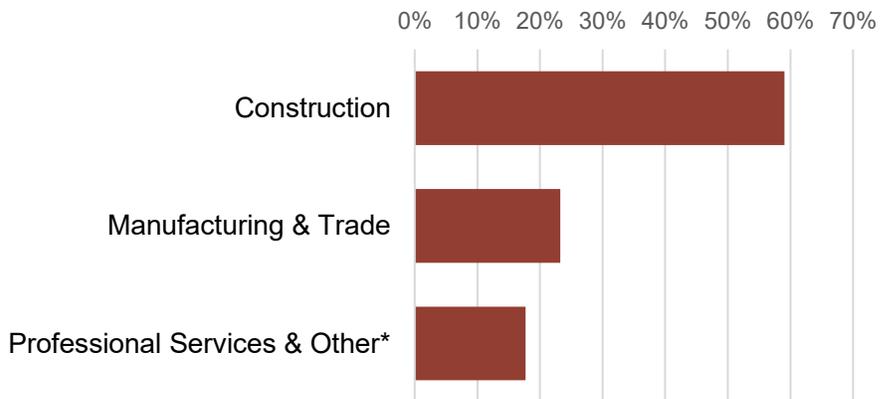
95.1% of NJ EE Businesses Have Less Than 100 Employees



4,765
EE businesses in
New Jersey

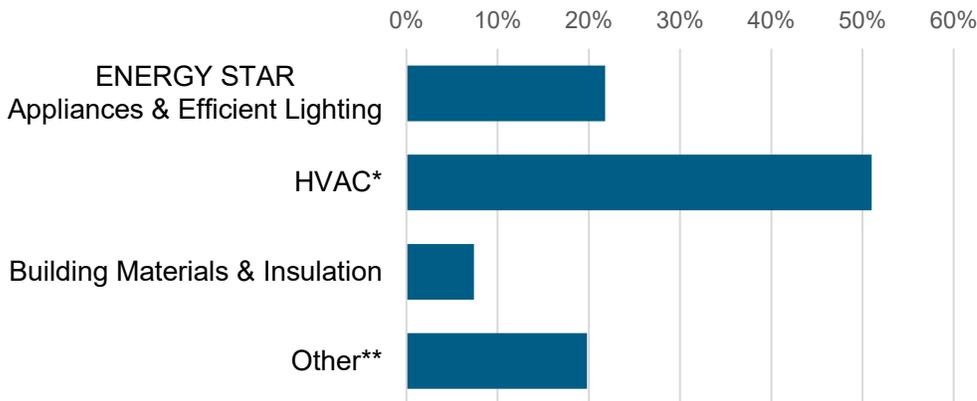
EE construction workers comprise **12%** of New Jersey construction workers

What type of work do energy efficiency firms do?



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What energy efficiency sectors employ the most workers?



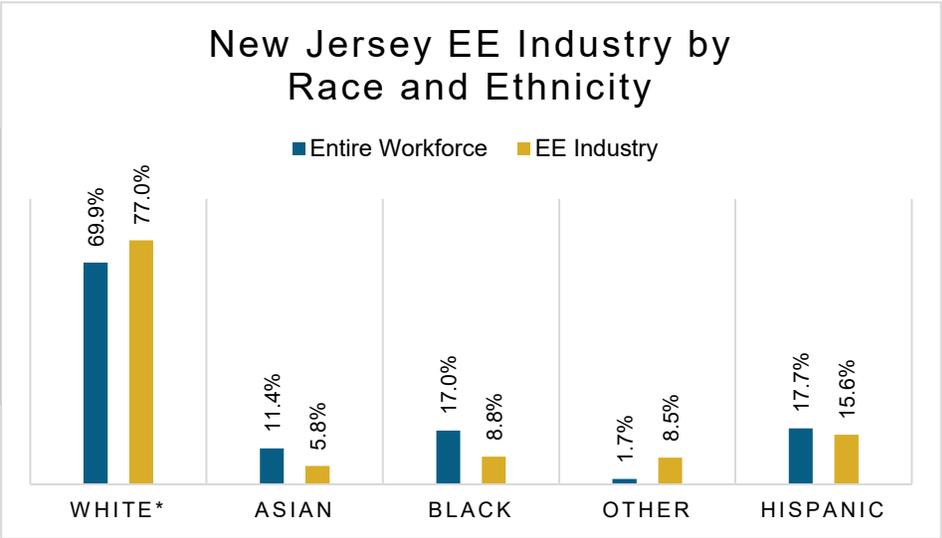
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

7% of New Jersey EE workers are **Veterans**

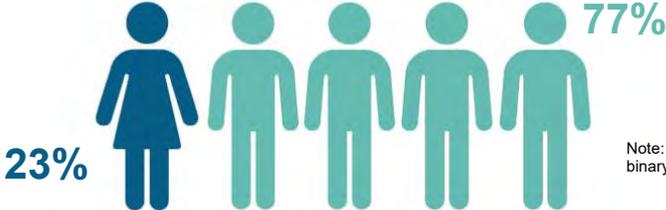
How is EE doing on diversity in New Jersey?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all New Jersey communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

New Jersey's EE Potential

Decades of work, ready for New Jersey's growing energy efficiency workforce.

Weatherization Assistance Program:

1,655* units weatherized in 2018, out of **~310,000** total low-income households

2,841,102 New Jersey homes are due for energy tune-ups

(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by **15%**

*National Association for State community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|--|--------|
| District | Jobs | Area | Jobs |
| 1 | 2,419 | Allentown-Bethlehem-Easton | 408 |
| 2 | 2,142 | Atlantic City | 671 |
| 3 | 3,357 | New York-Northern New Jersey-Long Island | 25,082 |
| 4 | 3,572 | Ocean City | 400 |
| 5 | 3,612 | Philadelphia-Camden-Wilmington | 4,581 |
| 6 | 2,058 | Trenton-Ewing | 1,437 |
| 7 | 4,718 | Vineland-Millville-Bridgeton | 302 |
| 8 | 2,415 | | |
| 9 | 2,682 | | |
| 10 | 845 | | |
| 11 | 3,097 | | |
| 12 | 1,964 | | |

| State Senate | | | | | | | | | |
|--------------|-------|----------|-------|----------|-------|----------|-------|--|--|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs | | |
| 1 | 843 | 11 | 1,667 | 21 | 1,263 | 31 | 608 | | |
| 2 | 788 | 12 | 1,022 | 22 | 662 | 32 | 487 | | |
| 3 | 575 | 13 | 585 | 23 | 768 | 33 | 394 | | |
| 4 | 546 | 14 | 954 | 24 | 878 | 34 | 596 | | |
| 5 | 689 | 15 | 822 | 25 | 1,268 | 35 | 740 | | |
| 6 | 612 | 16 | 1,410 | 26 | 1,368 | 36 | 597 | | |
| 7 | 992 | 17 | 820 | 27 | 780 | 37 | 1,236 | | |
| 8 | 737 | 18 | 546 | 28 | 516 | 38 | 890 | | |
| 9 | 1,005 | 19 | 462 | 29 | 615 | 39 | 1,145 | | |
| 10 | 1,134 | 20 | 532 | 30 | 500 | 40 | 831 | | |

State General Assembly

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|-------|----------|-------|----------|-------|----------|-------|
| 1 | 821 | 11 | 1,954 | 21 | 1,225 | 31 | 583 |
| 2 | 843 | 12 | 1,036 | 22 | 635 | 32 | 476 |
| 3 | 555 | 13 | 562 | 23 | 767 | 33 | 396 |
| 4 | 567 | 14 | 957 | 24 | 900 | 34 | 539 |
| 5 | 684 | 15 | 842 | 25 | 1,217 | 35 | 721 |
| 6 | 594 | 16 | 1,359 | 26 | 1,386 | 36 | 599 |
| 7 | 1,030 | 17 | 897 | 27 | 753 | 37 | 1,244 |
| 8 | 750 | 18 | 523 | 28 | 494 | 38 | 896 |
| 9 | 972 | 19 | 438 | 29 | 591 | 39 | 1,098 |
| 10 | 1,177 | 20 | 509 | 30 | 493 | 40 | 795 |



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Data Source: Unless otherwise stated, all data are from the U.S. Energy and Employment Report, July 2021, by the U.S. Department of Energy (see Appendix A for methodology details). This methodology -- adopted by the U.S. Dept. of Energy for its 2017 U.S. Energy and Employment Report, approved by the Office of Management and Budget and grounded on data collected by the Bureau of Labor Statistics -- provides the broadly accepted best accounting of all U.S. energy workers.

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New Mexico

Energy Efficiency Jobs in America

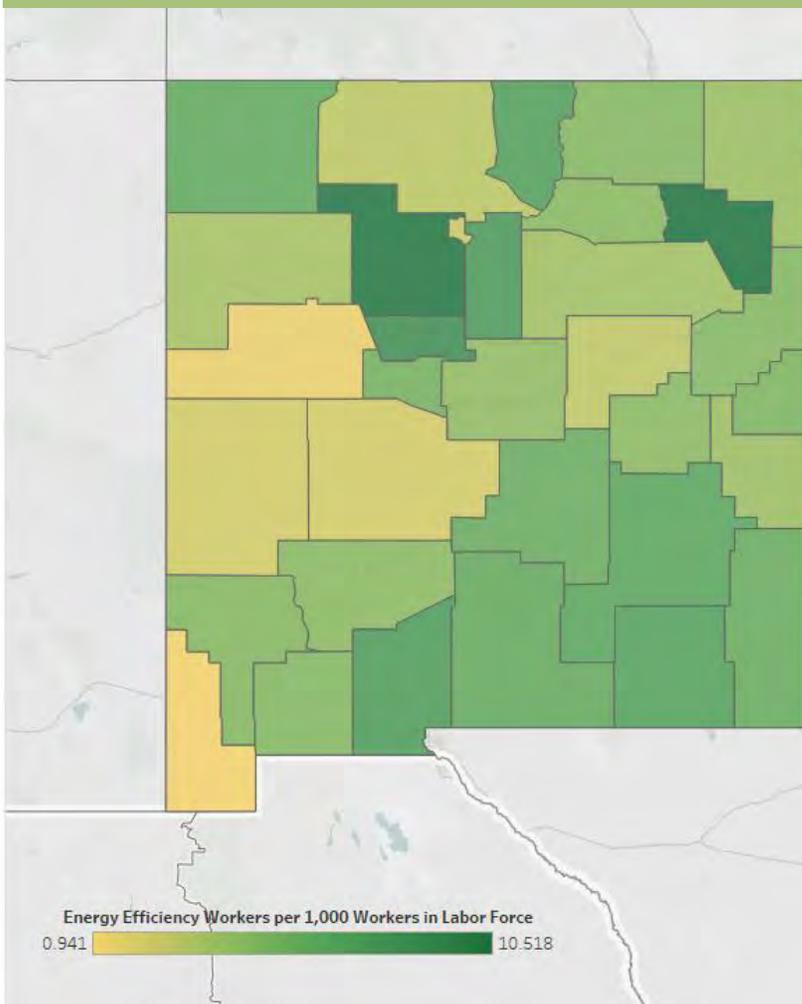


Energy efficiency (EE) workers are a crucial part of America’s workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In New Mexico, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of New Mexico
counties have
energy efficiency
workers

~8,300
new EE construction
jobs to retrofit New
Mexico homes by
2030

Number of full-time workers required for eight years 2022-2030 to improve 80% of NM residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



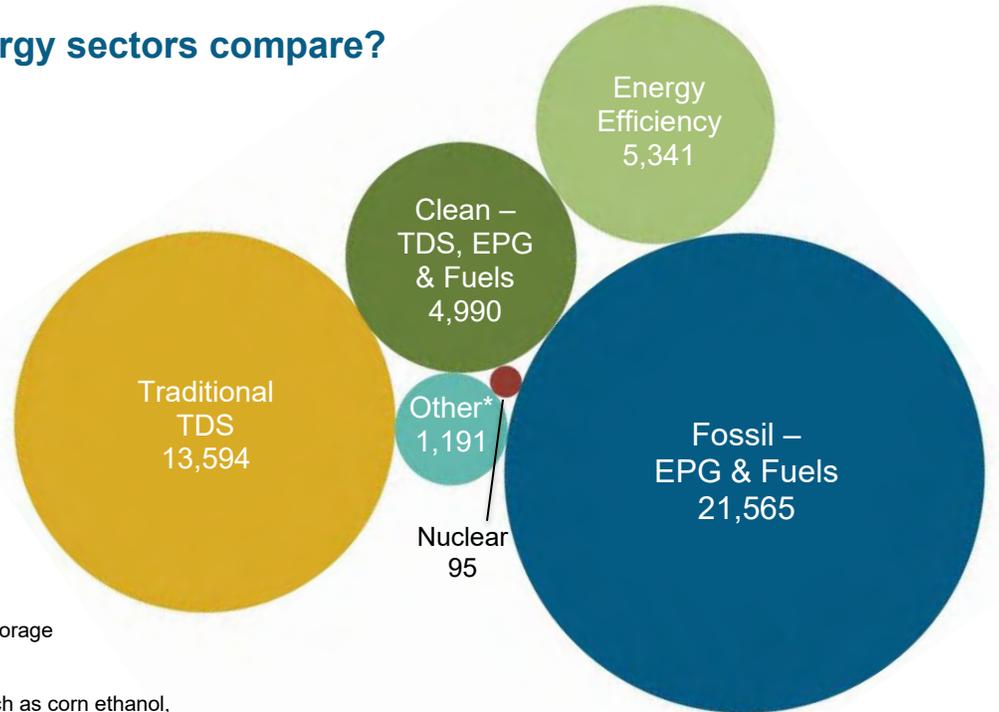
Key EE Statistics for New Mexico

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do New Mexico's energy sectors compare?

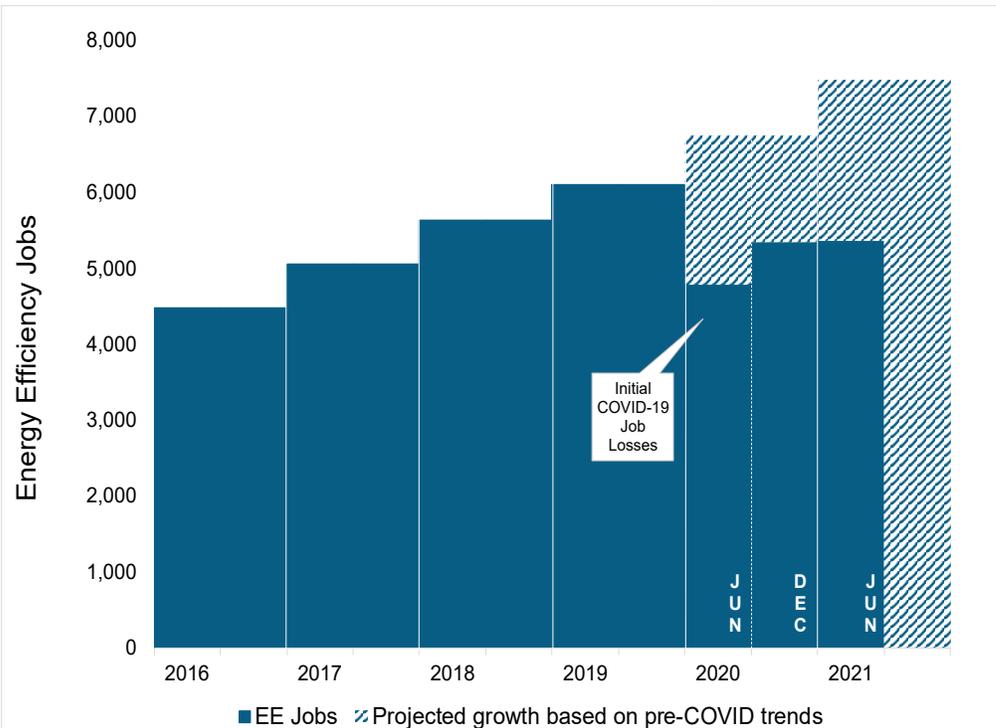
Energy Efficiency is the third largest energy sector in New Mexico.



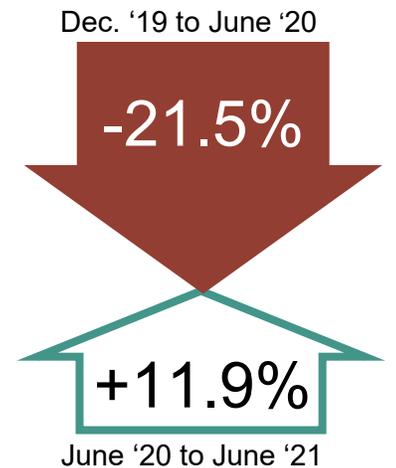
TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



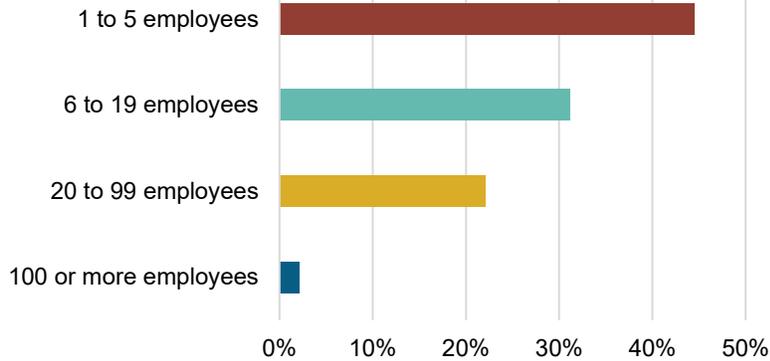
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in New Mexico?

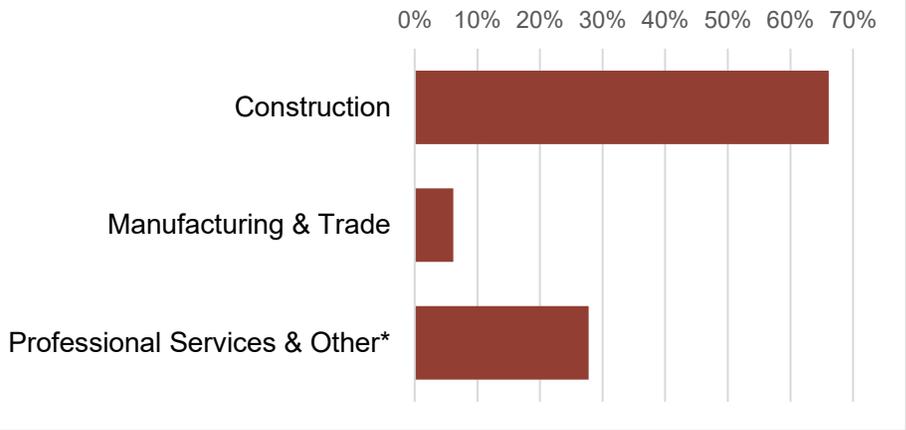
97.7% of NM EE Businesses Have Less Than 100 Employees



1,021
EE businesses in
New Mexico

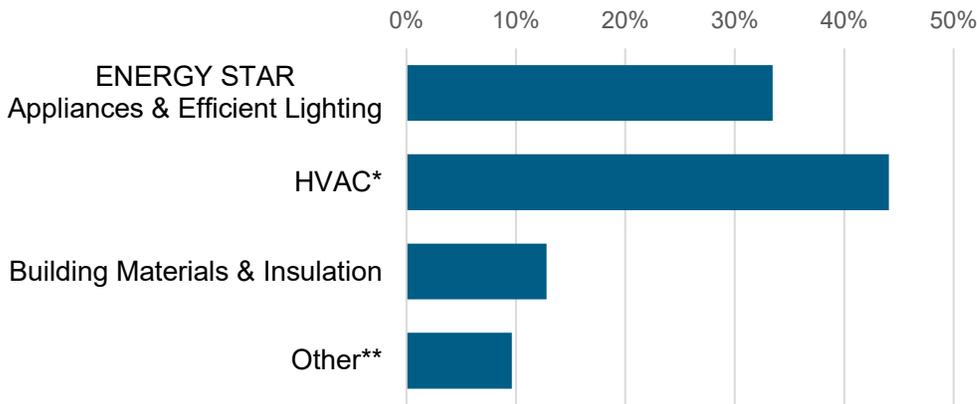
EE construction workers comprise **7%** of New Mexico construction workers

What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



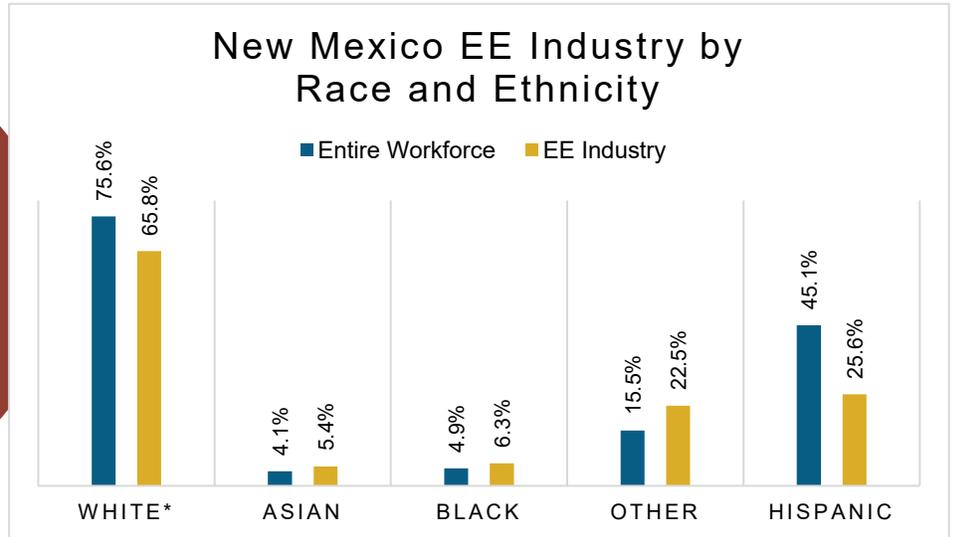
8% of
New Mexico
EE workers are
Veterans

*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

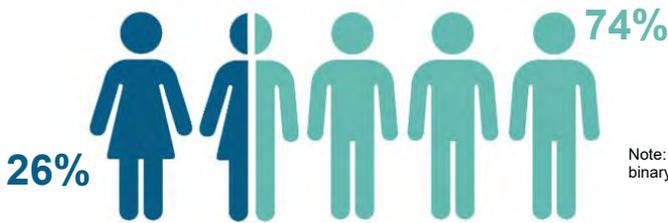
How is EE doing on diversity in New Mexico?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all New Mexico communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

New Mexico's EE Potential

Decades of work, ready for New Mexico's growing energy efficiency workforce.

Weatherization Assistance Program:



735* units weatherized in 2018, out of **~150,000** total low-income households

610,590

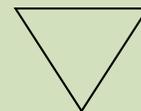
New Mexico homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

40%



*National Association for State Community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|--------------------|-------|
| District | Jobs | Area | Jobs |
| 1 | 2,877 | Albuquerque | 3,012 |
| 2 | 1,038 | Farmington | 291 |
| 3 | 1,426 | Las Cruces | 263 |
| | | Santa Fe | 671 |
| | | Rural | 1,103 |

| State Senate | | | | | | | | | |
|--------------|------|----------|------|----------|------|----------|------|--|--|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs | | |
| 1 | 251 | 12 | 815 | 23 | <5 | 34 | 94 | | |
| 2 | 50 | 13 | 775 | 24 | 623 | 35 | 74 | | |
| 3 | 55 | 14 | <5 | 25 | 6 | 36 | 16 | | |
| 4 | 44 | 15 | 299 | 26 | <5 | 37 | <5 | | |
| 5 | 72 | 16 | 131 | 27 | 181 | 38 | <5 | | |
| 6 | 106 | 17 | <5 | 28 | 76 | 39 | 10 | | |
| 7 | 98 | 18 | <5 | 29 | 71 | 40 | <5 | | |
| 8 | 78 | 19 | 57 | 30 | <5 | 41 | 151 | | |
| 9 | 311 | 20 | 34 | 31 | 214 | 42 | 13 | | |
| 10 | 310 | 21 | <5 | 32 | 54 | | | | |
| 11 | 135 | 22 | 9 | 33 | 128 | | | | |

State House of Representatives

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|-------|----------|------|----------|------|----------|------|
| 1 | 245 | 19 | <5 | 37 | <5 | 55 | 8 |
| 2 | 31 | 20 | 128 | 38 | 22 | 56 | 39 |
| 3 | <5 | 21 | <5 | 39 | <5 | 57 | <5 |
| 4 | 13 | 22 | 63 | 40 | 108 | 58 | 78 |
| 5 | 65 | 23 | 122 | 41 | 79 | 59 | 18 |
| 6 | 30 | 24 | 180 | 42 | 7 | 60 | <5 |
| 7 | 67 | 25 | <5 | 43 | 285 | 61 | 172 |
| 8 | <5 | 26 | <5 | 44 | 27 | 62 | <5 |
| 9 | <5 | 27 | 33 | 45 | 262 | 63 | 96 |
| 10 | 881 | 28 | <5 | 46 | 131 | 64 | <5 |
| 11 | 263 | 29 | <5 | 47 | <5 | 65 | <5 |
| 12 | <5 | 30 | <5 | 48 | <5 | 66 | 11 |
| 13 | <5 | 31 | <5 | 49 | 25 | 67 | 33 |
| 14 | <5 | 32 | 60 | 50 | 18 | 68 | <5 |
| 15 | 1,013 | 33 | 206 | 51 | 78 | 69 | <5 |
| 16 | <5 | 34 | 32 | 52 | <5 | 70 | <5 |
| 17 | <5 | 35 | 13 | 53 | 12 | | |
| 18 | 194 | 36 | 7 | 54 | 166 | | |



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



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. Visit www.e2.org



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 www.bwresearch.com

Data Source: Unless otherwise stated, all data are from the U.S. Energy and Employment Report, July 2021, by the U.S. Department of Energy (see Appendix A for methodology details). This methodology -- adopted by the U.S. Dept. of Energy for its 2017 U.S. Energy and Employment Report, approved by the Office of Management and Budget and grounded on data collected by the Bureau of Labor Statistics -- provides the broadly accepted best accounting of all U.S. energy workers.

For questions on E4TheFuture analyses please email: policy@e4thefuture.org.

New York

Energy Efficiency Jobs in America

June 2021*

122,083

Dec 2020

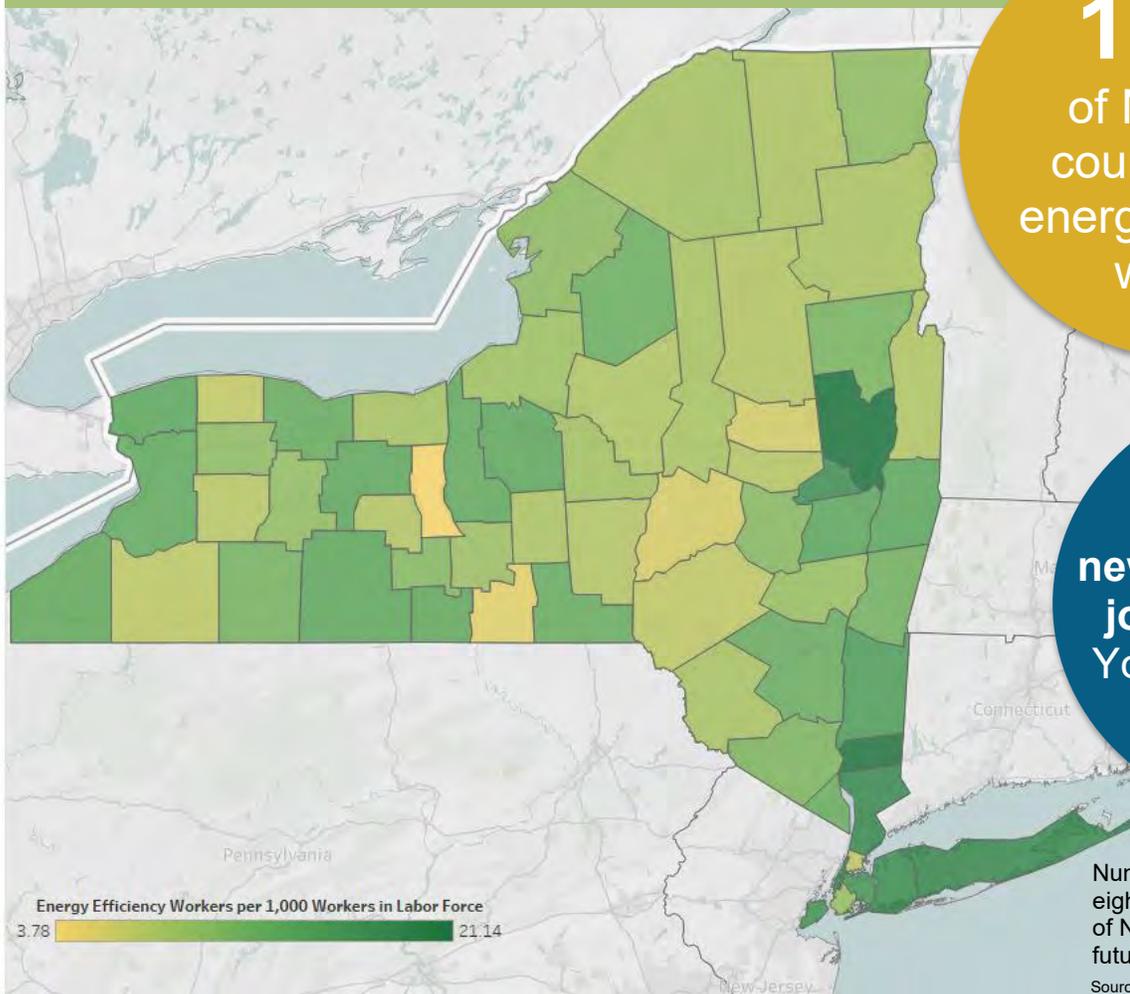
120,961

Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In New York, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of New York
counties have
energy efficiency
workers

~80,700
new EE construction
jobs to retrofit New
York homes by 2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of NY residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:

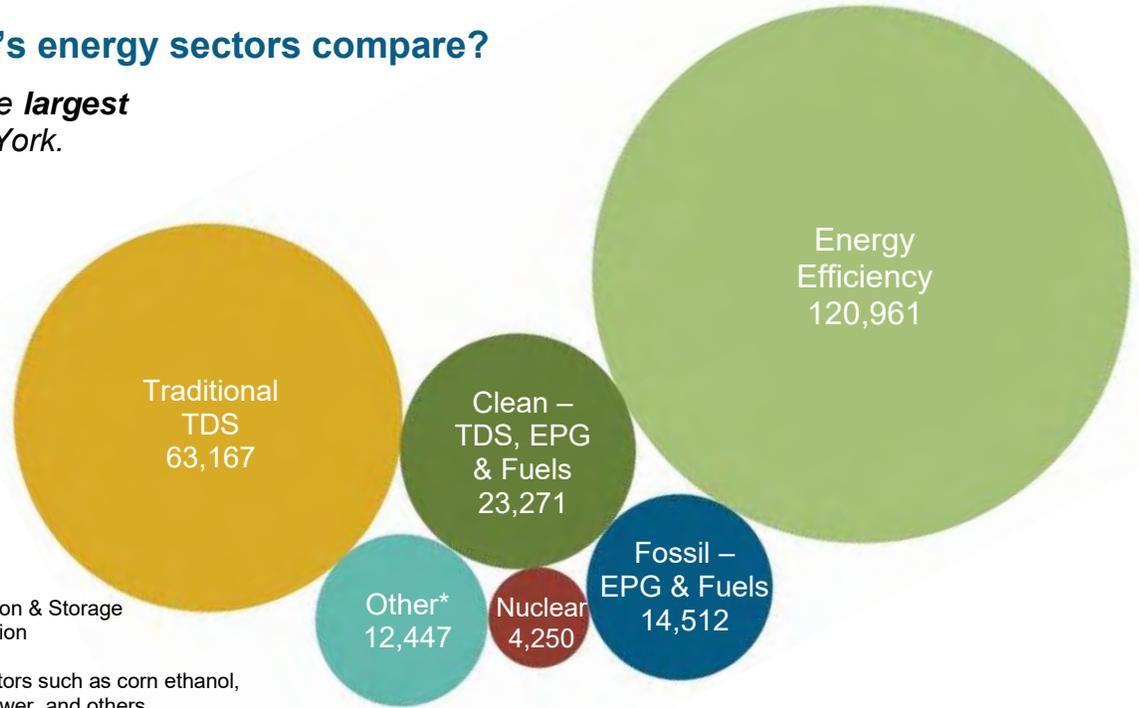


What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do New York's energy sectors compare?

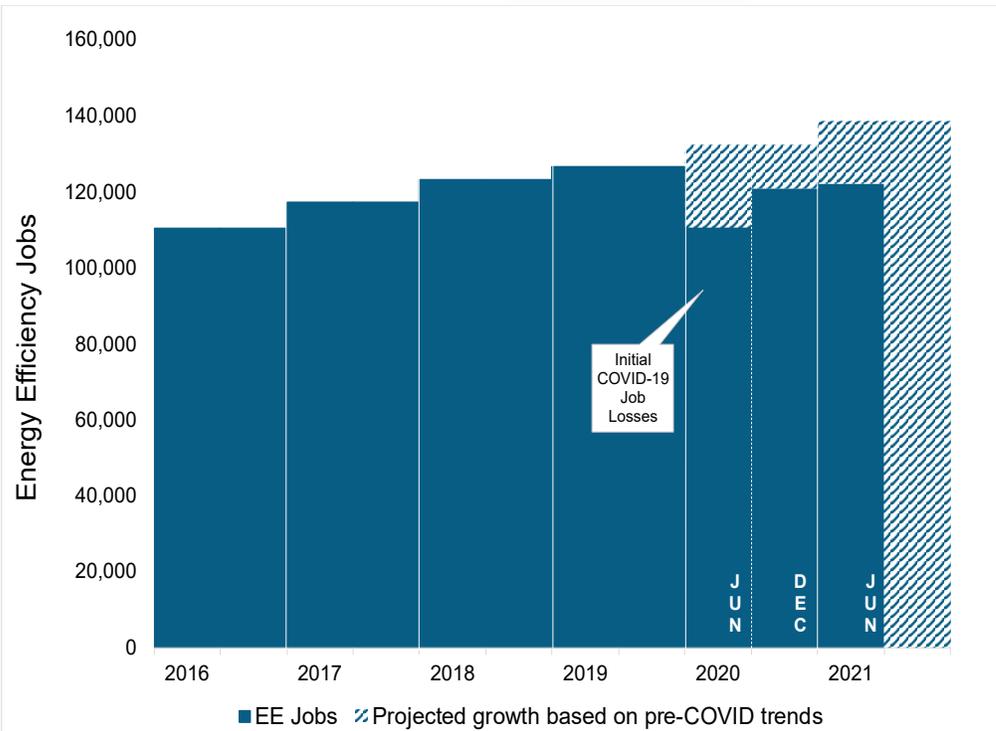
Energy Efficiency is the **largest** energy sector in New York.



TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



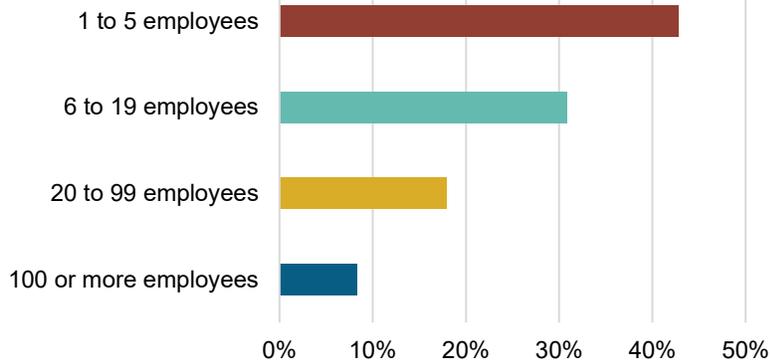
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in New York?

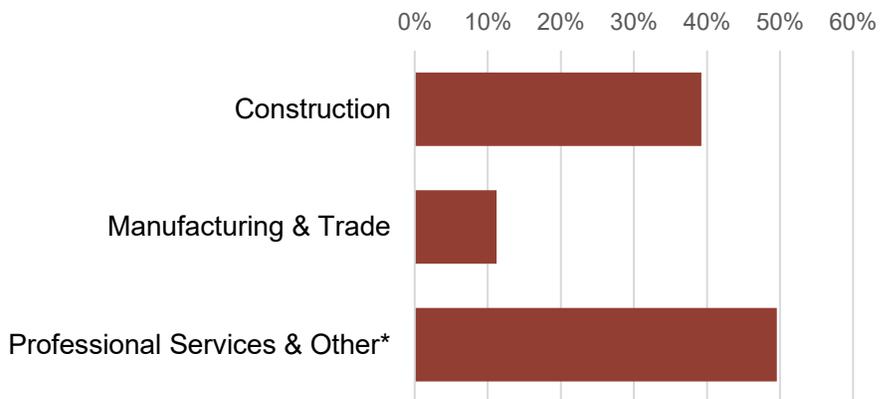
91.4% of NY EE Businesses Have Less Than 100 Employees



20,816
EE businesses in New York

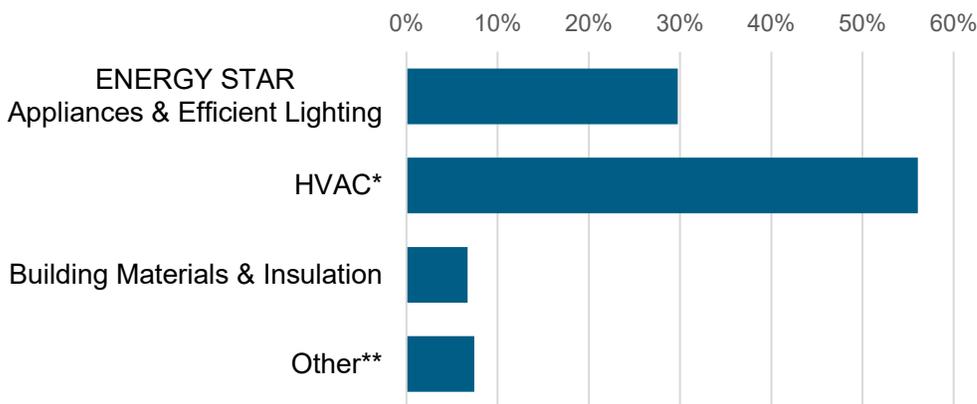
EE construction workers comprise **13%** of New York construction workers

What type of work do energy efficiency firms do?



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What energy efficiency sectors employ the most workers?



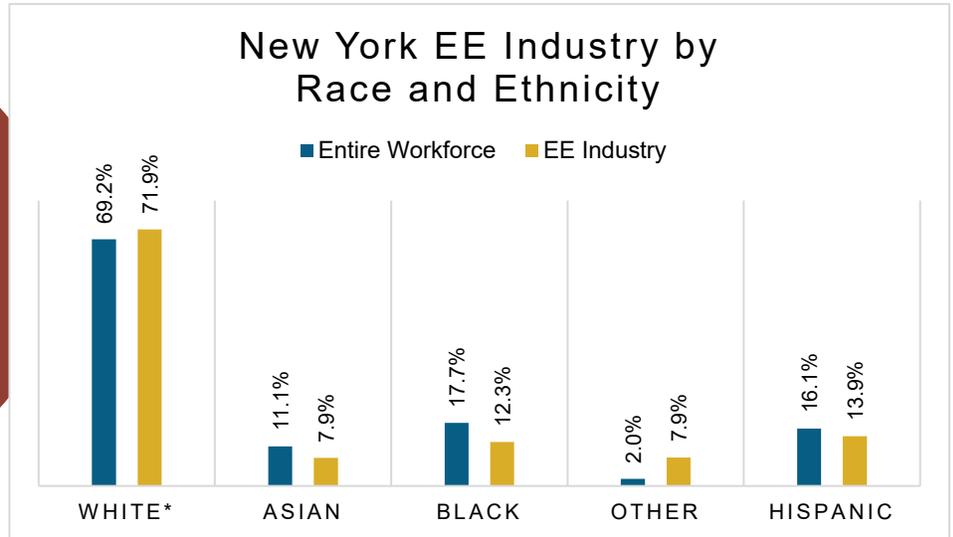
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

7% of New York EE workers are **Veterans**

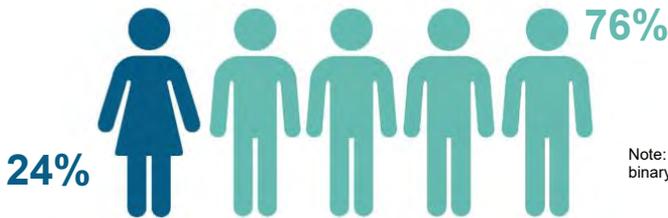
How is EE doing on diversity in New York?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all New York communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

New York's EE Potential

Decades of work, ready for New York's growing energy efficiency workforce.

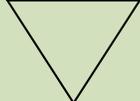
Weatherization Assistance Program:


4,586* units weatherized in 2018, out of **~1,000,000** total low-income households

6,587,735 New York homes are due for energy tune-ups


(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

14%


*National Association for State community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|--------|--|--------|
| District | Jobs | Area | Jobs |
| 1 | 8,533 | Albany-Schenectady-Troy | 5,758 |
| 2 | 4,313 | Binghamton | 1,259 |
| 3 | 7,031 | Buffalo-Niagara Falls | 6,755 |
| 4 | 5,280 | Elmira | 446 |
| 5 | 1,574 | Glens Falls | 1,425 |
| 6 | 2,704 | Ithaca | 788 |
| 7 | 7,463 | Kingston | 1,239 |
| 8 | 1,868 | New York-Northern New Jersey-Long Island | 79,612 |
| 9 | 847 | Poughkeepsie-Newburgh-Middletown | 4,386 |
| 10 | 10,056 | Rochester | 6,413 |
| 11 | 2,175 | Syracuse | 4,022 |
| 12 | 11,019 | Utica-Rome | 1,426 |
| 13 | 789 | Rural | 7,432 |
| 14 | 1,551 | | |
| 15 | 1,436 | | |
| 16 | 3,293 | | |
| 17 | 7,127 | | |
| 18 | 5,171 | | |
| 19 | 4,888 | | |
| 20 | 5,441 | | |
| 21 | 3,934 | | |
| 22 | 3,576 | | |
| 23 | 4,121 | | |
| 24 | 4,864 | | |
| 25 | 4,153 | | |
| 26 | 5,113 | | |
| 27 | 2,639 | | |

| State Senate | | | | | | | |
|--------------|-------|----------|--------|----------|-------|----------|-------|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
| 1 | 3,369 | 18 | 1,753 | 35 | 4,278 | 52 | 1,355 |
| 2 | 5,458 | 19 | 360 | 36 | 526 | 53 | 368 |
| 3 | 2,725 | 20 | 1,155 | 37 | 2,178 | 54 | 2,048 |
| 4 | 849 | 21 | <5 | 38 | 2,465 | 55 | 1,798 |
| 5 | 3,166 | 22 | 377 | 39 | 2,300 | 56 | 2,333 |
| 6 | 4,468 | 23 | 1,240 | 40 | 2,114 | 57 | 1,692 |
| 7 | 2,041 | 24 | 748 | 41 | 1,806 | 58 | 973 |
| 8 | 1,052 | 25 | 824 | 42 | 1,889 | 59 | 2,915 |
| 9 | 1,053 | 26 | 6,235 | 43 | 3,117 | 60 | 2,284 |
| 10 | 1,264 | 27 | 14,414 | 44 | 2,675 | 61 | 1,001 |
| 11 | 1,888 | 28 | 1,087 | 45 | 2,345 | 62 | 1,120 |
| 12 | 2,442 | 29 | 1,215 | 46 | 1,579 | 63 | 206 |
| 13 | 671 | 30 | 537 | 47 | 1,850 | | |
| 14 | 359 | 31 | 316 | 48 | 751 | | |
| 15 | 304 | 32 | 1,214 | 49 | 738 | | |
| 16 | 175 | 33 | 158 | 50 | 3,522 | | |
| 17 | 3,075 | 34 | 978 | 51 | 1,763 | | |

State Assembly

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|-------|----------|-------|----------|-------|----------|-------|
| 1 | 1,972 | 39 | <5 | 77 | 549 | 115 | 837 |
| 2 | 798 | 40 | <5 | 78 | 578 | 116 | 616 |
| 3 | 886 | 41 | 1,478 | 79 | 176 | 117 | 585 |
| 4 | 647 | 42 | 355 | 80 | 286 | 118 | 278 |
| 5 | 1,712 | 43 | 318 | 81 | 252 | 119 | 131 |
| 6 | 1,716 | 44 | 759 | 82 | 148 | 120 | 623 |
| 7 | 1,072 | 45 | 490 | 83 | <5 | 121 | 494 |
| 8 | 976 | 46 | 374 | 84 | 732 | 122 | 1,230 |
| 9 | 1,596 | 47 | <5 | 85 | 119 | 123 | 204 |
| 10 | 2,129 | 48 | <5 | 86 | <5 | 124 | 669 |
| 11 | 129 | 49 | 202 | 87 | <5 | 125 | 971 |
| 12 | 45 | 50 | 997 | 88 | 2,123 | 126 | 818 |
| 13 | 3,289 | 51 | 435 | 89 | 789 | 127 | 1,051 |
| 14 | 987 | 52 | 1,032 | 90 | 527 | 128 | 1,445 |
| 15 | 435 | 53 | 305 | 91 | 1,388 | 129 | 101 |
| 16 | 2,218 | 54 | 435 | 92 | 1,993 | 130 | 1,383 |
| 17 | 153 | 55 | 98 | 93 | 1,292 | 131 | 1,141 |
| 18 | 1,664 | 56 | <5 | 94 | 865 | 132 | 552 |
| 19 | 238 | 57 | <5 | 95 | 331 | 133 | 983 |
| 20 | 1,031 | 58 | 236 | 96 | 2,224 | 134 | 1,170 |
| 21 | 534 | 59 | <5 | 97 | 242 | 135 | 204 |
| 22 | 92 | 60 | 22 | 98 | 1,125 | 136 | 586 |
| 23 | 547 | 61 | 1,183 | 99 | 1,233 | 137 | 1,014 |
| 24 | 871 | 62 | 732 | 100 | 516 | 138 | 43 |
| 25 | 736 | 63 | 7 | 101 | 1,424 | 139 | 485 |
| 26 | 493 | 64 | <5 | 102 | 1,165 | 140 | 868 |
| 27 | 1,072 | 65 | 5,789 | 103 | 1,193 | 141 | 1,783 |
| 28 | 505 | 66 | 915 | 104 | 662 | 142 | 973 |
| 29 | 422 | 67 | 3,021 | 105 | 642 | 143 | 1,429 |
| 30 | 1,676 | 68 | 456 | 106 | 368 | 144 | 611 |
| 31 | 37 | 69 | 8 | 107 | 1,349 | 145 | 464 |
| 32 | <5 | 70 | 108 | 108 | 1,384 | 146 | 216 |
| 33 | 61 | 71 | 185 | 109 | 946 | 147 | 583 |
| 34 | 199 | 72 | 76 | 110 | 684 | 148 | 528 |
| 35 | <5 | 73 | 7,684 | 111 | 437 | 149 | 106 |
| 36 | 323 | 74 | 759 | 112 | 1,557 | 150 | 726 |
| 37 | 15 | 75 | 4,003 | 113 | 1,102 | | |
| 38 | 74 | 76 | 129 | 114 | 716 | | |



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Data Source: Unless otherwise stated, all data are from the U.S. Energy and Employment Report, July 2021, by the U.S. Department of Energy (see Appendix A for methodology details). This methodology -- adopted by the U.S. Dept. of Energy for its 2017 U.S. Energy and Employment Report, approved by the Office of Management and Budget and grounded on data collected by the Bureau of Labor Statistics -- provides the broadly accepted best accounting of all U.S. energy workers.

