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Environmental and
Energy Study Institute

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**2024 EERE Investment
Snapshot Report Overview:
Clean Energy Developments
Yield Major Benefits**

Tuesday, December 17, 2024

About EESI



Non-partisan Educational Resources for Policymakers

A bipartisan Congressional caucus founded EESI in 1984 to provide non-partisan information on environmental, energy, and climate policies



Direct Assistance for Equitable and Inclusive Financing Program

In addition to a full portfolio of federal policy work, EESI provides direct assistance to utilities to develop “on-bill financing” programs



Commitment to Diversity, Equity, Inclusion, and Justice

We recognize that systemic barriers impede fair environmental, energy, and climate policies and limit the full participation of Black, Indigenous, people of color, and legacy and frontline communities in decision-making



Sustainable Solutions

Our mission is to advance science-based solutions for climate change, energy, and environmental challenges in order to achieve our vision of a sustainable, resilient, and equitable world.

Polycymaker Education

Briefings and Webcasts



Live, in-person and online public briefings, archived webcasts, and written summaries

Climate Change Solutions



Bi-weekly newsletter with everything policymakers and concerned citizens need to know, including a legislation and hearings tracker

Fact Sheets and Issue Briefs



Timely, objective coverage of environmental, clean energy, and climate change topics

Social Media (@EESIOnline)



Active engagement on Twitter, Facebook, LinkedIn, and YouTube





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Tuesday, December 17, 2024



2024 EERE INVESTMENT SNAPSHOT:

Advancing Energy Innovation
Across America

December 2024

Agenda

- *2024 EERE Investment Snapshot*
- Sharing the Benefits of EERE's Energy Future
- EERE's Energy Impact is Tangible
- Creating Jobs
- Accelerating Investment and Economic Growth
- Rebuilding U.S. Industry and Competitiveness

- Lowering Energy Costs for Households and Businesses
- Creating Healthier Communities
- Protecting Our Communities from Natural and Man-Made Disasters
- Building an Independent Energy System that is Reliable, Resilient, and Secure
- Key Takeaways
- Learn More and Stay in Touch

EERE Guiding Principles

The U.S. Department of Energy's (DOE's) Office of Energy Efficiency and Renewable Energy (EERE) drives U.S. leadership in the research, development, validation, and effective utilization of energy technologies and processes, ensuring an energy system that is **affordable, reliable, resilient, secure, and clean.**

