

## Green Jobs Numbers

### Executive Summary/ Quick Facts

- 94,161 jobs in Electric Vehicle Design, Development, and Manufacturing (GSP)
- 83,728 clean energy jobs across Washington vs 7,394 fossil fuel jobs (E2 report)
  - Breakdown by industry
    - Energy Efficiency: 63,877 jobs
    - Renewable Energy: 11,106 jobs
    - Grid and Storage: 3,457 jobs
    - Clean Vehicles: 3,452 jobs
    - Fuels: 1,813 jobs
- 70% of clean energy workers are employed by businesses with fewer than 20 employees
- 36,592 clean energy jobs in King County, WA (E2 report)
- 4,433 renewable energy jobs in King County, WA (E2 report)
- 29,235 energy efficiency jobs in King County, WA (E2 report)
- 46,804 clean energy jobs in the Seattle, Tacoma, Bellevue Metro area (E2 report)
- 6,905 renewable energy jobs in the Seattle, Tacoma, Bellevue Metro area (E2 report)
- 35,101 energy efficiency jobs in the Seattle, Tacoma, Bellevue Metro area (E2 report)
- 45% of Washington's clean energy workforce is located outside the Seattle metro area
- 82,859 clean energy jobs in WA in 2018 → 83,728 in 2019 (869 more jobs!) (Same E2 report)
- 13,000 jobs are located in counties with populations less than 200,000 (E2)
- 3,176,839 clean energy jobs in the country (Clean Jobs Count/ E2 study)
- Estimated 4% of working age population has a job in the Green Economy (Georgeson & Maslin)
- US green economy employs nearly 9.5 million workers nationwide, up 20% from 2012-16
- In 2011, there were 3.4 million Green Goods and Services (GGS) jobs, accounting for 2.6% total US employment
- In 2010, there were 3.2 million jobs in the US associated with the production of Green Goods and Services (GGS), accounting for 2.5% total US employment
- In 2011, Washington had 101,593 GGS jobs according to the BLS survey compared to 95,769 in 2010
- In 2010, GGS jobs account for 3.4% of all jobs in Washington vs 3.6% in 2011
- Using O\*NET's definition of green jobs, the proportion employed in the US green economy, using the broadest definition of green jobs, could be as much as **19.4%** of the total workforce.
- A large proportion of this estimated employment would be 'indirectly' green, with **10.3%** of the total workforce actually using any specifically green tasks in their jobs and **1.2%** employed in jobs that are unique to the green economy.
- **555,168** Direct Jobs in US in Q2 of 2018.
- **855,000** Indirect Jobs in US compared to, 4,078,000 in China, 1,125,000 in Brazil, 719,000 in India and 1,235,000 in the European Union
- In 2016, **employment in energy storage increased 235%** from the previous year to reach 90,800 jobs, with battery storage accounting for over half of these jobs (EDF study).
- As of 2016, the US employs over 4 million workers in the clean energy and sustainability economy (Environmental Defense Fund study).

**Name of the Study:** [E2 and Clean Jobs Count Clean Jobs Report](#)

**Background on Organization Conducting the Study:** E2 (Environmental Entrepreneurs) is a national, nonpartisan group of business leaders, investors, and professionals from every sector of the economy who advocate for smart policies that are good for the economy and good for the environment. Our members have founded or funded more than 2,500 companies, created more than 600,000 jobs, and manage more than \$100 billion in venture and private equity capital.

**Methodology:**

**Q: What counts as a “clean job” according to this report?**

Employment in solar energy, wind energy, energy efficiency, combined heat and power, bioenergy, non-woody biomass, low-impact hydro power, geothermal, clean vehicle technologies, clean energy storage, smart grid, micro grid, grid modernization, and advanced biofuels. Other industries commonly associated with clean energy — such as corn ethanol, woody biomass, large hydropower, and nuclear — are not included in these jobs numbers.