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North Carolina

Energy Efficiency Jobs in America

June 2021*

77,054

Dec 2020

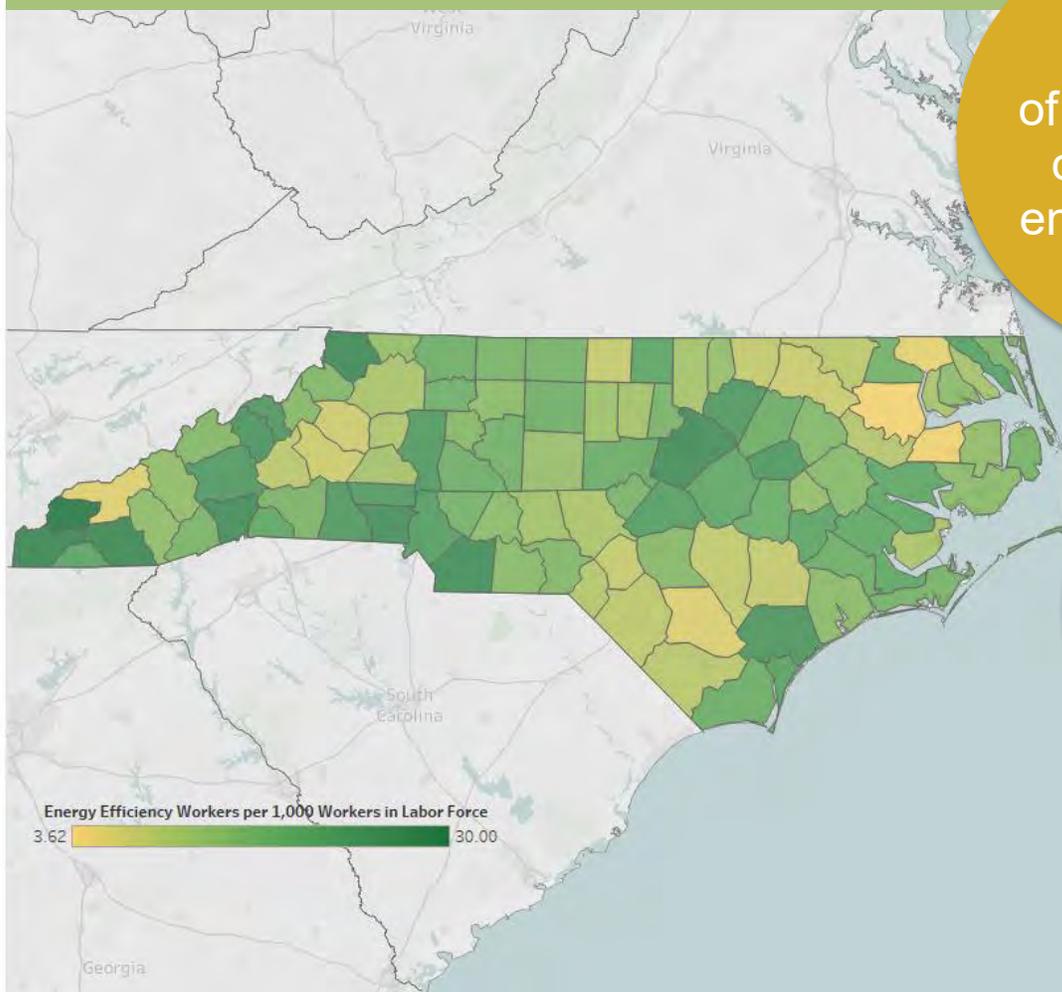
76,473

Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In North Carolina, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of North Carolina
counties have
energy efficiency
workers

~29,600
new EE construction
jobs to retrofit North
Carolina homes by
2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of NC residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



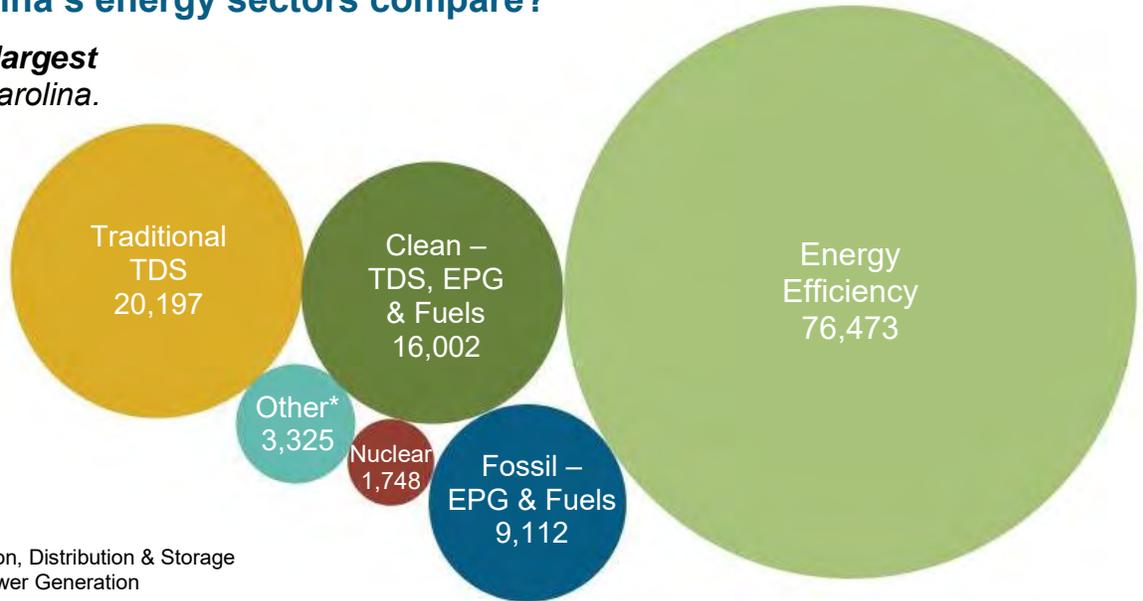
Key EE Statistics for North Carolina

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do North Carolina's energy sectors compare?

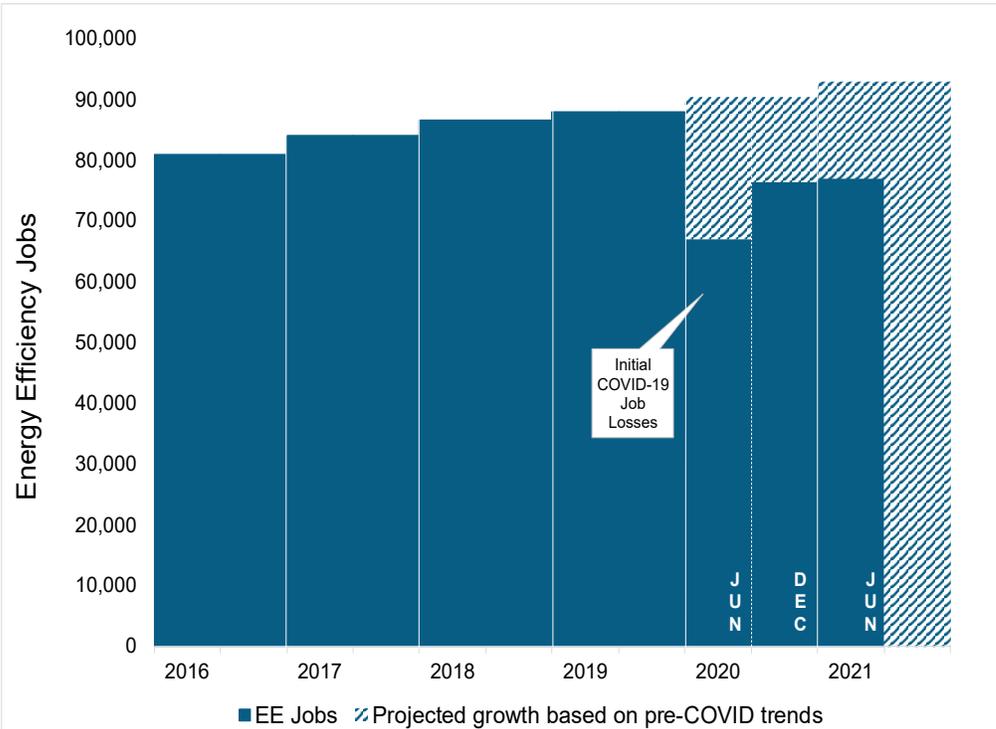
Energy Efficiency is the **largest** energy sector in North Carolina.



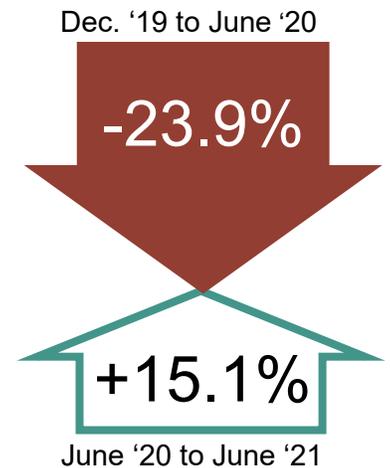
TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



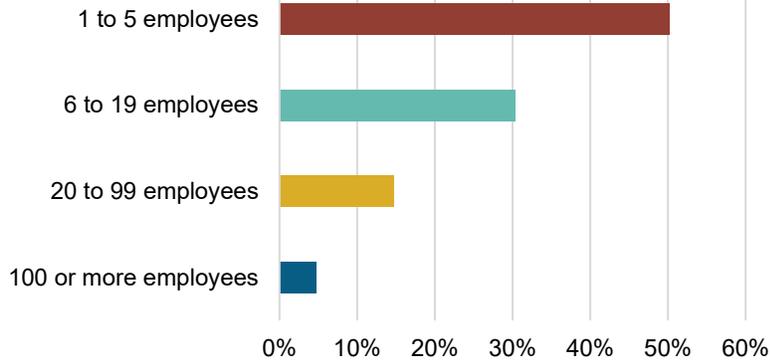
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in North Carolina?

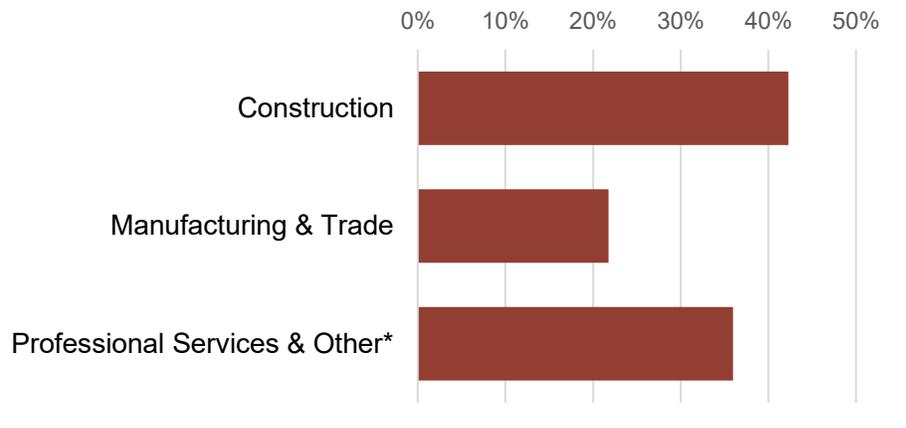
95.3% of NC EE Businesses Have Less Than 100 Employees



15,514
EE businesses in North Carolina

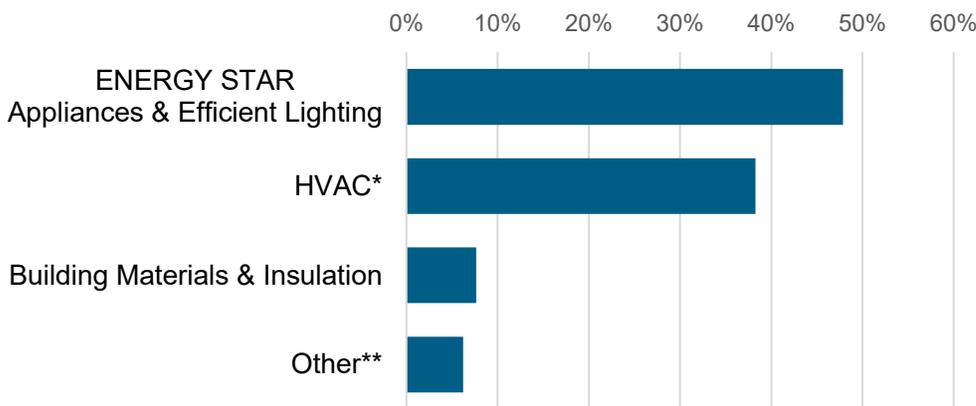
EE construction workers comprise **14%** of North Carolina construction workers

What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



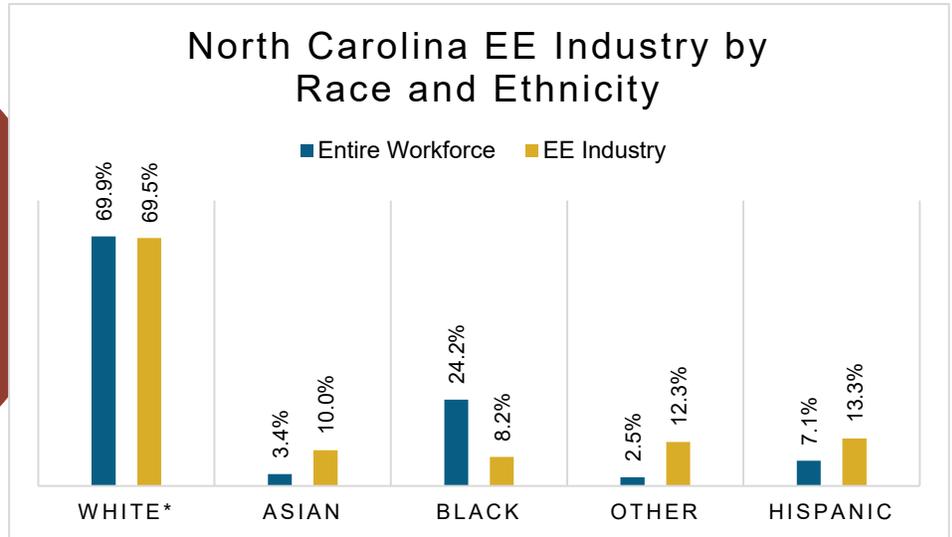
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

10% of North Carolina EE workers are **Veterans**

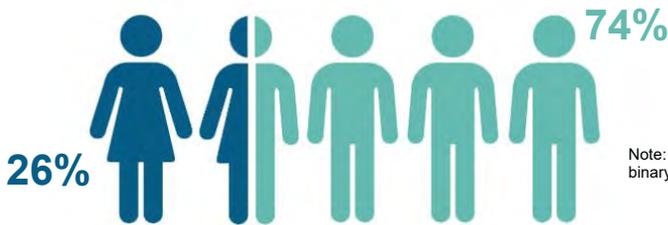
How is EE doing on diversity in North Carolina?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all North Carolina communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

North Carolina's EE Potential

Decades of work, ready for North Carolina's growing energy efficiency workforce.

Weatherization Assistance Program:


1,213* units weatherized in 2018, out of **~57,000** total low-income households

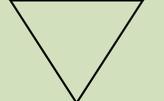
3,343,493

North Carolina homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

41%


*National Association for State community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
 Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|--------|-------------------------------------|-------|
| District | Jobs | Area | Jobs |
| 1 | 8,812 | Asheville | 4,792 |
| 2 | 8,912 | Burlington | 1,019 |
| 3 | 5,364 | Charlotte-Gastonia-Concord | 15,18 |
| 4 | 7,549 | Durham | 4,720 |
| 5 | 8,361 | Fayetteville | 1,924 |
| 6 | 4,545 | Goldsboro | 566 |
| 7 | 4,186 | Greensboro-High Point | 5,405 |
| 8 | 5,216 | Greenville | 1,185 |
| 9 | 10,887 | Hickory-Lenoir-Morganton | 2,306 |
| 10 | 7,153 | Jacksonville | 806 |
| 11 | 3,885 | Raleigh-Cary | 10,94 |
| 12 | 434 | Rocky Mount | 953 |
| 13 | 1,169 | Virginia Beach-Norfolk-Newport News | 521 |
| | | Wilmington | 3,574 |
| | | Winston-Salem | 3,081 |
| | | Rural | 19,49 |

| State Senate | | | | | |
|--------------|-------|----------|-------|----------|-------|
| District | Jobs | District | Jobs | District | Jobs |
| 1 | 2,116 | 18 | 325 | 35 | 1,675 |
| 2 | 1,574 | 19 | 1,434 | 36 | 2,975 |
| 3 | 865 | 20 | 1,982 | 37 | 7,416 |
| 4 | 1,439 | 21 | 171 | 38 | 172 |
| 5 | 1,686 | 22 | 1,911 | 39 | 621 |
| 6 | 890 | 23 | 1,002 | 40 | <5 |
| 7 | 147 | 24 | 1,261 | 41 | 466 |
| 8 | 2,746 | 25 | 1,771 | 42 | 2,099 |
| 9 | 1,781 | 26 | 2,848 | 43 | 1,520 |
| 10 | 2,284 | 27 | 1,931 | 44 | 985 |
| 11 | 750 | 28 | <5 | 45 | 1,216 |
| 12 | 1,984 | 29 | 1,196 | 46 | 1,345 |
| 13 | 844 | 30 | 1,242 | 47 | 1,547 |
| 14 | 4,049 | 31 | 2,312 | 48 | 2,378 |
| 15 | 2,455 | 32 | <5 | 49 | 1,639 |
| 16 | 1,693 | 33 | 184 | 50 | 1,487 |
| 17 | 315 | 34 | 1,741 | | |

State House of Representatives

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|-------|----------|-------|----------|-------|----------|------|
| 1 | 786 | 39 | <5 | 77 | 436 | 115 | 401 |
| 2 | 1,085 | 40 | 396 | 78 | 360 | 116 | 199 |
| 3 | 960 | 41 | 17 | 79 | 338 | 117 | <5 |
| 4 | 1,017 | 42 | 693 | 80 | 156 | 118 | 538 |
| 5 | 223 | 43 | 788 | 81 | 8 | 119 | 562 |
| 6 | 1,112 | 44 | <5 | 82 | 2,283 | 120 | 497 |
| 7 | 1,115 | 45 | 20 | 83 | <5 | | |
| 8 | 626 | 46 | 714 | 84 | 1,418 | | |
| 9 | 505 | 47 | 110 | 85 | 1,224 | | |
| 10 | 461 | 48 | 588 | 86 | 656 | | |
| 11 | 2,609 | 49 | <5 | 87 | 71 | | |
| 12 | 9 | 50 | 925 | 88 | 5,103 | | |
| 13 | 935 | 51 | 637 | 89 | 870 | | |
| 14 | 599 | 52 | 655 | 90 | 494 | | |
| 15 | 88 | 53 | 98 | 91 | 20 | | |
| 16 | 497 | 54 | 392 | 92 | 1,831 | | |
| 17 | 855 | 55 | 1,551 | 93 | 565 | | |
| 18 | 1,762 | 56 | 92 | 94 | 118 | | |
| 19 | 545 | 57 | 1,944 | 95 | <5 | | |
| 20 | <5 | 58 | 942 | 96 | <5 | | |
| 21 | 220 | 59 | 699 | 97 | 151 | | |
| 22 | 1,800 | 60 | 1,179 | 98 | 487 | | |
| 23 | 225 | 61 | 426 | 99 | 607 | | |
| 24 | 9 | 62 | 85 | 100 | 489 | | |
| 25 | 163 | 63 | 386 | 101 | <5 | | |
| 26 | 1,049 | 64 | <5 | 102 | 121 | | |
| 27 | 324 | 65 | 298 | 103 | <5 | | |
| 28 | 206 | 66 | 28 | 104 | <5 | | |
| 29 | 2,227 | 67 | 503 | 105 | <5 | | |
| 30 | 1,575 | 68 | 376 | 106 | <5 | | |
| 31 | 105 | 69 | 359 | 107 | <5 | | |
| 32 | 169 | 70 | 654 | 108 | 1,154 | | |
| 33 | 973 | 71 | 1,668 | 109 | <5 | | |
| 34 | 2,864 | 72 | 207 | 110 | 1,013 | | |
| 35 | 673 | 73 | 1,485 | 111 | 73 | | |
| 36 | 727 | 74 | 200 | 112 | 383 | | |
| 37 | 29 | 75 | 195 | 113 | 1,476 | | |
| 38 | <5 | 76 | 1,305 | 114 | 2,625 | | |



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Data Source: Unless otherwise stated, all data are from the U.S. Energy and Employment Report, July 2021, by the U.S. Department of Energy (see Appendix A for methodology details). This methodology -- adopted by the U.S. Dept. of Energy for its 2017 U.S. Energy and Employment Report, approved by the Office of Management and Budget and grounded on data collected by the Bureau of Labor Statistics -- provides the broadly accepted best accounting of all U.S. energy workers.

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North Dakota

Energy Efficiency Jobs in America

June 2021*

4,801

Dec 2020

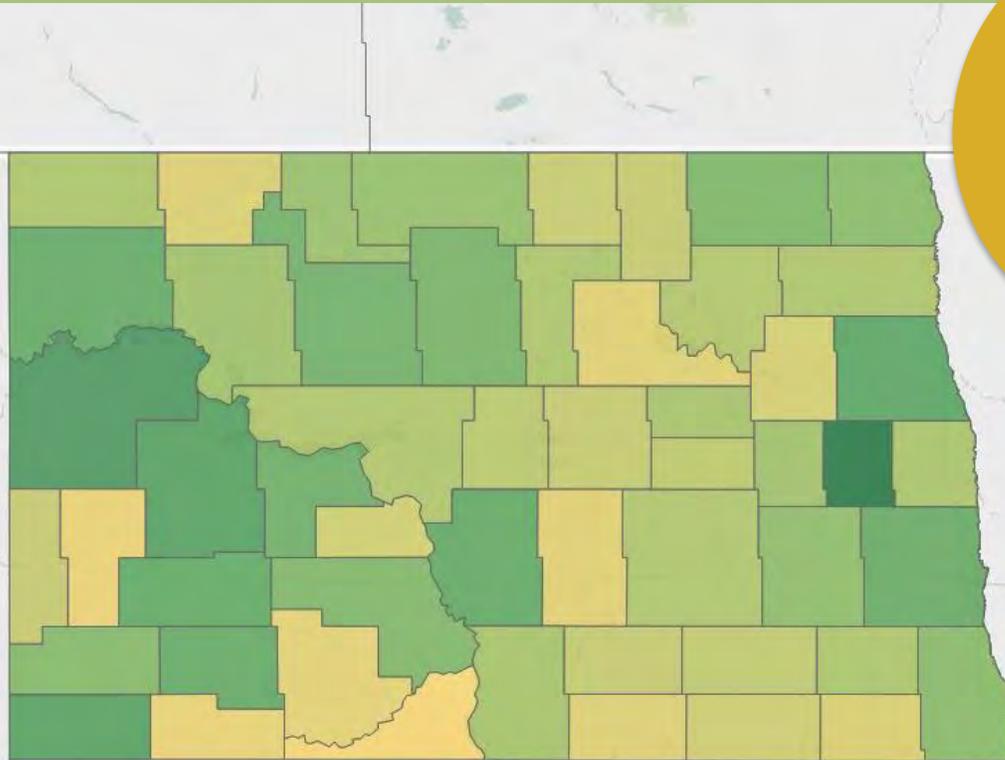
4,782

Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In North Dakota, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of North Dakota
counties have
energy efficiency
workers

~3,300
new EE construction
jobs to retrofit North
Dakota homes by
2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of ND residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



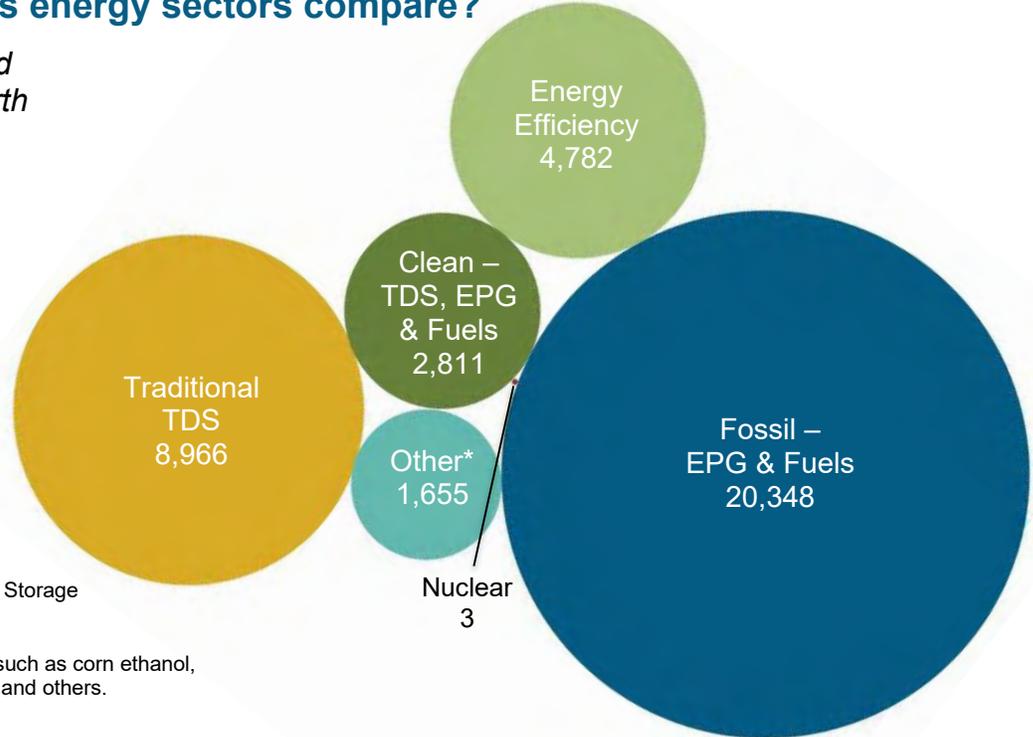
Key EE Statistics for North Dakota

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do North Dakota's energy sectors compare?

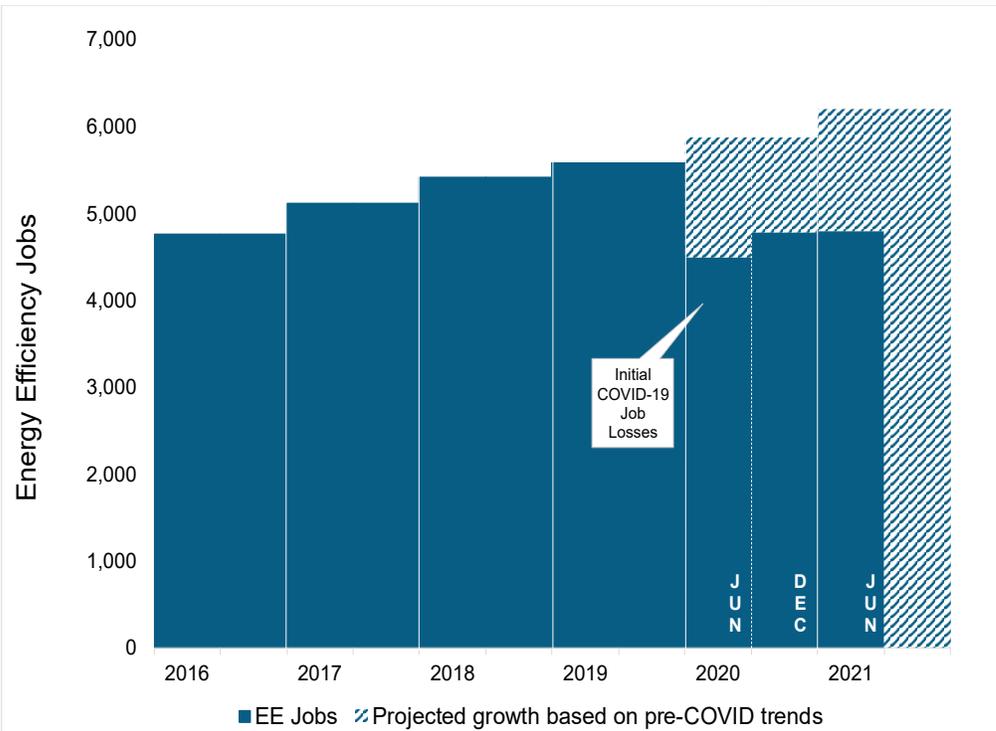
Energy Efficiency is the third largest energy sector in North Dakota.



TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.

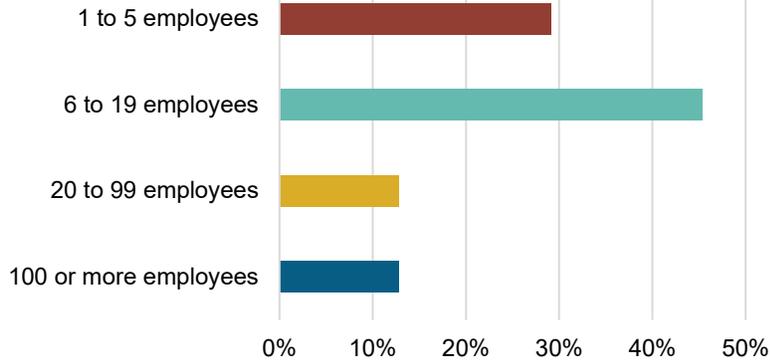
Dec. '19 to June '20



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in North Dakota?

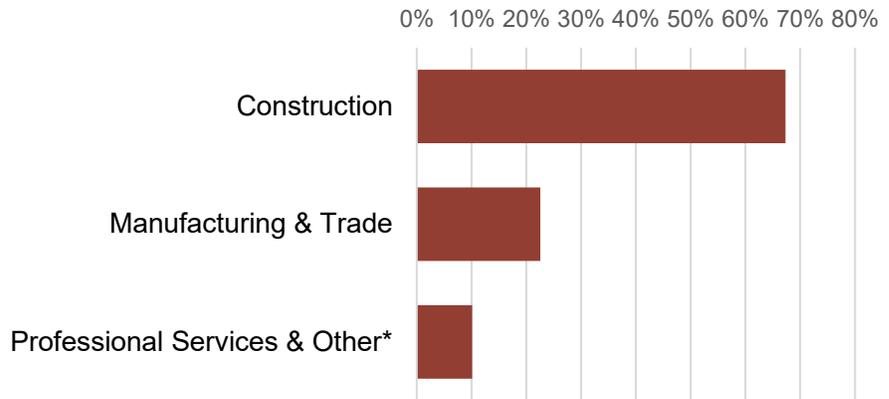
87.2% of ND EE Businesses Have Less Than 100 Employees



721
EE businesses in North Dakota

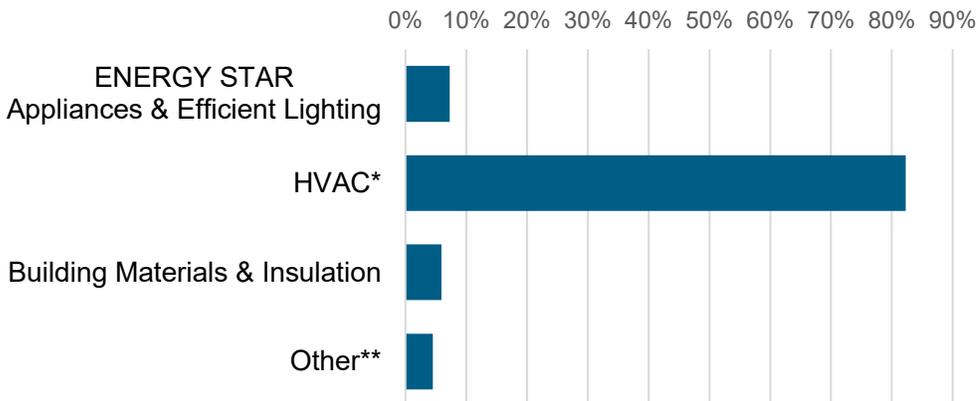
EE construction workers comprise **13%** of North Dakota construction workers

What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



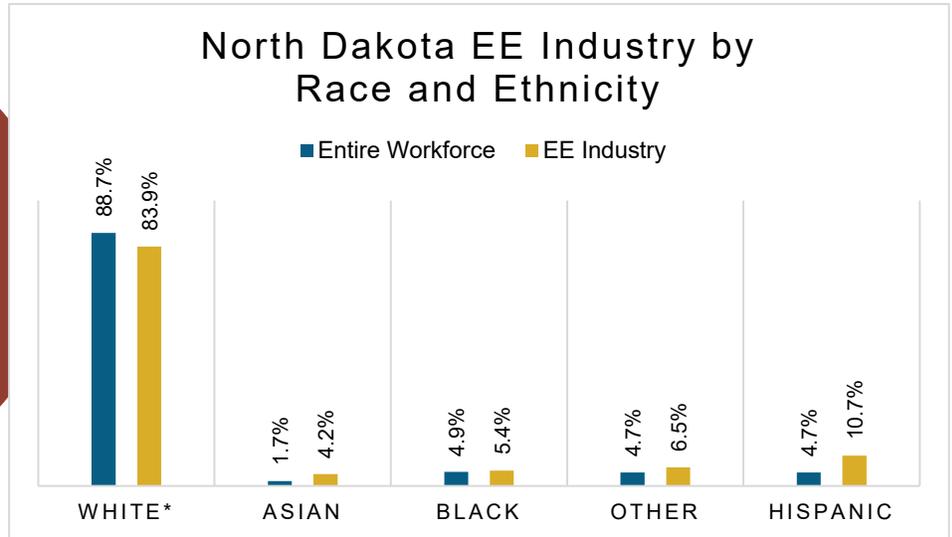
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

7% of North Dakota EE workers are **Veterans**

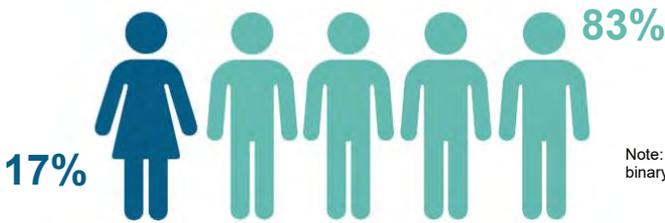
How is EE doing on diversity in North Dakota?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all North Dakota communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

North Dakota's EE Potential

Decades of work, ready for North Dakota's growing energy efficiency workforce.

Weatherization Assistance Program:



521* units weatherized in 2018, out of **~35,000** total low-income households

240,603

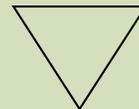
North Dakota homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

29%



*National Association for State community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|--------------------|-------|
| District | Jobs | Area | Jobs |
| 1 | 4,782 | Bismarck | 692 |
| | | Fargo | 1,166 |
| | | Grand Forks | 349 |
| | | Rural | 2,576 |

| State Senate | | | | | | | |
|--------------|------|----------|------|----------|------|----------|------|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
| 1 | 325 | 13 | 293 | 25 | 107 | 37 | <5 |
| 2 | 119 | 14 | 131 | 26 | 101 | 38 | <5 |
| 3 | 384 | 15 | 83 | 27 | <5 | 39 | 221 |
| 4 | 126 | 16 | 139 | 28 | 56 | 40 | <5 |
| 5 | 8 | 17 | 300 | 29 | 21 | 41 | <5 |
| 6 | 103 | 18 | 8 | 30 | <5 | 42 | 8 |
| 7 | 513 | 19 | 76 | 31 | 212 | 43 | <5 |
| 8 | 32 | 20 | 51 | 32 | <5 | 44 | <5 |
| 9 | 27 | 21 | 303 | 33 | 24 | 45 | <5 |
| 10 | 95 | 22 | 98 | 34 | <5 | 46 | <5 |
| 11 | 321 | 23 | 22 | 35 | <5 | 47 | <5 |
| 12 | 87 | 24 | 125 | 36 | 266 | | |

State House of Representatives

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|------|----------|------|----------|------|----------|------|
| 1 | 321 | 25 | 107 | 49 | <5 | 73 | <5 |
| 2 | 120 | 26 | 101 | 50 | <5 | 74 | <5 |
| 3 | 384 | 27 | <5 | 51 | <5 | 75 | <5 |
| 4 | 126 | 28 | 56 | 52 | <5 | 76 | <5 |
| 5 | 8 | 29 | 21 | 53 | <5 | 77 | <5 |
| 6 | 103 | 30 | <5 | 54 | <5 | 78 | <5 |
| 7 | 513 | 31 | 212 | 55 | <5 | 79 | <5 |
| 8 | 32 | 32 | <5 | 56 | <5 | 80 | <5 |
| 9 | 27 | 33 | 24 | 57 | <5 | 81 | <5 |
| 10 | 95 | 34 | <5 | 58 | <5 | 82 | <5 |
| 11 | 321 | 35 | <5 | 59 | <5 | 83 | <5 |
| 12 | 87 | 36 | 266 | 60 | <5 | 84 | <5 |
| 13 | 293 | 37 | <5 | 61 | <5 | 85 | <5 |
| 14 | 132 | 38 | <5 | 62 | <5 | 86 | <5 |
| 15 | 83 | 39 | 222 | 63 | <5 | 87 | <5 |
| 16 | 139 | 40 | <5 | 64 | <5 | 88 | <5 |
| 17 | 301 | 41 | <5 | 65 | <5 | 89 | <5 |
| 18 | 8 | 42 | 8 | 66 | <5 | 90 | <5 |
| 19 | 76 | 43 | <5 | 67 | <5 | 91 | <5 |
| 20 | 51 | 44 | <5 | 68 | <5 | 92 | <5 |
| 21 | 303 | 45 | <5 | 69 | <5 | 93 | <5 |
| 22 | 98 | 46 | <5 | 70 | <5 | 94 | <5 |
| 23 | 22 | 47 | <5 | 71 | <5 | | |
| 24 | 125 | 48 | <5 | 72 | <5 | | |



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Ohio

Energy Efficiency Jobs in America

June 2021*

73,453

Dec 2020

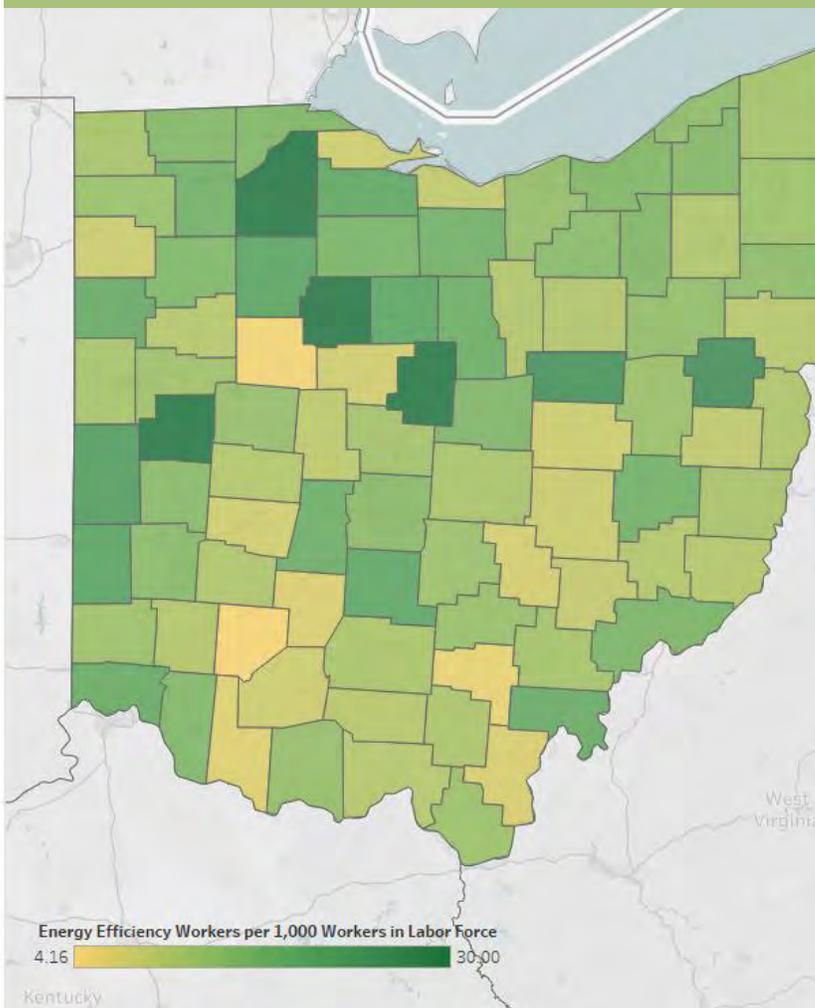
73,291

Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Ohio, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Ohio counties
have energy
efficiency
workers

~45,700
new EE construction
jobs to retrofit Ohio
homes by 2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of OH residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



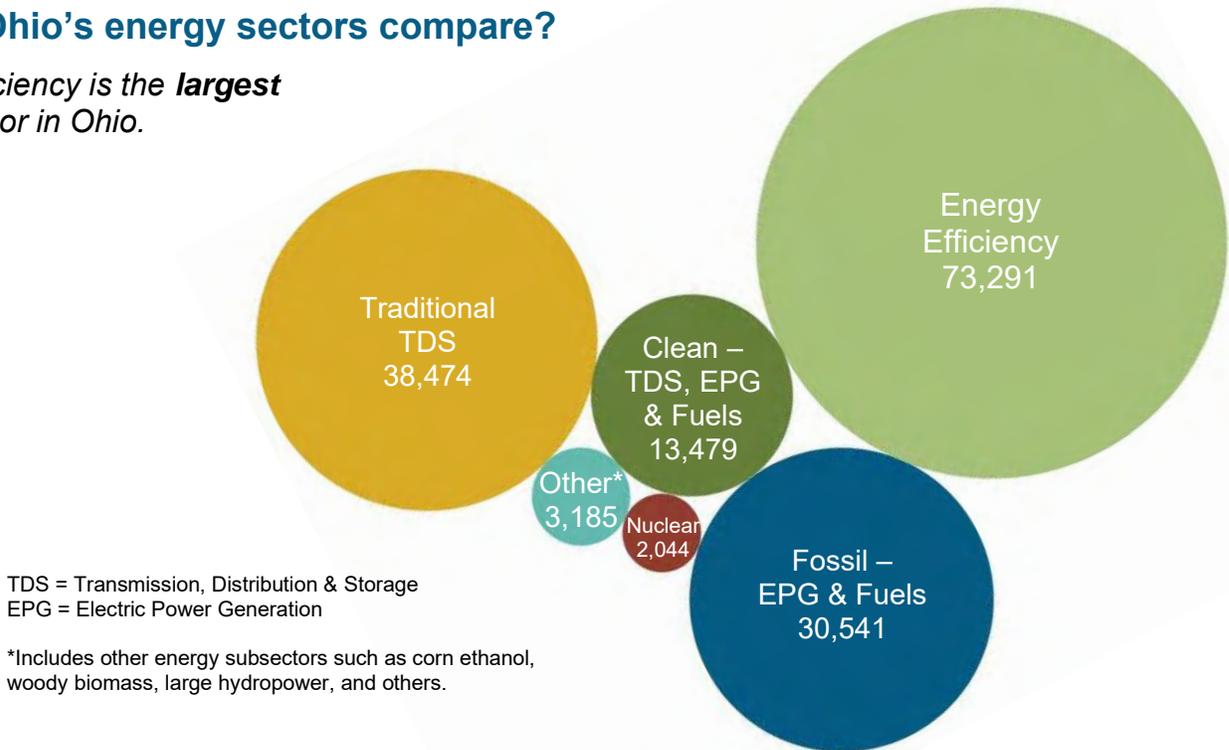
Key EE Statistics for Ohio

What are energy efficiency (EE) jobs?

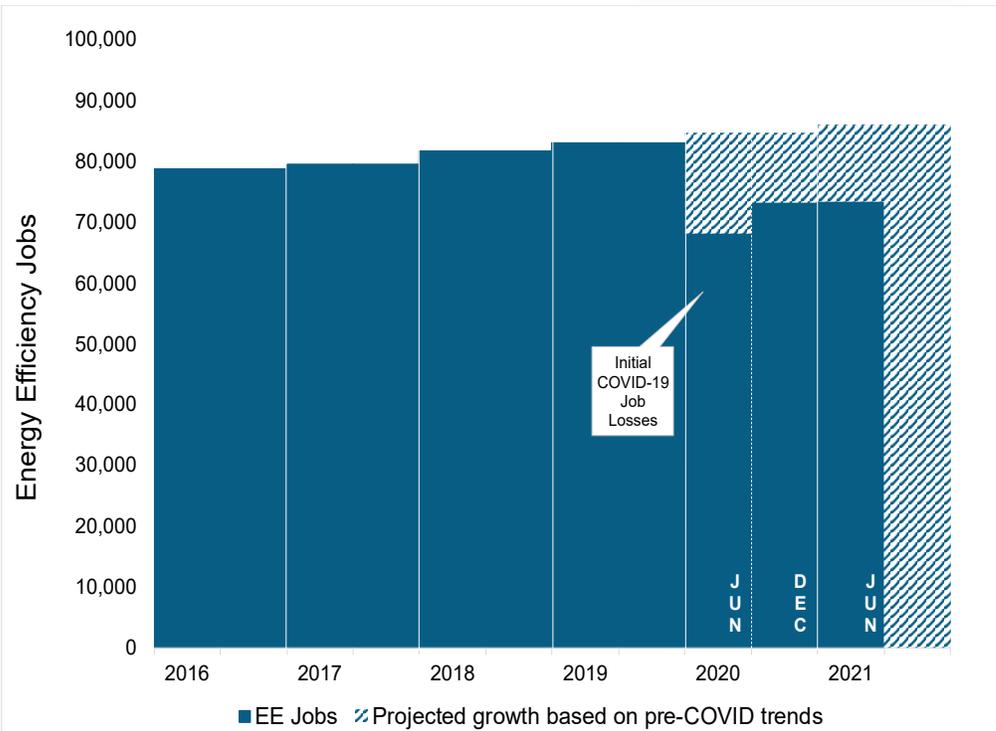
Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Ohio's energy sectors compare?

Energy Efficiency is the **largest** energy sector in Ohio.



How is the EE industry recovering?



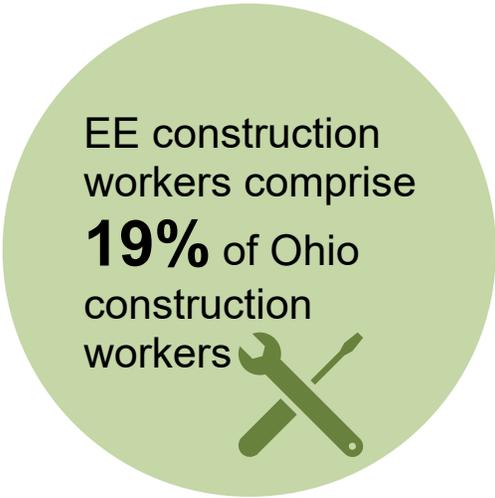
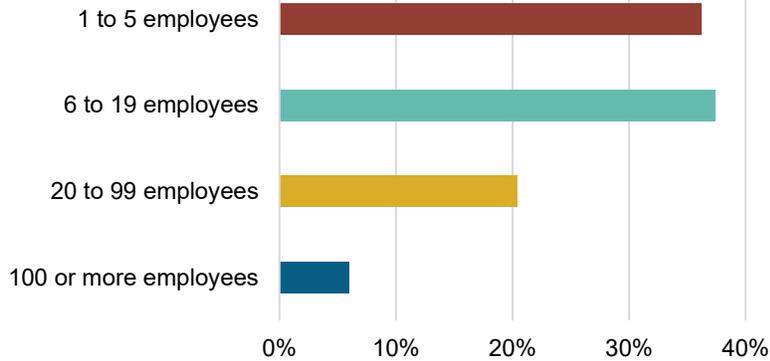
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



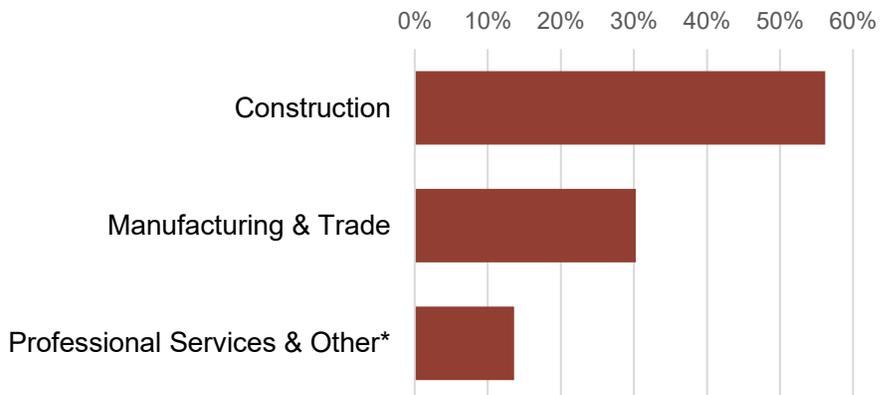
Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Ohio?

