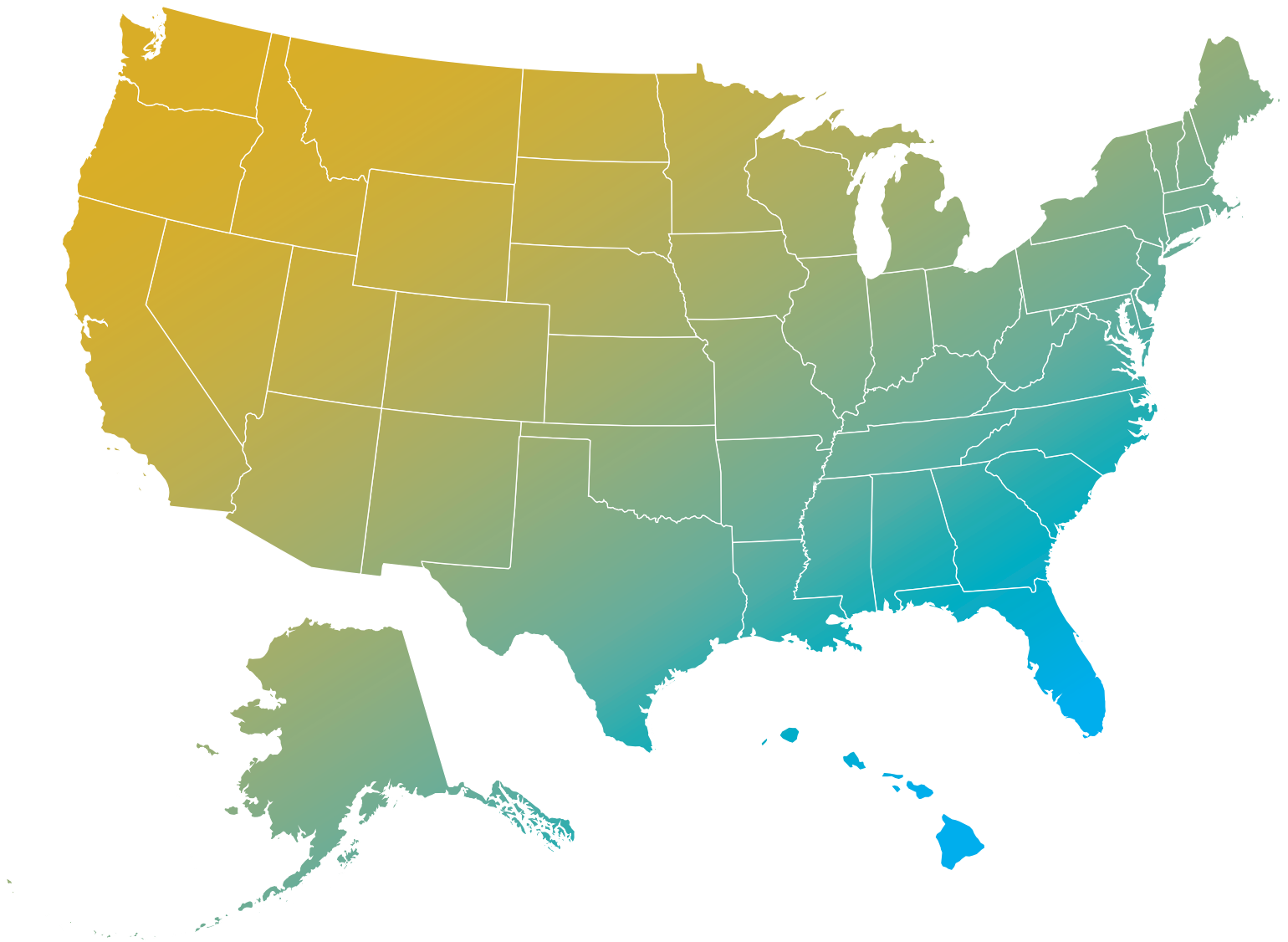


Energy Efficiency Jobs in America

NOVEMBER 2020



INTRODUCTION

Energy Efficiency (EE)—the largest U.S. energy sector—can repower America’s economy as we work to overcome the economic effects of the pandemic.

As lawmakers and policymakers seek to get America back to work after the COVID-19 health and economic crisis, every job matters. From 2015 to 2019, the energy efficiency sector became one of the biggest, fastest-growing, and most beneficial sectors for both our economy and our environment.

This report details the size of this important employment sector, the troubles it is facing due to COVID-19, and how focusing recovery policies on efficiency can help boost America’s economy—quickly and for the long run.