EERE Research Covers Five Sectors of the Economy



Electricity



Transportation



Buildings



Industry



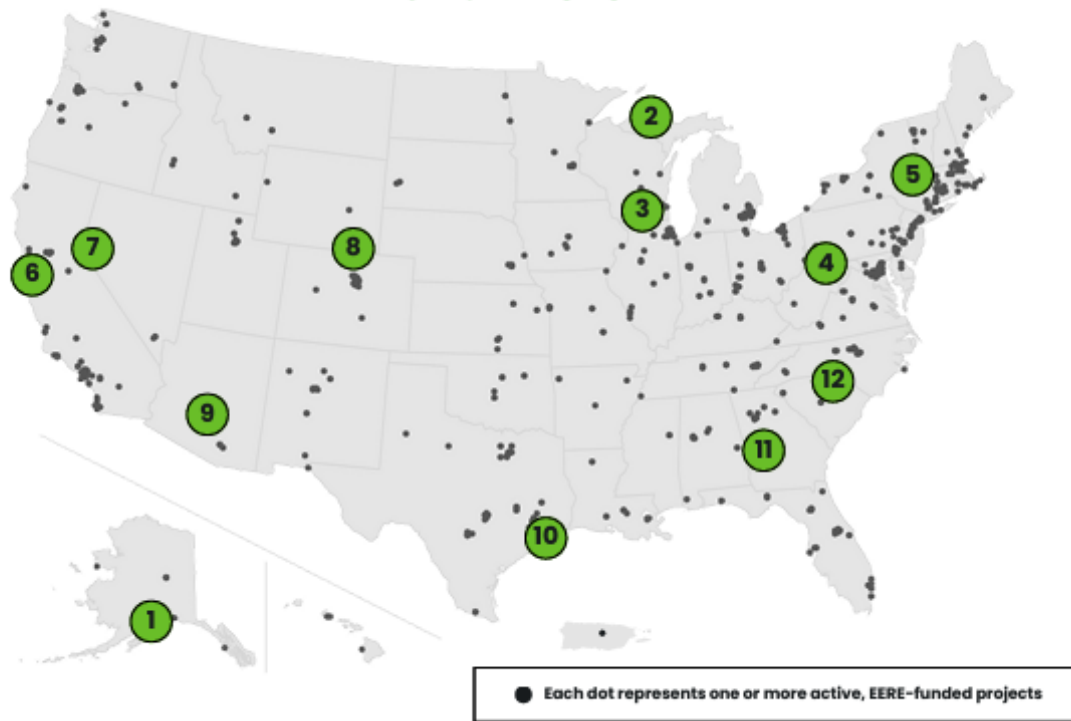
Agriculture

2024 EERE Investment Snapshot

- The *2024 EERE Investment Snapshot* provides a high-level summary of EERE's key achievements and progress **driving forward energy innovation and delivering the benefits of energy innovation** to communities, companies, and industries across the country.
- The Snapshot shows **sustained investment in EERE is necessary to yield measurable and demonstrable benefits for the American people.**

Sharing the Benefits of EERE's Energy Future

EERE's Active Awards across the United States
12 Key Projects Highlighted



A map of EERE's almost 2,000 active awards across the country, with 12 projects highlighted.

EERE's technical and financial assistance programs have:



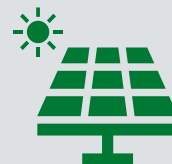
Helped place more than **1.6 million alternative fuel vehicles on the road** (saving 14 billion gallons of gasoline and reducing greenhouse gas (GHG) emissions by 72 million tons).



Made **thousands of buildings more energy efficient** (averting 155 million tons of GHG emissions and saving more than \$15 billion in energy costs),



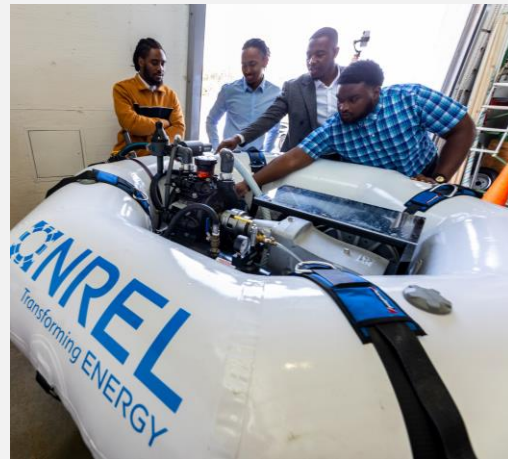
Through LEEP program, have **helped establish 154 new businesses that created 2,343 jobs and \$2.73 billion** in follow-on funding,



Helped deliver an estimated **\$187.4 million** in annual utility bill savings through the expansion of community solar.

EERE's Energy Impact is Tangible

The impact of EERE's work is tangible, measurable, and benefits millions of Americans in communities in every pocket of the country.



1. Creating Jobs
2. Accelerating Investment and Economic Growth
3. Rebuilding U.S. Industry and Competitiveness
4. Lowering Energy Costs for Households and Businesses
5. Creating Healthier Communities
6. Protecting Our Communities from Natural and Man-Made Disasters
7. Building an Independent Energy System that is Reliable, Resilient, and Secure

Creating Jobs

In 2023, clean energy jobs grew more than **double the rate** (4.9%) of job growth in the rest of the economy (2.0%).

The number of well-paying energy jobs is estimated to increase.