94% of OH EE Businesses Have Less Than 100 Employees

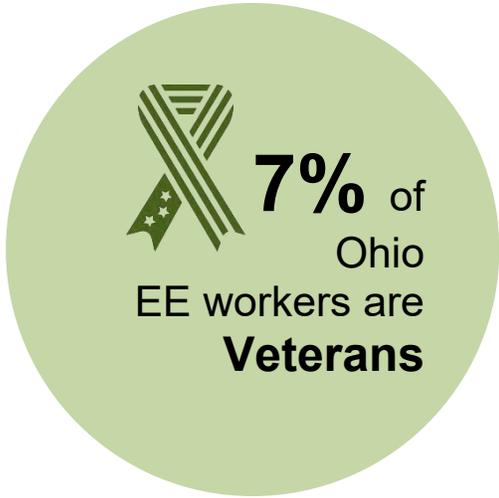
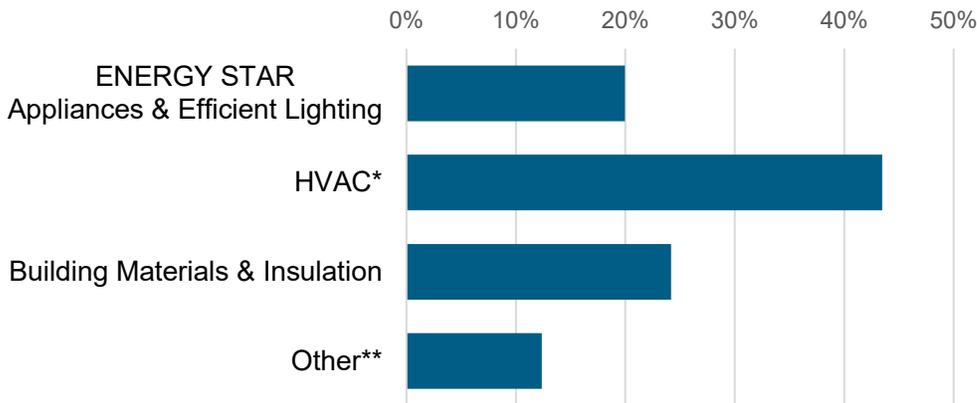


What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?

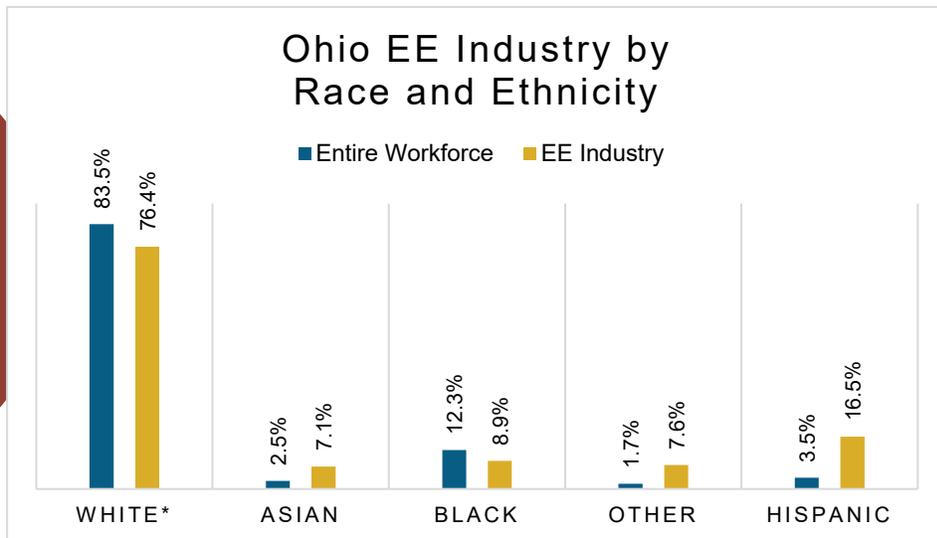


*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

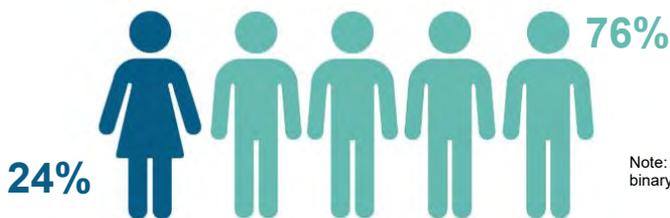
How is EE doing on diversity in Ohio?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Ohio communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Ohio's EE Potential

Decades of work, ready for Ohio's growing energy efficiency workforce.

Weatherization Assistance Program:


2,596* units weatherized in 2018, out of **~640,000** total low-income households

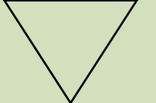
3,886,807

Ohio homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

18%


*National Association for State Community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
 Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|-----------------------------|--------|
| District | Jobs | Area | Jobs |
| 1 | 7,820 | Akron | 4,972 |
| 2 | 2,606 | Canton-Massillon | 2,387 |
| 3 | 6,668 | Cincinnati-Middletown | 10,351 |
| 4 | 6,942 | Cleveland-Elyria-Mentor | 14,402 |
| 5 | 7,751 | Columbus | 11,191 |
| 6 | 4,689 | Dayton | 4,811 |
| 7 | 5,845 | Huntington-Ashland | 192 |
| 8 | 2,998 | Lima | 637 |
| 9 | 3,115 | Mansfield | 926 |
| 10 | 3,435 | Parkersburg-Marietta-Vienna | 391 |
| 11 | 8,841 | Sandusky | 433 |
| 12 | 2,309 | Springfield | 634 |
| 13 | 3,920 | Toledo | 7,113 |
| 14 | 3,596 | Weirton-Steubenville | 235 |
| 15 | 1,484 | Wheeling | 298 |
| 16 | 1,274 | Youngstown-Warren-Boardman | 2,784 |
| | | Rural | 11,533 |

| State Senate | | | |
|--------------|-------|----------|-------|
| District | Jobs | District | Jobs |
| 1 | 2,937 | 18 | 4,370 |
| 2 | 5,698 | 19 | 1,600 |
| 3 | 5,541 | 20 | 1,767 |
| 4 | 2,246 | 21 | 4,540 |
| 5 | 3,225 | 22 | 3,169 |
| 6 | 1,543 | 23 | 2,192 |
| 7 | 4,100 | 24 | 2,564 |
| 8 | 2,242 | 25 | 205 |
| 9 | 801 | 26 | 1,150 |
| 10 | 2,068 | 27 | 1,945 |
| 11 | 1,114 | 28 | 1,560 |
| 12 | 1,346 | 29 | 1,723 |
| 13 | 2,234 | 30 | 1,557 |
| 14 | 1,317 | 31 | 1,254 |
| 15 | 612 | 32 | 1,549 |
| 16 | 1,596 | 33 | 2,167 |
| 17 | 1,357 | | |

State House of Representatives

| District | Jobs | District | Jobs | District | Jobs |
|----------|-------|----------|-------|----------|-------|
| 1 | 894 | 39 | 1,593 | 77 | 448 |
| 2 | 1,227 | 40 | 1,081 | 78 | 827 |
| 3 | 4,027 | 41 | 967 | 79 | 353 |
| 4 | 758 | 42 | 341 | 80 | 558 |
| 5 | 847 | 43 | 325 | 81 | 668 |
| 6 | 3,302 | 44 | 1,461 | 82 | 391 |
| 7 | 684 | 45 | 244 | 83 | 1,004 |
| 8 | 634 | 46 | 648 | 84 | 729 |
| 9 | 449 | 47 | 605 | 85 | 149 |
| 10 | 2,411 | 48 | 950 | 86 | 283 |
| 11 | 130 | 49 | 423 | 87 | 439 |
| 12 | <5 | 50 | 124 | 88 | 498 |
| 13 | 429 | 51 | 683 | 89 | 573 |
| 14 | 599 | 52 | 563 | 90 | 497 |
| 15 | 77 | 53 | 97 | 91 | 515 |
| 16 | 805 | 54 | 625 | 92 | 179 |
| 17 | 2,871 | 55 | 1,037 | 93 | 357 |
| 18 | 724 | 56 | 319 | 94 | 662 |
| 19 | 1,873 | 57 | 625 | 95 | 564 |
| 20 | 556 | 58 | 1,626 | 96 | 377 |
| 21 | 1,972 | 59 | 388 | 97 | 232 |
| 22 | 60 | 60 | 1,508 | 98 | 463 |
| 23 | 154 | 61 | 266 | 99 | 394 |
| 24 | 118 | 62 | 224 | | |
| 25 | <5 | 63 | 662 | | |
| 26 | <5 | 64 | 261 | | |
| 27 | 3,195 | 65 | 397 | | |
| 28 | 1,822 | 66 | 409 | | |
| 29 | 1,025 | 67 | 1,056 | | |
| 30 | 209 | 68 | 480 | | |
| 31 | 612 | 69 | 242 | | |
| 32 | 109 | 70 | 143 | | |
| 33 | 133 | 71 | 787 | | |
| 34 | 1,938 | 72 | 572 | | |
| 35 | 654 | 73 | 568 | | |
| 36 | 1,013 | 74 | 465 | | |
| 37 | 1,141 | 75 | 331 | | |
| 38 | 973 | 76 | 607 | | |



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Oklahoma

Energy Efficiency Jobs in America

June 2021*

12,763

Dec 2020

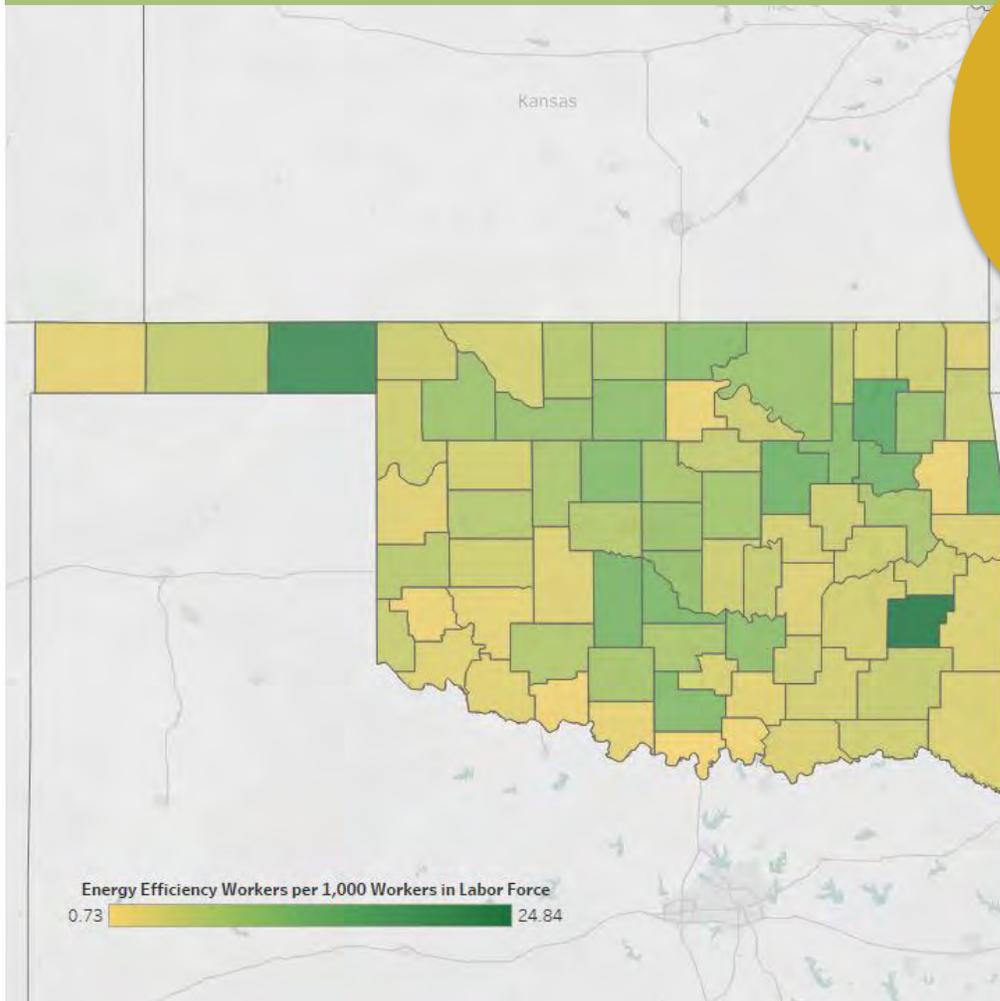
12,741

Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Oklahoma, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Oklahoma
counties have
energy efficiency
workers

~13,400
new EE construction
jobs to retrofit
Oklahoma homes by
2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of OK residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



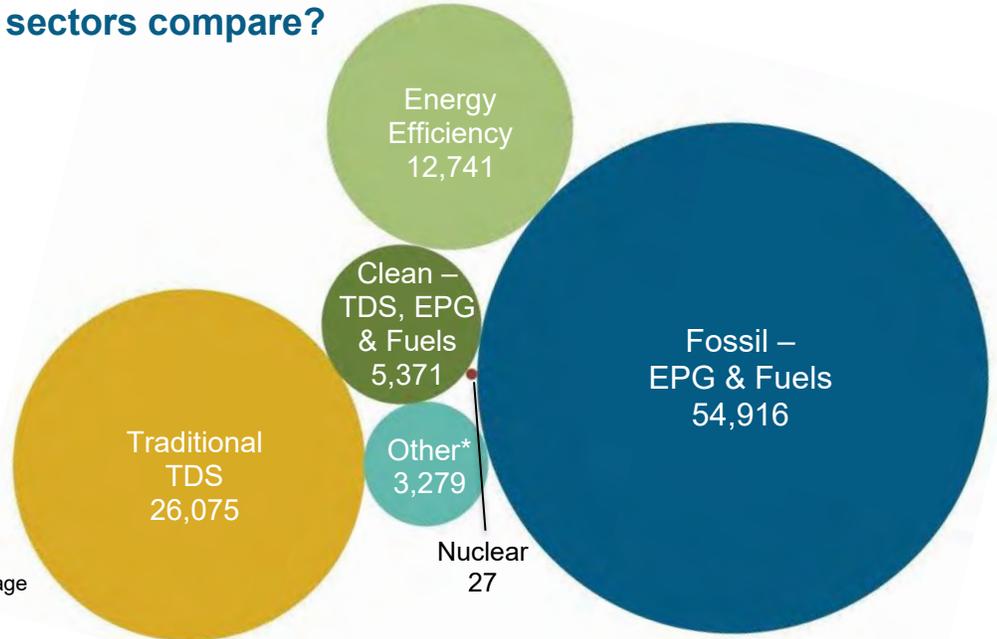
Key EE Statistics for Oklahoma

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Oklahoma's energy sectors compare?

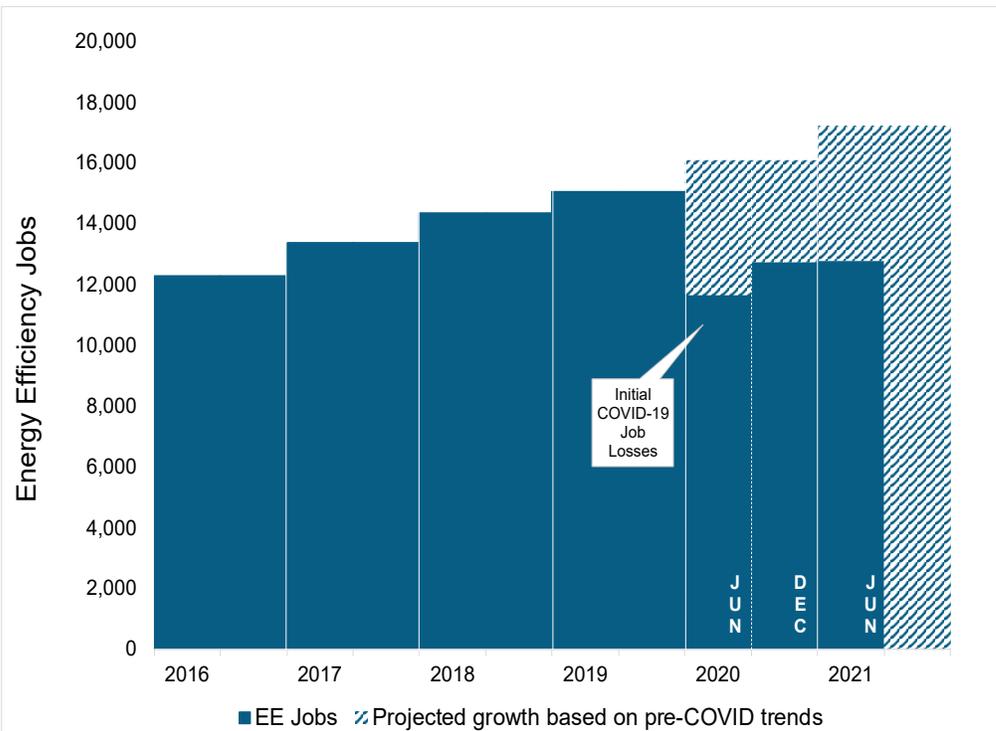
Energy Efficiency is the third largest energy sector in Oklahoma.



TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



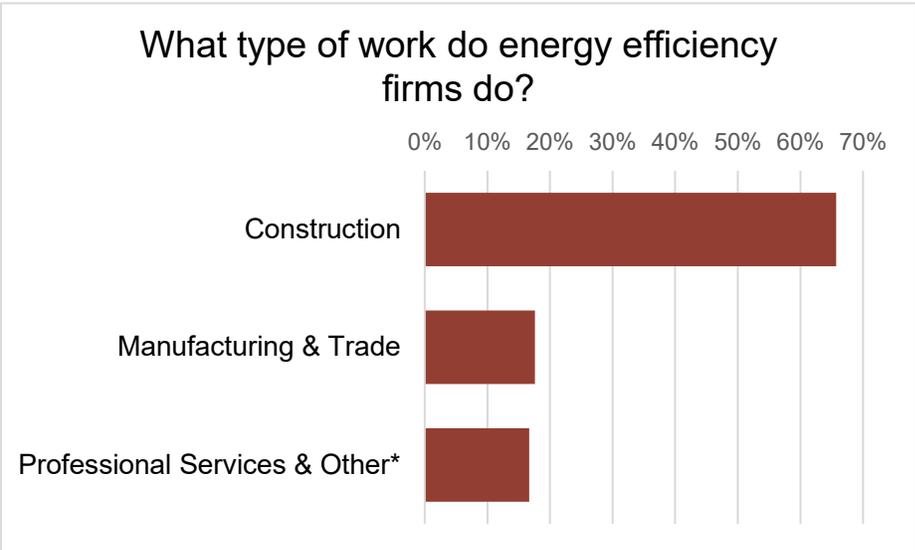
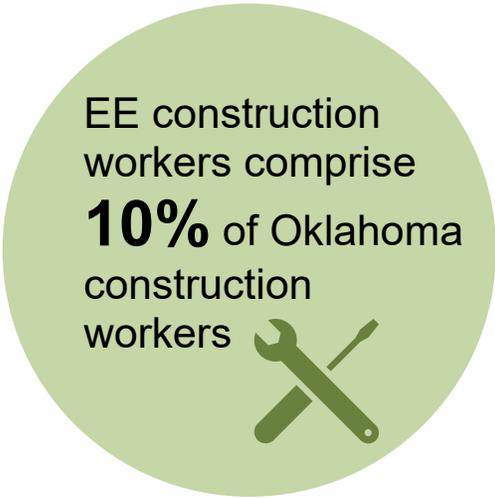
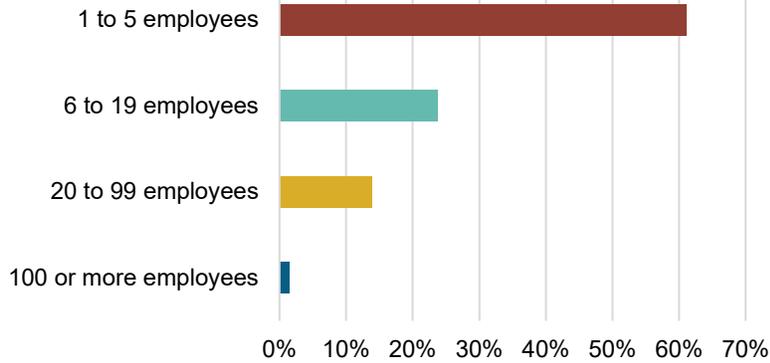
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



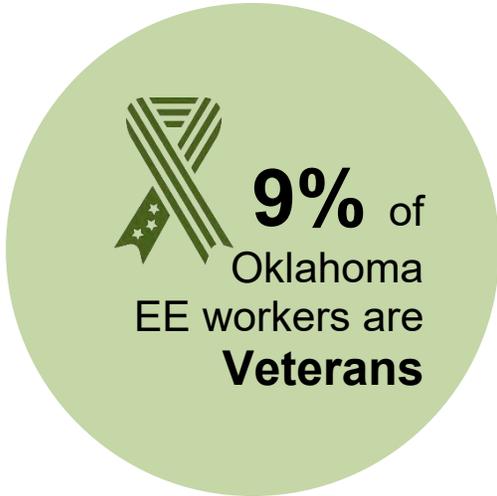
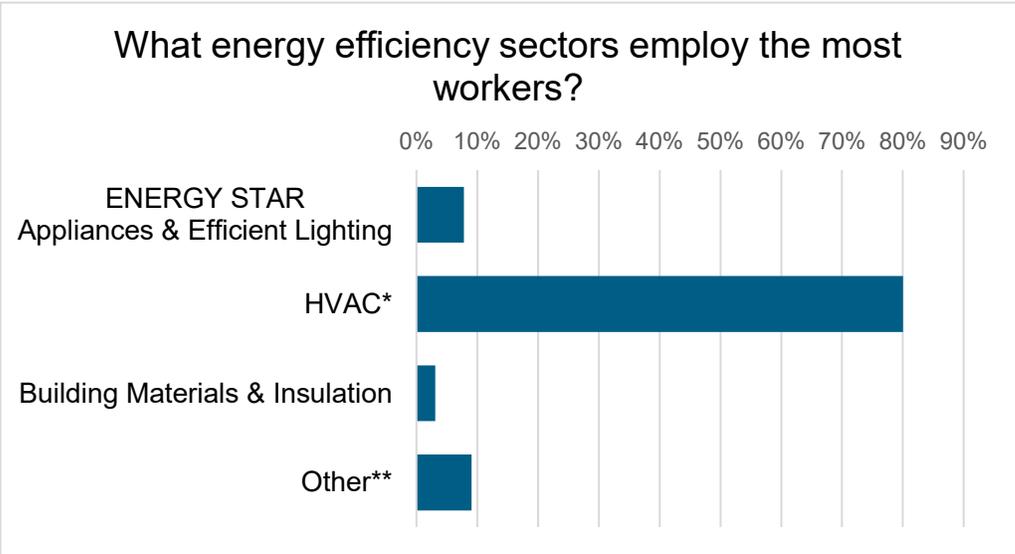
Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Oklahoma?

98.6% of OK EE Businesses Have Less Than 100 Employees



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

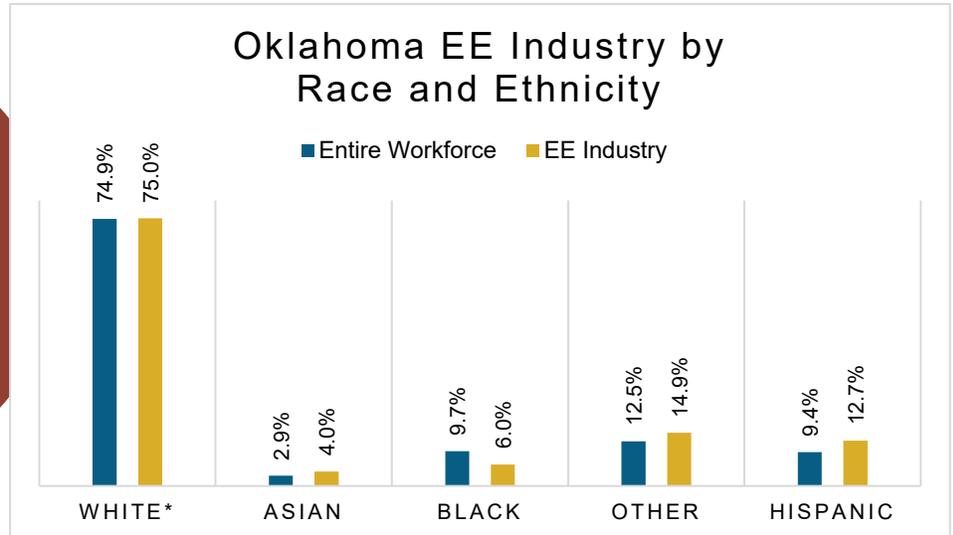


*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

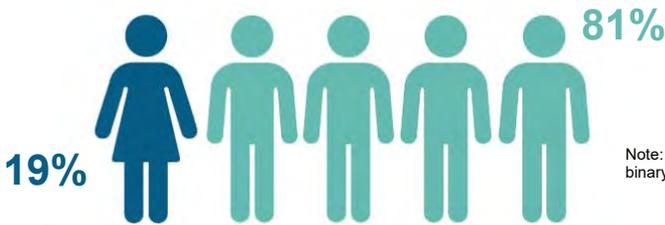
How is EE doing on diversity in Oklahoma?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Oklahoma communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Oklahoma's EE Potential

Decades of work, ready for Oklahoma's growing energy efficiency workforce.

Weatherization Assistance Program:


255* units weatherized in 2018, out of **~23,000** total low-income households

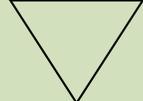
1,350,168

Oklahoma homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

43%


*National Association for State community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
 Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|--------------------|-------|
| District | Jobs | Area | Jobs |
| 1 | 3,570 | Fort Smith | 110 |
| 2 | 1,842 | Lawton | 234 |
| 3 | 2,551 | Oklahoma City | 4,832 |
| 4 | 1,800 | Tulsa | 3,599 |
| 5 | 2,977 | Rural | 3,966 |

| State Senate | | | | | | | |
|--------------|------|----------|------|----------|------|----------|------|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
| 1 | 382 | 13 | 347 | 25 | 683 | 37 | <5 |
| 2 | 450 | 14 | 263 | 26 | 294 | 38 | 100 |
| 3 | 142 | 15 | 652 | 27 | 283 | 39 | <5 |
| 4 | 101 | 16 | <5 | 28 | 65 | 40 | 369 |
| 5 | 134 | 17 | 525 | 29 | 130 | 41 | <5 |
| 6 | 155 | 18 | 371 | 30 | 886 | 42 | 95 |
| 7 | 268 | 19 | 314 | 31 | 360 | 43 | 81 |
| 8 | 179 | 20 | 458 | 32 | 11 | 44 | 919 |
| 9 | 91 | 21 | 194 | 33 | <5 | 45 | 18 |
| 10 | 420 | 22 | 410 | 34 | 40 | 46 | 63 |
| 11 | 815 | 23 | 330 | 35 | 734 | 47 | 51 |
| 12 | 263 | 24 | 86 | 36 | 22 | 48 | 184 |

State House of Representatives

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|------|----------|------|----------|------|----------|------|
| 1 | 68 | 27 | 278 | 53 | 57 | 79 | <5 |
| 2 | 37 | 28 | 118 | 54 | 312 | 80 | <5 |
| 3 | 52 | 29 | 194 | 55 | 235 | 81 | 122 |
| 4 | 137 | 30 | 40 | 56 | 60 | 82 | 204 |
| 5 | 306 | 31 | 291 | 57 | 59 | 83 | 249 |
| 6 | 203 | 32 | 99 | 58 | 184 | 84 | 410 |
| 7 | 18 | 33 | 208 | 59 | 9 | 85 | 248 |
| 8 | 135 | 34 | 10 | 60 | 7 | 86 | 8 |
| 9 | 165 | 35 | 49 | 61 | 135 | 87 | <5 |
| 10 | 266 | 36 | 37 | 62 | 181 | 88 | 461 |
| 11 | <5 | 37 | 147 | 63 | 58 | 89 | 206 |
| 12 | 130 | 38 | 307 | 64 | <5 | 90 | 32 |
| 13 | 105 | 39 | 351 | 65 | 19 | 91 | <5 |
| 14 | 7 | 40 | <5 | 66 | 426 | 92 | <5 |
| 15 | 70 | 41 | 290 | 67 | 676 | 93 | <5 |
| 16 | 143 | 42 | 46 | 68 | 38 | 94 | 85 |
| 17 | 156 | 43 | 176 | 69 | <5 | 95 | 43 |
| 18 | 52 | 44 | 200 | 70 | 337 | 96 | 10 |
| 19 | 148 | 45 | <5 | 71 | <5 | 97 | 169 |
| 20 | 366 | 46 | <5 | 72 | 307 | 98 | <5 |
| 21 | 8 | 47 | 160 | 73 | 267 | 99 | 37 |
| 22 | 367 | 48 | 40 | 74 | <5 | 100 | <5 |
| 23 | 536 | 49 | 37 | 75 | <5 | 101 | <5 |
| 24 | 55 | 50 | 102 | 76 | <5 | | |
| 25 | <5 | 51 | 119 | 77 | <5 | | |
| 26 | 169 | 52 | 85 | 78 | <5 | | |



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



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. Visit www.e2.org



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 www.bwresearch.com

Data Source: Unless otherwise stated, all data are from the U.S. Energy and Employment Report, July 2021, by the U.S. Department of Energy (see Appendix A for methodology details). This methodology -- adopted by the U.S. Dept. of Energy for its 2017 U.S. Energy and Employment Report, approved by the Office of Management and Budget and grounded on data collected by the Bureau of Labor Statistics -- provides the broadly accepted best accounting of all U.S. energy workers.

For questions on E4TheFuture analyses please email: policy@e4thefuture.org.

Oregon

Energy Efficiency Jobs in America

June 2021*

38,369

Dec 2020

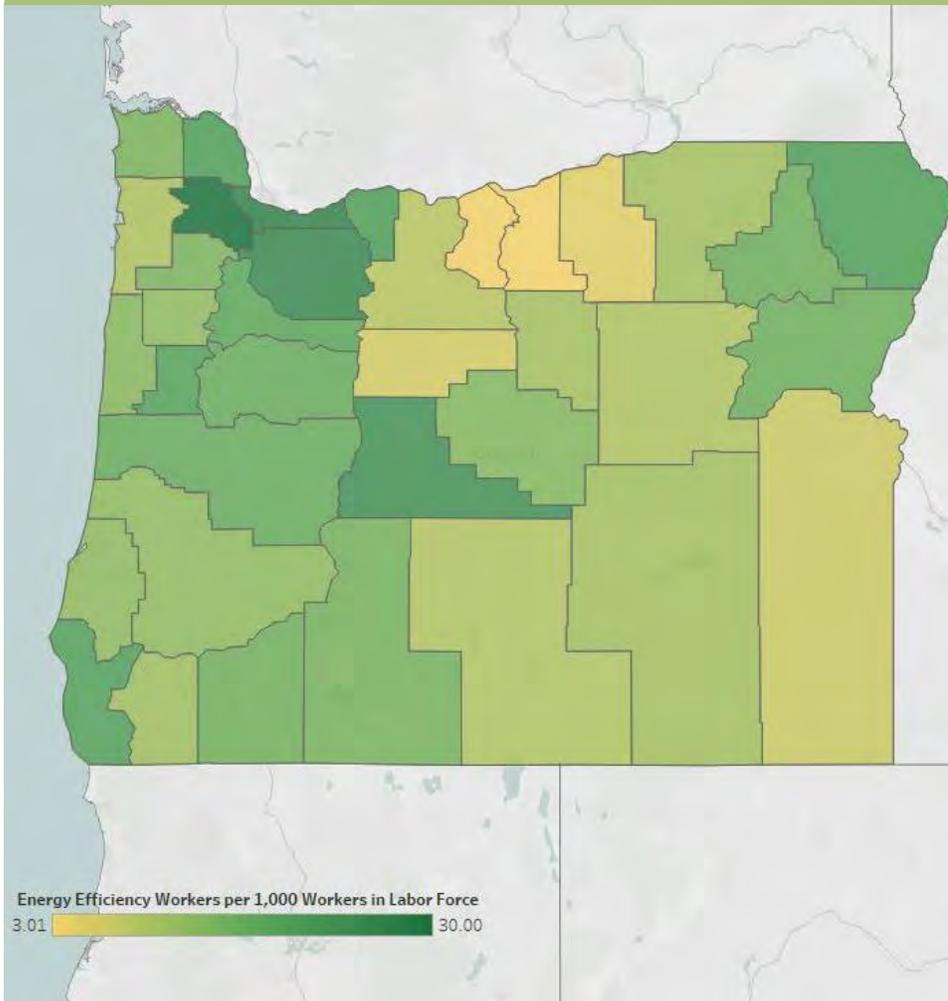
38,262

Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Oregon, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Oregon
counties have
energy efficiency
workers

~18,300
new EE construction
jobs to retrofit Oregon
homes by 2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of OR residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



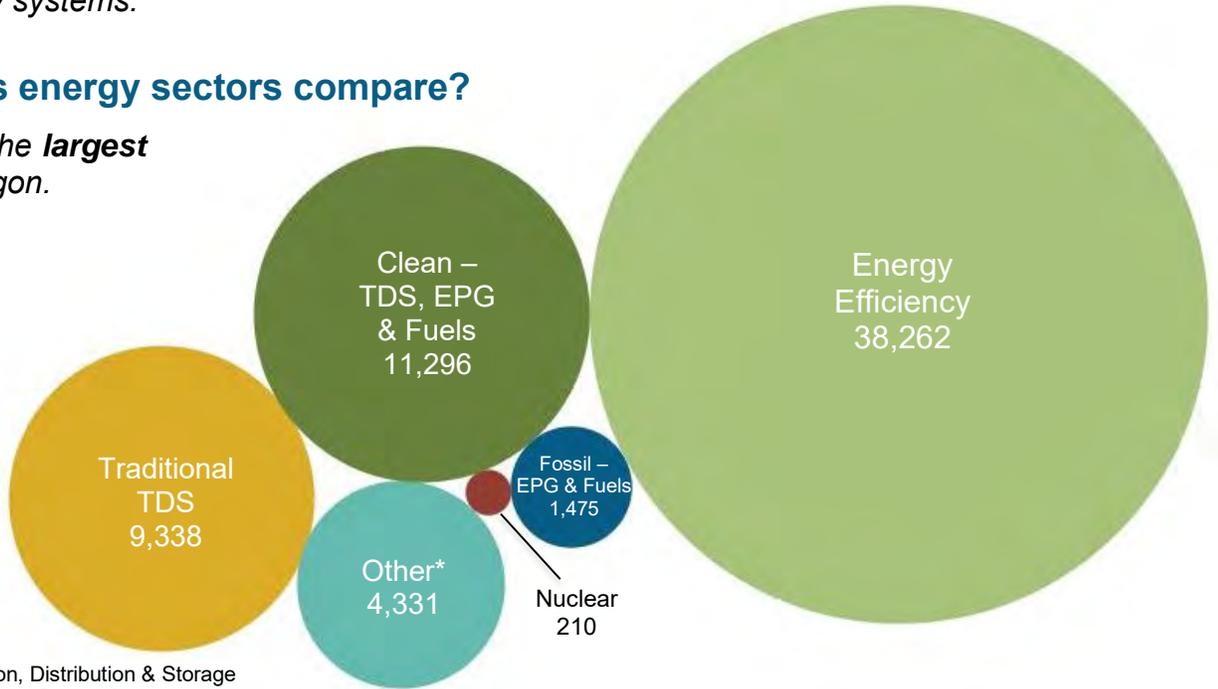
Key EE Statistics for Oregon

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Oregon's energy sectors compare?

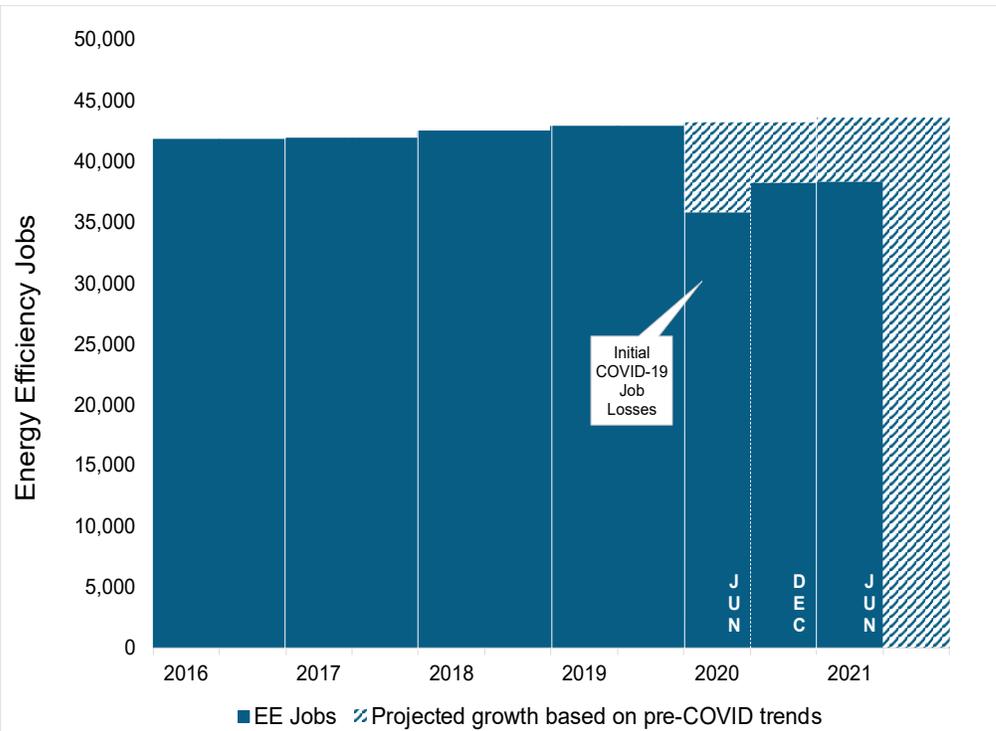
Energy Efficiency is the **largest** energy sector in Oregon.



TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



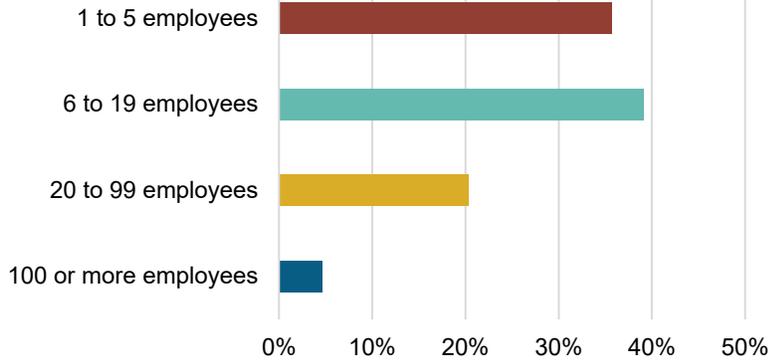
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Oregon?

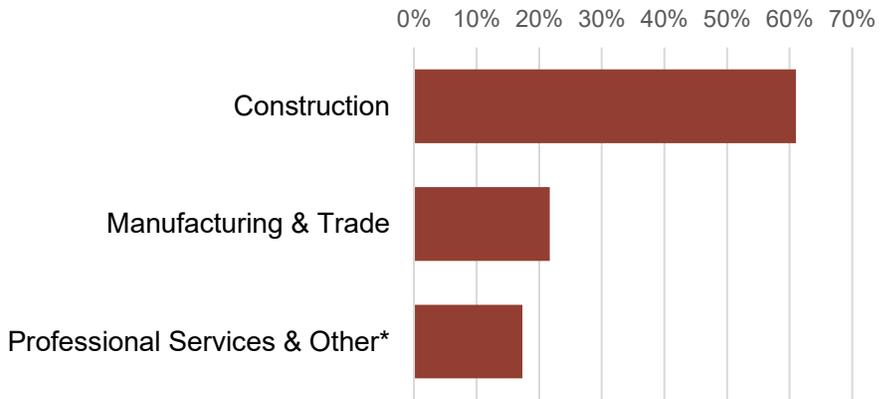
95.3% of OR EE Businesses Have Less Than 100 Employees



7,176
EE businesses in Oregon

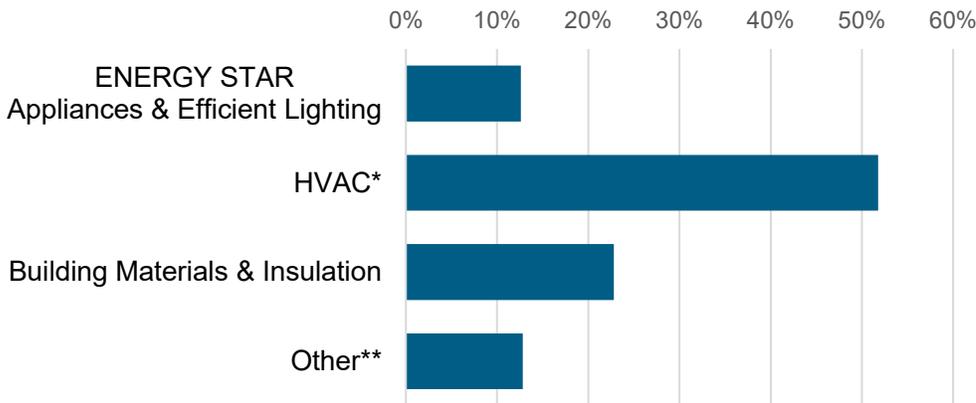
EE construction workers comprise **21%** of Oregon construction workers

What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



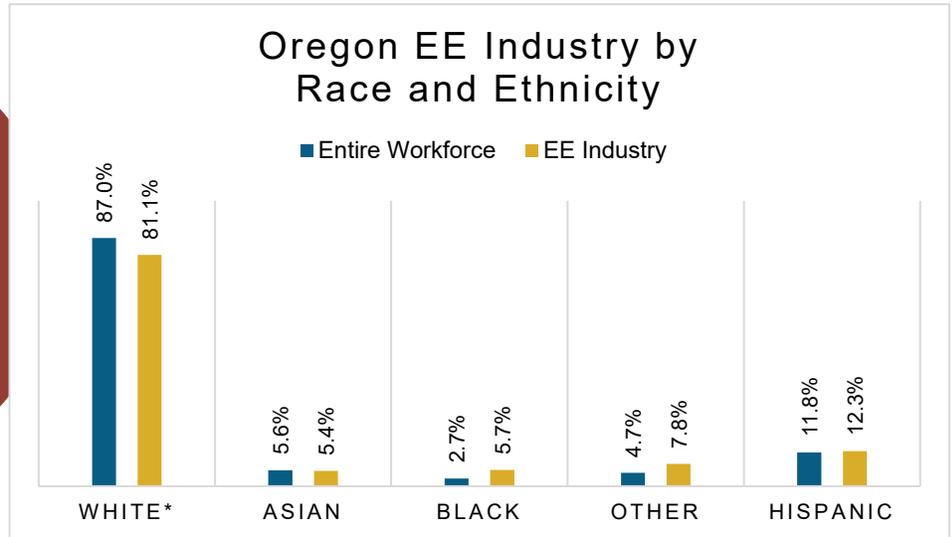
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

7% of Oregon EE workers are **Veterans**

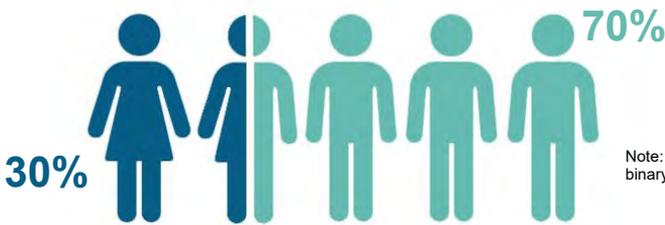
How is EE doing on diversity in Oregon?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Oregon communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Oregon's EE Potential

Decades of work, ready for Oregon's growing energy efficiency workforce.

Weatherization Assistance Program:


1,326* units weatherized in 2018, out of **~190,000** total low-income households

1,245,442

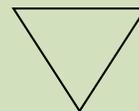
Oregon homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

20%



*National Association for State community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
 Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|--------|------------------------------|--------|
| District | Jobs | Area | Jobs |
| 1 | 11,597 | Bend | 1,840 |
| 2 | 7,625 | Corvallis | 673 |
| 3 | 8,059 | Eugene-Springfield | 3,551 |
| 4 | 7,179 | Medford | 2,375 |
| 5 | 3,801 | Portland-Vancouver-Beaverton | 19,717 |
| | | Salem | 2,764 |
| | | Rural | 7,342 |

| State Senate | | | | | | | |
|--------------|-------|----------|-------|----------|-------|----------|-------|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
| 1 | 2,382 | 9 | 1,909 | 17 | 584 | 25 | 562 |
| 2 | 1,149 | 10 | 1,454 | 18 | 2,830 | 26 | 259 |
| 3 | 1,058 | 11 | 239 | 19 | 1,173 | 27 | 1,566 |
| 4 | 2,885 | 12 | 1,165 | 20 | 1,283 | 28 | 989 |
| 5 | 951 | 13 | 1,974 | 21 | 1,811 | 29 | 1,184 |
| 6 | 1,022 | 14 | 1,081 | 22 | 1,819 | 30 | 534 |
| 7 | 139 | 15 | 3,065 | 23 | 579 | | |
| 8 | 1,234 | 16 | 1,103 | 24 | 278 | | |

State House of Representatives

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|-------|----------|-------|----------|-------|----------|-------|
| 1 | 1,818 | 16 | 46 | 31 | 544 | 46 | 260 |
| 2 | 560 | 17 | 612 | 32 | 543 | 47 | 172 |
| 3 | 17 | 18 | 1,204 | 33 | 582 | 48 | 105 |
| 4 | 1,128 | 19 | 1,214 | 34 | <5 | 49 | 462 |
| 5 | 1,063 | 20 | 235 | 35 | 386 | 50 | 98 |
| 6 | <5 | 21 | <5 | 36 | 2,452 | 51 | <5 |
| 7 | 576 | 22 | 238 | 37 | 1,171 | 52 | 258 |
| 8 | 2,314 | 23 | 419 | 38 | <5 | 53 | 1,576 |
| 9 | 224 | 24 | 748 | 39 | 1,113 | 54 | <5 |
| 10 | 775 | 25 | 12 | 40 | 169 | 55 | 703 |
| 11 | 1,020 | 26 | 1,962 | 41 | 835 | 56 | 282 |
| 12 | <5 | 27 | 1,078 | 42 | 980 | 57 | 788 |
| 13 | 137 | 28 | <5 | 43 | 836 | 58 | 392 |
| 14 | <5 | 29 | 2,797 | 44 | 1,002 | 59 | 165 |
| 15 | 1,185 | 30 | 323 | 45 | 318 | 60 | 368 |



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Pennsylvania

Energy Efficiency Jobs in America

June 2021*

65,687

Dec 2020

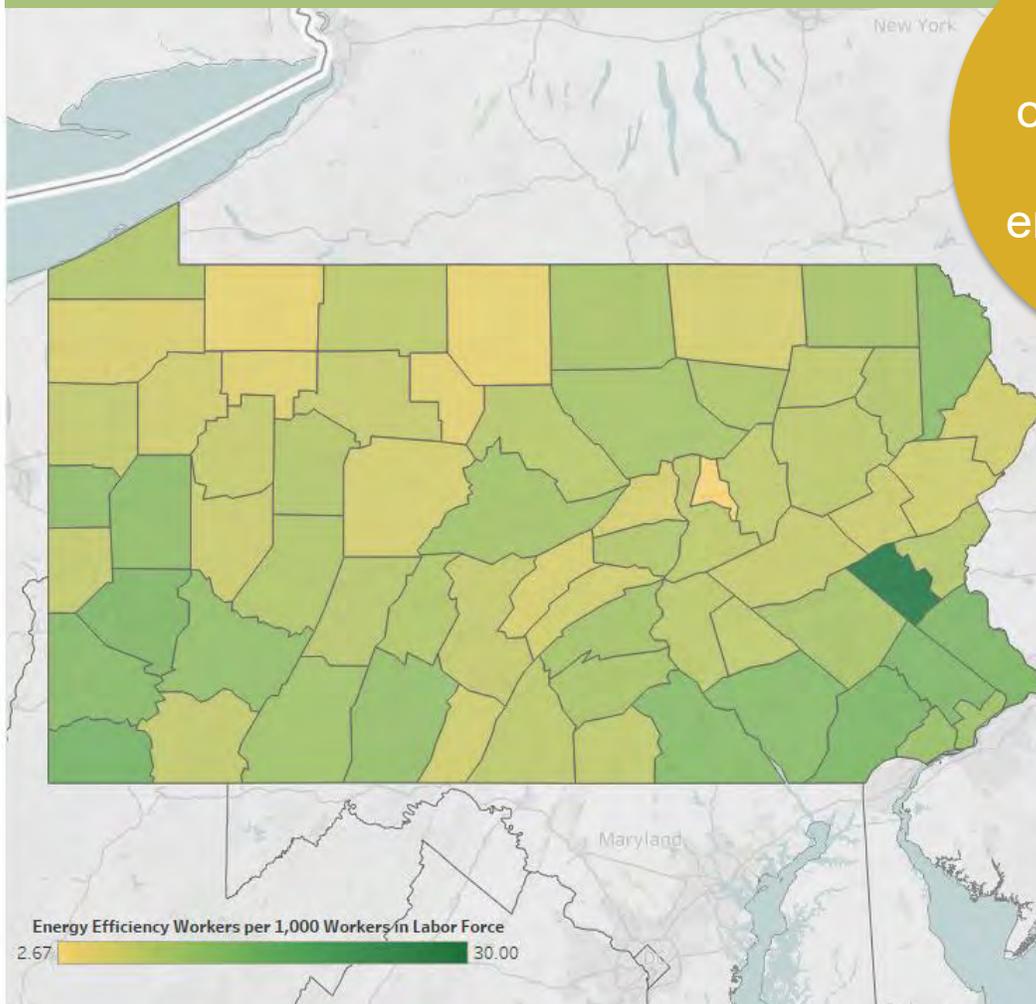
65,397

Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Pennsylvania, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Pennsylvania
counties have
energy efficiency
workers

~54,700
new EE construction
jobs to retrofit
Pennsylvania homes
by 2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of PA residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



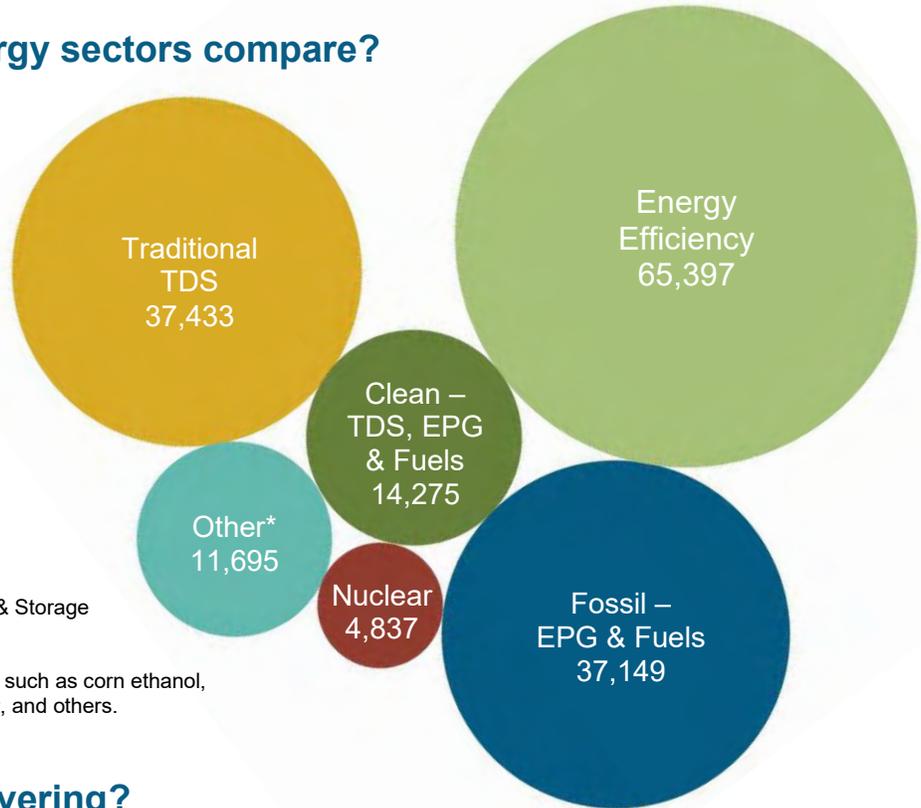
Key EE Statistics for Pennsylvania

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Pennsylvania's energy sectors compare?