These include jobs involved in construction, manufacturing, wholesale trade, transmission and distribution, and professional services. Jobs in retail trade, repair services, water or waste management, and indirect employment or induced employment are not included.

The job numbers come from the national **2019 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 2019 USEER relies on a unique supplemental survey of 30,000 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.

**Summary of Findings:**

**Jobs in King County:** 35,592 clean, 4,433 renewable energy and 29,235 energy efficiency

**Jobs in Seattle Metro:** 46,804 clean, 6,905 renewable energy and 35,101 energy efficiency

**Number of clean energy jobs in WA:** 83,728 clean jobs as of 2019

**Number of clean energy jobs in USA:** 3,176,839 clean energy jobs total in the US

**Total Energy Employment in WA:** 153,425

- There are 11 times more clean energy jobs than fossil fuel jobs
- 7 in 10 clean energy employees work at companies with fewer than 20 employees
- 55% of Washington energy sector jobs are in clean energy
- Over 8,300 rural Washington residents work in clean energy

**Name of the Study:** [Estimating the scale of the US green job economy within the global context](#)

**Background:** Peer reviewed study in Palgrave Communications by Lucien Georgeson and Mark Maslin. Lucien is a researcher at Oxford with a focus on the Green Economy and sustainable development and Mark is a researcher and professor at University College London

**Methodology:** The methodology triangulates transactional and operational business data to estimate economic values, frequently where government statistics are not available. It can estimate the sales and employment in the green economy, the share of the country's economy taken up by the green economy, growth in the green economy and the green economy sectors that are leading that growth. This can estimate the contribution to the country's economy of the green economy, the progress made and national priority areas.

The methodology, developed by kMatrix Ltd, uses a number of different data sources and data types (transactional, procurement, insurance, industrial benchmarking) to arrive at estimates of economic value that would not be possible from a single data source. Each data point requires at least 7 data sources for 'triangulation', but in the Low Carbon and Environmental Goods and Services Sector (LCEGSS) dataset, the average number of data sources for each observation is 56. The transactional triangulation methodology has been used to: estimate climate change adaptation within ten megacities (Georgeson et al., 2016b), provide data on global private sector investment in clean energy R&D (Georgeson et al., 2016a), analyse global provision of climate and weather information (Georgeson et al., 2017a), and estimate global climate change adaptation spending relating to health (Watts et al., 2017). It has also been assigned official statistics status in order to provide trade statistics to the UK Government's Defence and Security Organisation (Department for International Trade Defence and Security Organisation, 2015).

#### **Summary of Findings:**

Through the Low Carbon and Environmental Goods and Services Sector (LCEGSS) dataset, the US green economy is estimated to represent \$1.3 trillion in annual sales revenue and to employ **nearly 9.5 million workers**; both of which have grown by over 20% between 2012/13 and 2015/16. Comparison with China, OECD members and the G20 countries suggests that the US is estimated to have a greater proportion of the working age population employed (4%) and higher sales revenue per capita in the green economy.

The estimated scale of the green economy (\$1.3 trillion and employing over 4% of the working age population) strongly suggests that it is a significant contributor to US economic development and the economic well-being of millions of people across the US. It was also a key contributor to the US recovery after the 2007 financial crisis (Aldy, 2013). Existing federal policies to support the private sector (including clean energy initiatives) have assisted US businesses to grow and create jobs (Obama, 2017), and the data herein suggests that growth in jobs in the green economy may be faster than growth in estimated sales value in some sectors of the green economy. Economic initiatives and environmental regulations can, potentially, drive innovation and economic development (Ambec et al., 2013; Porter and van der Linde, 1995), rather than holding it back.