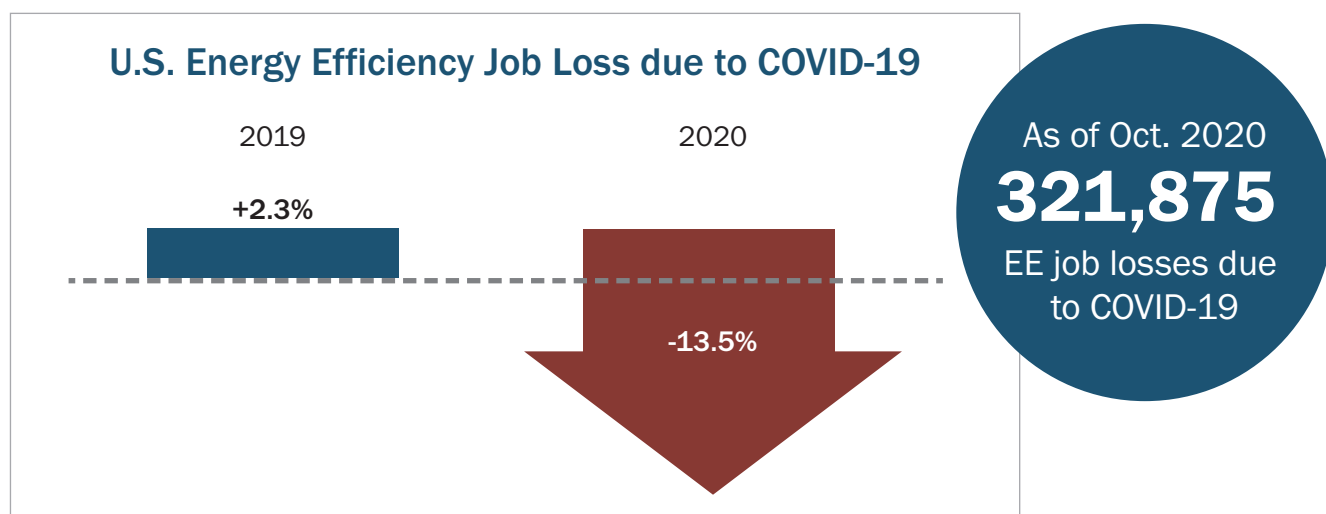
History shows that energy efficiency is a proven job growth catalyst in the aftermath of economic meltdown. After the 2009 financial collapse, Recovery Act investments led to the weatherization

of more than 1 million homes, expanding efficiency work across the country. Electricians, HVAC technicians and other construction workers—as well as manufacturers of building supplies and ENERGY STAR® appliances—quickly returned to work. Consumers and businesses saved billions of dollars, our environment benefitted, and our nation became more energy secure.

Now with the right stimulus policies, we can do it again, but better. Key experience was gained and strategies evolved over the past decade when the industry grew into one of America’s largest employment sectors. Among the many benefits of focusing federal and state economic recovery efforts on efficiency is that we can preserve and create new jobs in every state, in rural and urban areas, and across a wide variety of occupations.

National impacts of COVID-19 on Energy Efficiency Jobs

State of the industry (current unemployment numbers¹)



¹ Source: *Clean Energy Employment Initial Impacts from the COVID-19 Economic Crisis*, March 2020–October 2020.
<https://www.bwresearch.com/covid/>.

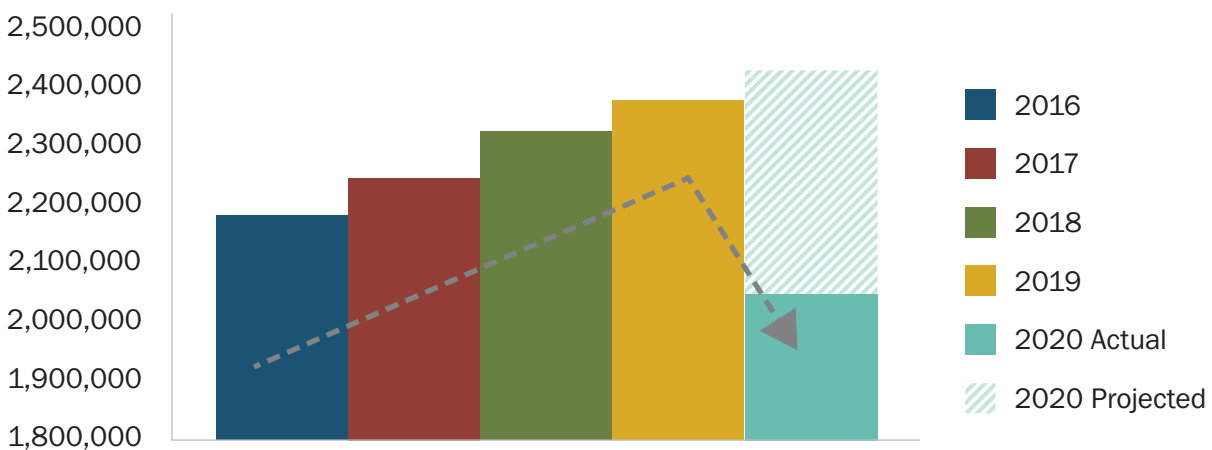


Energy efficiency has historically been a job-creation powerhouse, growing two times faster than overall nationwide employment since 2017 to reach nearly 2.4 million workers at the end of 2019. The industry was projected to add another 3% (~71,000 jobs)² to the economy in 2020. But when COVID-19 struck

last spring, efficiency lost ~345,000 workers along with the expected employment growth.