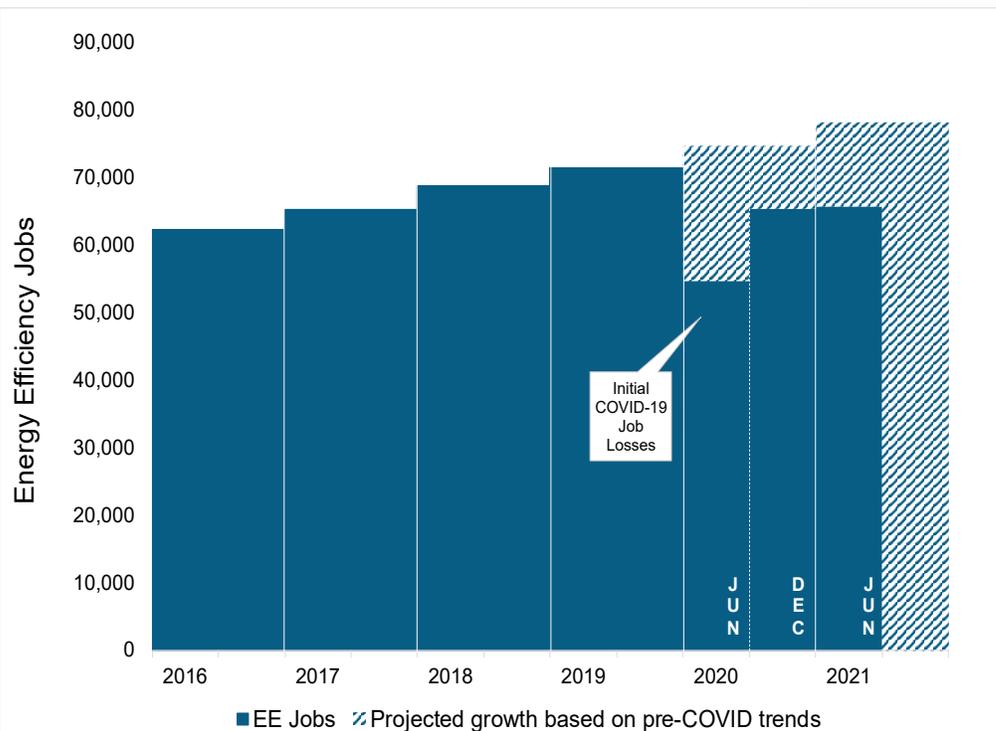
Energy Efficiency is the **largest** energy sector in Pennsylvania.



TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



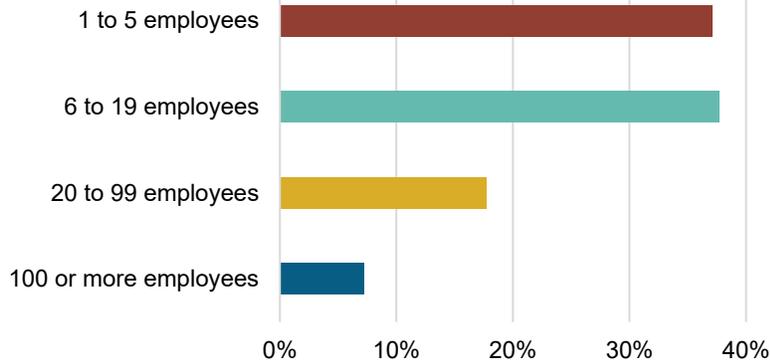
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Pennsylvania?

92.5% of PA EE Businesses Have Less Than 100 Employees



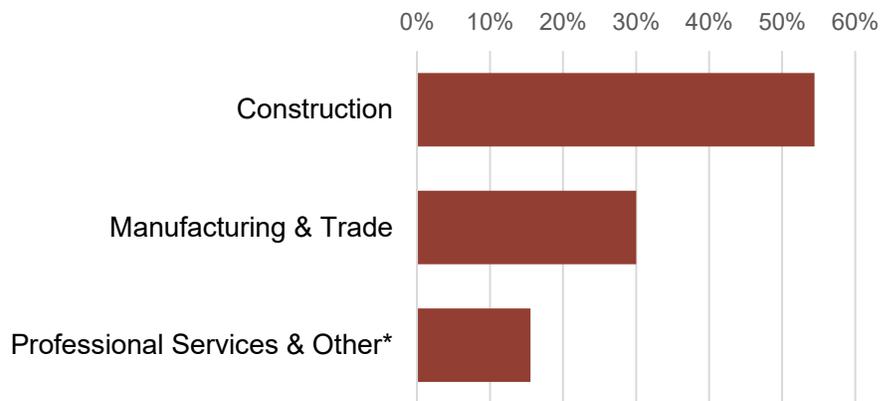
10,290
EE businesses in
Pennsylvania



EE construction workers comprise **14%** of Pennsylvania construction workers

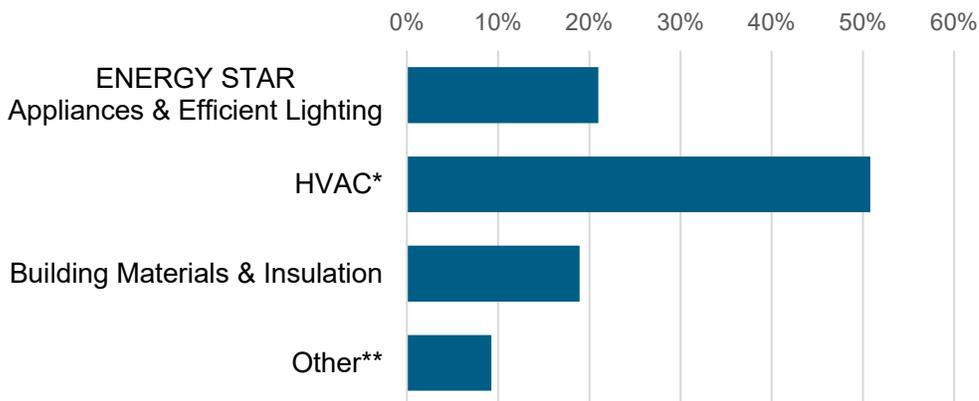


What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

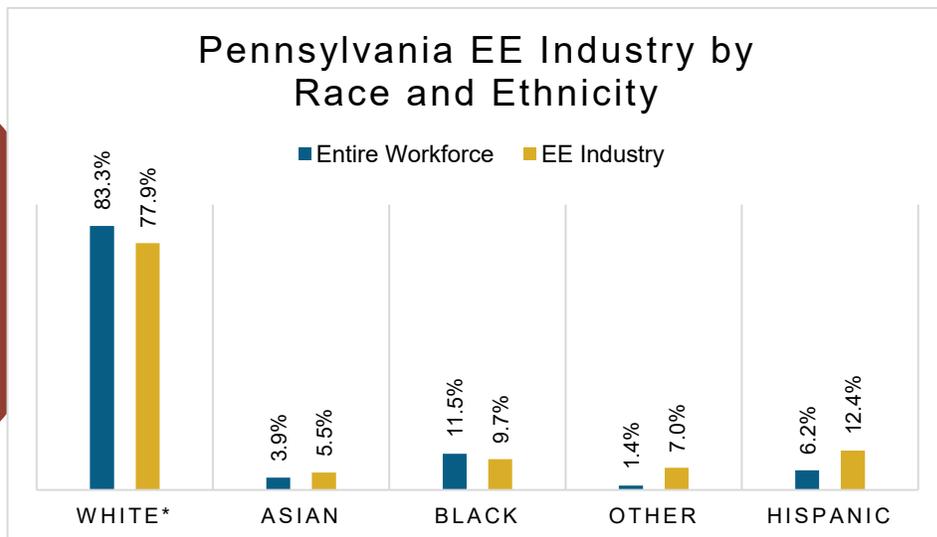


11% of
Pennsylvania
EE workers are
Veterans

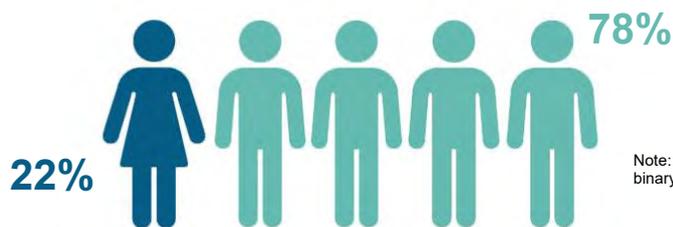
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Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Pennsylvania communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Pennsylvania's EE Potential

Decades of work, ready for Pennsylvania's growing energy efficiency workforce.

Weatherization Assistance Program:


4,312* units weatherized in 2018, out of **~63,000** total low-income households

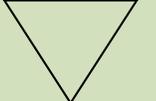
4,993,961

Pennsylvania homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

14%


*National Association for State Community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|-----------------------------------|--------|
| District | Jobs | Area | Jobs |
| 1 | 4,382 | Allentown-Bethlehem-Easton | 3,209 |
| 2 | 3,112 | Altoona | 613 |
| 3 | 4,218 | Erie | 1,234 |
| 4 | 4,117 | Harrisburg-Carlisle | 2,707 |
| 5 | 2,535 | Johnstown | 445 |
| 6 | 6,722 | Lancaster | 2,724 |
| 7 | 4,632 | Lebanon | 556 |
| 8 | 5,075 | New York-Northern New Jersey-Long | 3,389 |
| 9 | 3,588 | Philadelphia-Camden-Wilmington | 21,303 |
| 10 | 3,870 | Pittsburgh | 12,403 |
| 11 | 2,620 | Reading | 2,688 |
| 12 | 4,635 | Scranton--Wilkes-Barre | 2,680 |
| 13 | 1,008 | State College | 630 |
| 14 | 4,590 | Williamsport | 585 |
| 15 | 4,430 | York-Hanover | 1,788 |
| 16 | 2,288 | Youngstown-Warren-Boardman | 387 |
| 17 | 1,642 | Rural | 8,055 |
| 18 | 1,932 | | |

| State Senate | | | | | | | |
|--------------|-------|----------|-------|----------|-------|----------|-------|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
| 1 | 3,548 | 14 | 1,569 | 27 | 846 | 40 | 694 |
| 2 | 896 | 15 | 1,652 | 28 | 1,712 | 41 | 1,291 |
| 3 | 262 | 16 | 1,818 | 29 | 716 | 42 | 2,176 |
| 4 | 1,296 | 17 | 2,373 | 30 | 1,773 | 43 | 525 |
| 5 | 173 | 18 | 1,089 | 31 | 1,159 | 44 | 285 |
| 6 | 2,903 | 19 | 1,269 | 32 | 1,092 | 45 | 346 |
| 7 | 1,233 | 20 | 1,122 | 33 | 593 | 46 | 1,090 |
| 8 | 384 | 21 | 1,653 | 34 | 906 | 47 | 990 |
| 9 | 3,255 | 22 | 1,282 | 35 | 795 | 48 | 532 |
| 10 | 1,817 | 23 | 1,443 | 36 | 795 | 49 | 1,275 |
| 11 | 2,208 | 24 | 760 | 37 | 3,302 | 50 | 739 |
| 12 | 908 | 25 | 1,022 | 38 | 1,418 | | |
| 13 | 2,142 | 26 | 492 | 39 | 1,778 | | |

State House of Representatives

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|-------|----------|-------|----------|------|----------|-------|
| 1 | 549 | 52 | 173 | 103 | 762 | 154 | 134 |
| 2 | 473 | 53 | 830 | 104 | 332 | 155 | 344 |
| 3 | 215 | 54 | 1,055 | 105 | <5 | 156 | 1,621 |
| 4 | 87 | 55 | 380 | 106 | <5 | 157 | 326 |
| 5 | 762 | 56 | 29 | 107 | 538 | 158 | 258 |
| 6 | 347 | 57 | 80 | 108 | 35 | 159 | 443 |
| 7 | 341 | 58 | 81 | 109 | 112 | 160 | 41 |
| 8 | 520 | 59 | 282 | 110 | 228 | 161 | 697 |
| 9 | 377 | 60 | 205 | 111 | 452 | 162 | 376 |
| 10 | 285 | 61 | 924 | 112 | 726 | 163 | 506 |
| 11 | 228 | 62 | 297 | 113 | 325 | 164 | <5 |
| 12 | 434 | 63 | 219 | 114 | 98 | 165 | 315 |
| 13 | 565 | 64 | 239 | 115 | 461 | 166 | <5 |
| 14 | 300 | 65 | 208 | 116 | 438 | 167 | <5 |
| 15 | 457 | 66 | 298 | 117 | 257 | 168 | 13 |
| 16 | 288 | 67 | 160 | 118 | 347 | 169 | 40 |
| 17 | 13 | 68 | 559 | 119 | 397 | 170 | 170 |
| 18 | 615 | 69 | 218 | 120 | 20 | 171 | 24 |
| 19 | 2,175 | 70 | 824 | 121 | 73 | 172 | 368 |
| 20 | 703 | 71 | 278 | 122 | 221 | 173 | <5 |
| 21 | 382 | 72 | 155 | 123 | 281 | 174 | <5 |
| 22 | 626 | 73 | 222 | 124 | 174 | 175 | 1,854 |
| 23 | 138 | 74 | 284 | 125 | 158 | 176 | 113 |
| 24 | 274 | 75 | 270 | 126 | 297 | 177 | 124 |
| 25 | 556 | 76 | 789 | 127 | 29 | 178 | 58 |
| 26 | 746 | 77 | 46 | 128 | 284 | 179 | 151 |
| 27 | 786 | 78 | 364 | 129 | 45 | 180 | <5 |
| 28 | 244 | 79 | 516 | 130 | 187 | 181 | 53 |
| 29 | 817 | 80 | 49 | 131 | 715 | 182 | 1,555 |
| 30 | 23 | 81 | 118 | 132 | 384 | 183 | 123 |
| 31 | 840 | 82 | 453 | 133 | 555 | 184 | 184 |
| 32 | 329 | 83 | 505 | 134 | 192 | 185 | 71 |
| 33 | 145 | 84 | 181 | 135 | 110 | 186 | 53 |
| 34 | 247 | 85 | 233 | 136 | 304 | 187 | 1,120 |
| 35 | 448 | 86 | 348 | 137 | 244 | 188 | 70 |
| 36 | 180 | 87 | 790 | 138 | 225 | 189 | 24 |
| 37 | 1,597 | 88 | 154 | 139 | 210 | 190 | 53 |
| 38 | 53 | 89 | 377 | 140 | 708 | 191 | <5 |
| 39 | 510 | 90 | 12 | 141 | 74 | 192 | 18 |
| 40 | 582 | 91 | 488 | 142 | 451 | 193 | 270 |
| 41 | 323 | 92 | 288 | 143 | 901 | 194 | 214 |
| 42 | <5 | 93 | 429 | 144 | 59 | 195 | <5 |
| 43 | 568 | 94 | 47 | 145 | 17 | 196 | 6 |
| 44 | 326 | 95 | <5 | 146 | 151 | 197 | <5 |
| 45 | 35 | 96 | <5 | 147 | 92 | 198 | 43 |
| 46 | 119 | 97 | <5 | 148 | 946 | 199 | <5 |
| 47 | 958 | 98 | 242 | 149 | 918 | 200 | <5 |
| 48 | 46 | 99 | 102 | 150 | 17 | 201 | 23 |
| 49 | 491 | 100 | 132 | 151 | 479 | 202 | <5 |
| 50 | 100 | 101 | 492 | 152 | 330 | 203 | <5 |
| 51 | 182 | 102 | 76 | 153 | 280 | | |



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



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Data Source: Unless otherwise stated, all data are from the U.S. Energy and Employment Report, July 2021, by the U.S. Department of Energy (see Appendix A for methodology details). This methodology -- adopted by the U.S. Dept. of Energy for its 2017 U.S. Energy and Employment Report, approved by the Office of Management and Budget and grounded on data collected by the Bureau of Labor Statistics -- provides the broadly accepted best accounting of all U.S. energy workers.

For questions on E4TheFuture analyses please email: policy@e4thefuture.org.

Rhode Island

Energy Efficiency Jobs in America

June 2021*

10,679

Dec 2020

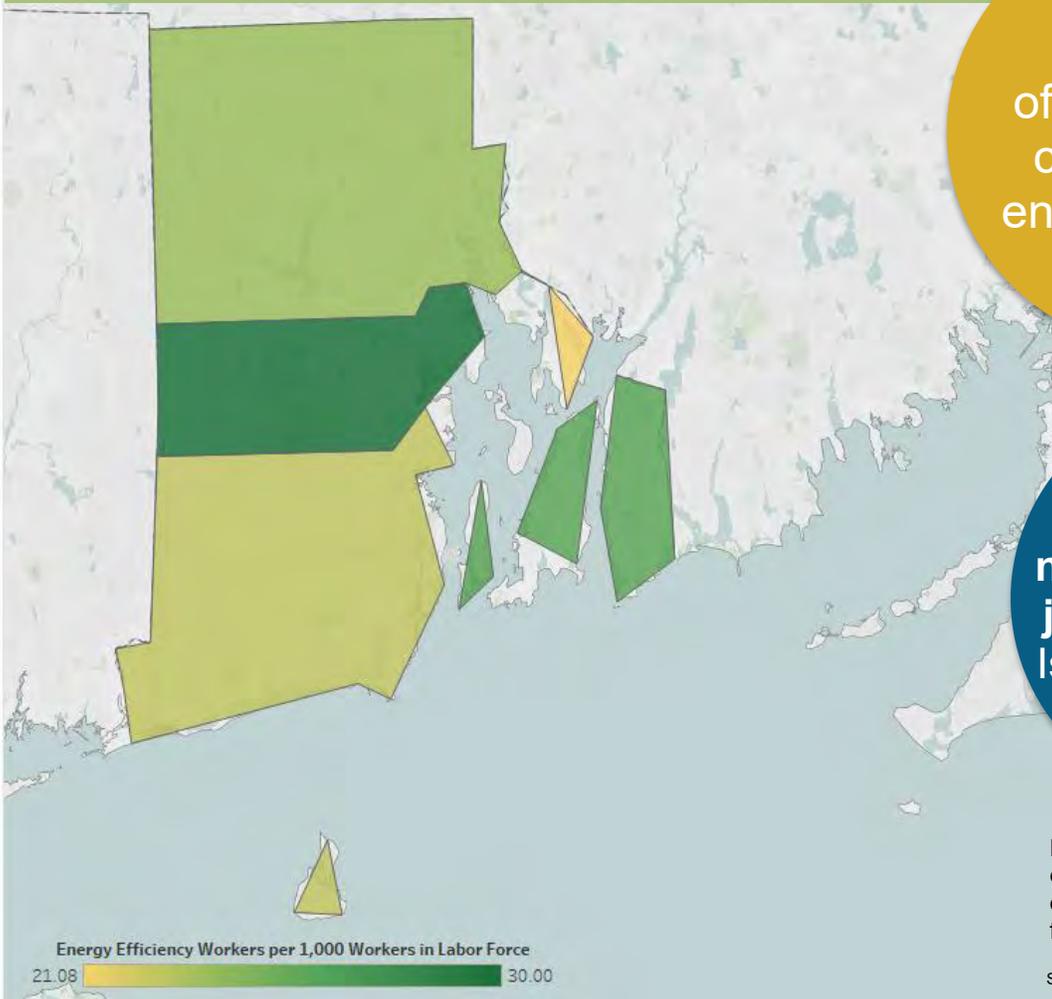
10,627

Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Rhode Island, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Rhode Island
counties have
energy efficiency
workers

~4,700
new EE construction
jobs to retrofit Rhode
Island homes by 2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of RI residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



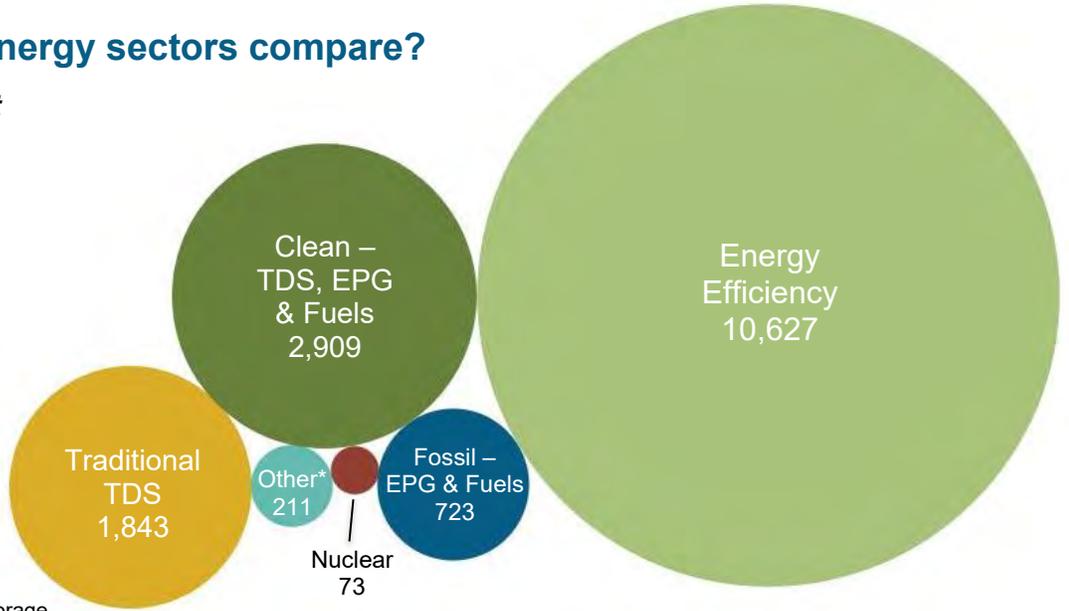
Key EE Statistics for Rhode Island

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Rhode Island's energy sectors compare?

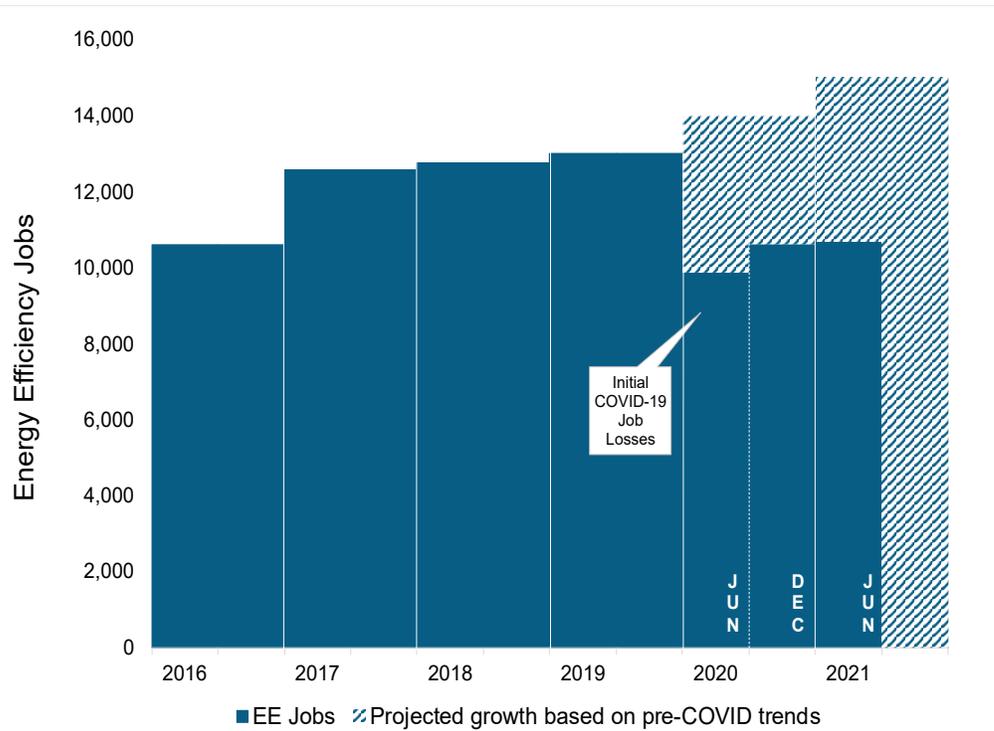
Energy Efficiency is the **largest** energy sector in Rhode Island.



TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



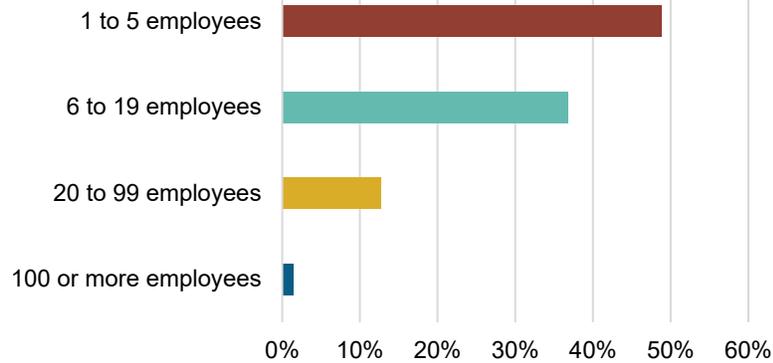
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Rhode Island?

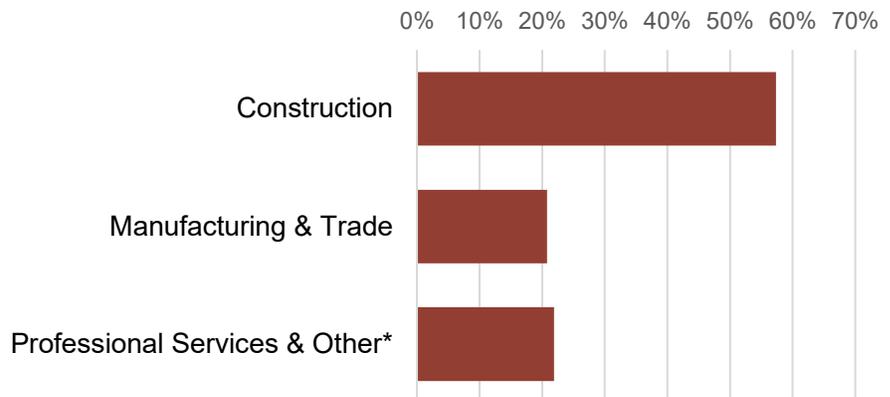
98.4% of RI EE Businesses Have Less Than 100 Employees



3,304
EE businesses in
Rhode Island

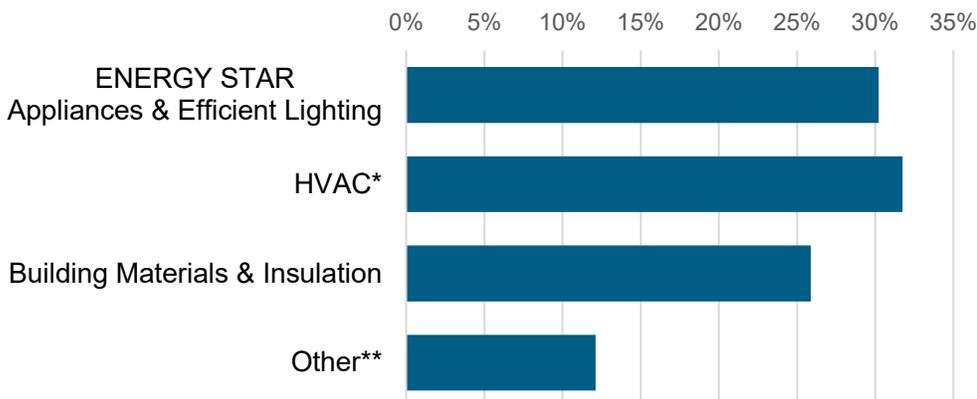
EE construction workers comprise **31%** of Rhode Island construction workers

What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



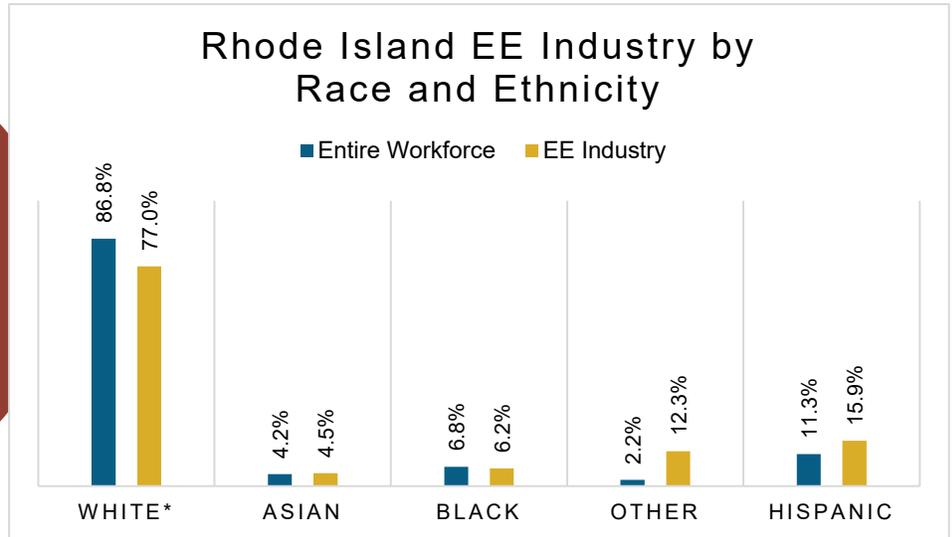
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

7% of
Rhode Island
EE workers are
Veterans

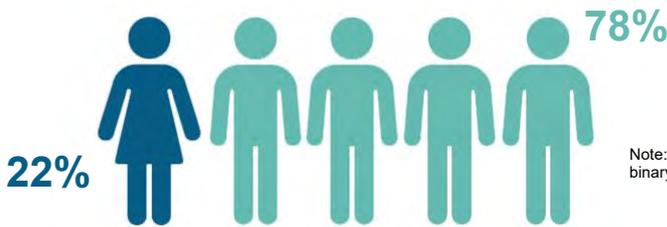
How is EE doing on diversity in Rhode Island?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Rhode Island communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Rhode Island's EE Potential

Decades of work, ready for Rhode Island's growing energy efficiency workforce.

Weatherization Assistance Program:



639* units weatherized in 2018, out of **~46,000** total low-income households

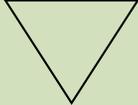
390,900 Rhode Island homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

15%



*National Association for State community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
 Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|--------------------|--------|
| District | Jobs | Area | Jobs |
| 1 | 5,828 | Rhode Island | 10,627 |
| 2 | 4,799 | | |

| State Senate | | | | | | | |
|--------------|-------|----------|------|----------|-------|----------|------|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
| 1 | 1,218 | 11 | 198 | 21 | 834 | 31 | <5 |
| 2 | 621 | 12 | 631 | 22 | 336 | 32 | 101 |
| 3 | 538 | 13 | 71 | 23 | 118 | 33 | <5 |
| 4 | 83 | 14 | 452 | 24 | <5 | 34 | 451 |
| 5 | <5 | 15 | <5 | 25 | <5 | 35 | 758 |
| 6 | <5 | 16 | 55 | 26 | 159 | 36 | <5 |
| 7 | 686 | 17 | 852 | 27 | <5 | 37 | 38 |
| 8 | <5 | 18 | <5 | 28 | <5 | 38 | 265 |
| 9 | 228 | 19 | <5 | 29 | 1,026 | | |
| 10 | 516 | 20 | 219 | 30 | 174 | | |

State House of Representatives

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|-------|----------|------|----------|------|----------|------|
| 1 | 1,207 | 20 | 544 | 39 | 32 | 58 | <5 |
| 2 | 398 | 21 | 161 | 40 | 261 | 59 | <5 |
| 3 | <5 | 22 | <5 | 41 | <5 | 60 | <5 |
| 4 | 363 | 23 | <5 | 42 | <5 | 61 | <5 |
| 5 | <5 | 24 | 400 | 43 | <5 | 62 | <5 |
| 6 | 587 | 25 | 523 | 44 | 593 | 63 | 325 |
| 7 | <5 | 26 | <5 | 45 | 295 | 64 | 123 |
| 8 | <5 | 27 | <5 | 46 | <5 | 65 | <5 |
| 9 | 351 | 28 | 66 | 47 | 86 | 66 | 116 |
| 10 | 219 | 29 | 79 | 48 | 132 | 67 | 123 |
| 11 | <5 | 30 | <5 | 49 | 217 | 68 | 221 |
| 12 | <5 | 31 | 477 | 50 | <5 | 69 | 197 |
| 13 | <5 | 32 | <5 | 51 | <5 | 70 | 281 |
| 14 | <5 | 33 | 459 | 52 | <5 | 71 | 80 |
| 15 | 158 | 34 | <5 | 53 | <5 | 72 | 221 |
| 16 | <5 | 35 | <5 | 54 | <5 | 73 | 326 |
| 17 | <5 | 36 | 422 | 55 | <5 | 74 | 70 |
| 18 | <5 | 37 | <5 | 56 | 55 | 75 | <5 |
| 19 | 334 | 38 | 122 | 57 | <5 | 76 | <5 |



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Data Source: Unless otherwise stated, all data are from the U.S. Energy and Employment Report, July 2021, by the U.S. Department of Energy (see Appendix A for methodology details). This methodology -- adopted by the U.S. Dept. of Energy for its 2017 U.S. Energy and Employment Report, approved by the Office of Management and Budget and grounded on data collected by the Bureau of Labor Statistics -- provides the broadly accepted best accounting of all U.S. energy workers.

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South Carolina

Energy Efficiency Jobs in America

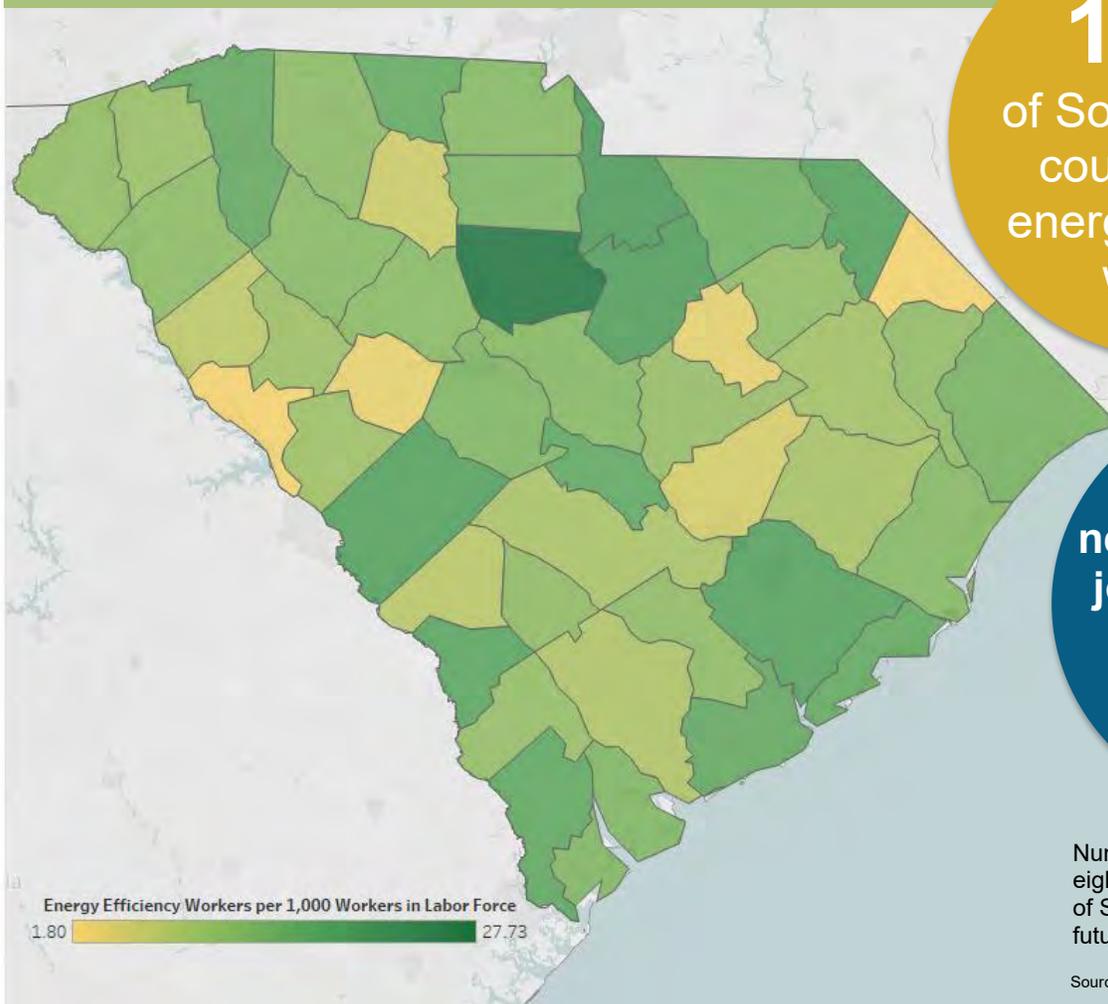


Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In South Carolina, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of South Carolina
counties have
energy efficiency
workers

~13,300
new EE construction
jobs to retrofit South
Carolina homes by
2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of SC residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



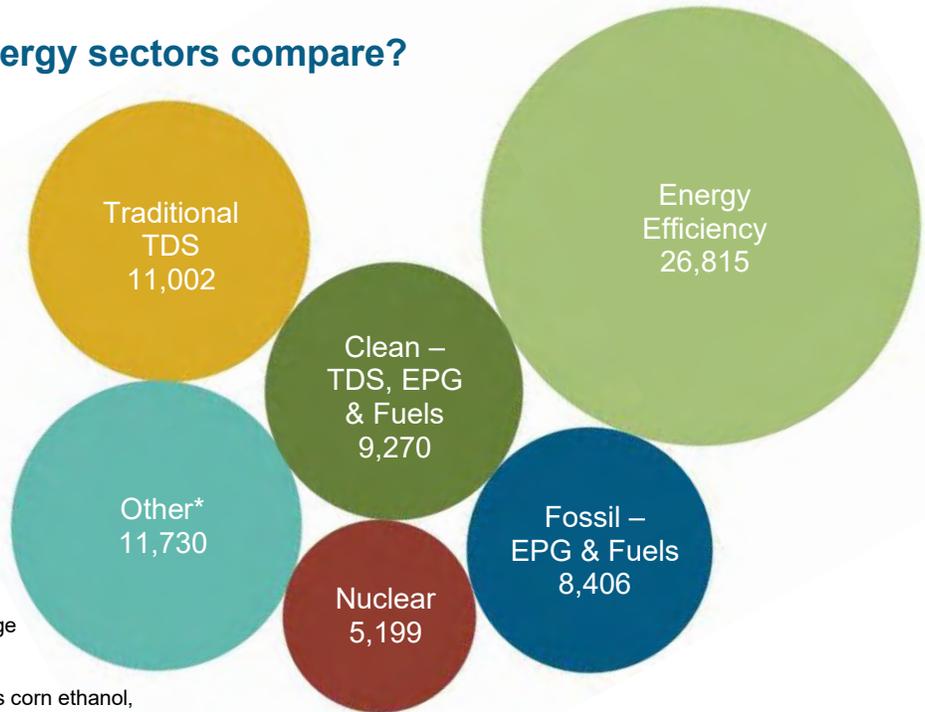
Key EE Statistics for South Carolina

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do South Carolina's energy sectors compare?

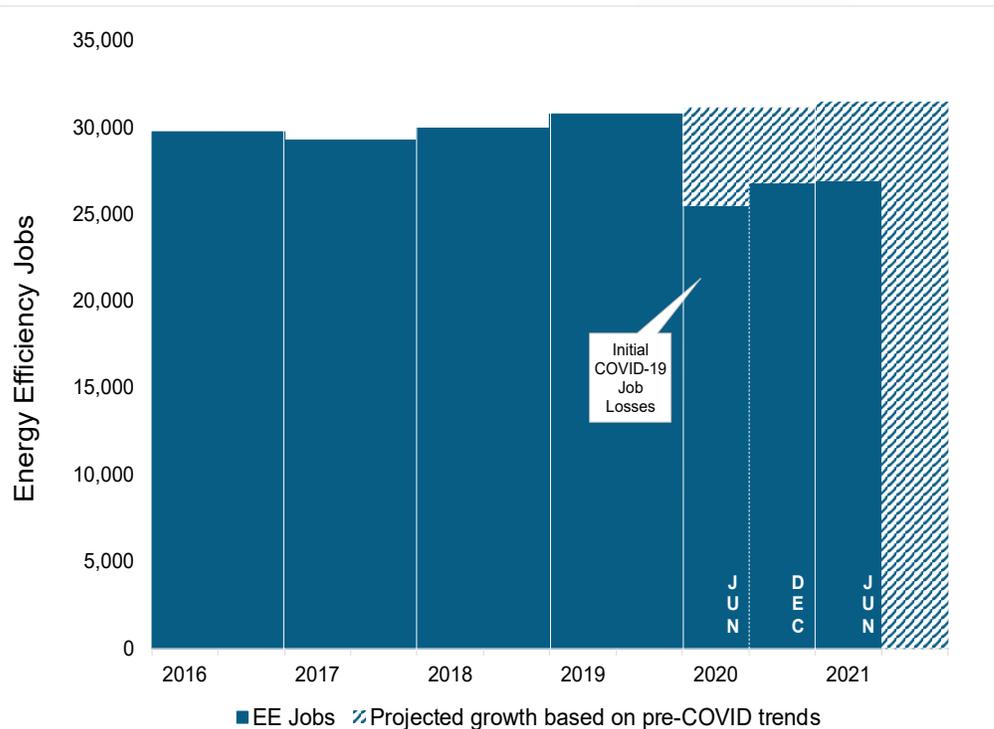
Energy Efficiency is the **largest** energy sector in South Carolina.



TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



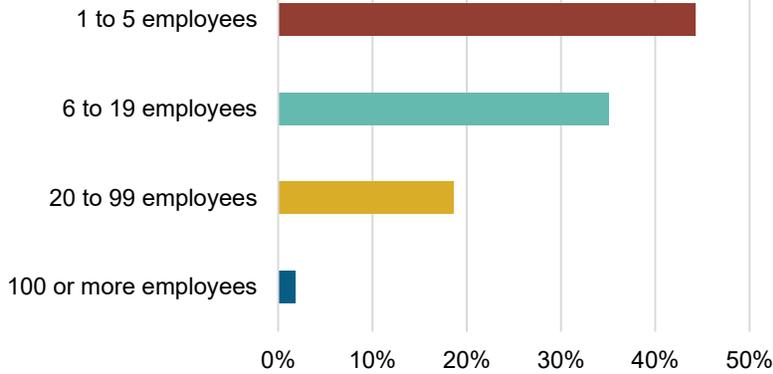
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in South Carolina?