3.5 million

Americans work in clean energy jobs

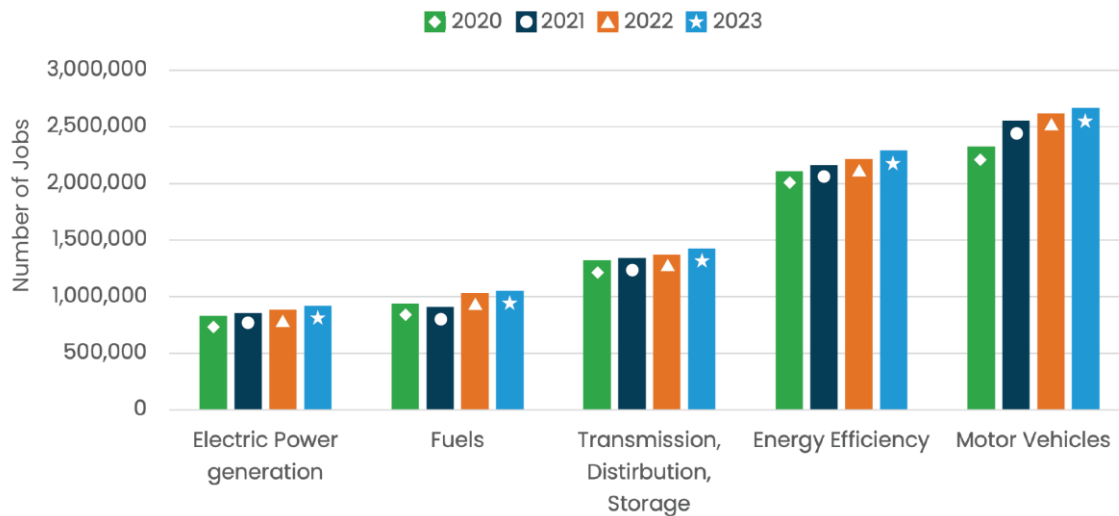
142,000

clean energy jobs added in 2023

Jobs related to clean energy generation now employ **3x more workers**

than those associated with fossil fuel generation.

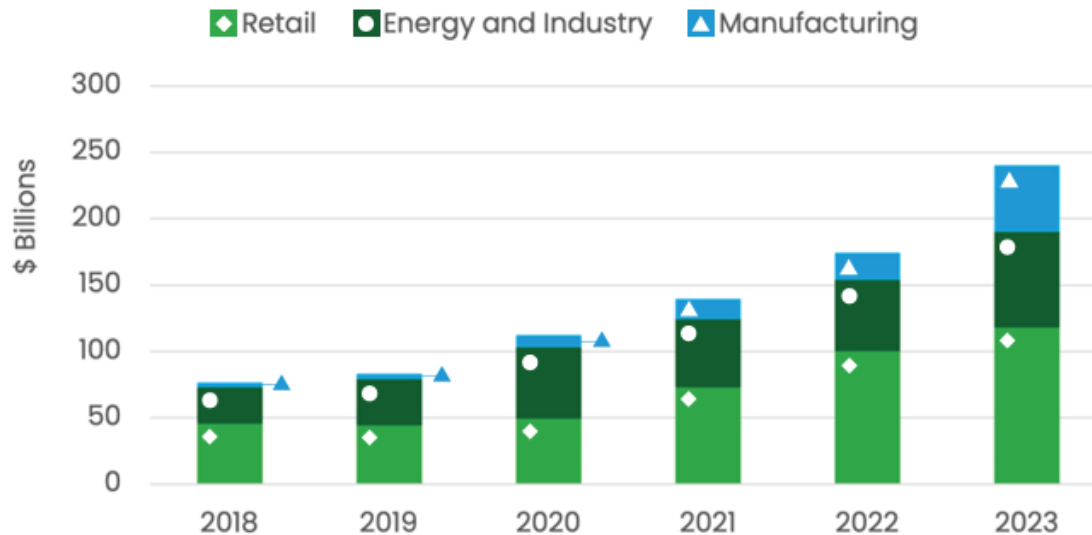
U.S. Energy Sector Jobs, 2020–2023



Accelerating Investment and Economic Growth

Investment in the manufacturing and deployment of a range of energy innovation—many of which were seeded or supported by Federal funding—has skyrocketed from \$78 billion in 2018 to **over \$240 billion in 2023**.