Overall, the total COVID-related impact to date is nearly 393,000 EE jobs—erasing over five years of job growth.

U.S. Energy Efficiency Jobs: History



² Source: 2019 U.S. Energy and Employment Report (USEER). <https://www.usenergyjobs.org/previous-reports>.

THE CASE FOR ENERGY EFFICIENCY AS A STIMULUS INVESTMENT³

Energy efficiency is a proven catalyst for broad economic recovery that can create solid careers in every state and county for years to come. A model of a robust stimulus package for retrofits of existing buildings illustrates how such a stimulus would create jobs, save money, reduce energy dependence and spur economic growth, all while reducing pollution and climate emissions.

**\$61 billion in federal stimulus would leverage
\$149.2 billion in private investment to create:**



Jobs for **700,000+** EE workers **every year** for five years



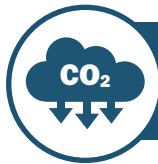
\$30+ billion in energy bill savings annually



Achieving **25%** of all possible energy savings from existing buildings



Annual energy savings comparable to energy used in **51 million homes**⁴



Carbon dioxide emissions reduced by **96 million metric tons** annually



GDP increased by **\$51.3 billion** annually



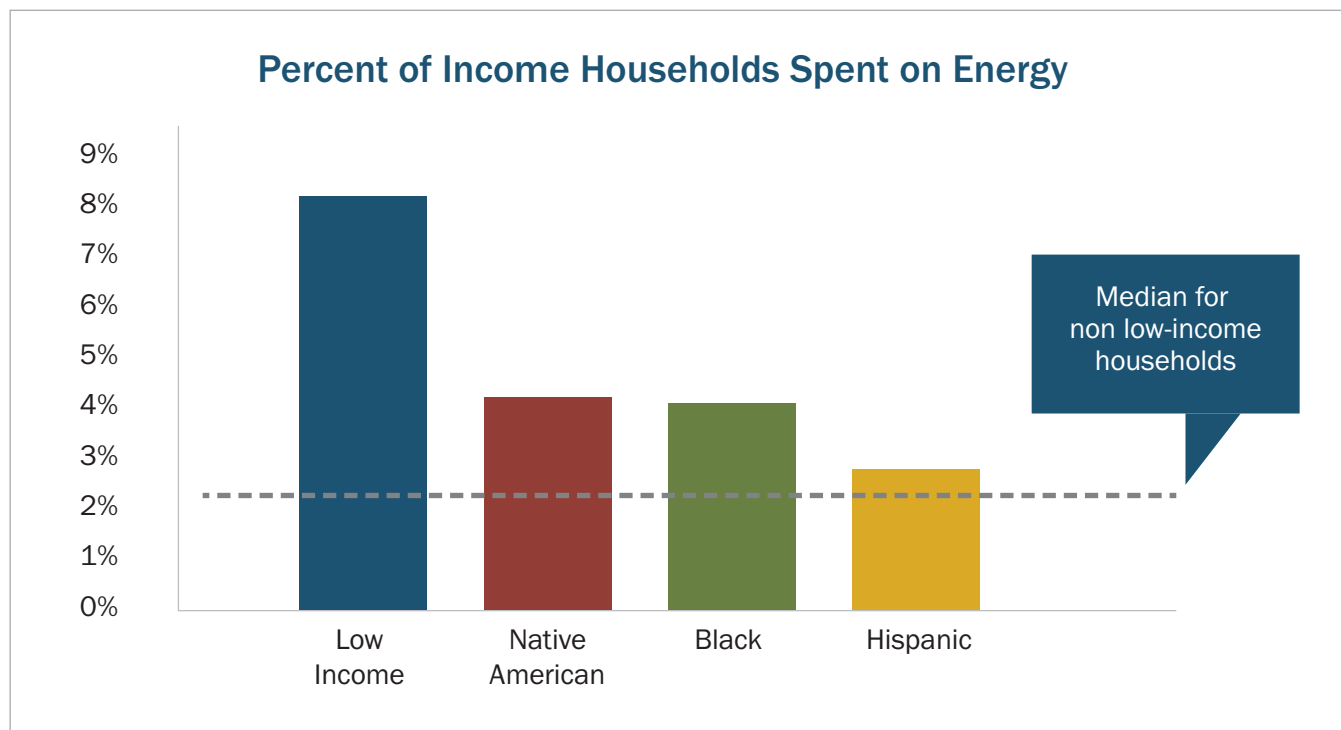
1.9 quadrillion BTUs of **energy saved** annually

³ Unless otherwise noted all figures are derived from E4TheFuture's *Build Back Better, Faster* report or ACEEE's *Halfway There: Energy Efficiency Can Cut Energy Use and Greenhouse Gas Emissions in Half by 2050*

ENERGY COSTS; EQUITY CHALLENGES

Across the country low income households and households of color consistently spend a greater portion of their income on energy.