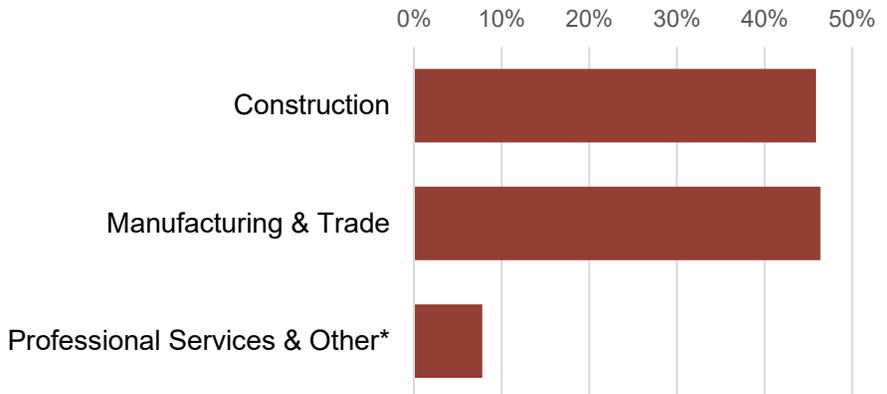
98% of SC EE Businesses Have Less Than 100 Employees



4,731
EE businesses in South Carolina

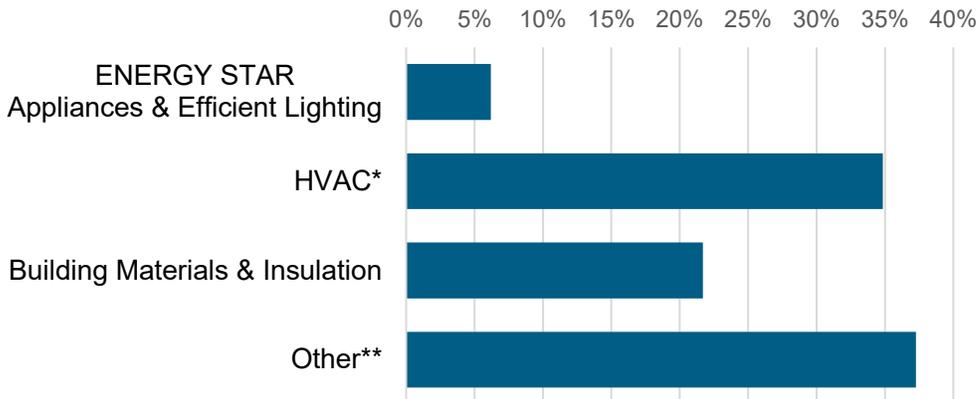
EE construction workers comprise **12%** of South Carolina construction workers

What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



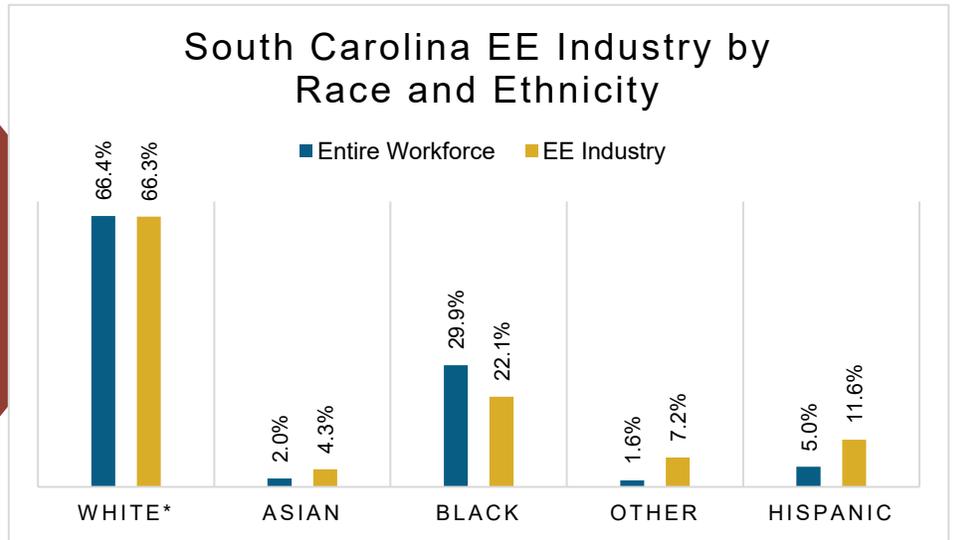
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

8% of South Carolina EE workers are **Veterans**

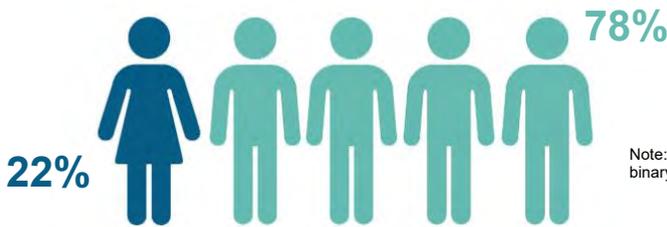
How is EE doing on diversity in South Carolina?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all South Carolina communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

South Carolina's EE Potential

Decades of work, ready for South Carolina's growing energy efficiency workforce.

Weatherization Assistance Program:



315* units weatherized in 2018, out of **~280,000** total low-income households

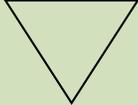
1,368,050 South Carolina homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

42%



*National Association for State Community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|--|-------|
| District | Jobs | Area | Jobs |
| 1 | 6,041 | Anderson | 825 |
| 2 | 4,014 | Augusta-Richmond County | 655 |
| 3 | 3,514 | Charleston-North Charleston | 4,932 |
| 4 | 4,417 | Charlotte-Gastonia-Concord | 1,576 |
| 5 | 2,715 | Columbia | 4,349 |
| 6 | 2,529 | Florence | 986 |
| 7 | 3,584 | Greenville-Mauldin-Easley | 4,655 |
| | | Myrtle Beach-Conway-North Myrtle Beach | 1,986 |
| | | Spartanburg | 1,432 |
| | | Sumter | 454 |
| | | Rural | 4,965 |

| State Senate | | | | | | | |
|--------------|-------|----------|-------|----------|-------|----------|-------|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
| 1 | 401 | 13 | 211 | 25 | 26 | 37 | 1,500 |
| 2 | 745 | 14 | 440 | 26 | 188 | 38 | 740 |
| 3 | 880 | 15 | 994 | 27 | 498 | 39 | 609 |
| 4 | 400 | 16 | 254 | 28 | 1,218 | 40 | 196 |
| 5 | 1,235 | 17 | 218 | 29 | 804 | 41 | 1,068 |
| 6 | 1,877 | 18 | 945 | 30 | 134 | 42 | 658 |
| 7 | 423 | 19 | 1,809 | 31 | 133 | 43 | 747 |
| 8 | 222 | 20 | 461 | 32 | 349 | 44 | <5 |
| 9 | 255 | 21 | 220 | 33 | 796 | 45 | 550 |
| 10 | 280 | 22 | 66 | 34 | 1,204 | 46 | 360 |
| 11 | 951 | 23 | 491 | 35 | 371 | | |
| 12 | 168 | 24 | 600 | 36 | 120 | | |

State House of Representatives

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|------|----------|------|----------|-------|----------|------|
| 1 | 283 | 32 | <5 | 63 | <5 | 94 | 191 |
| 2 | 22 | 33 | <5 | 64 | 132 | 95 | <5 |
| 3 | 425 | 34 | 83 | 65 | <5 | 96 | 9 |
| 4 | 196 | 35 | <5 | 66 | 317 | 97 | 145 |
| 5 | 80 | 36 | 134 | 67 | <5 | 98 | 347 |
| 6 | 805 | 37 | <5 | 68 | 545 | 99 | 971 |
| 7 | 35 | 38 | <5 | 69 | 984 | 100 | 56 |
| 8 | 69 | 39 | 411 | 70 | 177 | 101 | 136 |
| 9 | <5 | 40 | 196 | 71 | 154 | 102 | 7 |
| 10 | 215 | 41 | 231 | 72 | 1,462 | 103 | 273 |
| 11 | 404 | 42 | 109 | 73 | <5 | 104 | 289 |
| 12 | 59 | 43 | 44 | 74 | 238 | 105 | <5 |
| 13 | 51 | 44 | 253 | 75 | <5 | 106 | 300 |
| 14 | 273 | 45 | <5 | 76 | 220 | 107 | <5 |
| 15 | 645 | 46 | <5 | 77 | <5 | 108 | 42 |
| 16 | 262 | 47 | <5 | 78 | <5 | 109 | 473 |
| 17 | 874 | 48 | <5 | 79 | <5 | 110 | 520 |
| 18 | 262 | 49 | <5 | 80 | <5 | 111 | 595 |
| 19 | <5 | 50 | 409 | 81 | 390 | 112 | <5 |
| 20 | 450 | 51 | 348 | 82 | 53 | 113 | <5 |
| 21 | 633 | 52 | 74 | 83 | 139 | 114 | 276 |
| 22 | 690 | 53 | 145 | 84 | 42 | 115 | 233 |
| 23 | 273 | 54 | 118 | 85 | <5 | 116 | 53 |
| 24 | 82 | 55 | 312 | 86 | 36 | 117 | <5 |
| 25 | <5 | 56 | 570 | 87 | <5 | 118 | 569 |
| 26 | 721 | 57 | 97 | 88 | 94 | 119 | <5 |
| 27 | <5 | 58 | 310 | 89 | 72 | 120 | 631 |
| 28 | <5 | 59 | 597 | 90 | 311 | 121 | 306 |
| 29 | 885 | 60 | 86 | 91 | 117 | 122 | 35 |
| 30 | 24 | 61 | 103 | 92 | 443 | 123 | <5 |
| 31 | 983 | 62 | <5 | 93 | 62 | 124 | 37 |



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South Dakota

Energy Efficiency Jobs in America

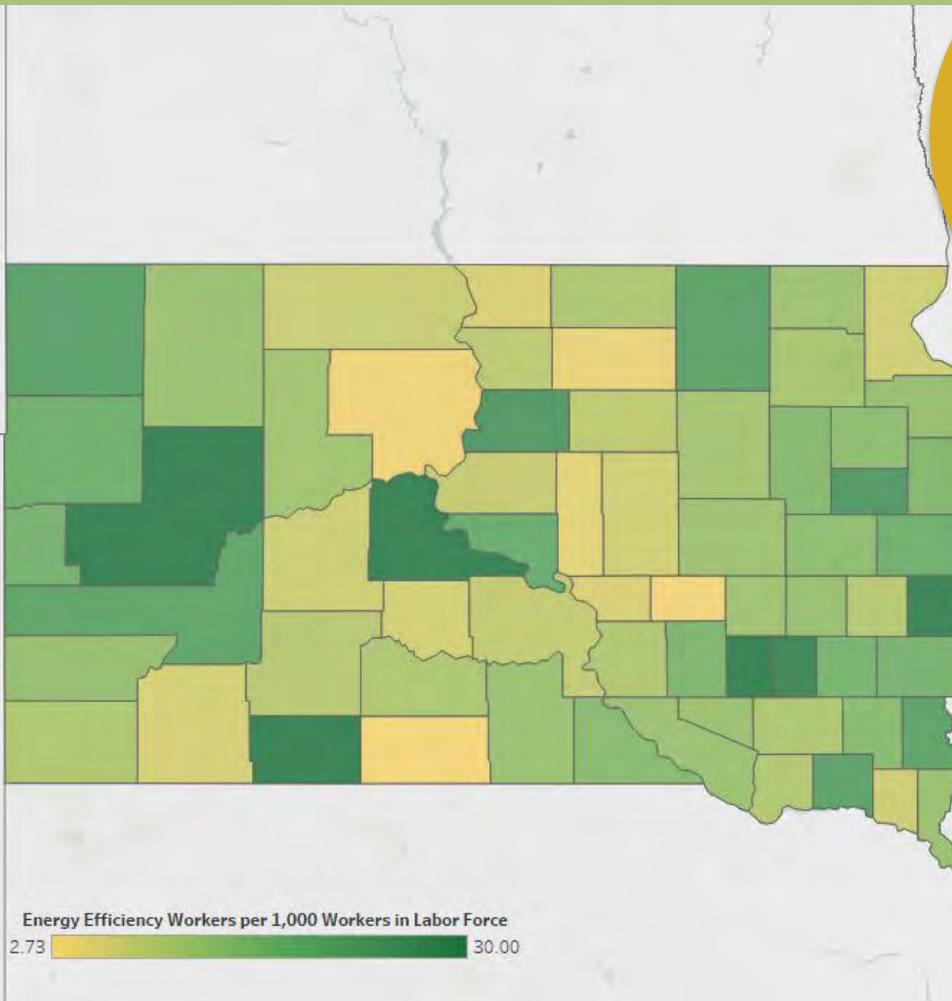


Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In South Dakota, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of South Dakota
counties have
energy efficiency
workers

~3,100
new EE construction
jobs to retrofit South
Dakota homes by
2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of SD residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



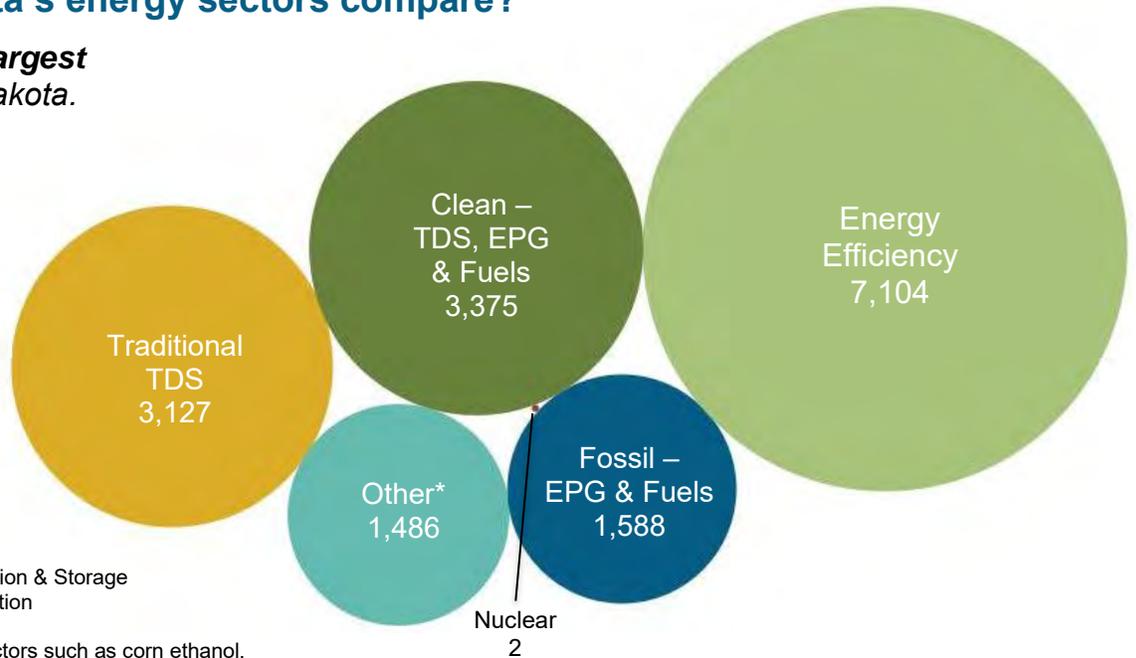
Key EE Statistics for South Dakota

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do South Dakota's energy sectors compare?

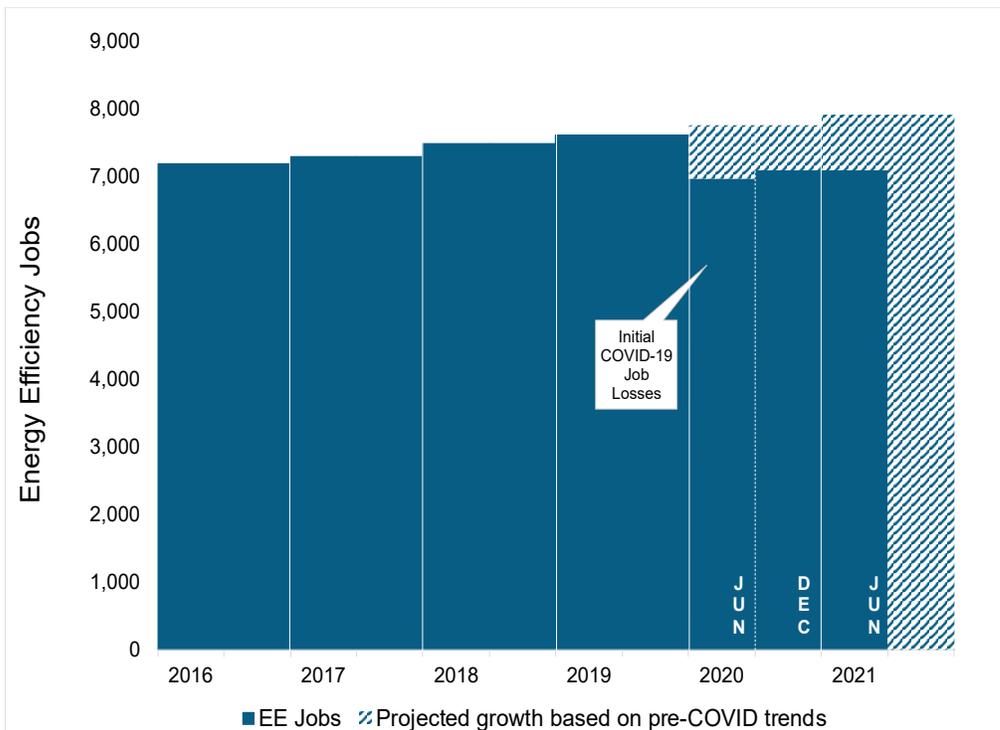
Energy Efficiency is the **largest** energy sector in South Dakota.



TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



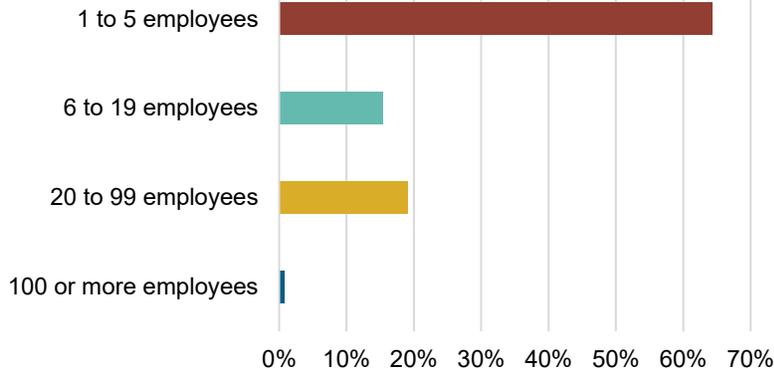
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in South Dakota?

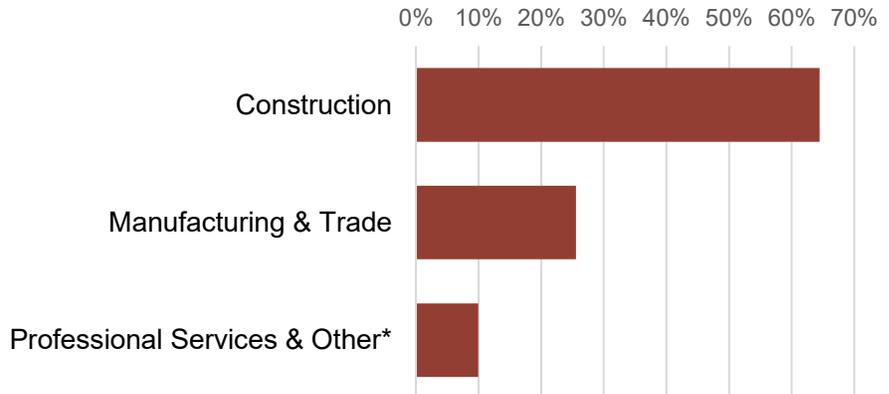
98.9% of SD EE Businesses Have Less Than 100 Employees



2,453
EE businesses in South Dakota

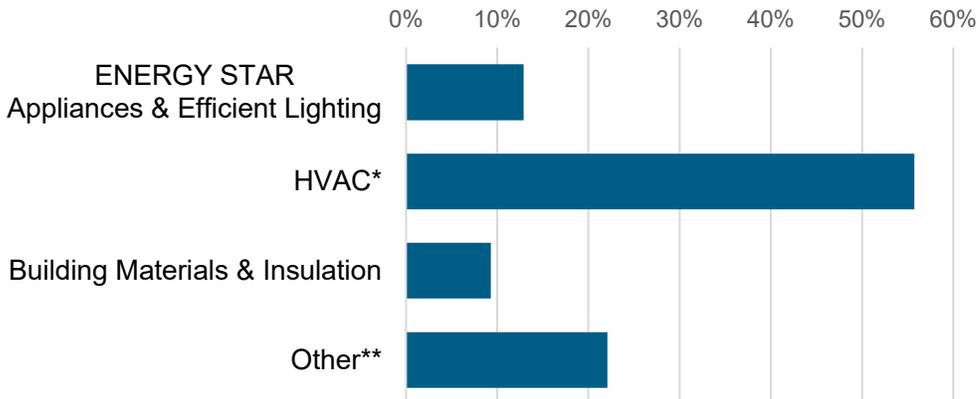
EE construction workers comprise **18%** of South Dakota construction workers

What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



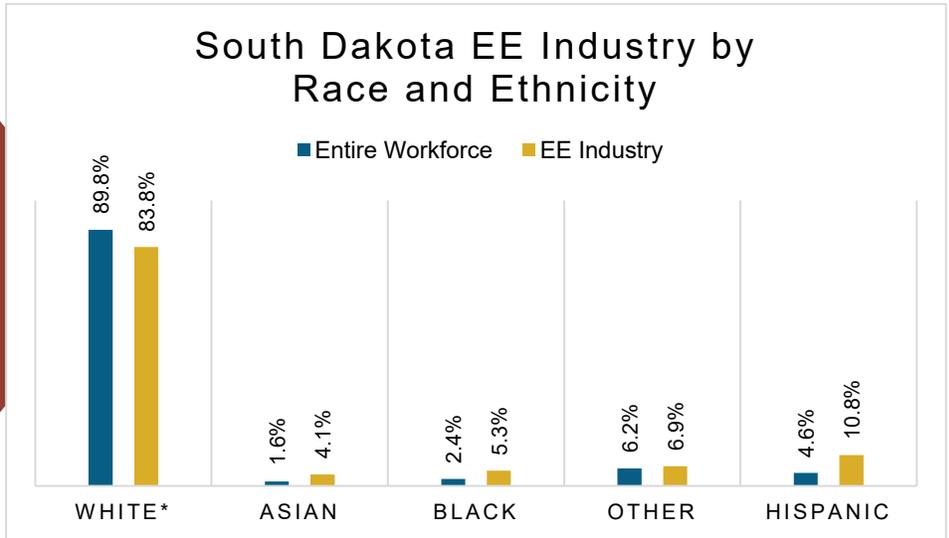
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

10% of South Dakota EE workers are **Veterans**

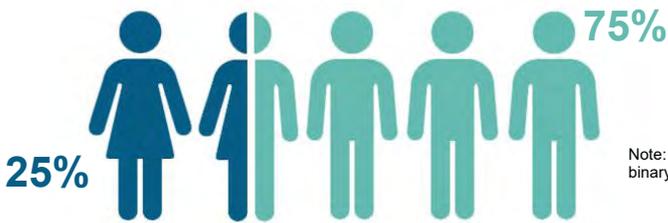
How is EE doing on diversity in South Dakota?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all South Dakota communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

South Dakota's EE Potential

Decades of work, ready for South Dakota's growing energy efficiency workforce.

Weatherization Assistance Program:



116* units weatherized in 2018, out of **~44,000** total low-income households

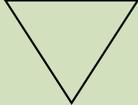
262,333 South Dakota homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

26%



*National Association for State Community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|--------------------|-------|
| District | Jobs | Area | Jobs |
| 1 | 7,104 | Rapid City | 1,158 |
| | | Sioux City | 125 |
| | | Sioux Falls | 2,758 |
| | | Rural | 3,063 |

| State Senate | | | | | | | | | |
|--------------|-------|----------|------|----------|------|----------|-------|--|--|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs | | |
| 1 | 515 | 10 | 226 | 19 | 324 | 28 | 227 | | |
| 2 | 177 | 11 | <5 | 20 | 39 | 29 | 1,005 | | |
| 3 | <5 | 12 | 181 | 21 | 138 | 30 | 205 | | |
| 4 | 500 | 13 | <5 | 22 | 184 | 31 | 92 | | |
| 5 | <5 | 14 | <5 | 23 | 162 | 32 | <5 | | |
| 6 | 479 | 15 | <5 | 24 | 265 | 33 | <5 | | |
| 7 | <5 | 16 | 140 | 25 | 13 | 34 | <5 | | |
| 8 | 142 | 17 | 132 | 26 | 82 | 35 | <5 | | |
| 9 | 1,766 | 18 | 35 | 27 | 76 | | | | |

State House of Representatives

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|-------|----------|-------|----------|------|----------|------|
| 1 | 513 | 19 | 323 | 37 | <5 | 55 | <5 |
| 2 | 176 | 20 | 39 | 38 | <5 | 56 | <5 |
| 3 | <5 | 21 | 138 | 39 | <5 | 57 | <5 |
| 4 | 499 | 22 | 155 | 40 | <5 | 58 | <5 |
| 5 | <5 | 23 | 162 | 41 | <5 | 59 | <5 |
| 6 | 478 | 24 | 265 | 42 | <5 | 60 | <5 |
| 7 | <5 | 25 | 13 | 43 | <5 | 61 | <5 |
| 8 | 142 | 26 | <5 | 44 | <5 | 62 | <5 |
| 9 | 1,766 | 27 | 77 | 45 | <5 | 63 | <5 |
| 10 | 226 | 28 | <5 | 46 | <5 | 64 | <5 |
| 11 | <5 | 29 | 1,101 | 47 | <5 | 65 | <5 |
| 12 | 180 | 30 | 205 | 48 | <5 | 66 | <5 |
| 13 | <5 | 31 | 212 | 49 | <5 | 67 | <5 |
| 14 | <5 | 32 | <5 | 50 | <5 | 68 | <5 |
| 15 | <5 | 33 | <5 | 51 | <5 | 69 | <5 |
| 16 | 140 | 34 | <5 | 52 | <5 | 70 | <5 |
| 17 | 132 | 35 | <5 | 53 | <5 | | |
| 18 | 162 | 36 | <5 | 54 | <5 | | |



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



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. Visit www.e2.org



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 www.bwresearch.com

Data Source: Unless otherwise stated, all data are from the U.S. Energy and Employment Report, July 2021, by the U.S. Department of Energy (see Appendix A for methodology details). This methodology -- adopted by the U.S. Dept. of Energy for its 2017 U.S. Energy and Employment Report, approved by the Office of Management and Budget and grounded on data collected by the Bureau of Labor Statistics -- provides the broadly accepted best accounting of all U.S. energy workers.

For questions on E4TheFuture analyses please email: policy@e4thefuture.org.

Tennessee

Energy Efficiency Jobs in America

June 2021*

48,080

Dec 2020

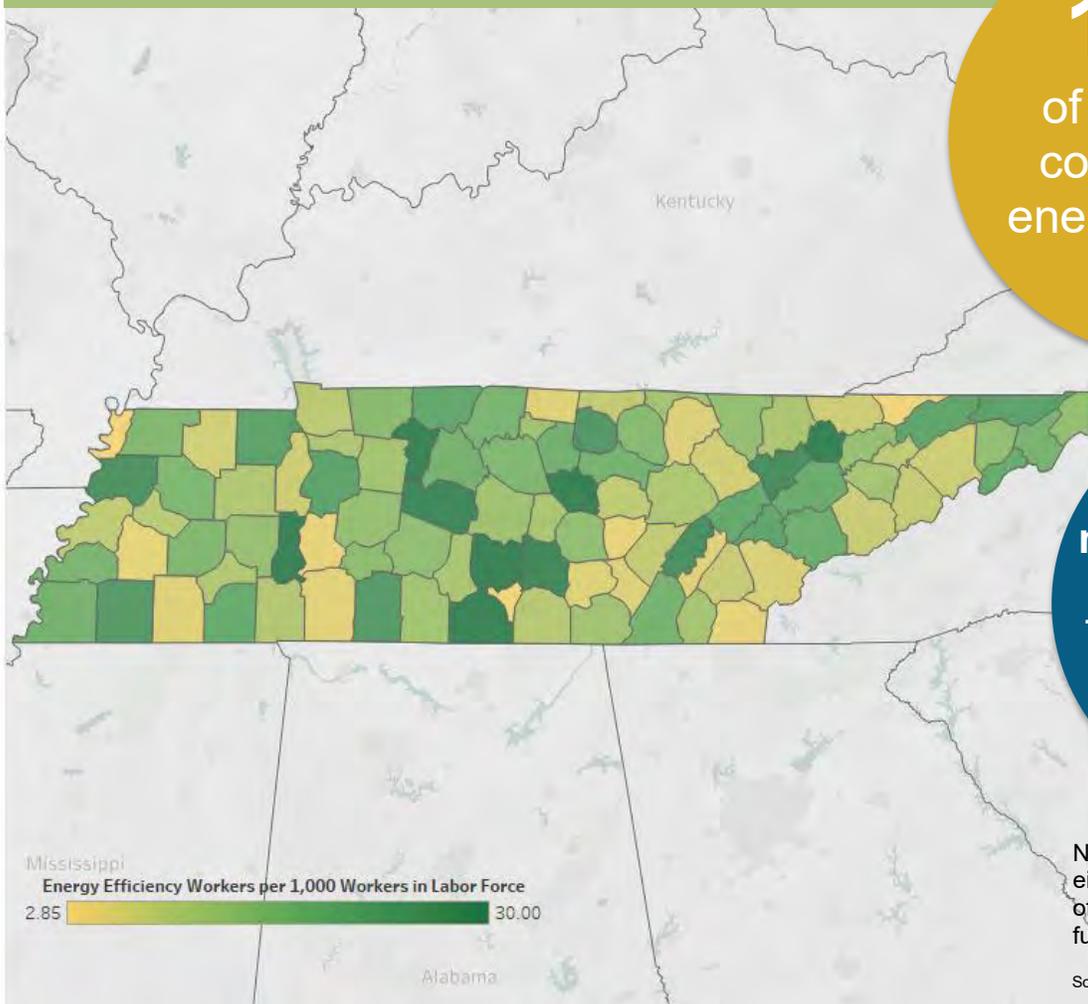
47,976

Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Tennessee, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Tennessee
counties have
energy efficiency
workers

~20,000
new EE construction
jobs to retrofit
Tennessee homes by
2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of TN residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



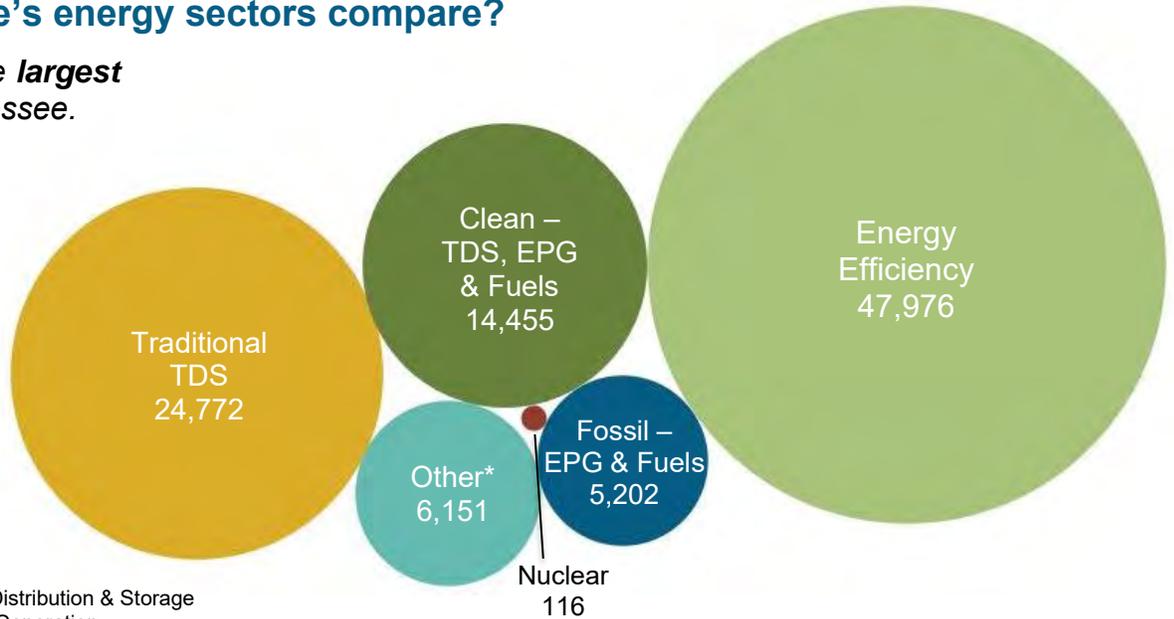
Key EE Statistics for Tennessee

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Tennessee's energy sectors compare?

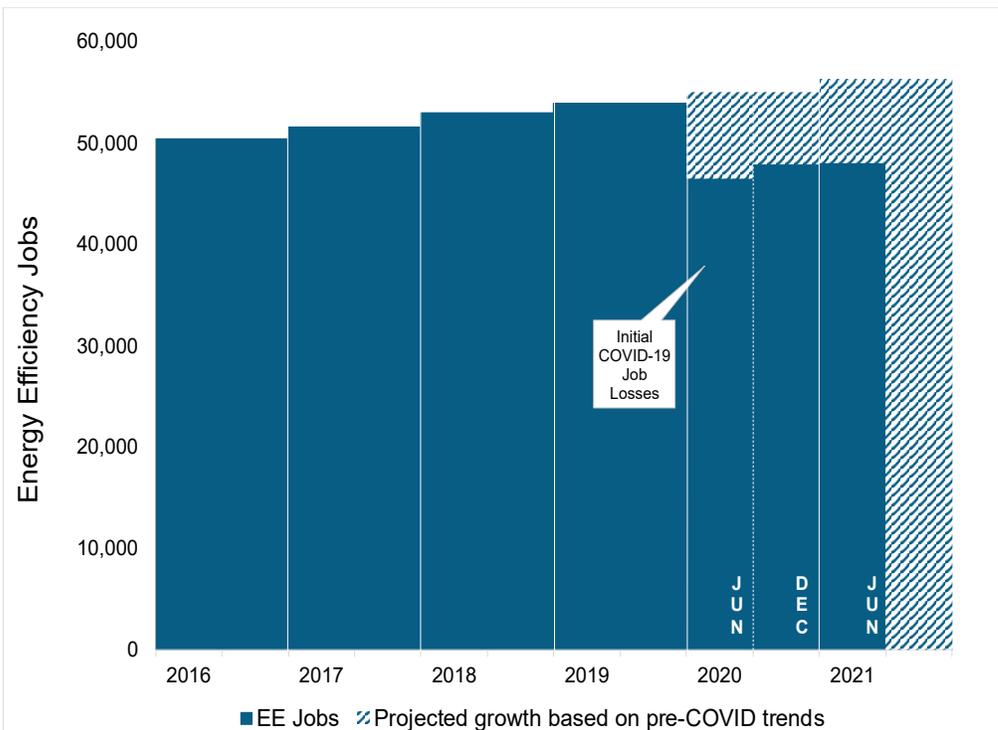
Energy Efficiency is the **largest** energy sector in Tennessee.



TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



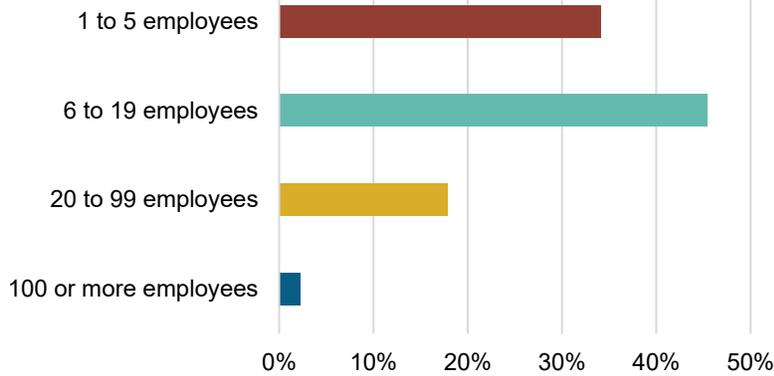
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



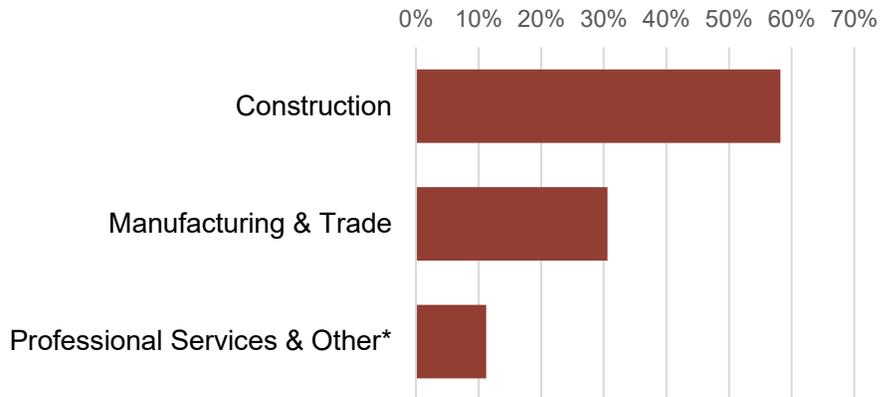
Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Tennessee?

97.5% of TN EE Businesses Have Less Than 100 Employees

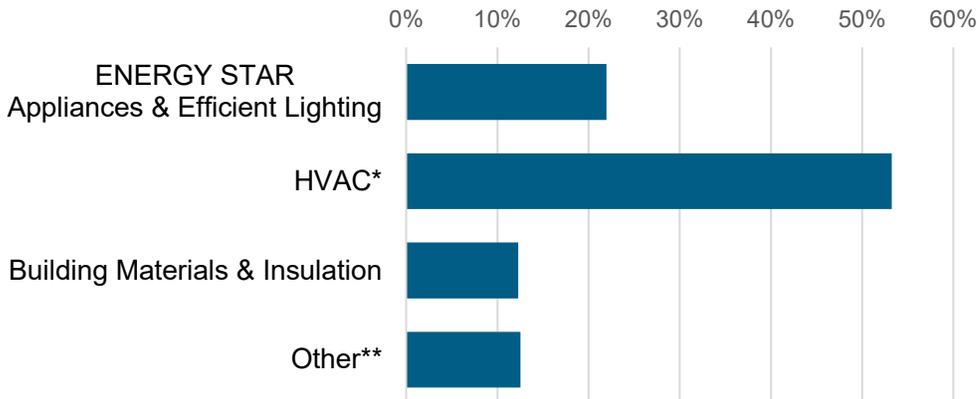


What type of work do energy efficiency firms do?

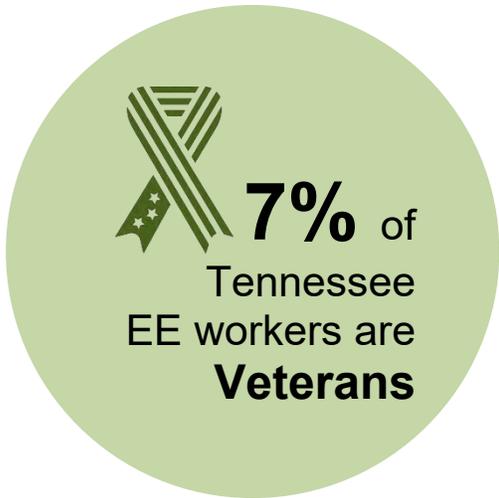


*Professional services include finance/accounting, architecture, engineering, R&D, etc. and other includes maintenance, and business and nonprofit organizations.

What energy efficiency sectors employ the most workers?



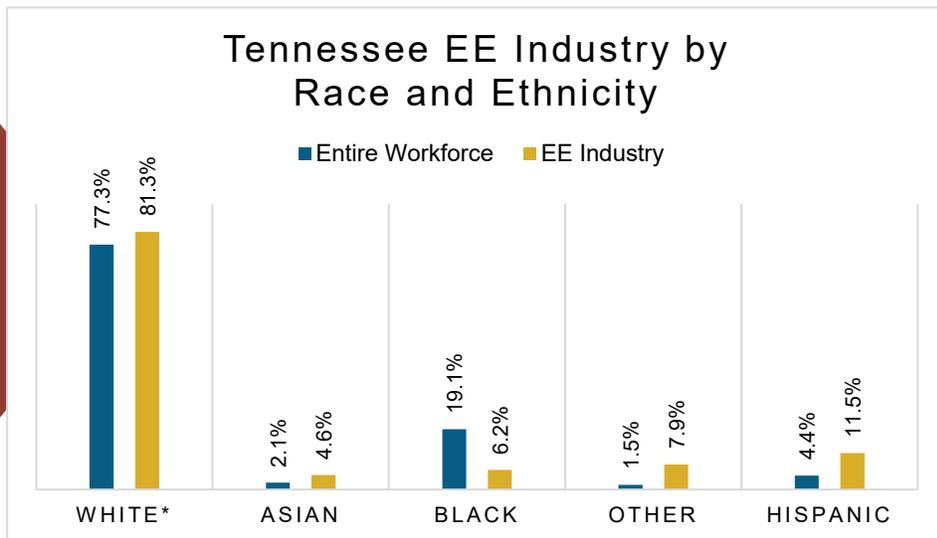
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services



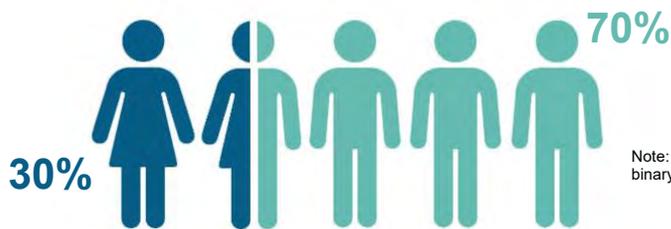
How is EE doing on diversity in Tennessee?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Tennessee communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Tennessee's EE Potential

Decades of work, ready for Tennessee's growing energy efficiency workforce.

Weatherization Assistance Program:

206* units weatherized in 2018, out of **~380,000** total low-income households

1,888,390

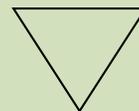
Tennessee homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

37%



*National Association for State Community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|--|--------|
| District | Jobs | Area | Jobs |
| 1 | 4,886 | Chattanooga | 3,348 |
| 2 | 6,508 | Clarksville | 855 |
| 3 | 5,673 | Cleveland | 1,488 |
| 4 | 4,705 | Jackson | 1,014 |
| 5 | 8,775 | Johnson City | 1,284 |
| 6 | 4,075 | Kingsport-Bristol-Bristol | 1,456 |
| 7 | 3,264 | Knoxville | 6,431 |
| 8 | 6,888 | Memphis | 7,758 |
| 9 | 3,201 | Morristown | 848 |
| | | Nashville-Davidson-Murfreesboro-Franklin | 14,435 |
| | | Rural | 9,060 |

| State Senate | | | | | | | | | |
|--------------|-------|----------|-------|----------|-------|----------|-------|--|--|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs | | |
| 1 | 1,911 | 10 | 2,631 | 19 | 5,094 | 28 | 561 | | |
| 2 | 1,351 | 11 | 476 | 20 | 2,524 | 29 | 3,007 | | |
| 3 | 1,512 | 12 | 889 | 21 | <5 | 30 | 2,050 | | |
| 4 | 1,180 | 13 | 1,987 | 22 | 1,015 | 31 | 1,293 | | |
| 5 | 2,676 | 14 | 1,490 | 23 | 1,271 | 32 | 219 | | |
| 6 | 2,249 | 15 | 1,461 | 24 | 1,801 | 33 | 315 | | |
| 7 | 432 | 16 | 781 | 25 | 796 | | | | |
| 8 | 346 | 17 | 1,005 | 26 | 1,692 | | | | |
| 9 | 1,522 | 18 | 1,795 | 27 | 644 | | | | |

State House of Representatives

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|-------|----------|-------|----------|-------|----------|-------|
| 1 | 1,076 | 26 | 1,998 | 51 | 3,250 | 76 | 446 |
| 2 | 358 | 27 | 240 | 52 | 1,010 | 77 | 291 |
| 3 | 689 | 28 | 732 | 53 | 1,194 | 78 | 100 |
| 4 | 435 | 29 | 8 | 54 | <5 | 79 | 251 |
| 5 | 493 | 30 | 108 | 55 | 531 | 80 | 136 |
| 6 | 142 | 31 | 366 | 56 | 69 | 81 | 318 |
| 7 | <5 | 32 | 561 | 57 | <5 | 82 | 161 |
| 8 | 1,218 | 33 | 184 | 58 | 73 | 83 | 2,811 |
| 9 | 116 | 34 | 1,499 | 59 | <5 | 84 | 1,089 |
| 10 | 566 | 35 | 156 | 60 | <5 | 85 | 133 |
| 11 | 396 | 36 | 211 | 61 | 1,041 | 86 | 1,177 |
| 12 | 469 | 37 | 451 | 62 | 140 | 87 | 228 |
| 13 | 1,883 | 38 | 379 | 63 | 182 | 88 | 935 |
| 14 | 1,484 | 39 | 884 | 64 | 523 | 89 | <5 |
| 15 | 570 | 40 | 2,189 | 65 | 29 | 90 | <5 |
| 16 | 219 | 41 | 647 | 66 | 317 | 91 | 25 |
| 17 | 63 | 42 | 8 | 67 | 786 | 92 | 9 |
| 18 | 142 | 43 | 131 | 68 | 34 | 93 | <5 |
| 19 | 101 | 44 | 23 | 69 | 417 | 94 | 260 |
| 20 | 53 | 45 | 358 | 70 | 436 | 95 | 315 |
| 21 | 324 | 46 | 46 | 71 | 253 | 96 | 123 |
| 22 | 1,559 | 47 | 168 | 72 | 320 | 97 | 272 |
| 23 | 274 | 48 | 8 | 73 | 1,032 | 98 | <5 |
| 24 | <5 | 49 | 42 | 74 | 77 | 99 | <5 |
| 25 | 967 | 50 | 1,791 | 75 | 397 | | |



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Data Source: Unless otherwise stated, all data are from the U.S. Energy and Employment Report, July 2021, by the U.S. Department of Energy (see Appendix A for methodology details). This methodology -- adopted by the U.S. Dept. of Energy for its 2017 U.S. Energy and Employment Report, approved by the Office of Management and Budget and grounded on data collected by the Bureau of Labor Statistics -- provides the broadly accepted best accounting of all U.S. energy workers.

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Texas

Energy Efficiency Jobs in America

June 2021*

152,709

Dec 2020

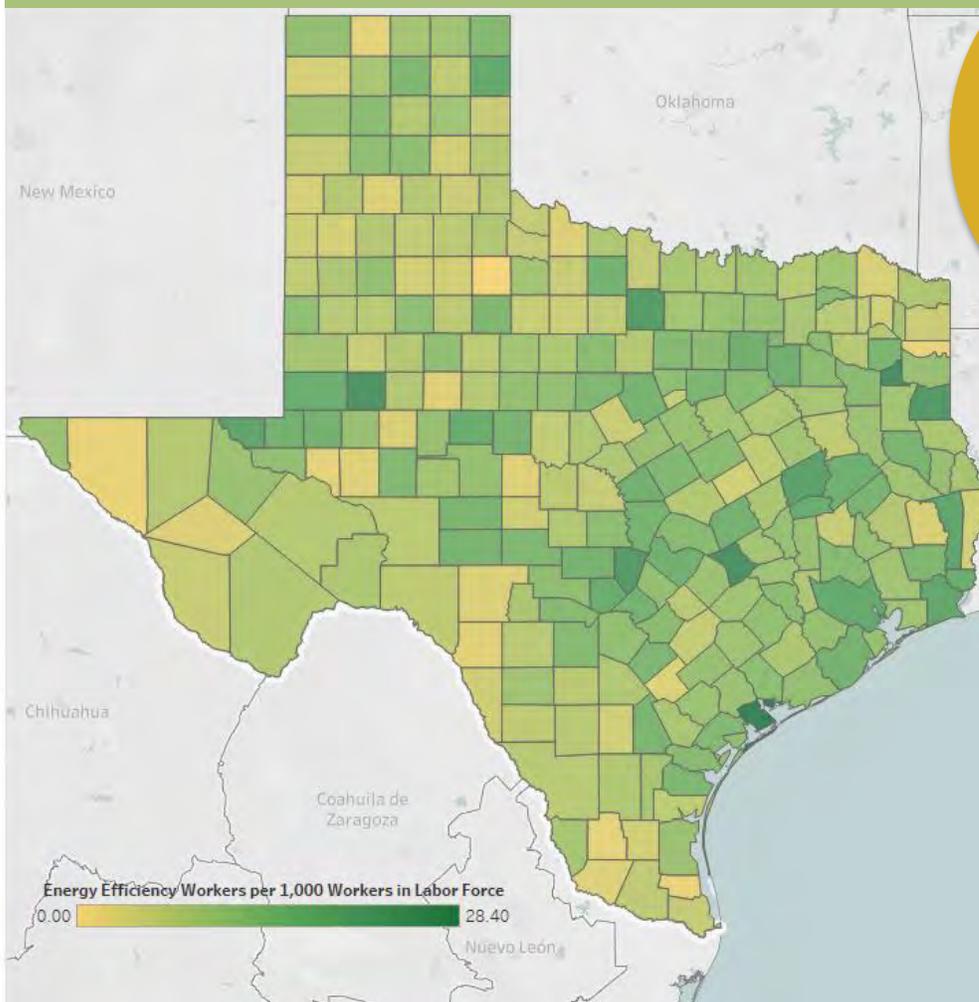
152,111

Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Texas, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



99%
of Texas
counties have
energy efficiency
workers

~61,500
new EE construction
jobs to retrofit Texas
homes by 2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of TX residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



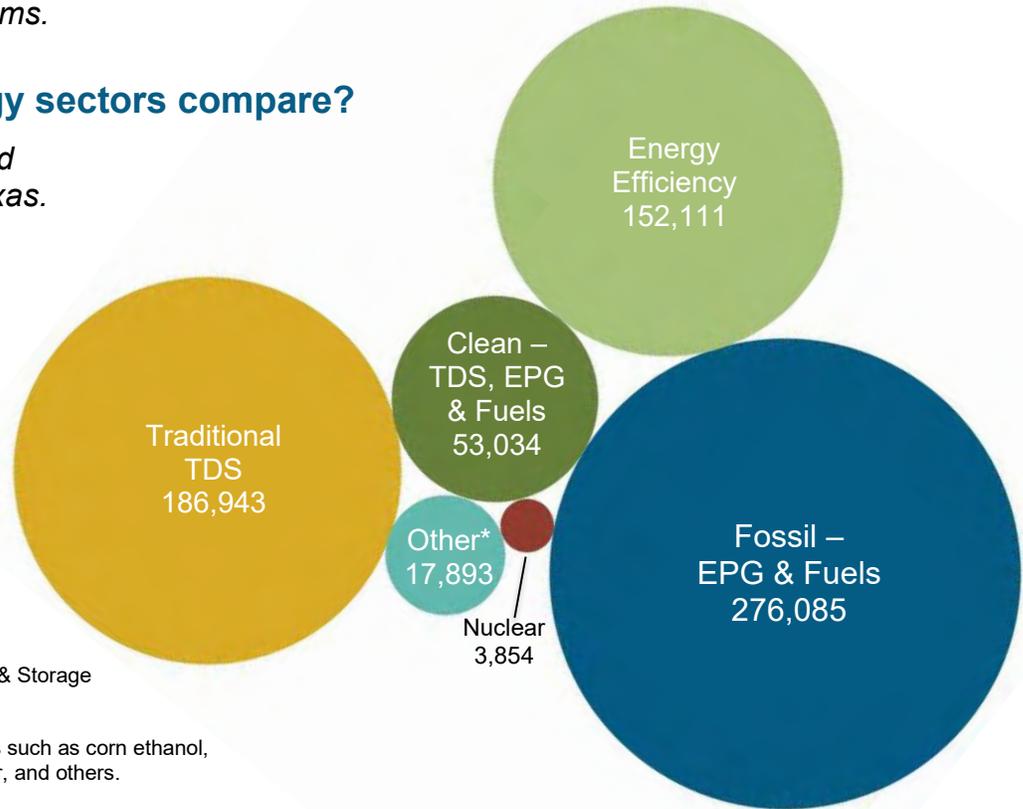
Key EE Statistics for Texas

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Texas's energy sectors compare?

