

The Office of Energy Efficiency and Renewable Energy (EERE) at the U.S. Department of Energy (DOE) is a catalyst for U.S. world leadership in transformative energy technologies and a strong contributor to American energy independence, global competitiveness, and domestic job growth. EERE invests in critical early-stage research and development (R&D), and in partnership with industry and academia, leverages America's premier scientists and national laboratories to develop and facilitate the adoption of cutting-edge technology solutions for efficient buildings, advanced manufacturing, sustainable transportation, and renewable energy.

### Economic Highlights and Major Accomplishments

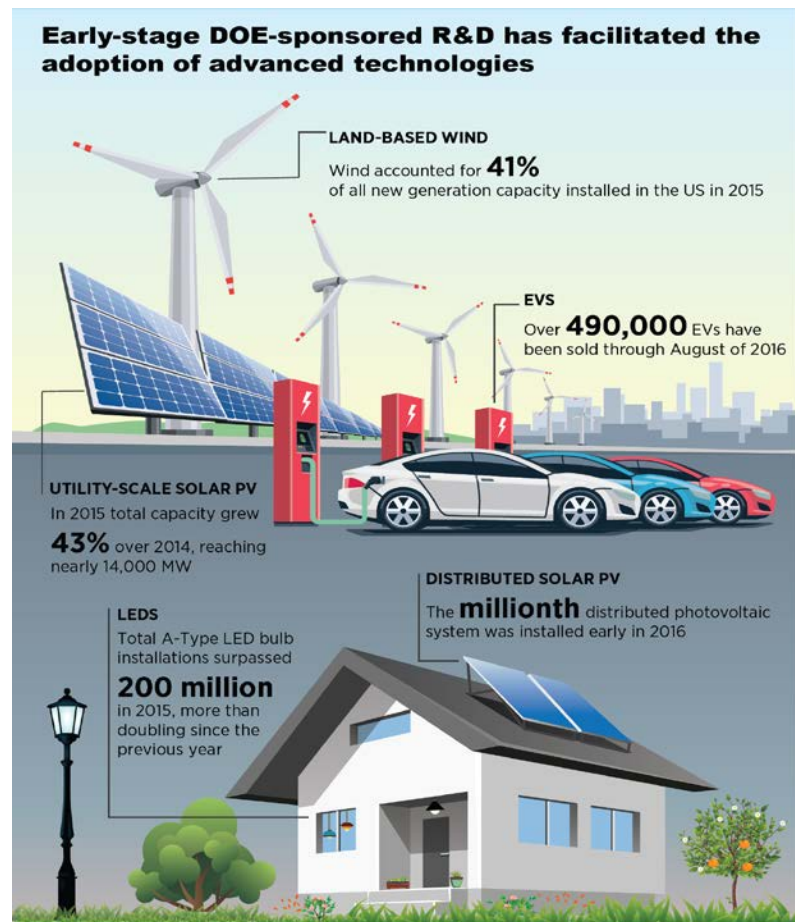
**EERE early stage R&D stimulates the U.S. economy, domestic job growth, and global competitiveness, thereby maintaining America's position at the forefront of innovation through focus on three primary technology sectors.**

- ✓ **Sustainable Transportation** – Vehicle, fuel cell, and bioenergy technologies.
- ✓ **Renewable Energy** – Solar, geothermal, wind, and water power generation and manufacturing technologies.
- ✓ **Energy Efficiency** – Advanced manufacturing, building technologies, and federal energy management.

**EERE R&D investment of \$12 billion yielded more than \$230 billion return to the U.S. economy.**

- ✓ EERE creates new industries and expands jobs for Americans in emerging technology fields.
- ✓ The *2017 Energy and Employment Report* revealed that 6.4 million (M) Americans were employed in energy industries in 2016, up 14% over 2015, with more than 300,000 new jobs added to the U.S. economy. Job growth in EERE sectors from 2015 to 2016 was substantial.

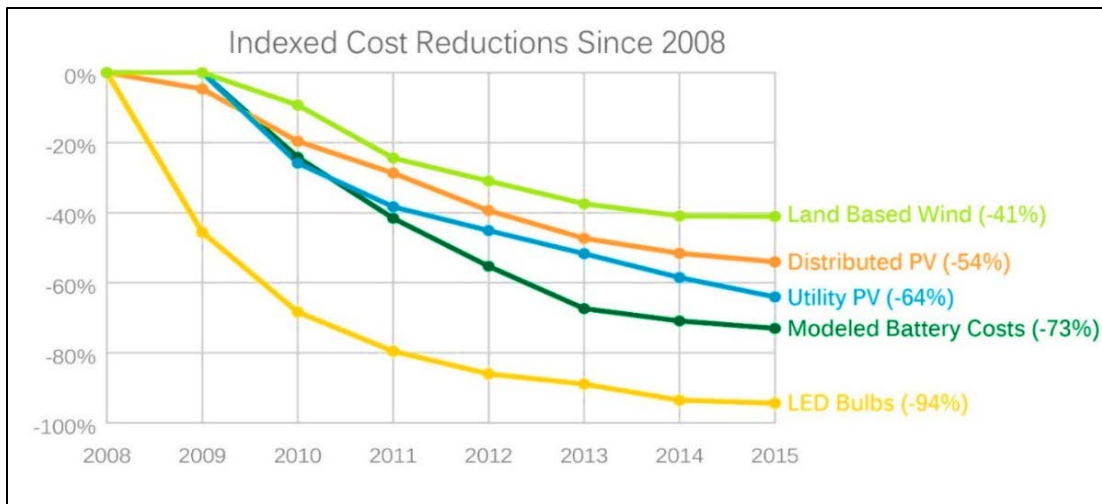
<https://energy.gov/downloads/2017-us-energy-and-employment-report>