As of 2015, one in three U.S. households faced challenges paying their utility bills and keeping the lights on.⁴ With the economic effects of the pandemic, more households will risk disconnection by utility providers.



Press Release: Electric and Gas Residential Arrearages are Growing Rapidly

October 1, 2020

Residential arrearages projected to grow from \$9.8 billion as of July 31 to \$24.3 billion by year end.

Millions of Americans are falling behind on their home energy bills as a result of job losses due to the pandemic. Utilities across the nation are reporting significant increases in the number of households in debt. While the data are still being reported, the pattern is clear – the average amount owed to utilities is increasing and as summer cooling bills are reported and the winter heating season begins, the amount in arrears is expected to grow significantly.

<https://neada.org/covidarrearspr>

Efficiency and weatherization can reduce energy costs by

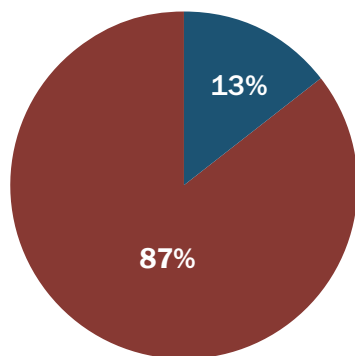
25%.⁵

⁴Source: U.S. Energy Information Administration. <https://www.eia.gov/consumption/residential/data/2015/hc/php/hc11.1.php>

⁵Source: American Council for an Energy Efficiency Economy. <https://www.aceee.org/sites/default/files/pdfs/u2006.pdf>

WORKFORCE DEVELOPMENT AND JOB QUALITY

EE Workers by Age



Over 55 Under 55

Workforce development is vital to future economic health. The energy efficiency industry grew 1.7 times as fast as the national workforce 2016-2019; 13% of current efficiency professionals are 55 and older (source: USEER). High growth and retirements provide ideal conditions for workforce development, particularly with programs designed to promote greater racial and gender diversity.

Energy efficiency jobs are a great option for those previously employed by contracting energy sectors and those in industries struggling to rebound from the COVID-19 pandemic. These are high quality jobs offering above average wages and, in many cases, benefits for young people and mid-career individuals entering the workforce.



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

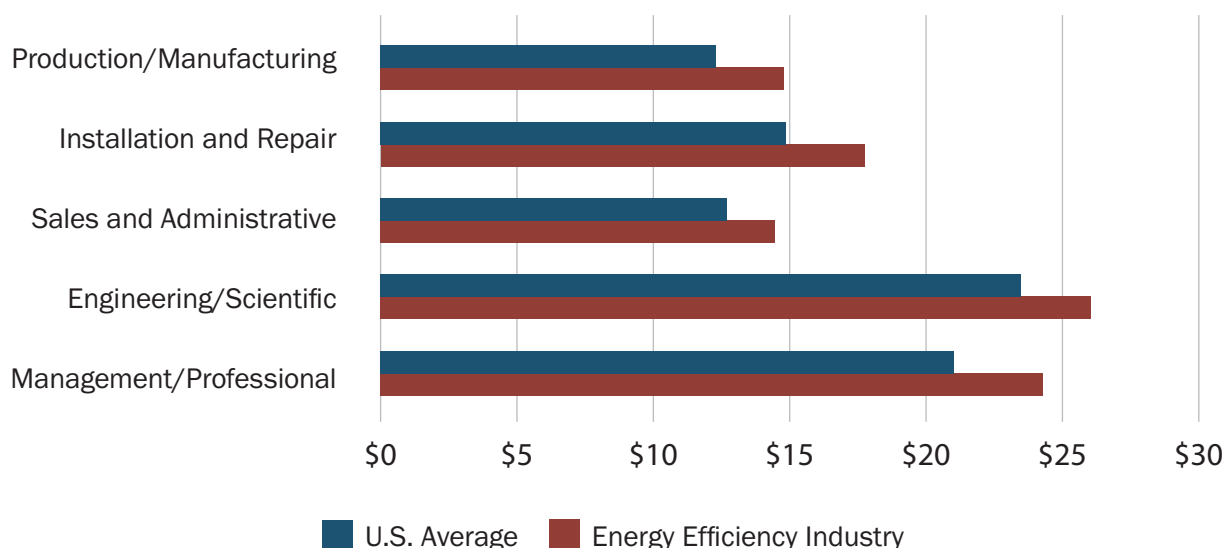


More than 80% of EE employers contribute to health insurance.