U.S. Investment in Select Energy Innovations, 2018–2023



Source: Rhodium Group-MIT/CEEPR Clean Investment Monitor

The global market for clean energy, emissions-reducing, and energy-efficient technologies and industrial processes is projected to be worth at least

\$23 trillion by 2030

Venture capital (VC) firms invested over **\$140 billion** in climate tech companies between 2021 and 2023, more than **15 times larger** than the \$8 billion they invested between 2013 and 2015.

Over **200 organizations**, including 3M, Kohls, and Target, have partnered with the U.S. Department of Energy to reduce portfolio-wide greenhouse gas (GHG) emission (scope 1 & 2) by at least **50% within 10 years**.

Rebuilding U.S. Industry and Competitiveness



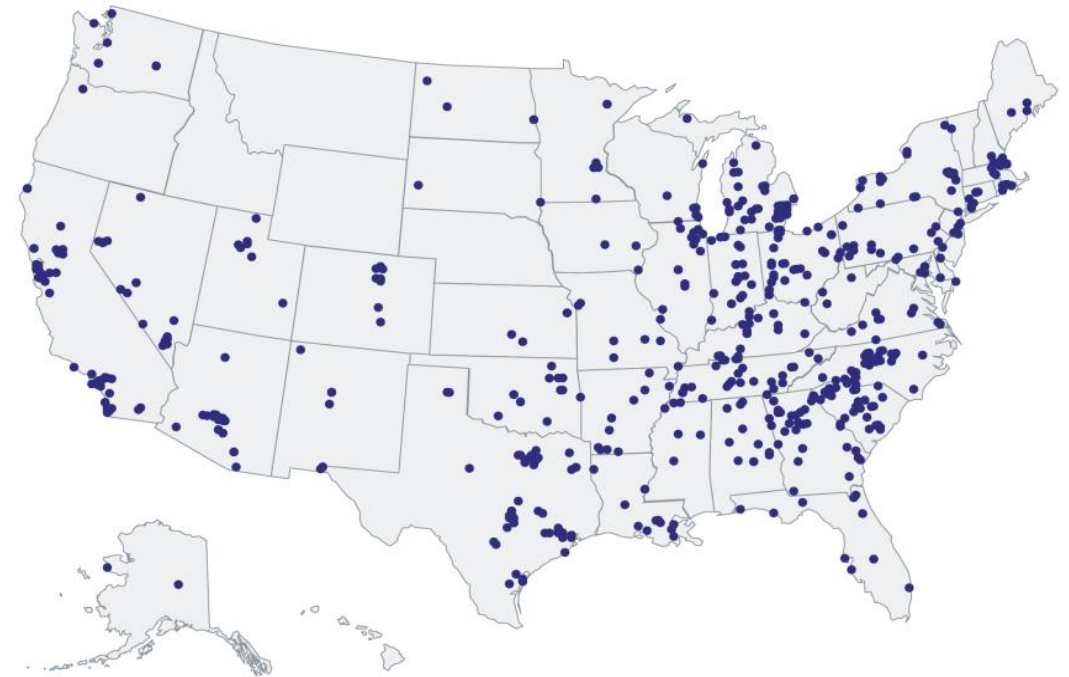
EERE is helping position the United States as the leader in the growing global market for **low-emissions alternatives** to traditional products.

- EERE-funded patents have had a significant influence on later patents owned by major companies such as General Motors, General Electric, Novozymes, and Caterpillar.