**Name of the Study:** [Bureau of Labor Statistics](#)

**Background on the Organization:** US agency tasked with collection of employment data. Note: On March 1, 2013, President Obama ordered into effect the across-the-board spending cuts (commonly referred to as sequestration) required by the Balanced Budget and Emergency Deficit Control Act, as amended. In order to achieve some of the savings required by the order, BLS eliminated all "measuring green jobs" products. These products included: data on employment by industry and occupation for businesses that produce green goods and services; data on the occupations and wages of jobs related to green technologies and practices; and green career information publications. Data only goes up to 2011

**Methodology:**

Green jobs are either:

- Jobs in businesses that produce goods or provide services that benefit the environment or conserve natural resources.
- Jobs in which workers' duties involve making their establishment's production processes more environmentally friendly or use fewer natural resources.

To implement the output approach, BLS will collect data on jobs associated with producing green goods and services through a mail survey of a sample of establishments identified as potentially producing such products and services based on their NAICS classification. The purpose of the Green Goods and Services (GGS) survey is to identify whether the establishment is producing any green goods and services and, if so, to measure the number of associated jobs in the establishment.

The BLS methodology will estimate the number of green jobs for a NAICS industry based on the green jobs found at individual establishments classified within the industry. The methodology does not simply designate an industry as "green" and count all jobs in that industry as green jobs, since establishments in the industry may also produce goods and services that are not considered green.

**Summary of Findings:**

- In 2011, there were 3.4 million Green Goods and Services (GGS) jobs, accounting for 2.6% total US employment
- In 2010, there were 3.2 million jobs in the US associated with the production of Green Goods and Services (GGS), accounting for 2.5% total US employment
- In 2011, Washington had **101,593 GGS jobs** according to the BLS survey compared to **95,769 in 2010**
- GGS employment accounted for 2.3% of private sector jobs and 4.2% of public sector jobs in 2011. The private sector had 2,515,200 GGS jobs, while the public sector had 886,080 GGS jobs. Among private sector industries, construction had the largest employment rate increase, from 7.0 to 8.9 percentage points, while manufacturing had the most GGS jobs (507,168).
- 2010 GGS jobs: 3,243,533
- 2011 GGS jobs: 3,401,279
- 2010: GGS jobs account for 2.5% of all jobs in US
- 2011: GGS jobs account for 2.6% of all jobs in US
- In 2010, GGS jobs account for 3.4% of all jobs in Washington vs 3.6% in 2011

**Name of Study:** [Characterising green employment: The impacts of 'greening' on workforce composition](#)

**Background on Organization Conducting the Study:** The Grantham Research Institute on Climate Change and the Environment was established by the London School of Economics and Political Science in 2008 to create a world-leading centre for policy-relevant research and training on climate change and the environment, bringing together international expertise on economics, finance, geography, the environment, international development and political economy.

**About the Authors:**

**Alex Bowen:** Alex is now a special adviser to the Grantham Research Institute, working part-time. Until December 2016, he was a Principal Research Fellow at the Institute. Before joining the London School of Economics and Political Science, Alex worked at the Bank of England, his final post being as a Senior Policy Adviser on monetary policy issues. Alex's current research interests were stimulated by his sabbatical year away from the Bank working as senior economic adviser to 'The Economics of Climate Change: The Stern Review'.

**Karlygash Kuralbayeva:** Karlygash is a Lecturer in Economics at the Department of Political Economy at King's College London. Previously she was a teaching fellow at London School of Economics, a research officer at Grantham Research Institute at LSE and a research fellow at the University of Oxford. Her research interests include macroeconomics, development, climate change economics and environmental economics. Karlygash holds a PhD in Economics from the University of Oxford.

**Methodology:** Green job or green occupation is defined as any job classified by O\*NET to be affected by 'greening', which could involve increased demand, changes in worker requirements, and the use of new worker requirements. All other jobs are considered Non-green.

**Summary of Findings:** Using O\*NET's definition of green jobs, the proportion employed in the US green economy, using the broadest definition of green jobs, could be as much as **19.4%** of the total workforce. However, a large proportion of this estimated employment would be 'indirectly' green, with **10.3%** of the total workforce actually using any specifically green tasks in their jobs and **1.2%** employed in jobs that are unique to the green economy. While there is a large proportion of employment in jobs that are closely related to green jobs, there is also a substantial proportion of employment in jobs that are not closely related to green jobs, which limits the potential short-term labour market benefits of the green transition.