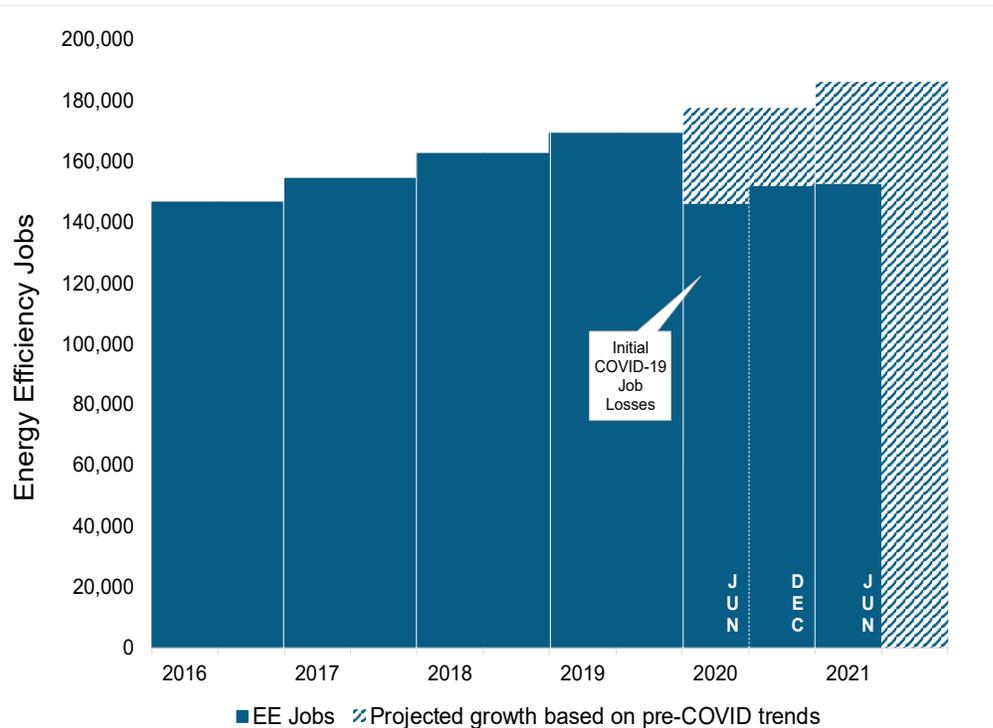
Energy Efficiency is the third largest energy sector in Texas.



TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



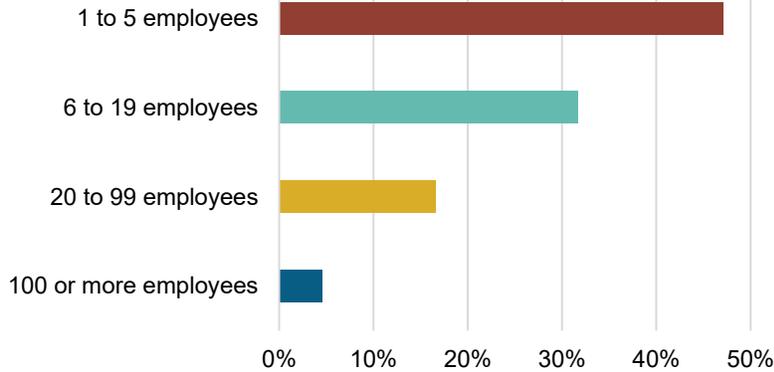
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Texas?

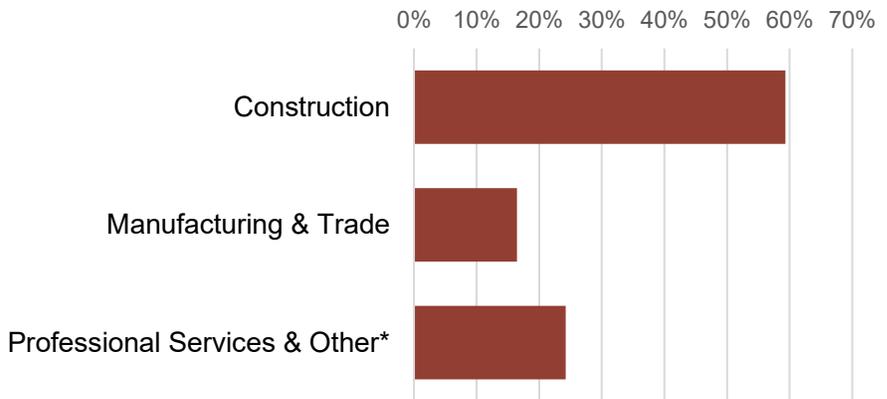
95.4% of TX EE Businesses Have Less Than 100 Employees



31,017
EE businesses in Texas

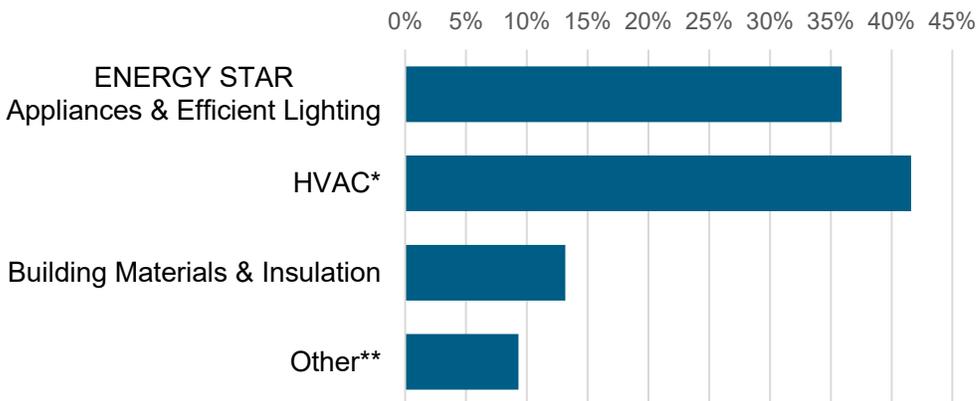
EE construction workers comprise **12%** of Texas construction workers

What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



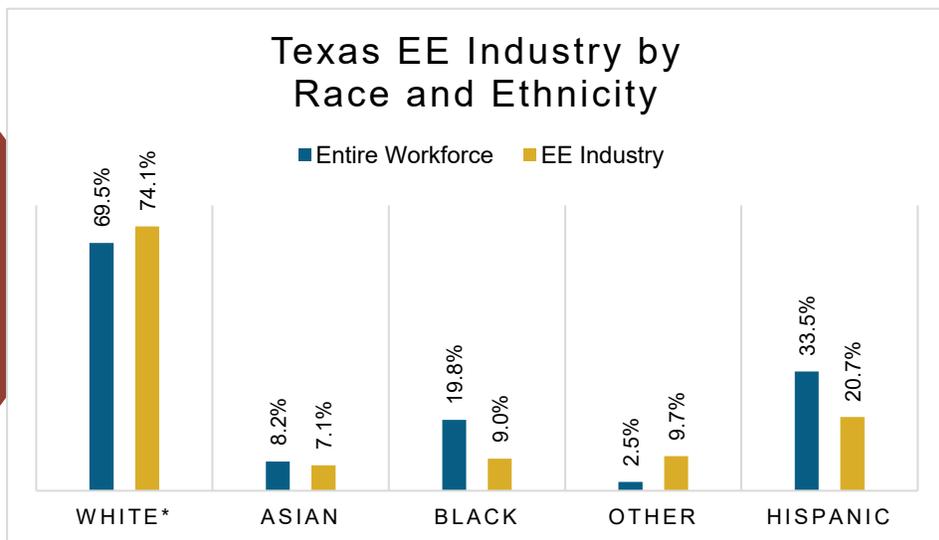
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

7% of Texas EE workers are **Veterans**

How is EE doing on diversity in Texas?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Texas communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Texas's EE Potential

Decades of work, ready for Texas's growing energy efficiency workforce.

Weatherization Assistance Program:


3,186* units weatherized in 2018, out of **~1,400,000** total low-income households

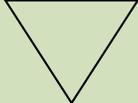
6,309,825

Texas homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

44%


*National Association for State Community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
 Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|--------|-----------------------------|--------|
| District | Jobs | Area | Jobs |
| 1 | 4,962 | Abilene | 957 |
| 2 | 14,777 | Amarillo | 1,755 |
| 3 | 5,359 | Austin-Round Rock | 15,857 |
| 4 | 3,573 | Beaumont-Port Arthur | 2,192 |
| 5 | 4,054 | Brownsville-Harlingen | 1,078 |
| 6 | 4,924 | College Station-Bryan | 1,067 |
| 7 | 7,353 | Corpus Christi | 2,487 |
| 8 | 3,987 | Dallas-Fort Worth-Arlington | 37,617 |
| 9 | 2,554 | El Paso | 3,432 |
| 10 | 8,423 | Houston-Sugar Land-Baytown | 40,925 |
| 11 | 6,250 | Killeen-Temple-Fort Hood | 1,540 |
| 12 | 5,851 | Laredo | 901 |
| 13 | 4,830 | Longview | 1,369 |
| 14 | 4,006 | Lubbock | 1,823 |
| 15 | 4,319 | McAllen-Edinburg-Mission | 2,183 |
| 16 | 3,406 | Midland | 1,334 |
| 17 | 3,443 | Odessa | 1,108 |
| 18 | 4,393 | San Angelo | 608 |
| 19 | 3,003 | San Antonio | 12,846 |
| 20 | 5,224 | Sherman-Denison | 576 |
| 21 | 9,993 | Texarkana | 574 |
| 22 | 2,687 | Tyler | 1,716 |
| 23 | 1,845 | Victoria | 822 |
| 24 | 7,756 | Waco | 1,237 |
| 25 | 2,343 | Wichita Falls | 887 |
| 26 | 1,394 | Rural | 15,219 |
| 27 | 4,127 | | |
| 28 | 1,844 | | |
| 29 | 1,094 | | |
| 30 | 4,463 | | |
| 31 | 2,182 | | |
| 32 | 2,330 | | |
| 33 | 116 | | |
| 34 | 1,345 | | |
| 35 | 1,323 | | |
| 36 | 2,580 | | |

| State Senate | | | | | | | |
|--------------|-------|----------|-------|----------|-------|----------|-------|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
| 1 | 5,171 | 9 | 6,565 | 17 | 4,570 | 25 | 6,597 |
| 2 | 4,934 | 10 | 4,498 | 18 | 3,734 | 26 | 1,477 |
| 3 | 4,423 | 11 | 3,141 | 19 | 5,750 | 27 | 1,461 |
| 4 | 6,422 | 12 | 3,191 | 20 | 3,541 | 28 | 4,559 |
| 5 | 6,230 | 13 | 6,132 | 21 | 2,745 | 29 | 3,478 |
| 6 | 9,496 | 14 | 9,898 | 22 | 3,719 | 30 | 3,264 |
| 7 | 8,163 | 15 | 2,549 | 23 | 2,051 | 31 | 5,663 |
| 8 | 6,680 | 16 | 7,317 | 24 | 4,691 | | |

State House of Representatives

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|-------|----------|-------|----------|-------|----------|-------|
| 1 | 1,126 | 39 | 28 | 77 | 1,265 | 115 | <5 |
| 2 | 1,067 | 40 | 222 | 78 | 167 | 116 | 2,331 |
| 3 | 2,789 | 41 | <5 | 79 | 95 | 117 | 556 |
| 4 | 763 | 42 | 908 | 80 | 296 | 118 | 836 |
| 5 | 1,050 | 43 | 168 | 81 | 1,335 | 119 | 637 |
| 6 | 1,207 | 44 | 1,357 | 82 | 1,461 | 120 | 1,860 |
| 7 | 1,069 | 45 | 701 | 83 | 1,658 | 121 | 3,272 |
| 8 | 926 | 46 | 2,894 | 84 | 373 | 122 | 202 |
| 9 | 751 | 47 | 3,860 | 85 | 325 | 123 | <5 |
| 10 | 773 | 48 | 2,564 | 86 | 1,252 | 124 | 122 |
| 11 | 711 | 49 | 2,664 | 87 | 1,074 | 125 | <5 |
| 12 | 1,341 | 50 | 425 | 88 | 765 | 126 | 3,077 |
| 13 | 986 | 51 | 162 | 89 | 120 | 127 | 987 |
| 14 | 266 | 52 | 227 | 90 | 3,248 | 128 | 1,356 |
| 15 | 1,149 | 53 | 1,353 | 91 | 1,302 | 129 | 957 |
| 16 | 299 | 54 | 734 | 92 | 1,562 | 130 | 128 |
| 17 | 1,440 | 55 | 628 | 93 | 749 | 131 | 2,009 |
| 18 | 691 | 56 | 606 | 94 | 1,068 | 132 | 833 |
| 19 | 886 | 57 | 657 | 95 | 161 | 133 | 4,686 |
| 20 | 2,155 | 58 | 1,424 | 96 | 67 | 134 | 7,744 |
| 21 | 1,372 | 59 | 734 | 97 | 340 | 135 | 1,737 |
| 22 | 456 | 60 | 1,299 | 98 | <5 | 136 | <5 |
| 23 | 1,563 | 61 | 1,487 | 99 | 92 | 137 | 124 |
| 24 | 494 | 62 | 732 | 100 | 4,231 | 138 | 626 |
| 25 | 924 | 63 | 1,391 | 101 | 255 | 139 | 1,051 |
| 26 | 2,401 | 64 | 817 | 102 | 2,711 | 140 | 1,454 |
| 27 | 441 | 65 | 1,339 | 103 | 2,586 | 141 | 264 |
| 28 | 313 | 66 | 967 | 104 | 41 | 142 | 697 |
| 29 | 252 | 67 | 1,539 | 105 | 575 | 143 | 576 |
| 30 | 1,091 | 68 | 1,199 | 106 | 74 | 144 | 423 |
| 31 | 1,032 | 69 | 857 | 107 | 570 | 145 | 364 |
| 32 | 1,804 | 70 | 378 | 108 | 2,415 | 146 | <5 |
| 33 | 2,456 | 71 | 377 | 109 | 500 | 147 | 414 |
| 34 | 409 | 72 | 935 | 110 | 48 | 148 | <5 |
| 35 | 1,418 | 73 | 1,133 | 111 | 161 | 149 | <5 |
| 36 | 853 | 74 | 639 | 112 | 187 | 150 | 447 |
| 37 | 675 | 75 | 637 | 113 | <5 | | |
| 38 | <5 | 76 | 1,187 | 114 | 582 | | |



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Utah

Energy Efficiency Jobs in America

June 2021*

30,173

Dec 2020

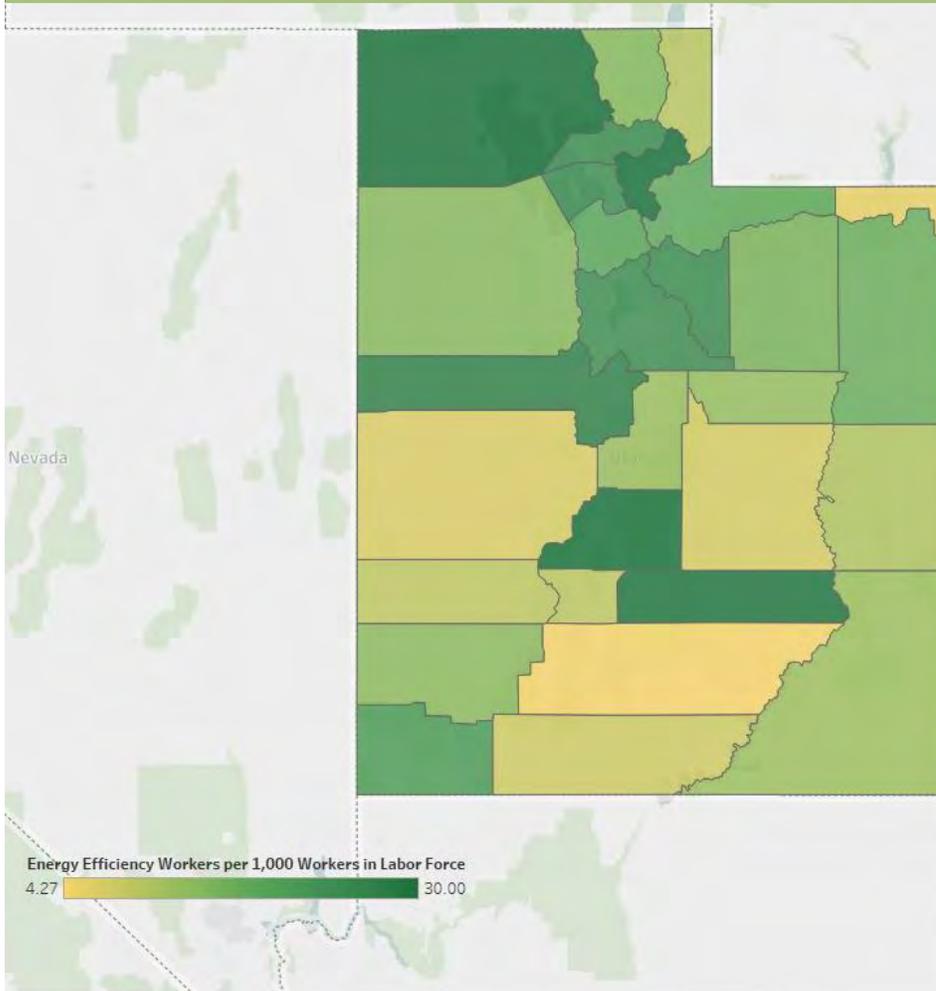
30,150

Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Utah, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Utah counties
have energy
efficiency
workers

~10,500
new EE construction
jobs to retrofit Utah
homes by 2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of UT residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



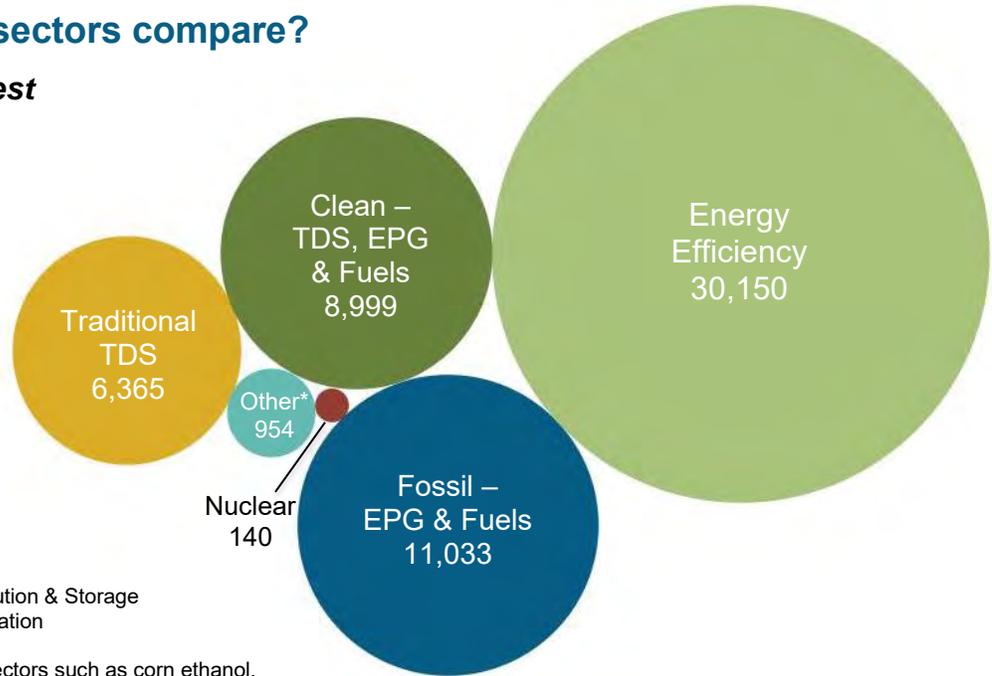
Key EE Statistics for Utah

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Utah's energy sectors compare?

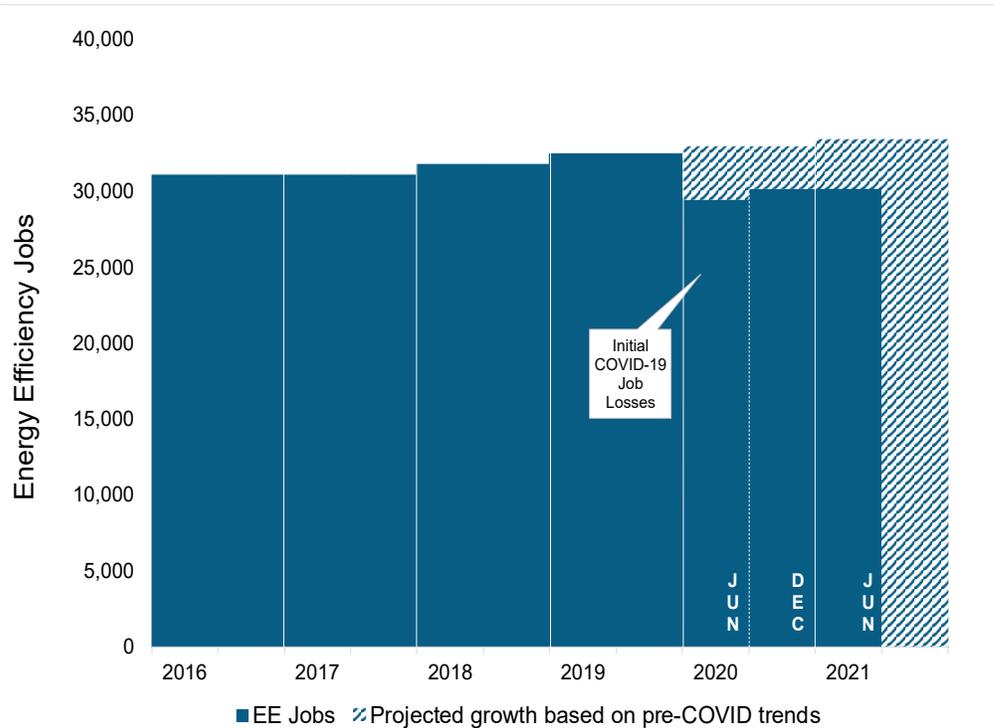
Energy Efficiency is the **largest** energy sector in Utah.



TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



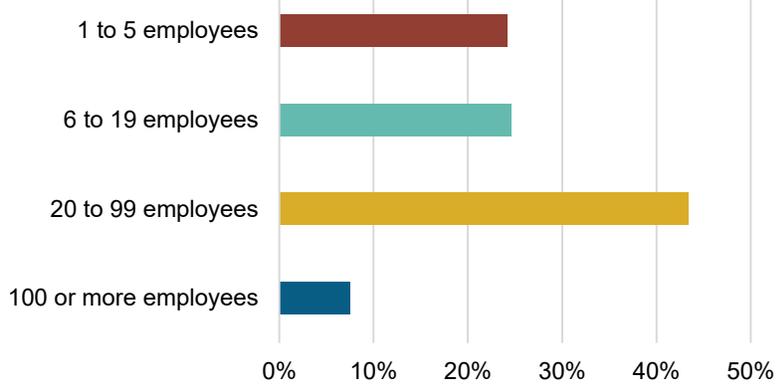
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Utah?

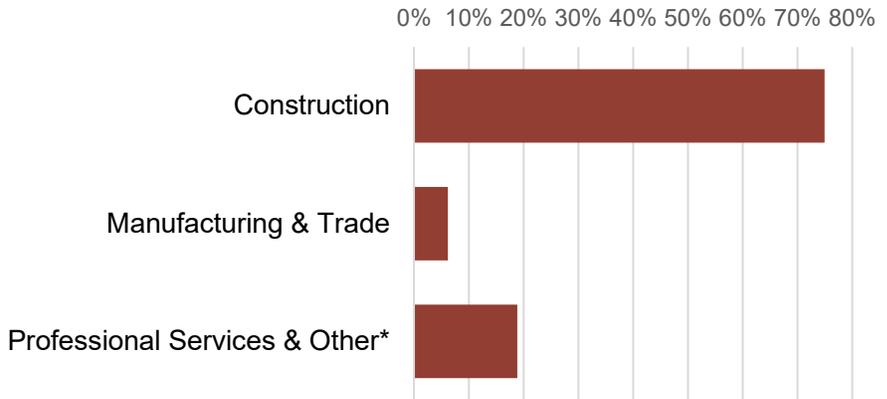
92.2% of UT EE Businesses Have Less Than 100 Employees



5,759
EE businesses in Utah

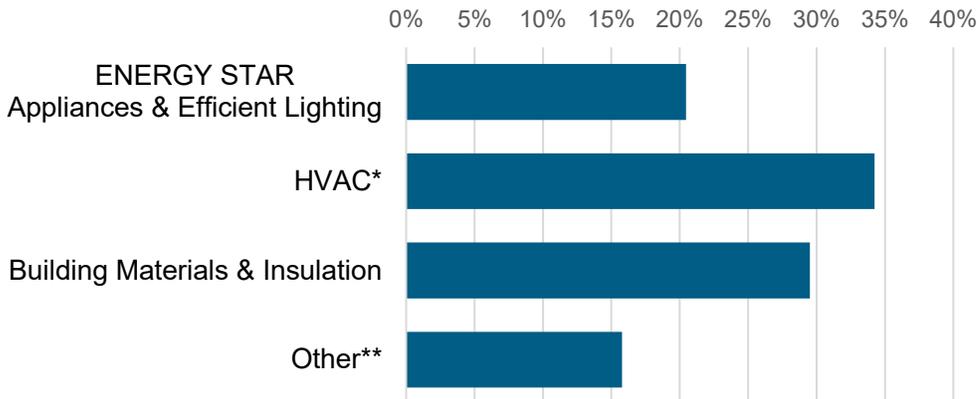
EE construction workers comprise **18%** of Utah construction workers

What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



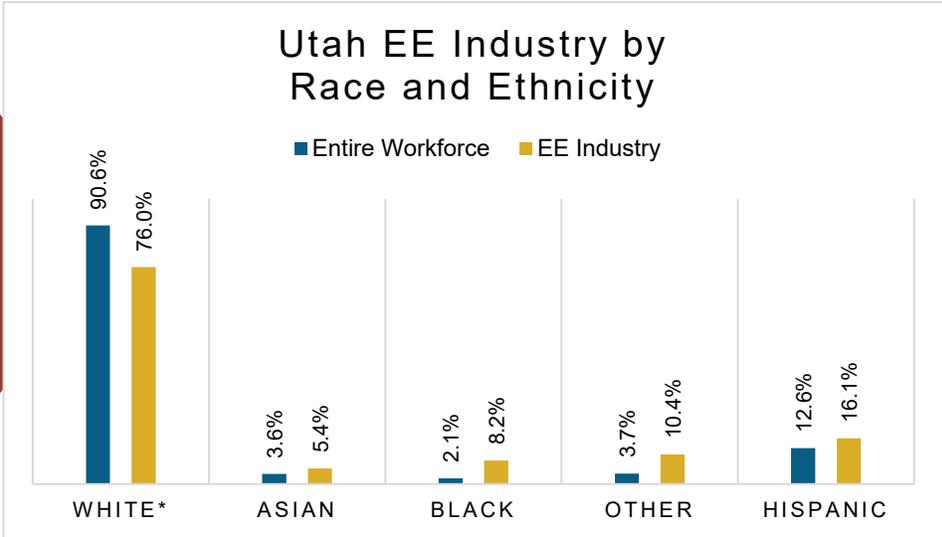
7% of Utah EE workers are **Veterans**

*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

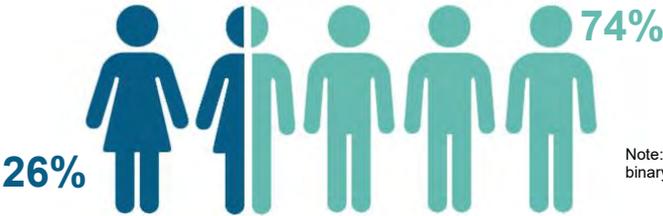
How is EE doing on diversity in Utah?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Utah communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Utah's EE Potential

Decades of work, ready for Utah's growing energy efficiency workforce.

Weatherization Assistance Program:

361* units weatherized in 2018, out of **~93,000** total low-income households

671,982 Utah homes are due for energy tune-ups

(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

24%

*National Association for State community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|--------|--------------------|--------|
| District | Jobs | Area | Jobs |
| 1 | 4,967 | Logan | 729 |
| 2 | 9,388 | Ogden-Clearfield | 3,546 |
| 3 | 13,678 | Provo-Orem | 8,603 |
| 4 | 2,117 | Salt Lake City | 13,210 |
| | | St. George | 1,253 |
| | | Rural | 2,809 |

| State Senate | | | | | | | |
|--------------|-------|----------|-------|----------|-------|----------|-------|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
| 1 | 2,309 | 9 | 323 | 17 | 871 | 25 | 342 |
| 2 | 3,509 | 10 | 499 | 18 | 1,508 | 26 | 1,261 |
| 3 | 2,364 | 11 | 4,702 | 19 | 803 | 27 | 427 |
| 4 | 539 | 12 | 205 | 20 | 37 | 28 | 1,815 |
| 5 | 75 | 13 | 207 | 21 | 573 | 29 | 80 |
| 6 | 1,429 | 14 | 2,221 | 22 | 381 | | |
| 7 | 1,505 | 15 | <5 | 23 | 658 | | |
| 8 | 764 | 16 | 47 | 24 | 695 | | |

State House of Representatives

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|-------|----------|-------|----------|------|----------|-------|
| 1 | 370 | 20 | 267 | 39 | <5 | 58 | 207 |
| 2 | 5,069 | 21 | 200 | 40 | <5 | 59 | 798 |
| 3 | 534 | 22 | 690 | 41 | 233 | 60 | <5 |
| 4 | 46 | 23 | 637 | 42 | 226 | 61 | 406 |
| 5 | 64 | 24 | 2,103 | 43 | <5 | 62 | 1,076 |
| 6 | 1,921 | 25 | 1,510 | 44 | 514 | 63 | 318 |
| 7 | 433 | 26 | 707 | 45 | 152 | 64 | <5 |
| 8 | 955 | 27 | 1,169 | 46 | <5 | 65 | 186 |
| 9 | 254 | 28 | 353 | 47 | <5 | 66 | <5 |
| 10 | 37 | 29 | 293 | 48 | 507 | 67 | 20 |
| 11 | 533 | 30 | 127 | 49 | <5 | 68 | 179 |
| 12 | 77 | 31 | 22 | 50 | <5 | 69 | 225 |
| 13 | <5 | 32 | 1,214 | 51 | <5 | 70 | 226 |
| 14 | <5 | 33 | 345 | 52 | <5 | 71 | 548 |
| 15 | 200 | 34 | 805 | 53 | 971 | 72 | 16 |
| 16 | 29 | 35 | <5 | 54 | 417 | 73 | 178 |
| 17 | 62 | 36 | 1,022 | 55 | 11 | 74 | 56 |
| 18 | 611 | 37 | <5 | 56 | <5 | 75 | 17 |
| 19 | <5 | 38 | <5 | 57 | <5 | | |



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Data Source: Unless otherwise stated, all data are from the U.S. Energy and Employment Report, July 2021, by the U.S. Department of Energy (see Appendix A for methodology details). This methodology -- adopted by the U.S. Dept. of Energy for its 2017 U.S. Energy and Employment Report, approved by the Office of Management and Budget and grounded on data collected by the Bureau of Labor Statistics -- provides the broadly accepted best accounting of all U.S. energy workers.

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Vermont

Energy Efficiency Jobs in America

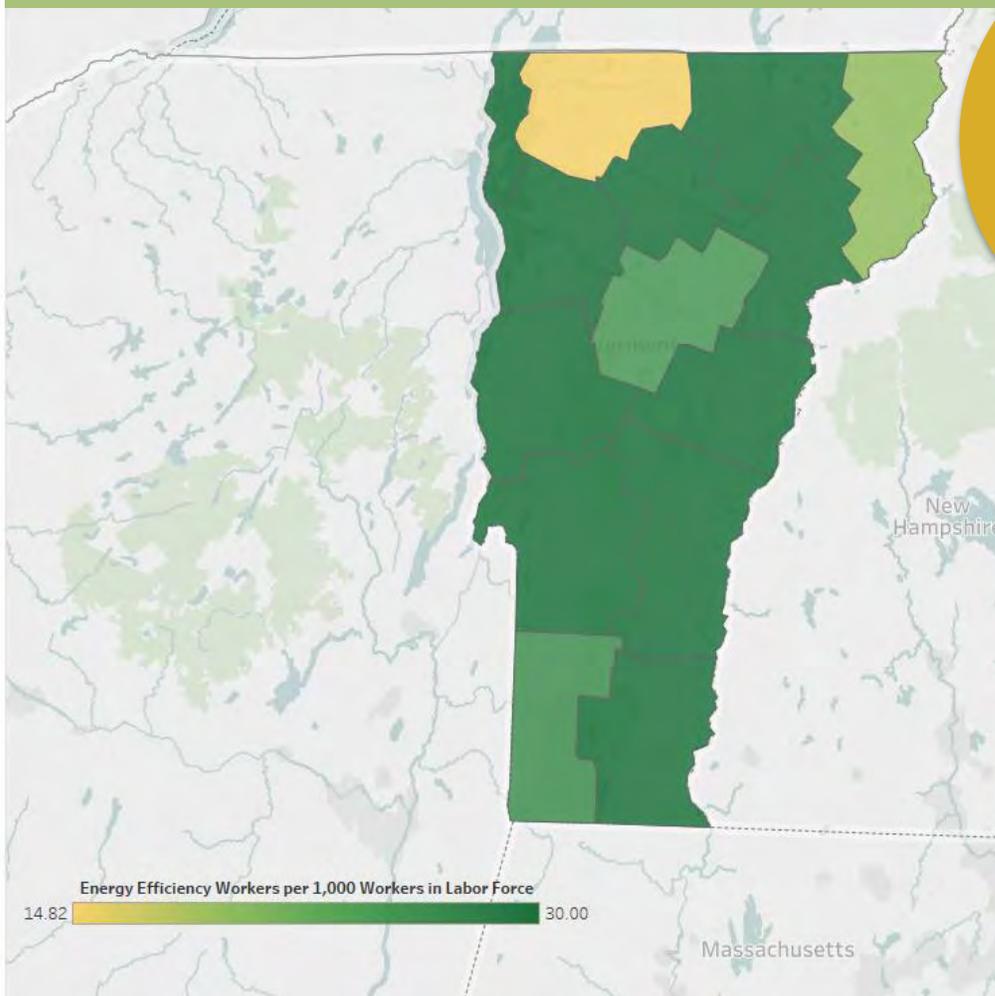


Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Vermont, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Vermont
counties have
energy efficiency
workers

~3,300
new EE construction
jobs to retrofit
Vermont homes by
2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of VT residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



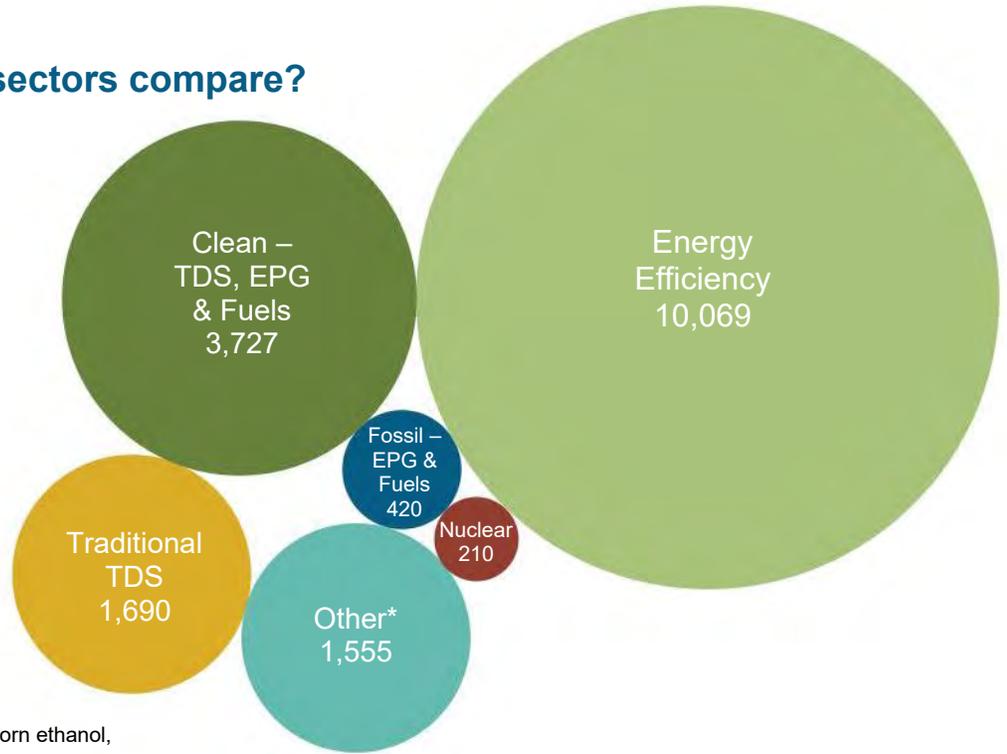
Key EE Statistics for Vermont

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Vermont's energy sectors compare?

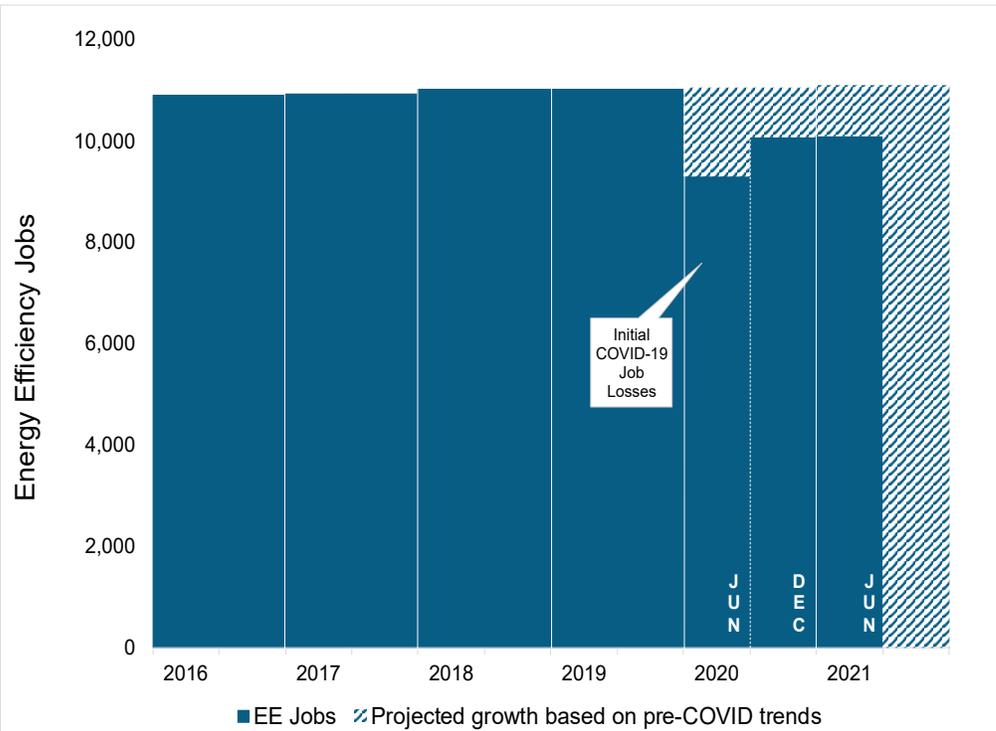
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TDS = Transmission, Distribution & Storage
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*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



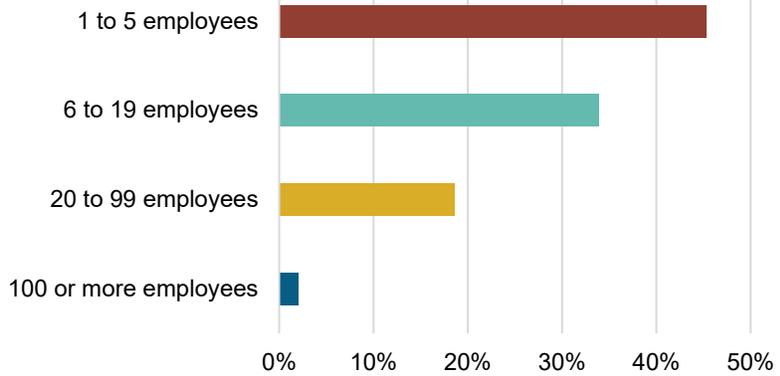
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Vermont?

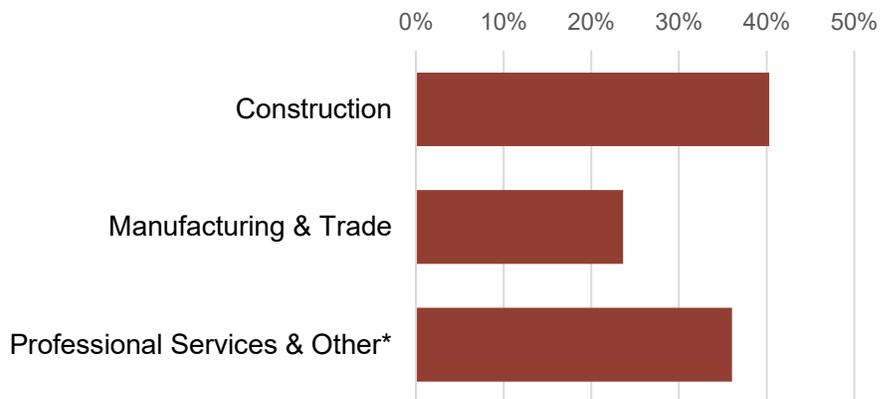
97.9% of VT EE Businesses Have Less Than 100 Employees



1,568
EE businesses in Vermont

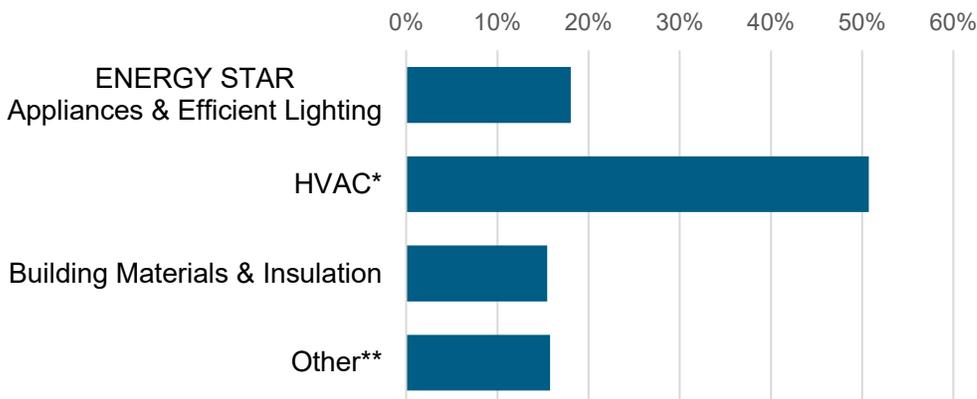
EE construction workers comprise **28%** of Vermont construction workers

What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



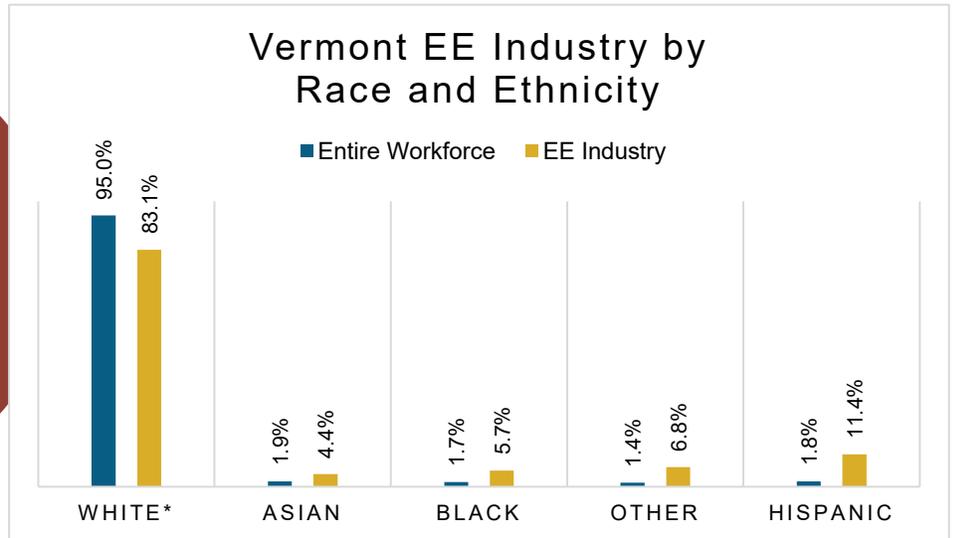
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

7% of Vermont EE workers are **Veterans**

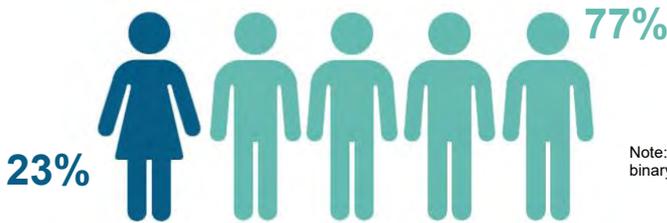
How is EE doing on diversity in Vermont?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Vermont communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Vermont's EE Potential

Decades of work, ready for Vermont's growing energy efficiency workforce.