The market for low-carbon “green” steel could grow from 15 million metric tons (MT) in 2021 to more than **200 million MT** by 2030.



Map of **announced manufacturing investments** in select energy technologies since the passage of IRA and IIJA in 2021:



Source: Department of Energy

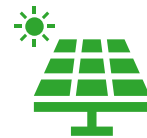
Lowering Energy Costs for Households and Businesses

Energy consumption in the United States would be around 60% higher today without the **energy efficiency technologies and improvements** adopted since 1980.

- Since 1980, energy efficiency technologies and improvements have **saved Americans around \$800 billion in energy costs**

Energy efficiency technology has reduced energy consumption per household by almost **20%** since 2005.

Energy innovations are playing a significant role in lowering Americans' energy costs:



The median U.S. homeowner will **save almost \$50,000** over 25 years after installing solar panels.



The average battery electric vehicle owner will **save more than \$2,000** on fuel costs each year.



EV owners can expect to **save \$6,000** on maintenance and repairs over their vehicle's lifetime.

Creating Healthier Communities



Reducing the use of fossil-fuel energy, or replacing it entirely with clean energy, will improve health outcomes and save Americans up to **\$77 billion per year** in total health impacts.



Each year, an estimated **300,000 Americans** die from the effects of air pollution produced by burning fossil fuels.



More than half of the most emissions-intensive industrial facilities in the United States, such as cement, steel, and chemicals manufacturing, are located close to **low-income and disadvantaged communities**.





Protecting Our Communities from Natural and Man-Made Disasters

Energy innovations help reliably meet demand for electricity and ensure critical infrastructure remains secure against attacks against our grid, supply chains, and other critical infrastructure:

- Modernized grids can incorporate small-scale electricity generation and storage devices, known as **distributed energy resources (DERs)**, to become more resilient to extreme swings in energy use and prevent natural or human-caused outages.
- Electric Vehicles can be used to provide power to buildings in an emergency.

Energy innovations can help communities adapt and be more resilient to the effects of extreme weather:

- In **Puerto Rico**, the Federally Qualified Health Centers that used solar power remained open during an island-wide power outage in April 2022.
- In **Atlanta, Georgia**, a study found that a single-family home built to high energy-efficiency standards would remain habitable for five times longer than a typical home during a seven-day cold event.

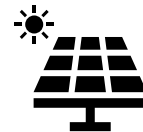
Building an Independent Energy System that is Reliable, Resilient, and Secure

Energy innovations will also make the U.S. more **energy independent** and improve **national security**:

Clean energy for our homes, businesses, and transportation system can be sourced and produced right here in the United States, protecting our energy system from disruptions caused by international conflicts and hostile entities.



Since 2021, investments of over **\$120 billion** in the domestic battery manufacturing supply chain have laid the groundwork for **90,000 new U.S. jobs** and will enable the domestic production of **10 million** electric vehicles (EVs) per year.



For four decades, EERE has funded initiatives to develop cadmium telluride (CdTe) photovoltaic (PV) systems, which have a lower cost and a shorter, more secure supply chain than silicon-based PV. Today, around 20% of PV modules deployed in utility-scale systems are made of CdTe.

Key Takeaways

Read the *2024 EERE Investment Snapshot: Advancing Energy Innovation Across America* for more: bit.ly_eere-invest-2024



Sustained investment in EERE is necessary to yield energy innovation's meaningful and far-reaching benefits to the American people and to position America to seize a **leading role in the growing global market for new energy technology.**



EERE is funding **groundbreaking energy innovations**: almost **1,000** U.S. patents resulting directly from EERE funding.



EERE's technical assistance and funding programs have helped **154 entrepreneurs** start energy innovation-focused companies, raising **\$2.73 billion in capital** and creating **2,343 jobs.**



Energy efficiency, including technologies and improvements supported by EERE, has **saved Americans around \$800 billion** in energy costs since 1980.



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