The use of green tasks and types of skills required varies greatly across the green job subcategories defined by O\*NET, which suggests that 'green' should be considered as a continuum rather than a binary characteristic. Between the two 'directly' green job categories, Green New and Emerging jobs are 'greener' than Green Enhanced Skills jobs, i.e. involve a higher proportion of green tasks to non-green tasks and use green tasks more frequently, and also rely more heavily on non-routine skills. It is also important to recognise that non-green jobs fall into two distinct subcategories: aside from their connection to green jobs, Green Rival and Other jobs also differ in standard skill measures and skill content. It is important to account for this heterogeneity within green and non-green job categories when defining green employment and designing re-training programs.

**Name of the Study:** [Fact Sheet - Jobs in Renewable Energy, Energy Efficiency, and Resilience \(2019\)](#)

**Background on the Organization:** Founded in 1984 by a bipartisan group of members of Congress to inform the debate and decision-making on energy and environmental policies, **the Environmental and Energy Study Institute (EESI)** is a 501(c)(3) non-profit organization dedicated to promoting sustainable societies. Our primary goal is to accelerate the transition to a new, low-emissions economy based on energy efficiency and renewable energy.

**Methodology:** The U.S. Bureau of Labor Statistics (BLS) defines green jobs as either "jobs in businesses that produce goods and provide services that benefit the environment or conserve natural resources" or as "jobs in which workers' duties involve making their establishment's production processes more environmentally friendly or use fewer natural resources." These definitions include employment in 1) renewable energy; 2) energy efficiency; 3) pollution reduction and removal, greenhouse gas reduction, and recycling and reuse; 4) natural resources conservation; and 5) environmental compliance, education and training, and public awareness.

**Summary of Findings:** This fact sheet focuses on employment in the renewable energy and energy efficiency sectors in the United States and around the world. According to the 2019 U.S. Energy Employment Report (USEER), **611,000 people worked in zero-emission technology industries**, including renewables and nuclear in the United States. The International Renewable Energy Agency (IRENA) recorded even higher renewable energy employment in the United States at **855,000 direct and indirect jobs in 2018**. Jobs in energy efficiency experienced significant growth—the sector now employs more than **3 million people** in the United States. IRENA reports that, globally, the renewable energy sector employed **11 million people in 2018, 700,000 more than in 2017**.

- **555,168** Direct Jobs in Renewable Energy in the US in Q2 of 2018.
- **855,000** Indirect Jobs in US compared to, 4,078,000 in China, 1,125,000 in Brazil, 719,000 in India and 1,235,000 in the European Union
- The Renewable Energy and Jobs annual Review 2019 estimates that there were approximately 11,000,000 direct and indirect jobs in the renewable energy sector across the world in 2018. This is an increase from 10.3 million jobs in the sector in 2017.
- According to USEER, 611,000 employees worked in zero-emission technology industries, including renewables and nuclear.
- The International Renewable Energy Agency (IRENA) recorded that renewable energy employment in the United States reached 855,000 direct and indirect jobs in 2018. IRENA reports that the biofuels, solar, and wind power industries provide the most renewable energy jobs in the United States. According to USEER, jobs in electrical power generation, which includes both renewable and nonrenewable energy sources, declined nearly one percent in 2018. In this sector, USEER reports solar power supporting 242,343 jobs, coal supporting 86,202 jobs, and natural gas supporting 43,526 jobs. Renewable energy firms surveyed for the USEER report highlight that a substantial barrier to increasing employment is finding skilled labor to fill positions.