Weatherization Assistance Program:



649* units weatherized in 2018, out of **~28,000** total low-income households

256,254

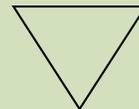
Vermont homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

18%



*National Association for State community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|--------|--------------------------------|-------|
| District | Jobs | Area | Jobs |
| 1 | 10,069 | Burlington-South Burlington | 3,357 |
| | | Rural | 6,712 |

| State Senate | | | | | | | |
|--------------|------|----------|-------|----------|------|----------|------|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
| ADD | 718 | CHI | 2,227 | ORA | 310 | WSR | 779 |
| BEN | 609 | E-O | 507 | RUT | 894 | | |
| CAL | 773 | FRA | 495 | WAS | 924 | | |
| CGI | 824 | LAM | 315 | WDM | 693 | | |

State House of Representatives

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|------|----------|------|----------|------|----------|------|
| A-1 | 145 | C71 | 471 | LM2 | 238 | W-1 | 298 |
| A-2 | 93 | C81 | 262 | LMW | 12 | W-3 | 286 |
| A-3 | 146 | C83 | 20 | O-1 | 169 | W-5 | 55 |
| A-4 | 231 | C91 | <5 | O-2 | 80 | W-6 | 31 |
| A-R | 101 | CA1 | 178 | O-C | 76 | WA1 | 316 |
| B-1 | 194 | CA2 | 58 | O-L | 18 | WA5 | 48 |
| B-3 | 116 | CA4 | 112 | OLC | 33 | WA6 | 6 |
| B-4 | 101 | CAW | 101 | OR1 | 383 | WA7 | 670 |
| B-R | 159 | E-C | 48 | OR2 | 15 | WAC | 187 |
| C-1 | 114 | ECO | 82 | OWA | 132 | WBW | 62 |
| C10 | 153 | F-1 | 240 | R-1 | 100 | WIB | 50 |
| C-2 | 445 | F-2 | 36 | R-2 | 53 | Y-1 | 222 |
| C-3 | 95 | F-4 | 146 | R-3 | 18 | Y-2 | 151 |
| C41 | 71 | F-5 | 29 | R-4 | 398 | Y31 | 22 |
| C51 | 92 | F-6 | 69 | R-6 | 51 | Y41 | 25 |
| C61 | 58 | F-7 | 11 | R-B | 57 | YO2 | 83 |
| C62 | 567 | GIC | 95 | R-W | 186 | Y-R | 111 |
| C67 | 350 | LM1 | 109 | RW2 | 130 | | |



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Virginia

Energy Efficiency Jobs in America

June 2021*

71,735

Dec 2020

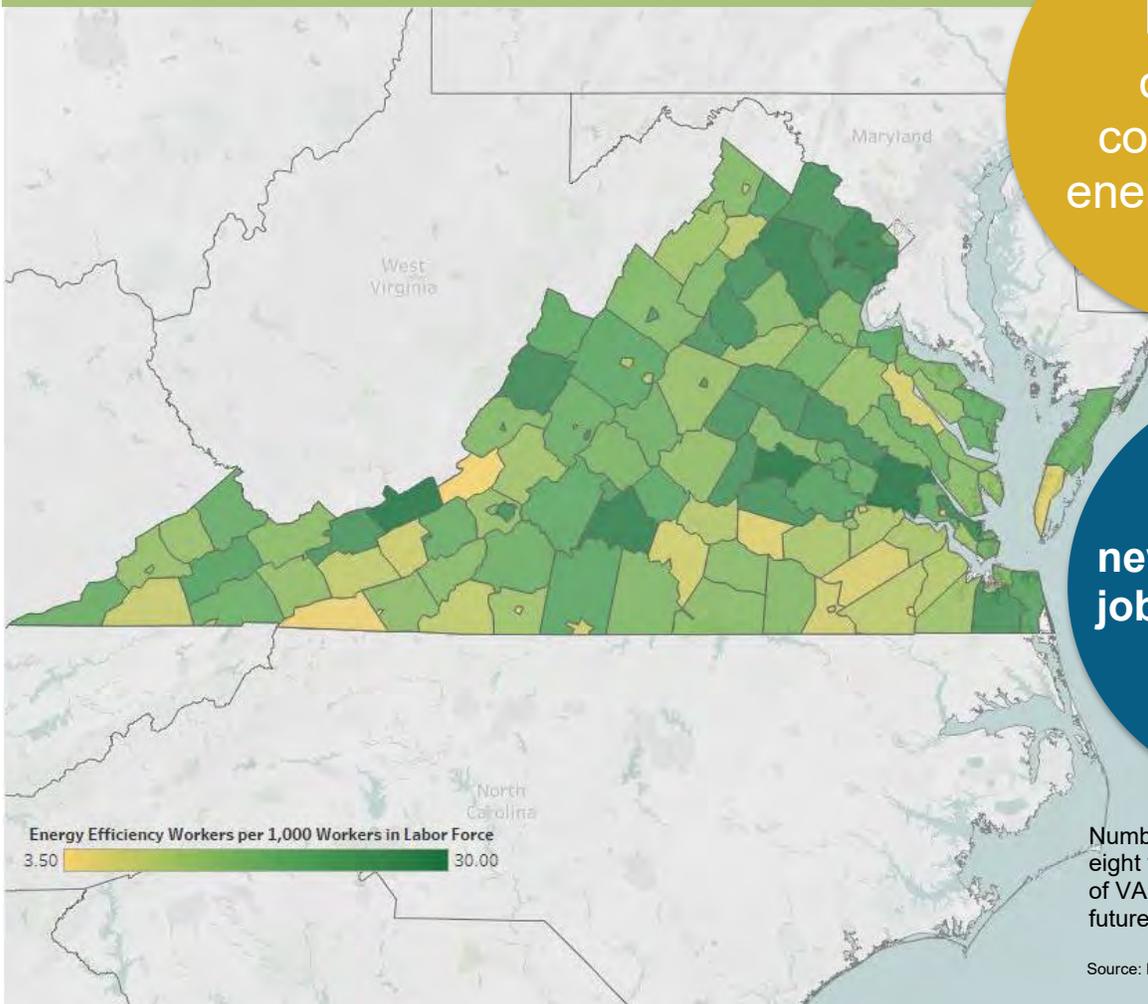
71,505

Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Virginia, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Virginia
counties have
energy efficiency
workers

~27,300
new EE construction
jobs to retrofit Virginia
homes by 2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of VA residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



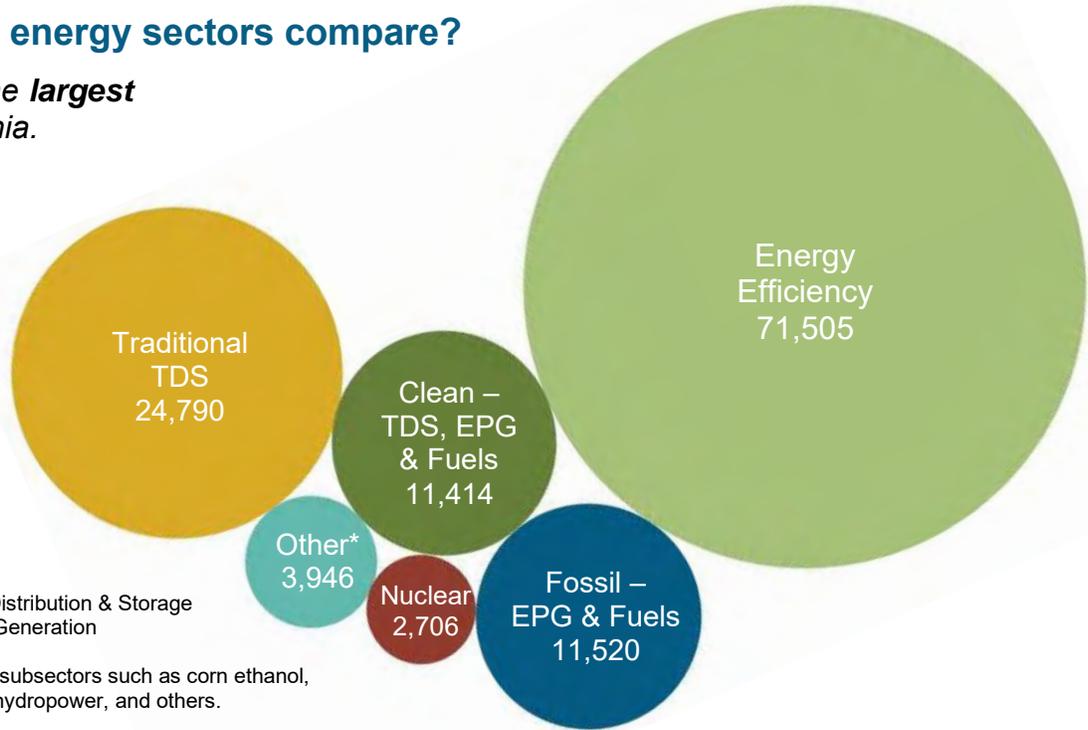
Key EE Statistics for Virginia

What are energy efficiency (EE) jobs?

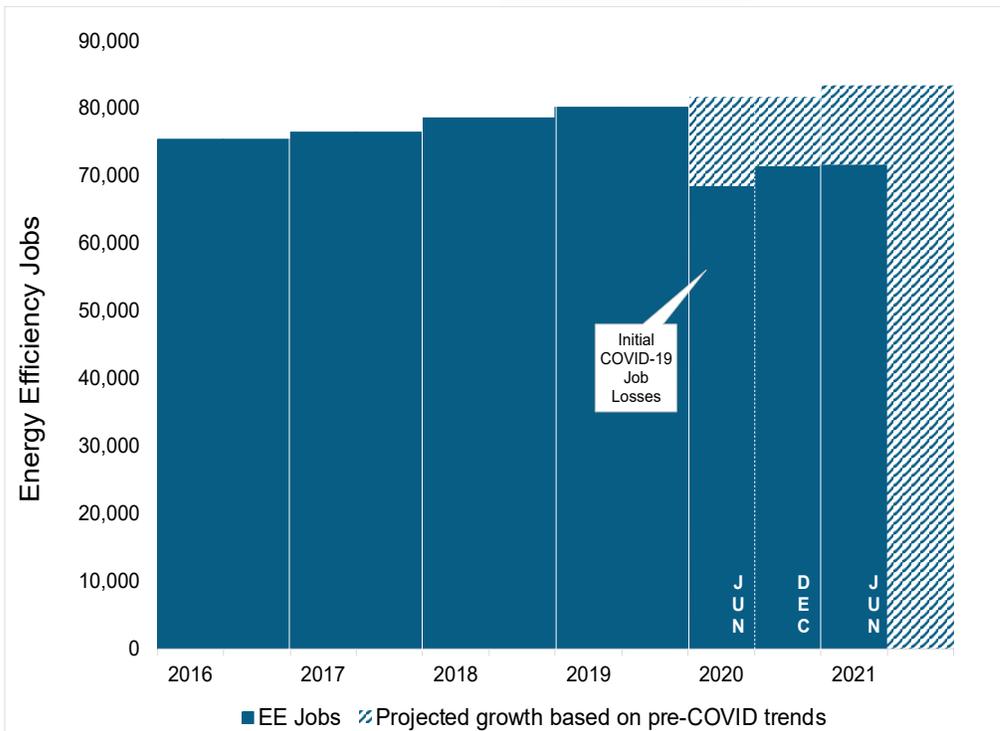
Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Virginia's energy sectors compare?

Energy Efficiency is the **largest** energy sector in Virginia.



How is the EE industry recovering?



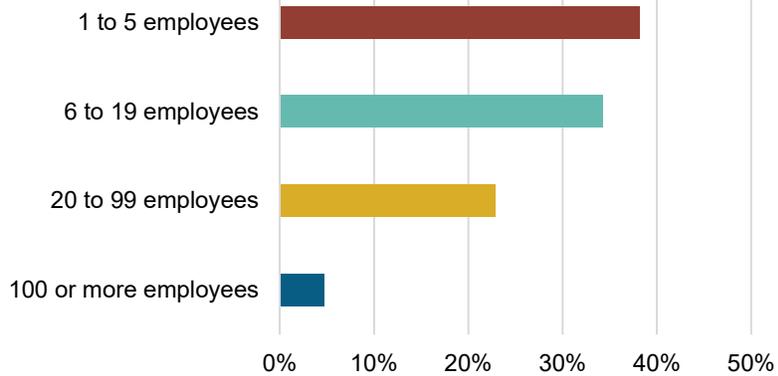
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



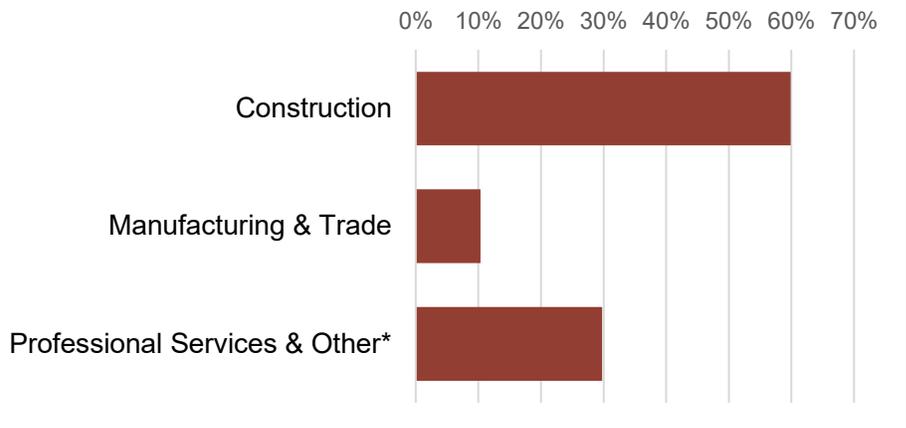
Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Virginia?

95.2% of VA EE Businesses Have Less Than 100 Employees

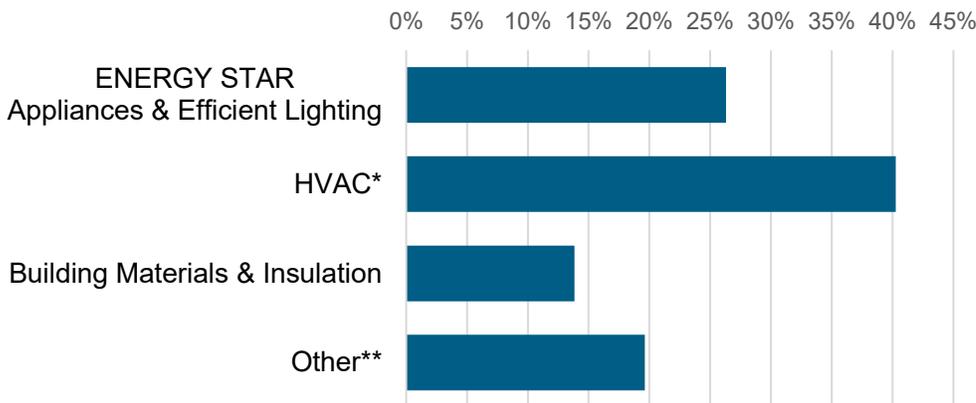


What type of work do energy efficiency firms do?

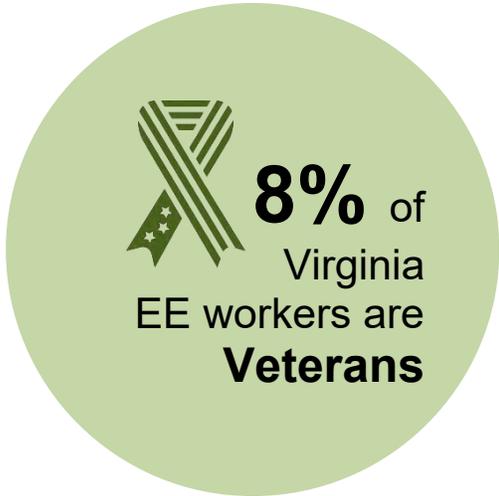


*Professional services include finance/accounting, architecture, engineering, R&D, etc. and other includes maintenance, and business and nonprofit organizations.

What energy efficiency sectors employ the most workers?



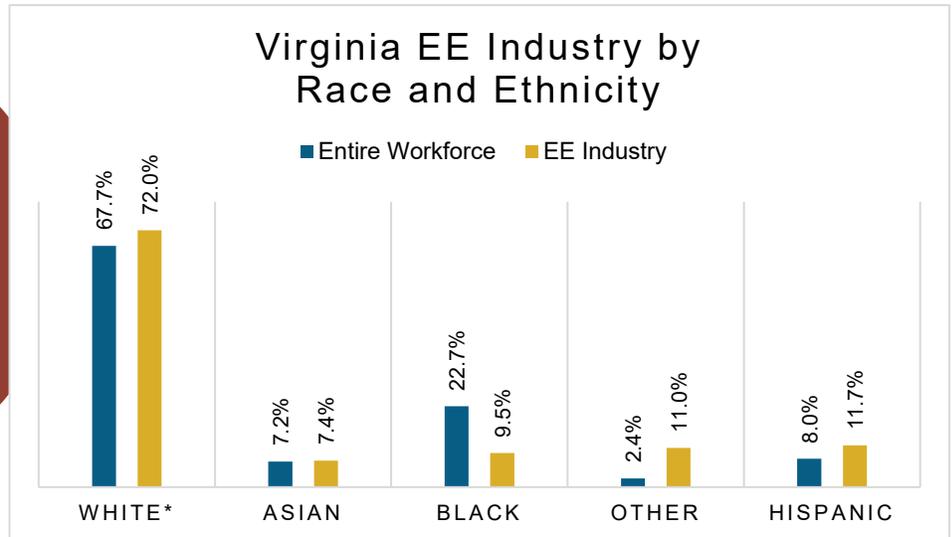
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services



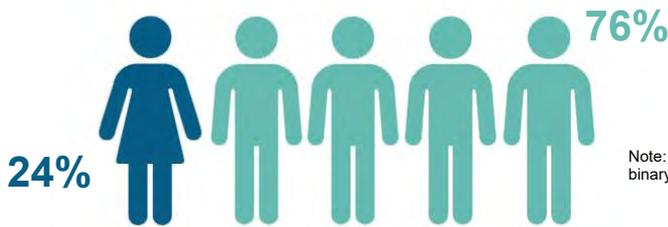
How is EE doing on diversity in Virginia?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Virginia communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Virginia's EE Potential

Decades of work, ready for Virginia's growing energy efficiency workforce.

Weatherization Assistance Program:



691* units weatherized in 2018, out of **~33,000** total low-income households

2,728,913

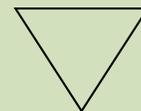
Virginia homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

41%



*National Association for State community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|--------|-------------------------------------|--------|
| District | Jobs | Area | Jobs |
| 1 | 7,733 | Blacksburg-Christiansburg-Radford | 1,025 |
| 2 | 6,954 | Charlottesville | 2,977 |
| 3 | 6,753 | Danville | 650 |
| 4 | 5,408 | Harrisonburg | 1,029 |
| 5 | 9,298 | Kingsport-Bristol-Bristol | 767 |
| 6 | 5,576 | Lynchburg | 2,039 |
| 7 | 4,919 | Richmond | 12,004 |
| 8 | 9,193 | Roanoke | 2,810 |
| 9 | 3,798 | Virginia Beach-Norfolk-Newport News | 13,083 |
| 10 | 10,600 | Washington-Arlington-Alexandria | 27,017 |
| 11 | 1,272 | Winchester | 990 |
| | | Rural | 7,116 |

| State Senate | | | | | | | | | |
|--------------|-------|----------|-------|----------|-------|----------|-------|--|--|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs | | |
| 1 | 2,840 | 11 | 929 | 21 | 1,235 | 31 | 5,487 | | |
| 2 | 958 | 12 | 891 | 22 | 1,511 | 32 | 2,973 | | |
| 3 | 1,004 | 13 | 4,100 | 23 | 420 | 33 | <5 | | |
| 4 | 2,778 | 14 | 1,293 | 24 | 2,286 | 34 | 2,920 | | |
| 5 | 3,138 | 15 | 2,292 | 25 | 2,199 | 35 | 1,247 | | |
| 6 | 699 | 16 | 11 | 26 | 967 | 36 | 587 | | |
| 7 | 2,746 | 17 | 1,915 | 27 | 2,237 | 37 | 362 | | |
| 8 | 1,114 | 18 | 578 | 28 | 1,458 | 38 | 1,050 | | |
| 9 | 4,451 | 19 | 3,482 | 29 | 950 | 39 | <5 | | |
| 10 | 3,517 | 20 | 536 | 30 | 3,329 | 40 | 1,017 | | |

State House of Delegates

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|-------|----------|-------|----------|-------|----------|-------|
| 1 | 446 | 26 | 33 | 51 | <5 | 76 | 642 |
| 2 | 928 | 27 | 2,357 | 52 | 21 | 77 | 113 |
| 3 | 595 | 28 | 733 | 53 | <5 | 78 | 466 |
| 4 | 539 | 29 | 712 | 54 | 750 | 79 | 1,449 |
| 5 | 550 | 30 | 357 | 55 | 1,513 | 80 | 61 |
| 6 | 406 | 31 | 966 | 56 | 1,321 | 81 | 1,110 |
| 7 | 916 | 32 | 1,174 | 57 | 1,440 | 82 | <5 |
| 8 | 1,012 | 33 | 171 | 58 | 259 | 83 | 1,088 |
| 9 | 978 | 34 | 3,642 | 59 | 460 | 84 | <5 |
| 10 | 2,055 | 35 | 2,146 | 60 | 385 | 85 | <5 |
| 11 | 1,406 | 36 | 1,516 | 61 | 656 | 86 | <5 |
| 12 | 84 | 37 | 503 | 62 | 1,218 | 87 | <5 |
| 13 | 1,644 | 38 | 1,479 | 63 | 256 | 88 | 10 |
| 14 | 587 | 39 | 1,450 | 64 | 953 | 89 | 138 |
| 15 | 913 | 40 | 352 | 65 | 61 | 90 | <5 |
| 16 | 187 | 41 | 153 | 66 | 62 | 91 | 883 |
| 17 | 97 | 42 | 187 | 67 | 820 | 92 | 243 |
| 18 | 1,191 | 43 | 413 | 68 | 2,011 | 93 | 687 |
| 19 | 741 | 44 | 170 | 69 | 1,613 | 94 | 1,221 |
| 20 | 1,061 | 45 | 2,045 | 70 | <5 | 95 | <5 |
| 21 | 3,656 | 46 | <5 | 71 | 276 | 96 | 160 |
| 22 | 1,035 | 47 | 1,689 | 72 | 548 | 97 | 467 |
| 23 | 154 | 48 | 531 | 73 | <5 | 98 | 418 |
| 24 | 358 | 49 | <5 | 74 | 630 | 99 | 593 |
| 25 | 1,626 | 50 | 73 | 75 | 231 | 100 | 251 |



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Washington

Energy Efficiency Jobs in America

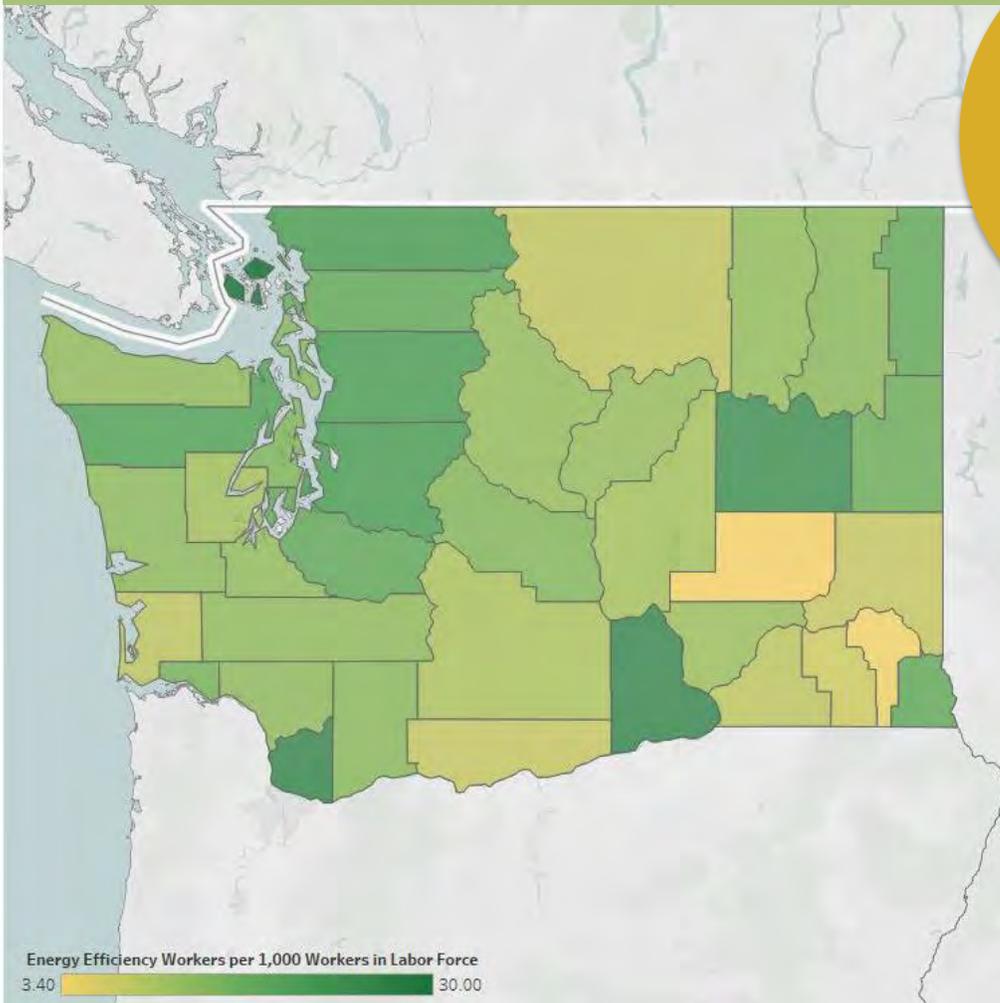


Energy efficiency (EE) workers are a crucial part of America’s workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Washington, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Washington
counties have
energy efficiency
workers

~30,300
new EE construction
jobs to retrofit
Washington homes by
2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of WA residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



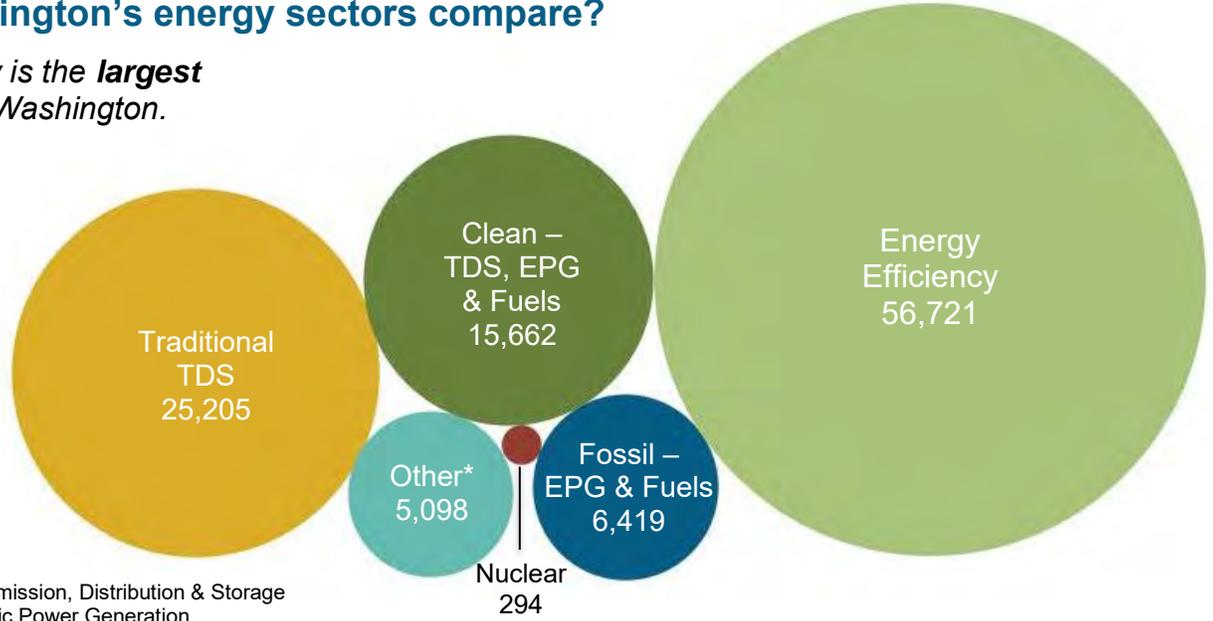
Key EE Statistics for Washington

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Washington's energy sectors compare?

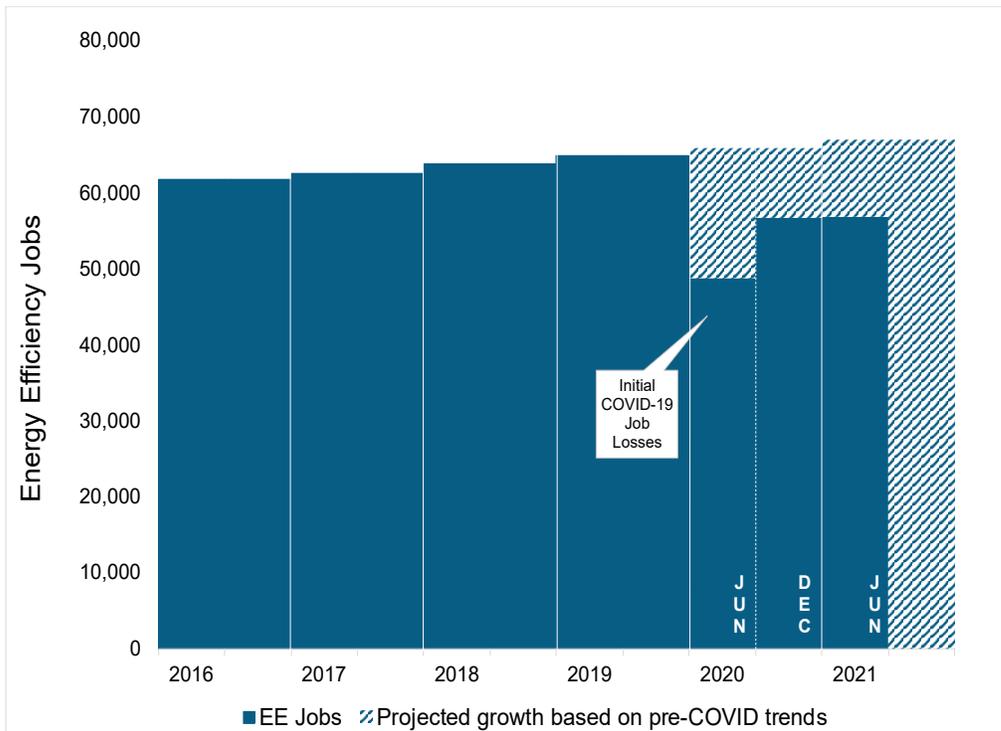
Energy Efficiency is the **largest** energy sector in Washington.



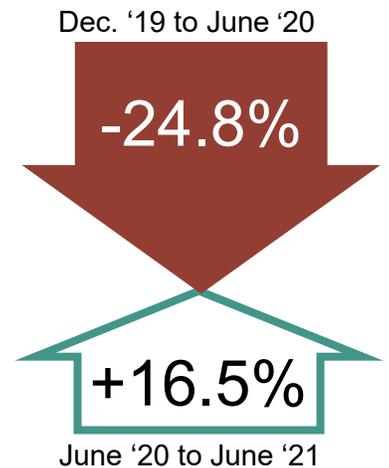
TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



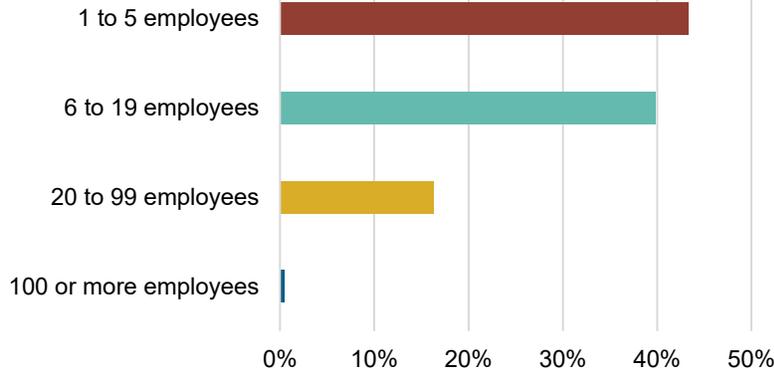
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Washington?

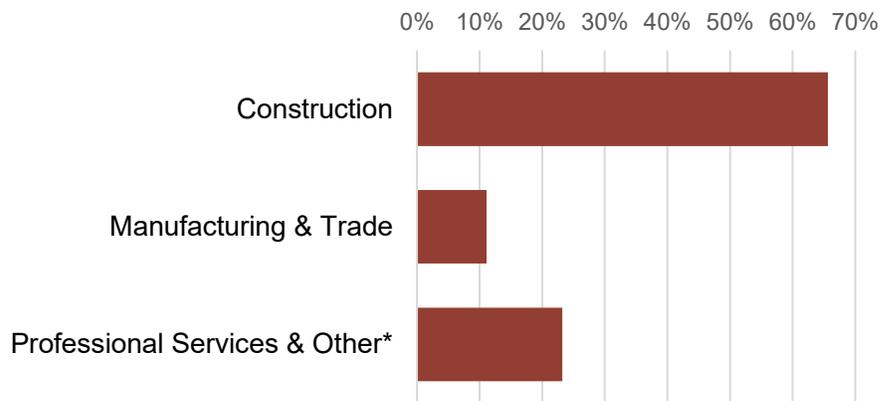
99.4% of WA EE Businesses Have Less Than 100 Employees



10,911
EE businesses in Washington

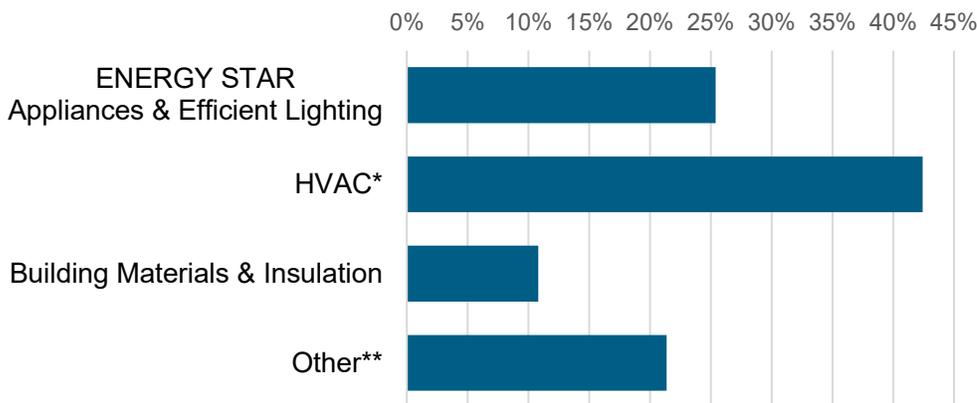
EE construction workers comprise **18%** of Washington construction workers

What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



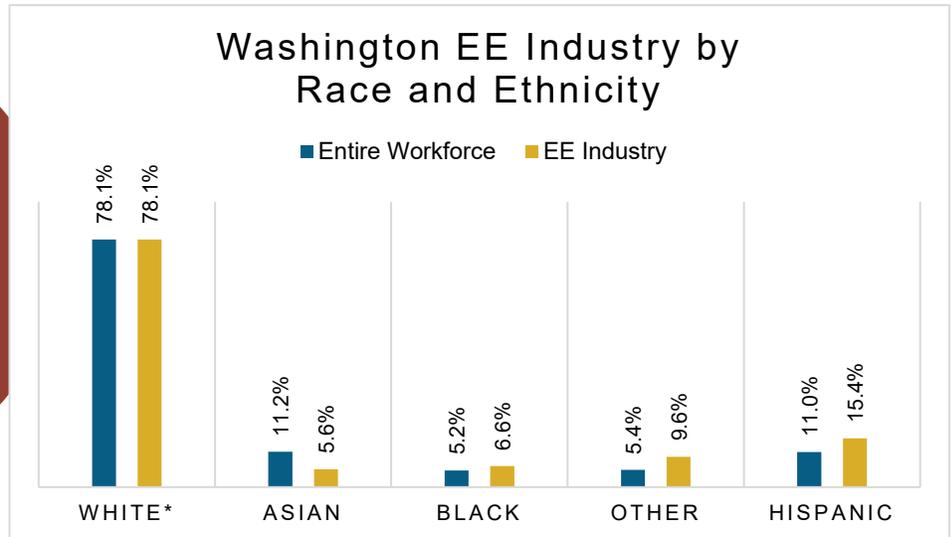
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

8% of Washington EE workers are **Veterans**

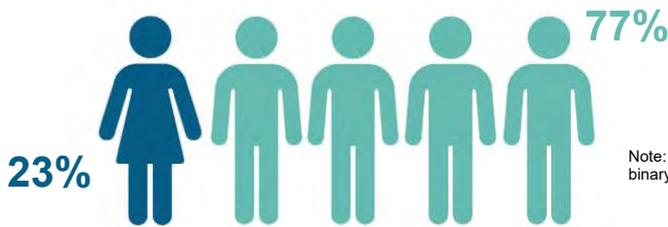
How is EE doing on diversity in Washington?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Washington communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Washington's EE Potential

Decades of work, ready for Washington's growing energy efficiency workforce.

Weatherization Assistance Program:


1,922* units weatherized in 2018, out of **~290,000** total low-income households

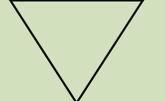
2,139,286

Washington homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

20%


*National Association for State community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|--------|------------------------------|--------|
| District | Jobs | Area | Jobs |
| 1 | 10,420 | Bellingham | 2,271 |
| 2 | 4,653 | Bremerton-Silverdale | 1,905 |
| 3 | 5,296 | Kennewick-Richland-Pasco | 1,439 |
| 4 | 3,989 | Lewiston | 121 |
| 5 | 4,974 | Longview | 634 |
| 6 | 6,146 | Mount Vernon-Anacortes | 887 |
| 7 | 10,619 | Olympia | 1,955 |
| 8 | 5,510 | Portland-Vancouver-Beaverton | 3,818 |
| 9 | 2,739 | Seattle-Tacoma-Bellevue | 31,719 |
| 10 | 2,375 | Spokane | 4,168 |
| | | Wenatchee | 838 |
| | | Yakima | 1,343 |
| | | Rural | 5,623 |

| State Senate | | | | | | | | | |
|--------------|-------|----------|-------|----------|-------|----------|-------|--|--|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs | | |
| 1 | 2,595 | 14 | 1,392 | 27 | 1,424 | 40 | 2,022 | | |
| 2 | 1,389 | 15 | 99 | 28 | 731 | 41 | 3,030 | | |
| 3 | 2,670 | 16 | 163 | 29 | 330 | 42 | 621 | | |
| 4 | 966 | 17 | 2,014 | 30 | 1,260 | 43 | 1,082 | | |
| 5 | 2,100 | 18 | 606 | 31 | 87 | 44 | <5 | | |
| 6 | 398 | 19 | 1,313 | 32 | 603 | 45 | 1,307 | | |
| 7 | 722 | 20 | 1,162 | 33 | 330 | 46 | 246 | | |
| 8 | 1,195 | 21 | 1,259 | 34 | 653 | 47 | <5 | | |
| 9 | 960 | 22 | 489 | 35 | 422 | 48 | <5 | | |
| 10 | 2,357 | 23 | 1,694 | 36 | 4,337 | 49 | 523 | | |
| 11 | 3,517 | 24 | 874 | 37 | 1,832 | | | | |
| 12 | 1,013 | 25 | 1,130 | 38 | 1,169 | | | | |
| 13 | 884 | 26 | 840 | 39 | 912 | | | | |

State House of Representatives

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|-------|----------|-------|----------|-------|----------|-------|
| 1 | 2,595 | 14 | 1,411 | 27 | 1,425 | 40 | 2,008 |
| 2 | 1,389 | 15 | 100 | 28 | 731 | 41 | 3,031 |
| 3 | 2,680 | 16 | 163 | 29 | <5 | 42 | 623 |
| 4 | 969 | 17 | 2,047 | 30 | 1,259 | 43 | 1,096 |
| 5 | 2,102 | 18 | 609 | 31 | 87 | 44 | <5 |
| 6 | 399 | 19 | 1,317 | 32 | 603 | 45 | 1,308 |
| 7 | 725 | 20 | 1,171 | 33 | 340 | 46 | 246 |
| 8 | 1,200 | 21 | 1,259 | 34 | 656 | 47 | <5 |
| 9 | 963 | 22 | 491 | 35 | 424 | 48 | <5 |
| 10 | 2,389 | 23 | 1,700 | 36 | 4,409 | 49 | 524 |
| 11 | 3,603 | 24 | 877 | 37 | 1,839 | | |
| 12 | 1,017 | 25 | 1,129 | 38 | 1,169 | | |
| 13 | 887 | 26 | 840 | 39 | 912 | | |



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



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. Visit www.e2.org



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 www.bwresearch.com

Data Source: Unless otherwise stated, all data are from the U.S. Energy and Employment Report, July 2021, by the U.S. Department of Energy (see Appendix A for methodology details). This methodology -- adopted by the U.S. Dept. of Energy for its 2017 U.S. Energy and Employment Report, approved by the Office of Management and Budget and grounded on data collected by the Bureau of Labor Statistics -- provides the broadly accepted best accounting of all U.S. energy workers.

For questions on E4TheFuture analyses please email: policy@e4thefuture.org.

West Virginia

Energy Efficiency Jobs in America

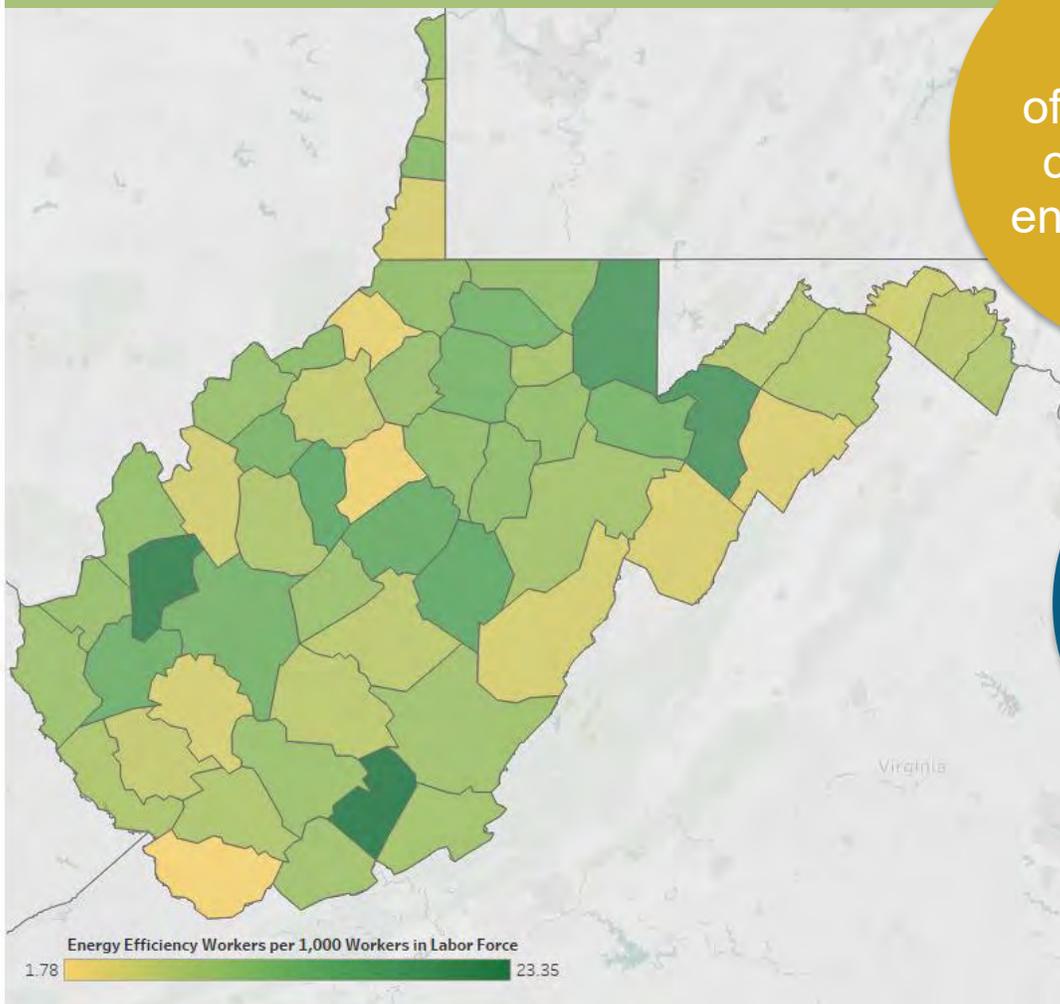


Energy efficiency (EE) workers are a crucial part of America’s workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In West Virginia, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of West Virginia
counties have
energy efficiency
workers

~7,600
new EE construction
jobs to retrofit West
Virginia homes by
2030

Number of full-time workers required for eight years 2022-2030 to improve 80% of WV residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



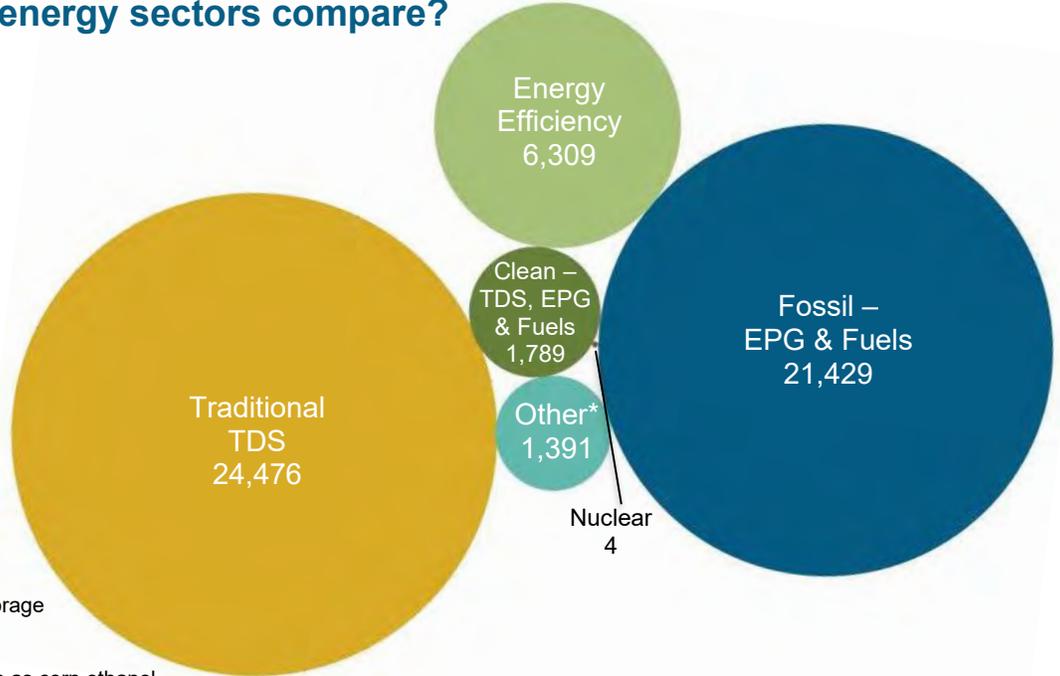
Key EE Statistics for West Virginia

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do West Virginia's energy sectors compare?