### FY 2018 Budget Request

Budget Authority (Dollars in Thousands)	FY 2018 Request
Sustainable Transportation	183,600
Renewable Power	134,300
Energy Efficiency	159,500
Program Direction and National Renewable Energy Laboratory (NREL) Stewardship	217,849
<b>Total, Energy Efficiency and Renewable Energy Office</b>	<b>695,249</b>

EERE assures U.S. leadership in a comprehensive strategy for 21<sup>st</sup> century energy systems through the development of competitive cutting-edge technologies in renewable energy, transportation, and energy efficiency. EERE is an essential part of the DOE portfolio that also includes fossil, nuclear, and electricity R&D resources.



**EERE R&D strengthens U.S. energy independence and security by supporting a portfolio of clean power generation and energy consumption choices.**

- EERE R&D investments – facilitate industry and consumer deployments of renewable technologies, which provided 13.4% of U.S. electricity in 2016, compared to 8.8% 10 years ago.
  - ✓ Solar – Since 2010, solar jobs have soared 125%. At the end of 2016, 373,807 Americans were employed in some capacity by the solar industry. This represents one out of every 50 new U.S. jobs created in 2016, or nearly 1,000 jobs each week.
  - ✓ Wind – In 2016, 25,000 new jobs were created, an increase of 32%, a total of 101,738 workers.
- EERE R&D has resulted in more than 480 commercial technologies for the American economy.
  - ✓ Energy efficiency – products and services reached 2.2M jobs in 2016.
  - ✓ Advanced manufacturing – EERE supports specialized technical skills to bridge 2M Americans for new manufacturing jobs in the next decade.
  - ✓ Motor vehicles – employed 2.4M Americans in 2016; 710,000 worked on alternative fuels or fuel economy. In 2016, alternative fuels employed 259,000, 69,000 more than 2015.

**EERE R&D increased energy cost-saving and modern electricity infrastructure improvements for industry and consumers. DOE-sponsored R&D contributed significantly to technology advances in the past decade.**

- ✓ Solar – From 2008 to 2015, U.S. installed solar power increased 20-fold from 1.2 gigawatts (GW) to 22.7 GW. In 2016, 15 GW of solar power, valued at \$23 billion, was installed, twice that 2015. By 2024, U.S. solar power is estimated to reach 246 GW.
- ✓ Wind – In 2016, 82 GW of utility-scale wind energy was deployed across 41 U.S. states and territories, providing 6% of U.S. electricity, enough to power 20 million U.S. households.

- ✓ Light-Emitting Diode (LED) Light Bulbs – By 2016, Americans had installed more than 200M long-life LED light bulbs, finding that LEDs produce better illumination while using about 40% less energy than outmoded incandescent bulbs. This represents a 162% increase of LED installations since 2015.
- ✓ Electric Vehicles (EVs) – Americans purchased more than 115,000 EVs in 2015, double 2012 purchases, despite low gas prices. In 2016, there were about a half million energy efficient EVs operating on U.S. roads.

**EERE R&D innovations save Americans money while improving the quality of life and provide reliable and affordable energy for business and consumers.**

- ✓ Building Technologies – In 2015, EERE R&D served as a catalyst for industry to adopt 400 new efficiency solutions for Americans. Since 2011, EERE community and industry partners gave saved 160 trillion British thermal units (BTUs) in energy and 2.3 billion gallons of water.
- ✓ Advanced Manufacturing – EERE has 179 public-private partners with 2,500 facilities across the U.S. working together on cost savings, energy efficiency, and productivity improvements. Current EERE partners represent 11.4% of the U.S. manufacturing footprint, and in 2015, they reported cumulative energy intensity savings of 600 trillion BTUs and \$3.1 billion in costs.
- ✓ Federal Energy Management – Since 1978, EERE technical support saved the U.S. government \$9 billion in energy costs and 400 trillion BTUs.
- ✓ Vehicle Technologies – EERE R&D enabled 2015 sales of light-duty vehicles (LDV) using alternative fuels and electric systems to grow to 18% of all LDV sales, potentially increasing to 61% by 2040.