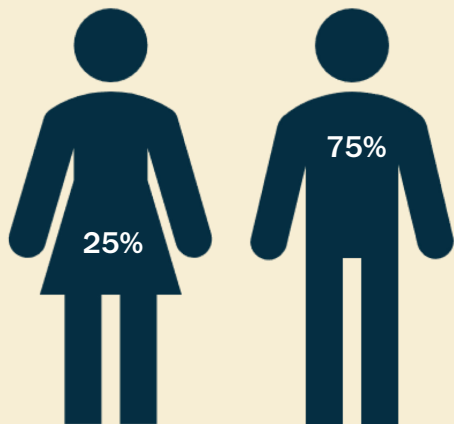


More than 78% of EE employers contribute to retirement accounts.

Entry Level Wages by Sector: EE Jobs vs. National Average



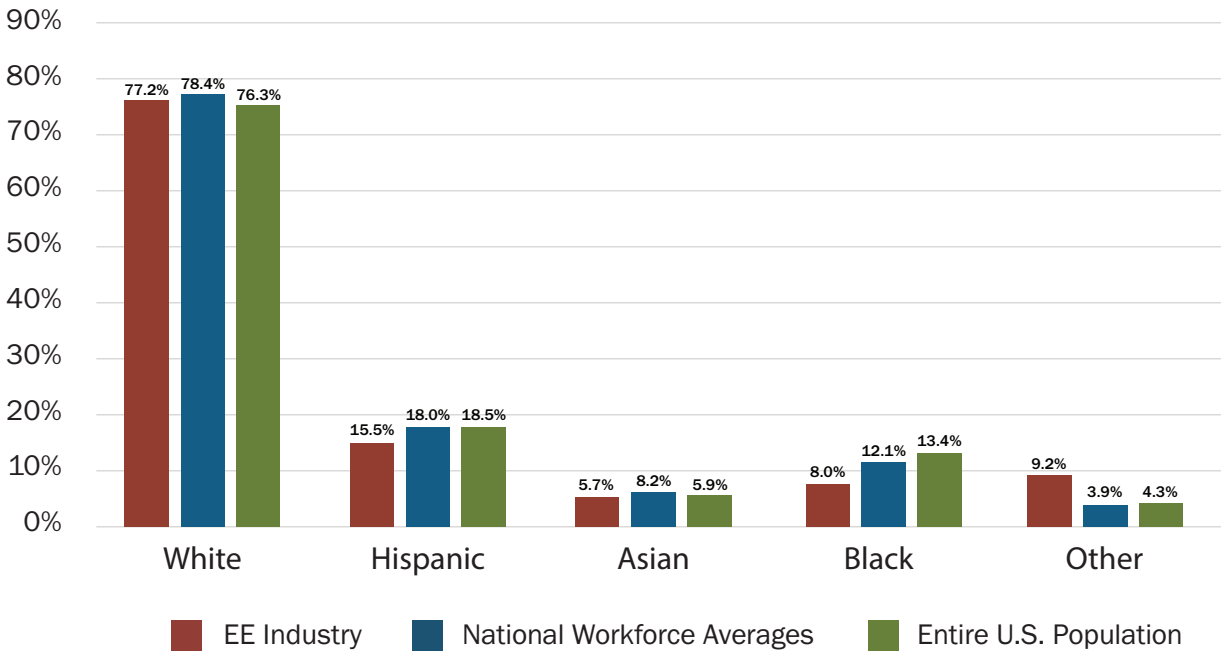
DEMOGRAPHICS



Demographic data is crucial for measuring progress in the energy efficiency industry. By increasing diversity in the efficiency sector, we can create 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 represented in the efficiency sector.

Note: The U.S. Bureau of Labor Statistics (BLS) includes only two genders in their survey, excluding other gender identities.