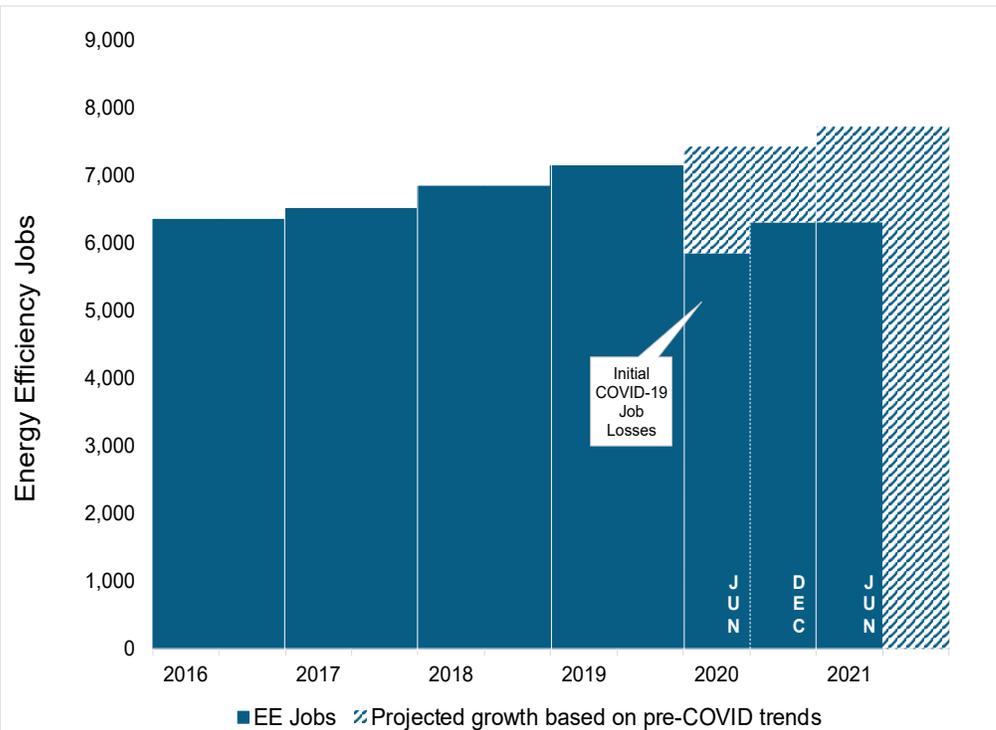
Energy Efficiency is the third largest energy sector in West Virginia.



TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



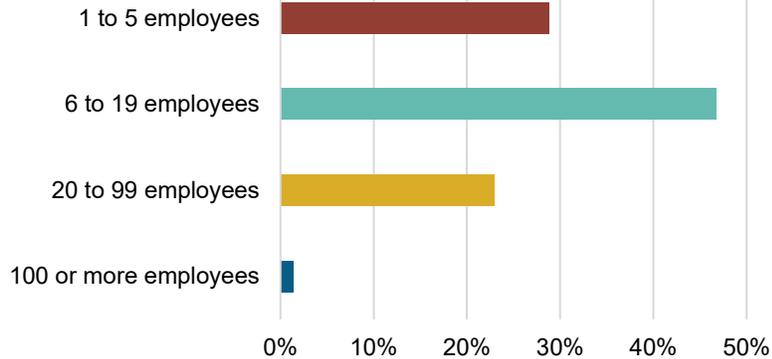
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in West Virginia?

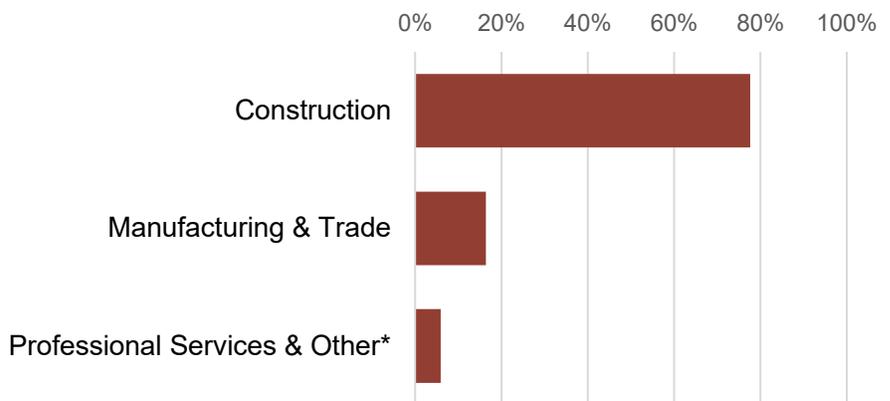
98.5% of WV EE Businesses Have Less Than 100 Employees



707
EE businesses in West Virginia

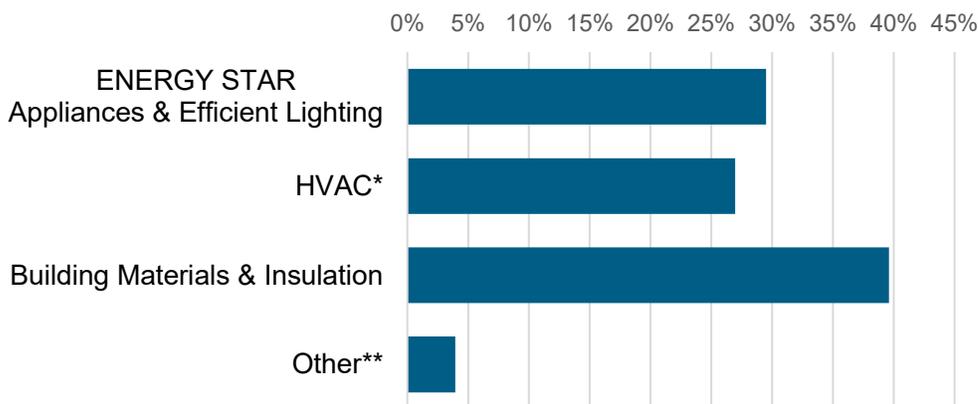
EE construction workers comprise **16%** of West Virginia construction workers

What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



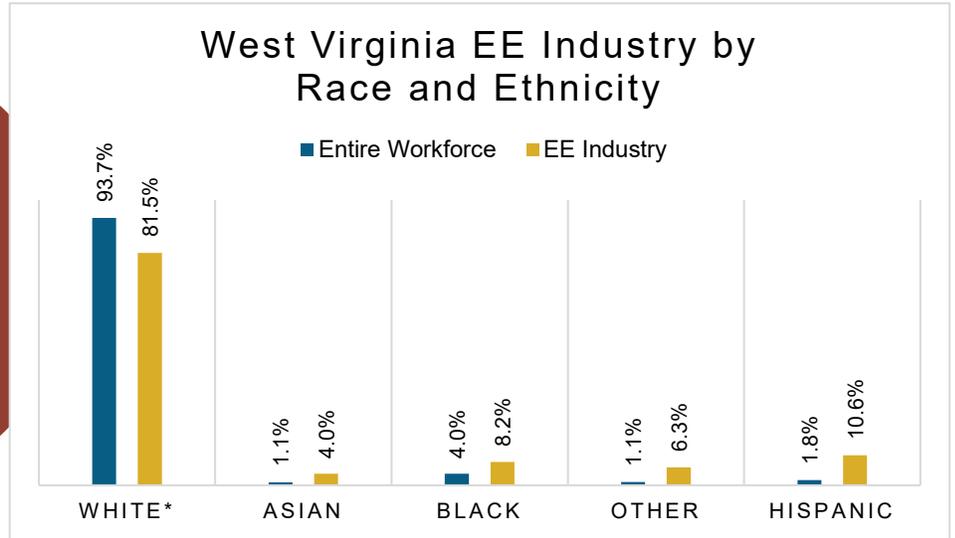
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

17% of West Virginia EE workers are **Veterans**

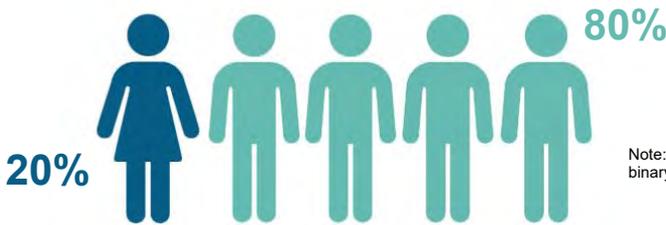
How is EE doing on diversity in West Virginia?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all West Virginia communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

West Virginia's EE Potential

Decades of work, ready for West Virginia's growing energy efficiency workforce.

Weatherization Assistance Program:



511* units weatherized in 2018, out of **~120,000** total low-income households

648,265

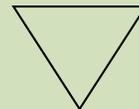
West Virginia homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

43%



*National Association for State community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|---------------------------------|-------|
| District | Jobs | Area | Jobs |
| 1 | 2,464 | Charleston | 906 |
| 2 | 2,179 | Cumberland | 49 |
| 3 | 1,667 | Hagerstown-Martinsburg | 282 |
| | | Huntington-Ashland | 341 |
| | | Morgantown | 386 |
| | | Parkersburg-Marietta-Vienna | 301 |
| | | Washington-Arlington-Alexandria | 1,742 |
| | | Weirton-Steubenville | 116 |
| | | Wheeling | 237 |
| | | Winchester | 68 |
| | | Rural | 1,881 |

| State Upper House | | | | | | | | | | |
|-------------------|------|--|----------|------|--|----------|------|--|----------|------|
| District | Jobs | | District | Jobs | | District | Jobs | | District | Jobs |
| 1 | 443 | | 11 | 398 | | 21 | <5 | | 31 | <5 |
| 2 | 870 | | 12 | 457 | | 22 | <5 | | 32 | <5 |
| 3 | 452 | | 13 | 30 | | 23 | <5 | | 33 | <5 |
| 4 | 474 | | 14 | 257 | | 24 | <5 | | 34 | <5 |
| 5 | 390 | | 15 | 393 | | 25 | <5 | | | |
| 6 | 284 | | 16 | 264 | | 26 | <5 | | | |
| 7 | 144 | | 17 | 30 | | 27 | <5 | | | |
| 8 | 751 | | 18 | <5 | | 28 | <5 | | | |
| 9 | 374 | | 19 | <5 | | 29 | <5 | | | |
| 10 | 298 | | 20 | <5 | | 30 | <5 | | | |

State Lower House

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|------|----------|------|----------|------|----------|------|
| 1 | 132 | 28 | 297 | 55 | 55 | 82 | <5 |
| 2 | 245 | 29 | 32 | 56 | 28 | 83 | <5 |
| 3 | 22 | 30 | <5 | 57 | 68 | 84 | <5 |
| 4 | 99 | 31 | 37 | 58 | 115 | 85 | <5 |
| 5 | 31 | 32 | 190 | 59 | 145 | 86 | <5 |
| 6 | 62 | 33 | 44 | 60 | 105 | 87 | <5 |
| 7 | 40 | 34 | 59 | 61 | 25 | 88 | <5 |
| 8 | 145 | 35 | 661 | 62 | <5 | 89 | <5 |
| 9 | 248 | 36 | 130 | 63 | 65 | 90 | <5 |
| 10 | <5 | 37 | <5 | 64 | <5 | 91 | <5 |
| 11 | 152 | 38 | <5 | 65 | 97 | 92 | <5 |
| 12 | 14 | 39 | 11 | 66 | 13 | 93 | <5 |
| 13 | 117 | 40 | <5 | 67 | <5 | 94 | <5 |
| 14 | 161 | 41 | 21 | 68 | <5 | 95 | <5 |
| 15 | 52 | 42 | 122 | 69 | <5 | 96 | <5 |
| 16 | 306 | 43 | 154 | 70 | <5 | 97 | <5 |
| 17 | 56 | 44 | 122 | 71 | <5 | 98 | <5 |
| 18 | <5 | 45 | <5 | 72 | <5 | 99 | <5 |
| 19 | 66 | 46 | 73 | 73 | <5 | 100 | <5 |
| 20 | 81 | 47 | 171 | 74 | <5 | | |
| 21 | 22 | 48 | 437 | 75 | <5 | | |
| 22 | 48 | 49 | 171 | 76 | <5 | | |
| 23 | 18 | 50 | 9 | 77 | <5 | | |
| 24 | 29 | 51 | 286 | 78 | <5 | | |
| 25 | 117 | 52 | 76 | 79 | <5 | | |
| 26 | 89 | 53 | 13 | 80 | <5 | | |
| 27 | 24 | 54 | 100 | 81 | <5 | | |



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Wisconsin

Energy Efficiency Jobs in America

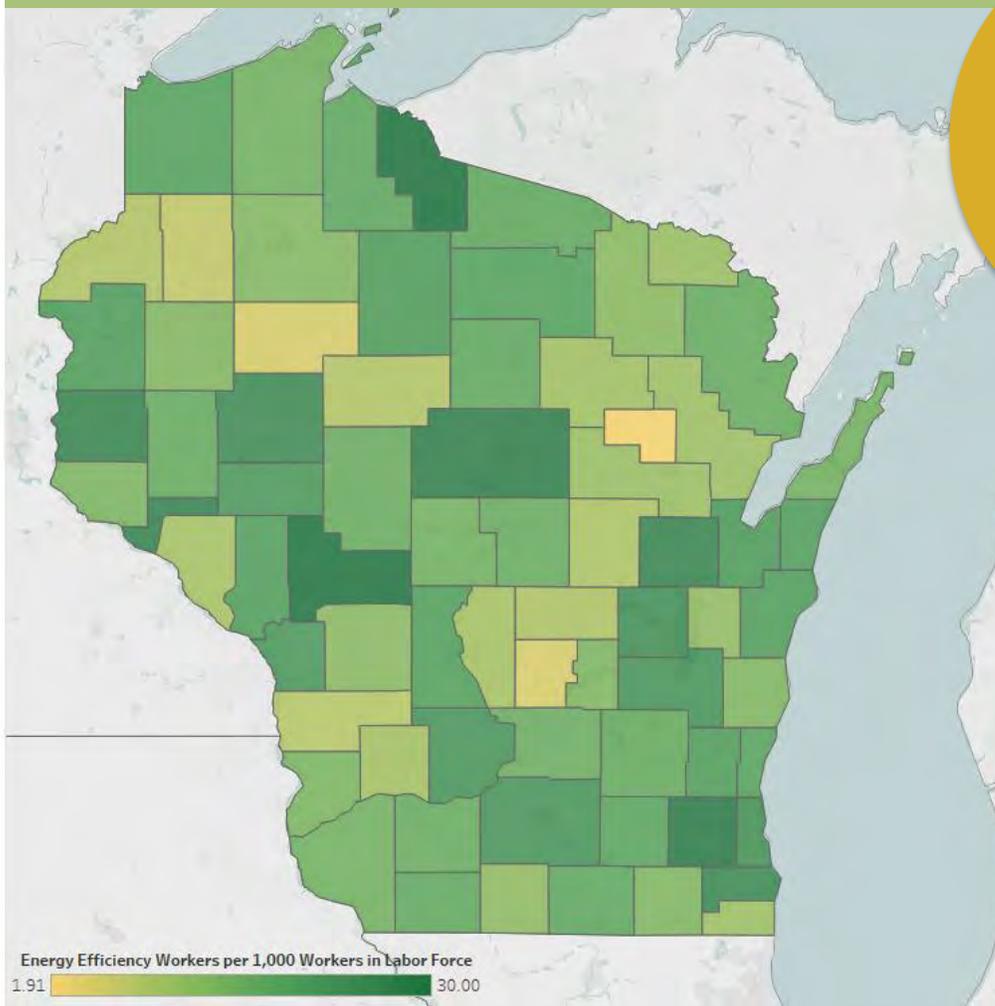


Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Wisconsin, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Wisconsin
counties have
energy efficiency
workers

~28,400
new EE construction
jobs to retrofit
Wisconsin homes by
2030

Number of full-time workers required for eight years 2022-2030 to improve 80% of WI residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:



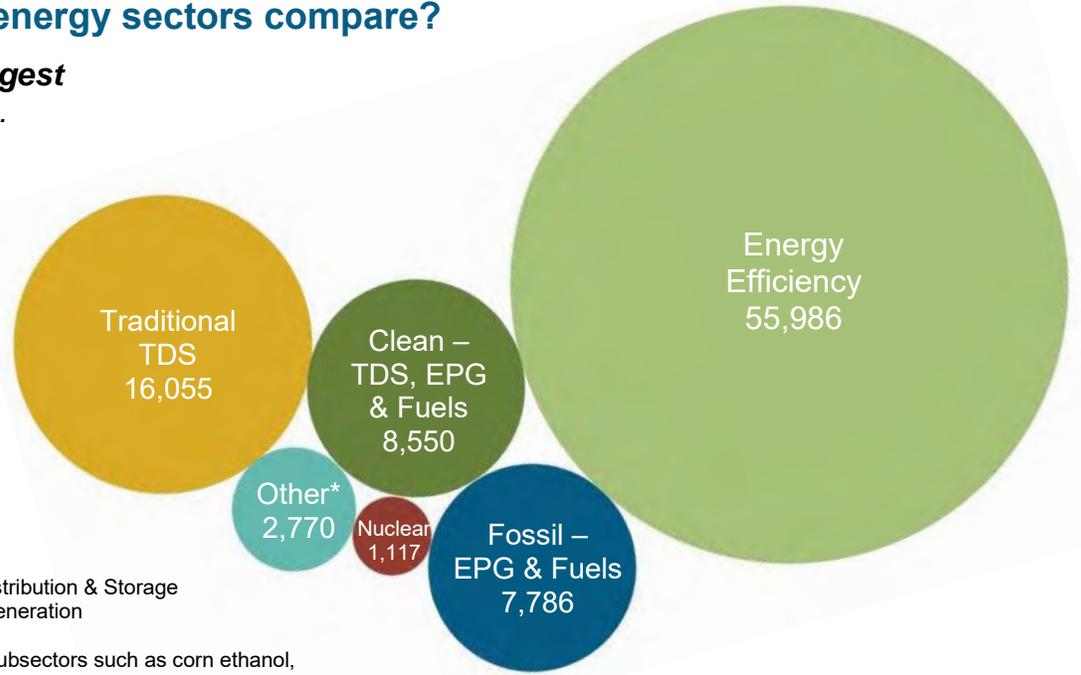
Key EE Statistics for Wisconsin

What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Wisconsin's energy sectors compare?

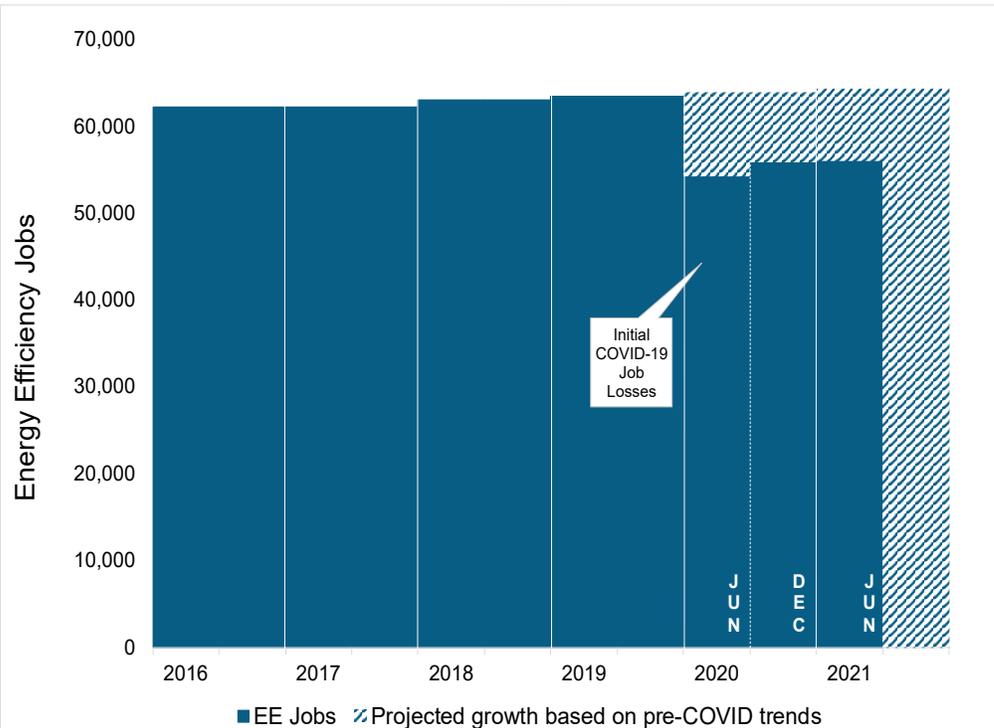
Energy Efficiency is the **largest** energy sector in Wisconsin.



TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



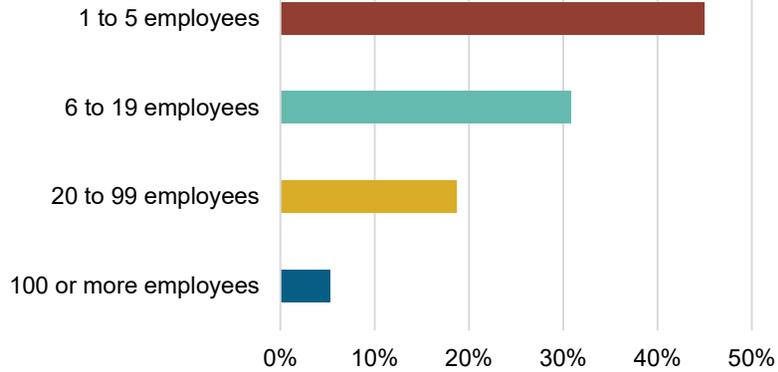
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Wisconsin?

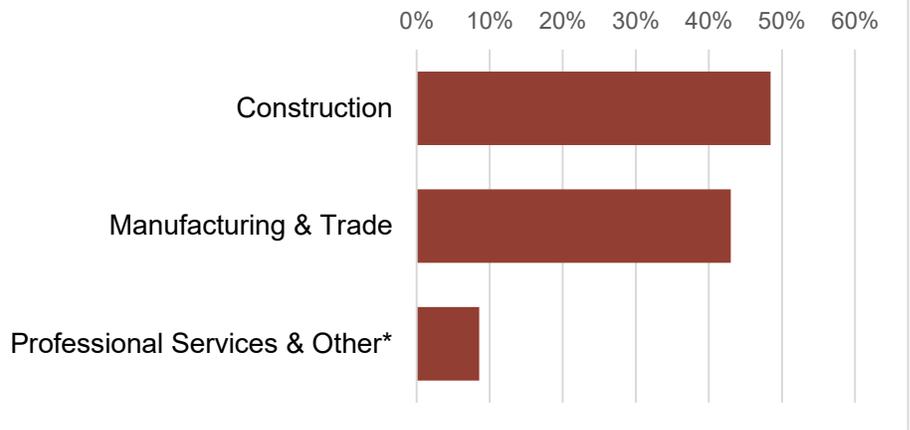
94.5% of WI EE Businesses Have Less Than 100 Employees



9,255
EE businesses in Wisconsin

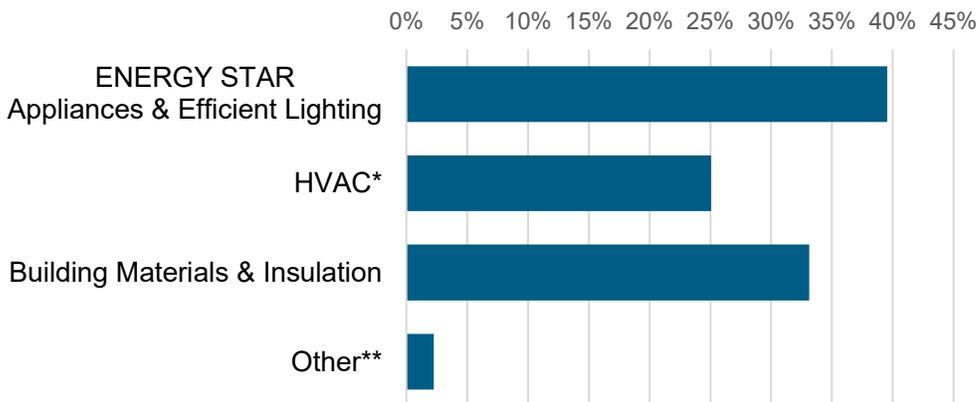
EE construction workers comprise **22%** of Wisconsin construction workers

What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



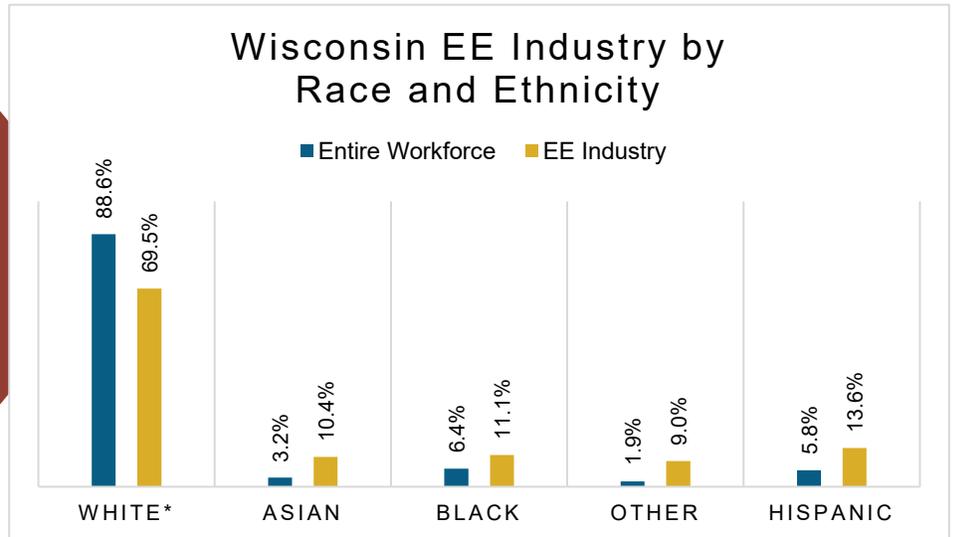
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

8% of Wisconsin EE workers are Veterans

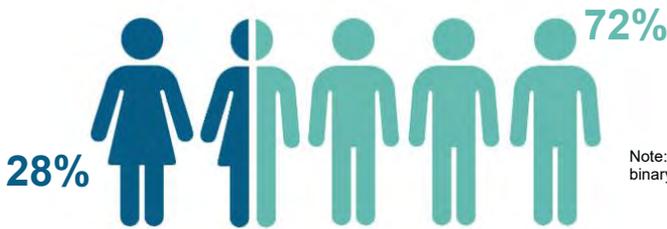
How is EE doing on diversity in Wisconsin?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Wisconsin communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Wisconsin's EE Potential

Decades of work, ready for Wisconsin's growing energy efficiency workforce.

Weatherization Assistance Program:


5,753* units weatherized in 2018, out of **~250,000** total low-income households

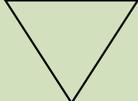
2,006,226

Wisconsin homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

19%


*National Association for State Community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
 Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|----------------------------------|--------|
| District | Jobs | Area | Jobs |
| 1 | 7,902 | Appleton | 2,187 |
| 2 | 8,160 | Chicago-Naperville-Joliet | 2,713 |
| 3 | 6,837 | Duluth | 268 |
| 4 | 6,744 | Eau Claire | 1,420 |
| 5 | 5,694 | Fond du Lac | 834 |
| 6 | 8,314 | Green Bay | 2,679 |
| 7 | 7,004 | Janesville | 1,122 |
| 8 | 5,331 | La Crosse | 984 |
| | | Madison | 6,385 |
| | | Milwaukee-Waukesha-West Allis | 14,714 |
| | | Minneapolis-St. Paul-Bloomington | 2,281 |
| | | Oshkosh-Neenah | 2,493 |
| | | Racine | 1,470 |
| | | Sheboygan | 905 |
| | | Wausau | 1,163 |
| | | Rural | 14,368 |

| State Senate | | | | | | | |
|--------------|-------|----------|-------|----------|-------|----------|-------|
| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
| 1 | 3,528 | 11 | 3,027 | 21 | 2,134 | 31 | 637 |
| 2 | 2,588 | 12 | 2,997 | 22 | 233 | 32 | 1,402 |
| 3 | 1,846 | 13 | 2,077 | 23 | 2,448 | 33 | 634 |
| 4 | 1,977 | 14 | 1,925 | 24 | 1,454 | | |
| 5 | 3,749 | 15 | 647 | 25 | 1,733 | | |
| 6 | 1,320 | 16 | 2,832 | 26 | 1,953 | | |
| 7 | 804 | 17 | 1,936 | 27 | 335 | | |
| 8 | 2,974 | 18 | 1,506 | 28 | 439 | | |
| 9 | 1,132 | 19 | 2,026 | 29 | 576 | | |
| 10 | 2,006 | 20 | 890 | 30 | 220 | | |

State Assembly

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|-------|----------|-------|----------|-------|----------|-------|
| 1 | 952 | 28 | 941 | 55 | 2,013 | 82 | 200 |
| 2 | 1,370 | 29 | 618 | 56 | 9 | 83 | 238 |
| 3 | 1,208 | 30 | 438 | 57 | <5 | 84 | <5 |
| 4 | 1,398 | 31 | 1,860 | 58 | 511 | 85 | 269 |
| 5 | 526 | 32 | 637 | 59 | 87 | 86 | <5 |
| 6 | 661 | 33 | 543 | 60 | 287 | 87 | 305 |
| 7 | 1,053 | 34 | 1,296 | 61 | 1,173 | 88 | 130 |
| 8 | 777 | 35 | 1,172 | 62 | 946 | 89 | 90 |
| 9 | <5 | 36 | 521 | 63 | 9 | 90 | <5 |
| 10 | 1,132 | 37 | 1,494 | 64 | 232 | 91 | <5 |
| 11 | 679 | 38 | 279 | 65 | <5 | 92 | 409 |
| 12 | 158 | 39 | 317 | 66 | <5 | 93 | 226 |
| 13 | 2,519 | 40 | 598 | 67 | 998 | 94 | 1,187 |
| 14 | 558 | 41 | 670 | 68 | 970 | 95 | <5 |
| 15 | 656 | 42 | 685 | 69 | 472 | 96 | 213 |
| 16 | 1,316 | 43 | 285 | 70 | 1,141 | 97 | 547 |
| 17 | <5 | 44 | <5 | 71 | 308 | 98 | 18 |
| 18 | <5 | 45 | 359 | 72 | 11 | 99 | 151 |
| 19 | <5 | 46 | 585 | 73 | 565 | | |
| 20 | 434 | 47 | 2,044 | 74 | 700 | | |
| 21 | 366 | 48 | 191 | 75 | 462 | | |
| 22 | 1,382 | 49 | 704 | 76 | 1,083 | | |
| 23 | 1,007 | 50 | 608 | 77 | 284 | | |
| 24 | 572 | 51 | 616 | 78 | 582 | | |
| 25 | 157 | 52 | 682 | 79 | 76 | | |
| 26 | 802 | 53 | 820 | 80 | 203 | | |
| 27 | 179 | 54 | <5 | 81 | 50 | | |



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



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. Visit www.e2.org



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 www.bwresearch.com

Data Source: Unless otherwise stated, all data are from the U.S. Energy and Employment Report, July 2021, by the U.S. Department of Energy (see Appendix A for methodology details). This methodology -- adopted by the U.S. Dept. of Energy for its 2017 U.S. Energy and Employment Report, approved by the Office of Management and Budget and grounded on data collected by the Bureau of Labor Statistics -- provides the broadly accepted best accounting of all U.S. energy workers.

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Wyoming

Energy Efficiency Jobs in America

June 2021*

6,896

Dec 2020

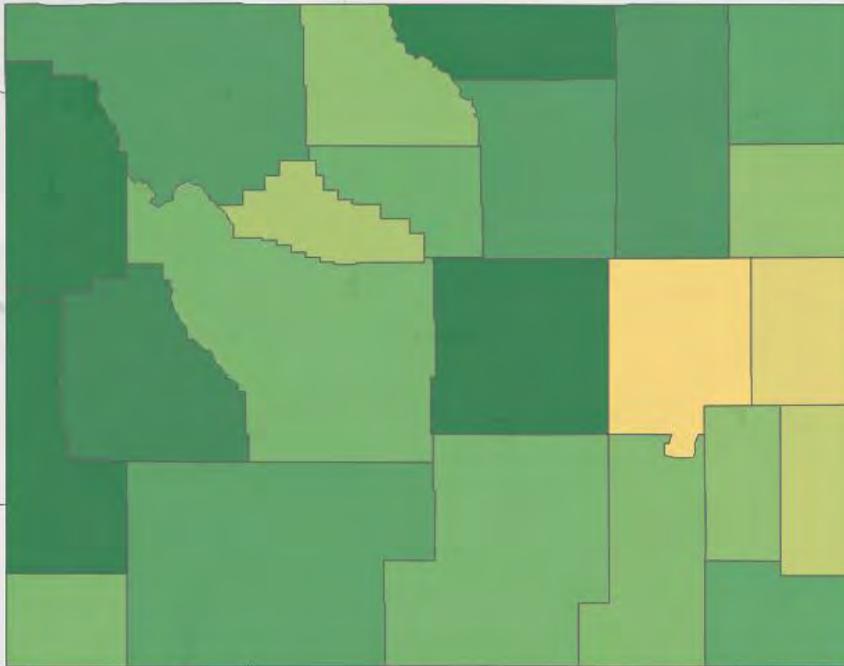
6,900

Energy efficiency (EE) workers are a crucial part of America's workforce. EE jobs are everywhere – in rural, urban, and suburban communities. In Wyoming, there are EE jobs in every county.

Investments in EE are the best possible energy investment. Energy efficiency measures are a highly cost-effective way to improve the reliability of the electric grid, reduce emissions, and make other renewable energy resources, such as solar and wind, more valuable. Efficiency also saves households money while creating high-quality, local jobs that cannot be outsourced.

Energy Efficiency Jobs are Everywhere

EE Jobs by County



100%
of Wyoming
counties have
energy efficiency
workers

~2,500
new EE construction
jobs to retrofit
Wyoming homes by
2030



Number of full-time workers required for eight years 2022-2030 to improve 80% of WY residences for a clean energy future.

Source: E4TheFuture/BW Research retrofit analysis, July 2021

*Source: E4TheFuture/BW Research job analysis, July 2021

Presented by:

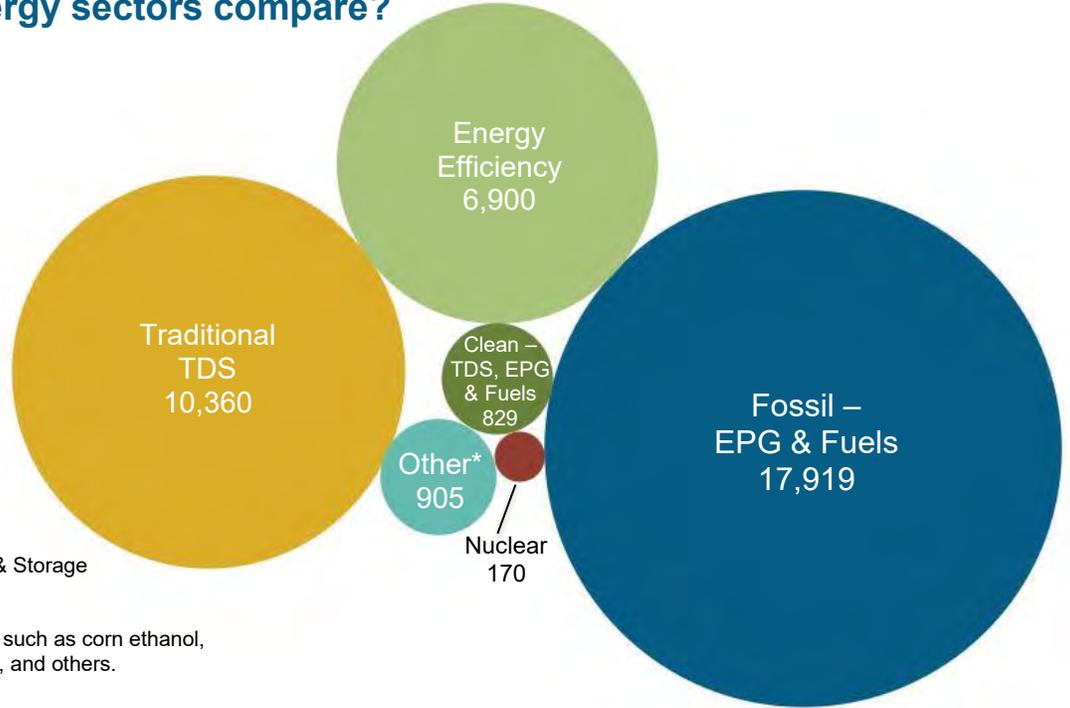


What are energy efficiency (EE) jobs?

Jobs that deliver goods and services that lower energy use by improving technologies, appliances, buildings, and energy systems.

How do Wyoming's energy sectors compare?

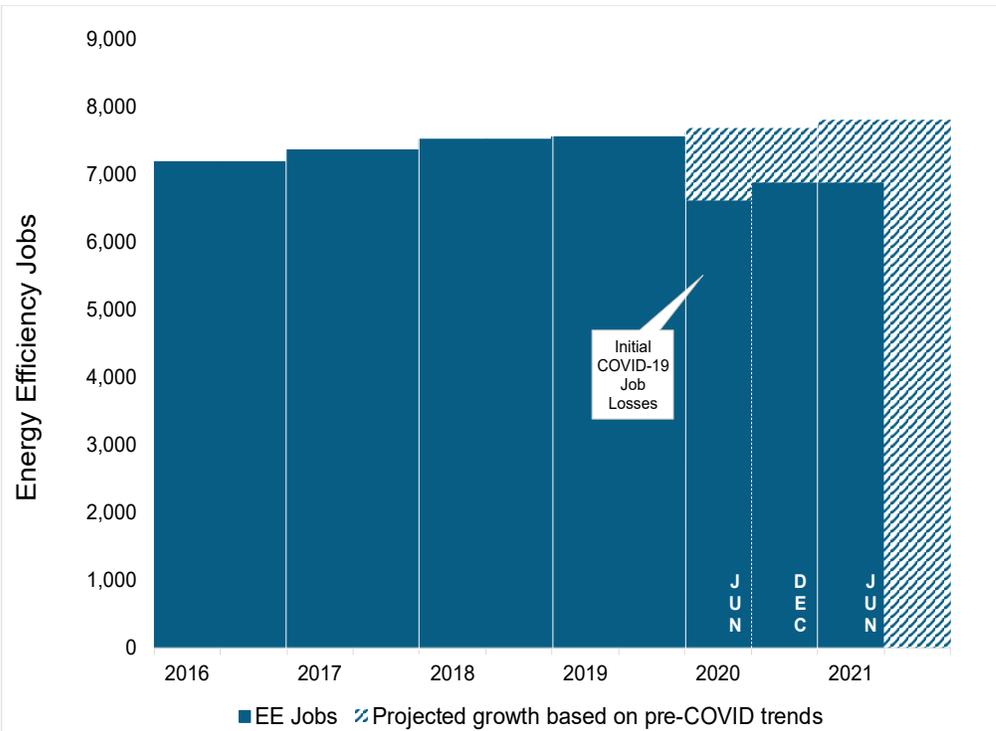
Energy Efficiency is the third largest energy sector in Wyoming.



TDS = Transmission, Distribution & Storage
EPG = Electric Power Generation

*Includes other energy subsectors such as corn ethanol, woody biomass, large hydropower, and others.

How is the EE industry recovering?



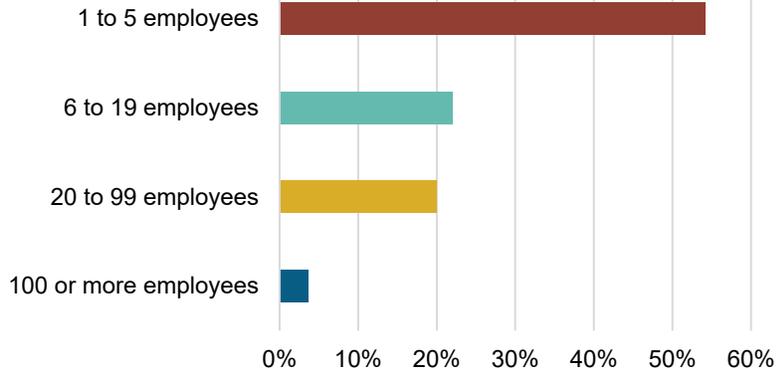
Recovery from COVID-19 has fallen short of Dec. 2019 levels and is significantly below pre-pandemic projections.



Source: E4TheFuture/BW Research job analysis, July 2021

What does EE look like in Wyoming?

96.2% of WY EE Businesses Have Less Than 100 Employees

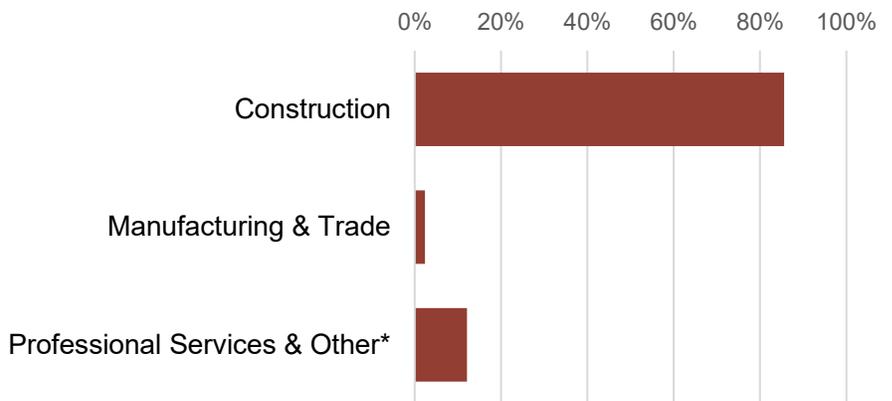


1,479
EE businesses in Wyoming

EE construction workers comprise **28%** of Wyoming construction workers

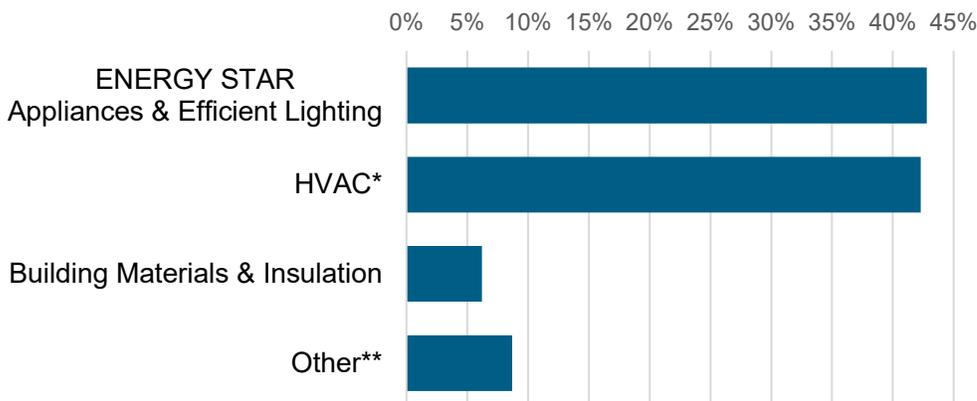


What type of work do energy efficiency firms do?



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

What energy efficiency sectors employ the most workers?



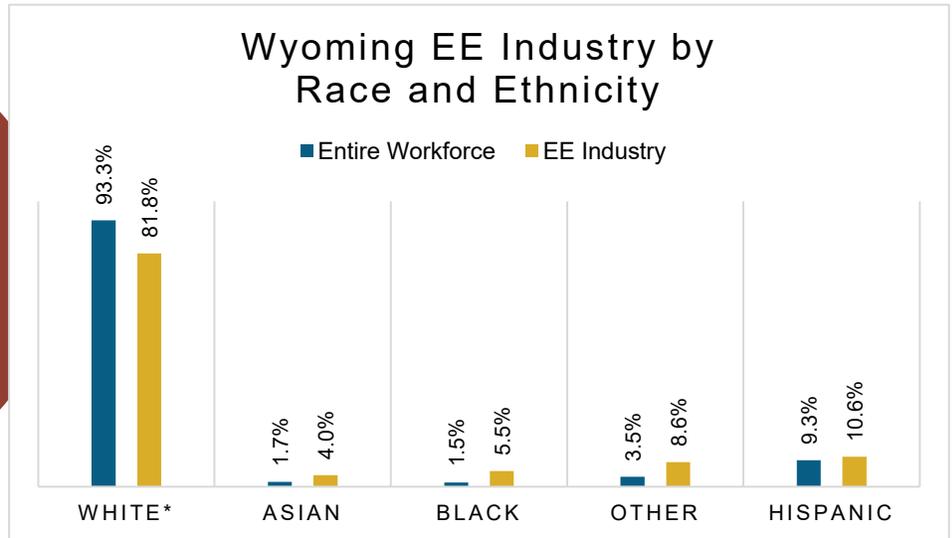
*Heating, Ventilation, Air Conditioning of higher than standard efficiency/renewable heating & cooling
**Other such as energy audits, building certifications, and software services

10% of Wyoming EE workers are **Veterans**

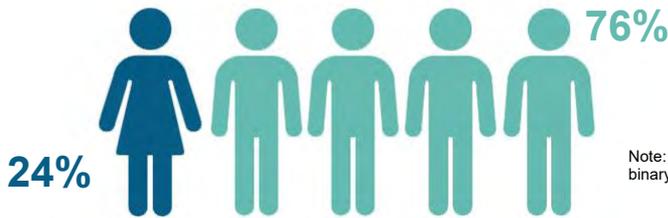
How is EE doing on diversity in Wyoming?

Demographic data is crucial for benchmarks and to measure progress in the energy efficiency (EE) industry. In striving for more diversity in EE jobs, we can create a stronger and more inclusive industry. Promoting diversity in hiring is key to maintaining a future workforce of talented professionals and ensuring all Wyoming communities are represented in the EE sector.

The EE industry needs to do more to prioritize minorities and women for training and support that enables access to employment at EE businesses.



*Includes non-Hispanic and Hispanic whites.



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

Wyoming's EE Potential

Decades of work, ready for Wyoming's growing energy efficiency workforce.

Weatherization Assistance Program:


389* units weatherized in 2018, out of **~24,000** total low-income households

195,706

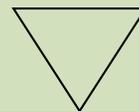
Wyoming homes are due for energy tune-ups



(Non low-income families whose residences are 20+ years old)

Potential to **reduce** residential electricity consumption by

26%



*National Association for State community Services Programs (NASCS) [Weatherization Assistance Program Annual Funding Survey](#)
 Source: E4TheFuture/BW Research retrofit analysis, July 2021, [U.S. Census Bureau QuickFacts](#) and [State and Local Planning for Energy \(SLOPE\) Platform](#)

Energy Efficiency Jobs by Location

| Congressional | | Metropolitan Areas | |
|---------------|-------|--------------------|-------|
| District | Jobs | Area | Jobs |
| 1 | 6,900 | Casper | 1,249 |
| | | Cheyenne | 1,101 |
| | | Rural | 4,551 |

| State Senate | | | | | |
|--------------|------|----------|------|----------|------|
| District | Jobs | District | Jobs | District | Jobs |
| 1 | 560 | 11 | 826 | 21 | 465 |
| 2 | 217 | 12 | 80 | 22 | 89 |
| 3 | 105 | 13 | <5 | 23 | 9 |
| 4 | 879 | 14 | 168 | 24 | <5 |
| 5 | 0 | 15 | 70 | 25 | 154 |
| 6 | 180 | 16 | 687 | 26 | 165 |
| 7 | <5 | 17 | 31 | 27 | 845 |
| 8 | <5 | 18 | 500 | 28 | <5 |
| 9 | 336 | 19 | 78 | 29 | 39 |
| 10 | 8 | 20 | 353 | 30 | 56 |

State House of Representatives

| District | Jobs | District | Jobs | District | Jobs | District | Jobs |
|----------|------|----------|------|----------|------|----------|------|
| 1 | 72 | 16 | 579 | 31 | <5 | 46 | <5 |
| 2 | 213 | 17 | 412 | 32 | 15 | 47 | 77 |
| 3 | 476 | 18 | 40 | 33 | 156 | 48 | <5 |
| 4 | 72 | 19 | 69 | 34 | <5 | 49 | <5 |
| 5 | <5 | 20 | 131 | 35 | 828 | 50 | 15 |
| 6 | 31 | 21 | 106 | 36 | <5 | 51 | 15 |
| 7 | 859 | 22 | 103 | 37 | 303 | 52 | 7 |
| 8 | <5 | 23 | 30 | 38 | 9 | 53 | 162 |
| 9 | <5 | 24 | 314 | 39 | <5 | 54 | <5 |
| 10 | 192 | 25 | 160 | 40 | 87 | 55 | <5 |
| 11 | <5 | 26 | 76 | 41 | 425 | 56 | <5 |
| 12 | <5 | 27 | 62 | 42 | <5 | 57 | <5 |
| 13 | 328 | 28 | 283 | 43 | <5 | 58 | 38 |
| 14 | 7 | 29 | <5 | 44 | <5 | 59 | <5 |
| 15 | 85 | 30 | 61 | 45 | <5 | 60 | <5 |



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