National EE Industry by Race and Ethnicity



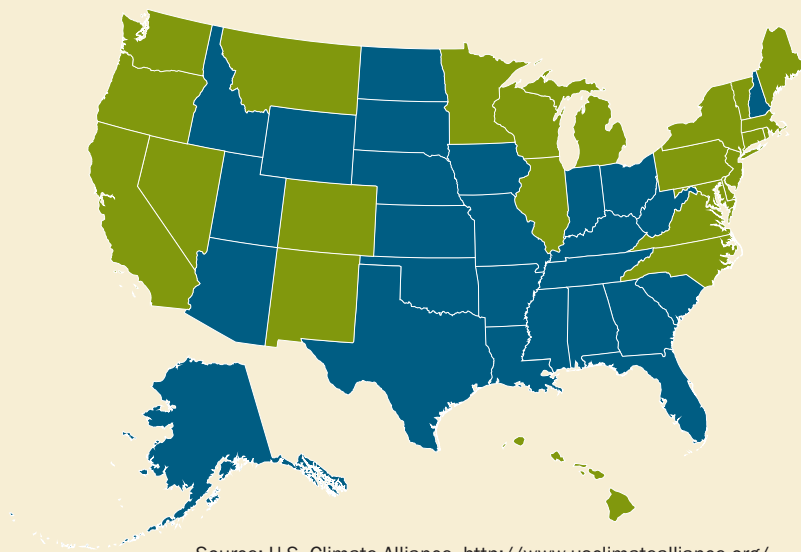
CLIMATE BENEFITS OF ENERGY EFFICIENCY⁶

Efficiency is the most cost-effective solution to reduce emissions in the power sector.

Efficiency can account for nearly half of emissions reductions needed.

Efficiency is poised to help states and utilities meet ambitious climate goals.

Energy efficiency reduces emissions regardless of geography or regional resource mix. Efficiency enables all states, municipalities, and utilities to be part of the climate solution.



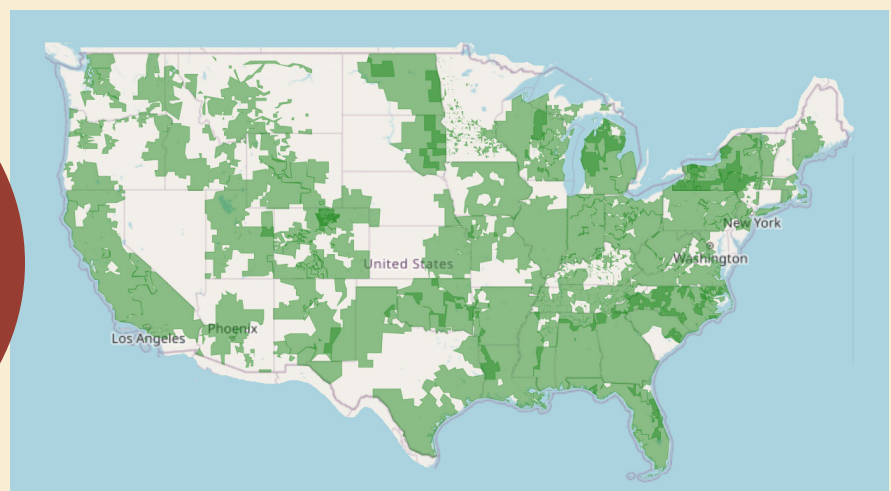
Source: U.S. Climate Alliance. <http://www.usclimatealliance.org/>

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Governors have pledged to meet emissions goals established by the Paris Agreement.

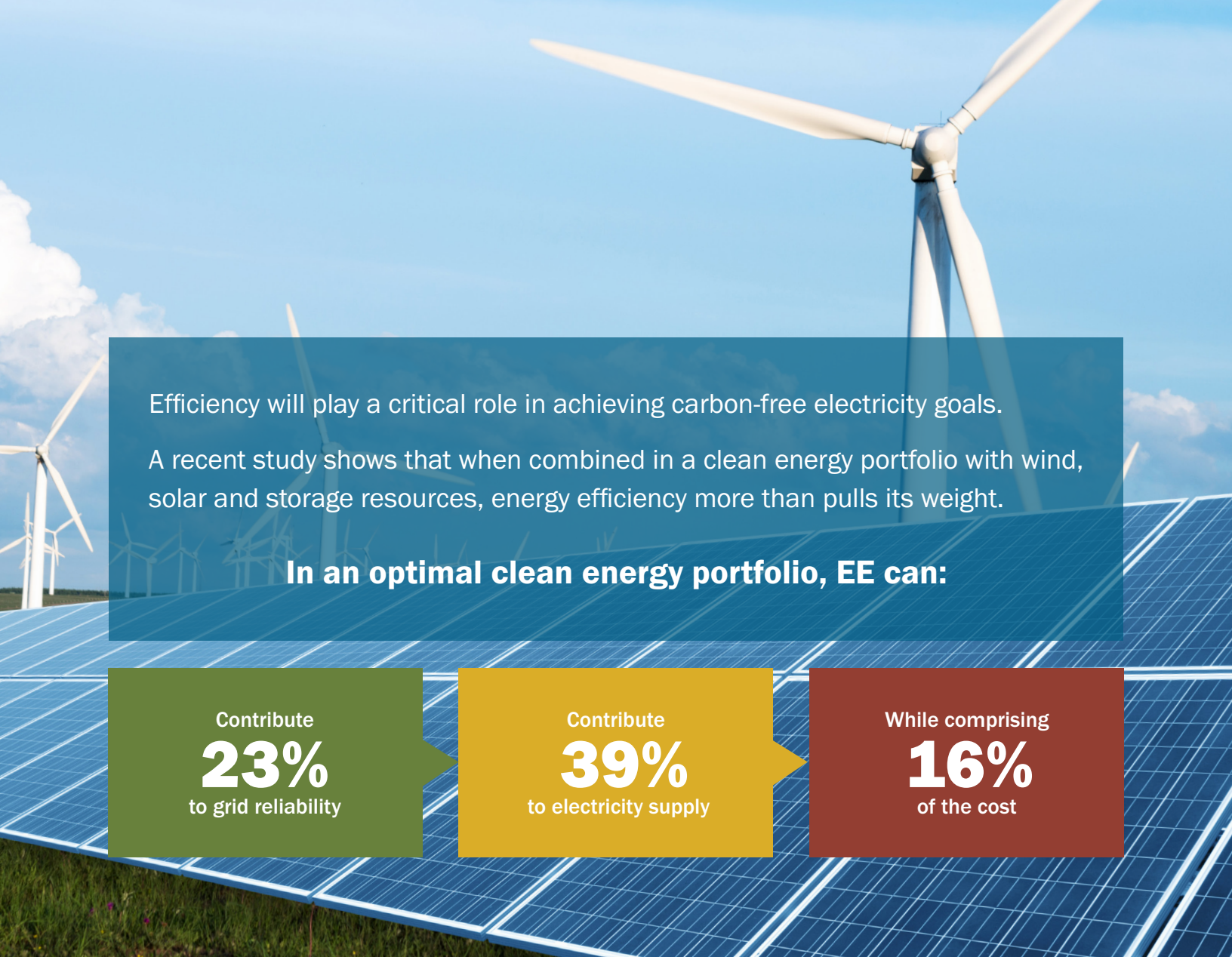
68%

of customers are served by a utility with a carbon or emissions reduction goal.



Source: Smart Electric Power Alliance. <https://sepapower.org/utility-transformation-challenge/utility-carbon-reduction-tracker/>

⁶ Sources: American Council for an Energy-Efficient Economy <https://www.aceee.org/blog/2018/12/renewables-are-getting-cheaper-energy>; U.S. Energy Information Administration <https://www.iea.org/reports/energy-efficiency-2018>.



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.

In an optimal clean energy portfolio, EE can:

Contribute
23%
to grid reliability

Contribute
39%
to electricity supply

While comprising
16%
of the cost

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 nearly 325k U.S. jobs.
- These products are installed and maintained by trained professionals in your community.

⁷ Analysis by E4TheFuture based on data provided, <https://rmi.org/a-bridge-backward-the-risky-economics-of-new-natural-gas-infrastructure-in-the-united-states/>

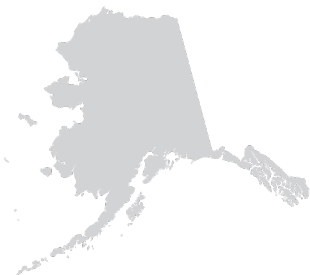
REACTIONS FROM THE FRONTLINES

Despite historical growth in the energy efficiency industry, the COVID-19 pandemic has posed setbacks for businesses and efficiency professionals across the country. Examples of how the crisis has impacted professionals who represent the Faces of EE:⁸



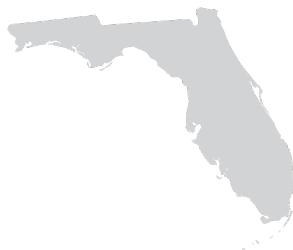
Griffin Hagle
*Tagiugmiullu
Nunamiullu Housing
Authority
Utqiagvik, AK*

"We have experienced travel restrictions that keep our staff from moving freely to the outlying villages of our region, delays in meeting grant project deadlines, vendor and supply chain delays and shortages, and a complete realignment of our budget priorities. We closed our office to the public and will keep it closed through at least December."



Derrick Blue
*Tampa Hillsborough
Action Plan
Tampa, FL*

"For a while we were unable to provide services. We recognized that there was a need to build capacity around technology and understanding CDC/ OSHA guidelines. Now, we have contractors who are trained and prepared to work safe and continue to make weatherization work in Florida."



Elena Chrimat
*Ideal Energy
Phoenix, AZ*

"We had an extraordinarily busy summer this year due to it being so hot in Phoenix. Now with the temperatures declining, new lead call volume is substantially down. Luckily, the summer was so busy for us, we are booked out with construction through mid-December."



James Correia
*CT WAP Technical
Consultant
Old Mystic, CT*

"The pandemic shut down WAP service delivery for over 120 days and resulted in hundreds of delayed home service deliveries. Unemployment has increased dependency on LIHEAP energy assistance and weatherization services. The known training resource deficiency has become even more apparent."



⁸ <https://e4thefuture.org/how-we-help/faces-of-ee/>

POLICY LEADERSHIP

Energy efficiency addresses the public health and economic challenges of the COVID-19 pandemic, while tackling climate change and saving money.

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

Continue funding for federal energy efficiency programs with a proven track record.

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

Support initiatives that incentivize existing building owners to make smart indoor air quality and energy efficiency upgrades to their properties.

- Commercial and residential building tax credits
- Residential energy efficiency rebate programs to drive job creation for local contractors
- Programs to encourage greater efficiency and sustainability in the U.S. housing supply
- Programs focused on resilience, energy efficiency, and air quality in public buildings

Support programs that move the country forward on indoor air quality and energy efficiency.

- Strengthen building and appliance efficiency standards with training and enforcement
- Direct the Federal Emergency Management Agency (FEMA) to ensure rebuilding projects after natural disasters meet the most current international building codes
- Fund energy audits, technical assistance, and financing options for large manufacturers

Advance equity, diversity, and inclusion in federal energy efficiency programs.

- Strengthen workforce development and apprenticeship programs for the energy efficiency sector while prioritizing equity, diversity, and inclusion
- 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

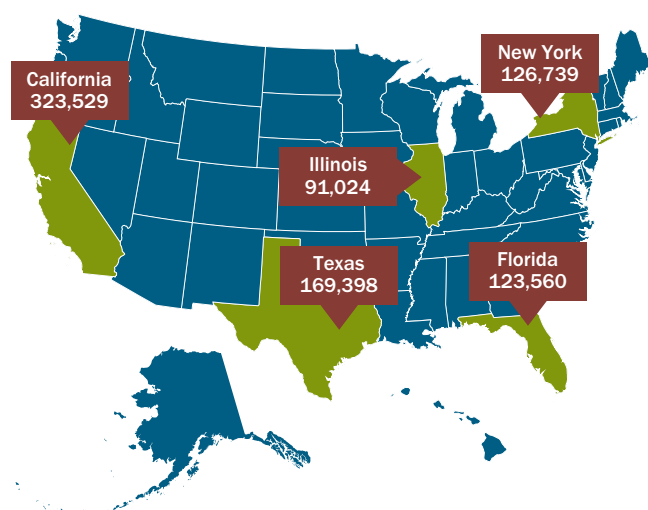
State and local leaders can keep energy efficiency jobs growing by:

- | | |
|--|---|
| • Adopting efficiency and indoor air quality standards for new construction and existing buildings | assessed clean energy (PACE) programs |
| • Adopting energy benchmarking and reporting requirements for existing buildings | • Modernizing regulation to align utilities' incentives with energy efficiency investments and assure transparent and comprehensive cost-effectiveness evaluation |
| • Incorporating broader use of performance contracting in public buildings | • Investing in related infrastructure to enable interval data analytics and efficiency building upgrades to boost resilience |
| • Advancing commercial and residential property | |

TOP STATES

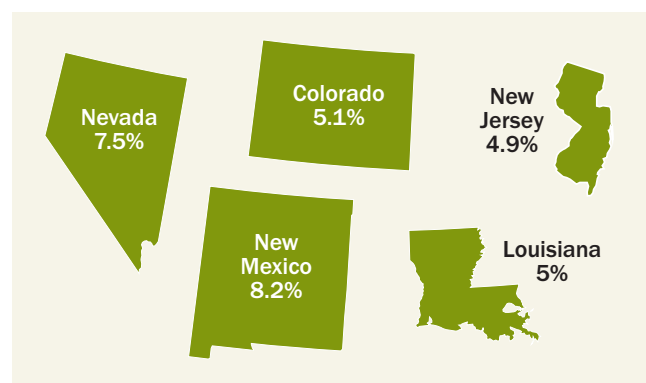
States continued their strong employment trajectories for energy efficiency until the pandemic struck. In 2019, California led energy-efficiency employment with 323,529 jobs (up from 318,500), followed by Texas with 169,398 (up from 162,800), New York with 126,739 (up from 123,300), Florida with 123,560 (up from 118,400), and Illinois with 91,024 (up from 89,400).

Overall Jobs



Top Growth

The number of efficiency jobs grew fastest in New Mexico, Nevada, Colorado, Louisiana, and New Jersey from 2018 to 2019.



ABOUT THE REPORT

The 2019 job numbers come from the national 2020 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. In addition, the 2020 USEER relies on a unique supplemental survey of 25,000 business representatives across the U.S. Created and conducted by BW Research and approved by the Office of Management and Budget and U.S. Department of Energy (DOE), 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 2020 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.

For questions regarding this report, visit the *Energy Efficiency Jobs in America* FAQ at: www.e2.org/reports/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 others who advocate for smart policies that are good for the environment and good for the economy. 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.