**Name of the Study:** [International Renewable Energy Agency \(IRENA\)](#)

**Background on the Organization:** The International Renewable Energy Agency (IRENA) is an intergovernmental organisation that supports countries in their transition to a sustainable energy future, and serves as the principal platform for international cooperation, a centre of excellence, and a repository of policy, technology, resource and financial knowledge on renewable energy. IRENA promotes the widespread adoption and sustainable use of all forms of renewable energy, including bioenergy, geothermal, hydropower, ocean, solar and wind energy in the pursuit of sustainable development, energy access, energy security and low-carbon economic growth and prosperity.

**Methodology:** Prominent methodologies include input-output modelling, industry surveys and employment-factor calculations, with varying degrees of detail and sophistication. For the most part, the employment numbers in this report cover direct and indirect (supply chain) jobs.

**Summary of Findings:**

- Since at least 2012, these factors have quietly driven the growth of companies focused on producing renewable energy, efficient technologies, and electric vehicles. According to the International Renewable Energy Agency (IRENA), the global number of jobs in cleantech reached the impressive figure of 10.3 million in 2017. Growth in cleantech jobs means that an economy based on sustainable energy could soon gain political and financial support across the globe.
- China alone accounts for 43% of all renewable energy jobs. Its share is particularly high in solar heating and cooling (83%) and in the solar photovoltaic (PV) sector (66%), and less so in wind power (44%).
- The PV industry was the largest employer (almost 3.4 million jobs, up 9% from 2016). Expansion took place in China and India, while the United States, Japan and the European Union lost jobs
- Including its onshore and offshore segments, the wind industry employs 1.15 million people worldwide, a 0.6% decrease from 2016
- Renewable energy employment worldwide has continued to grow since IRENA's first annual assessment in 2012. During 2017, the strongest expansion took place in the solar photovoltaic (PV) and bioenergy industries. In contrast, jobs in wind energy and in solar heating and cooling declined, while those in the remaining technologies were relatively stable.
- Globally, the solar PV industry had another banner year, with record installations of 94 gigawatts (GW) during 2017, up from 73 GW in 2016, and significant new job creation.
- IRENA's analysis suggests that jobs in the sector could rise from 10.3 million in 2017 to 23.6 million in 2030 and 28.8 million in 2050, in line with IRENA's more sustainable energy pathway
- IRENA estimates that global employment in the solar heating sector stood at 807,000 jobs in 2017, a 2.6% decrease from the previous estimate
- The renewable energy sector employed 10.3 million people, directly and indirectly, in 2017. Excluding large hydropower, employment increased by 6.3% to reach 8.8 million in 2017
- Overall, renewable energy employment continued to shift towards Asian countries, which accounted for 60% of jobs in 2017, compared with 51% in 2013



**Name of the Study:** [In Demand: Clean Energy, Sustainability, and the New American Workforce](#)

**Background on the Organization:** Environmental Defense Fund (EDF) is one of the world's largest environmental nonprofit organizations, with more than two million members and a staff of over 500 scientists, economists, policy experts, and other professionals around the world. EDF finds practical and lasting solutions to the world's most serious environmental problems. Working with leading businesses, scientists and academics, EDF is taking a leading role in minimizing the environmental, economic and human health risks associated with rising greenhouse gas emissions.

**Methodology:** The Department of Energy defines Energy Efficiency Employment as "the production or installation of energy efficiency products certified by the Environmental Protection Agency's ENERGY STAR<sup>®</sup> program or installed pursuant to the ENERGY STAR<sup>®</sup> program guidelines or supporting services thereof."

The Brookings Institution defines jobs in energy efficiency to include those related to: "appliances, battery technologies, electric vehicle technologies, energy-saving building materials, energy-saving consumer products, fuel cells, green architecture and construction, HVAC and control systems, lighting, professional energy services, public mass transit, smart grid, water efficient products," and is therefore larger than the Department of Energy's definition.

**Summary of Findings:**

- As of 2016, the US employs over 4 million workers in the clean energy and sustainability economy.
- Wind and solar energy jobs now outnumber coal and gas industry jobs in 30 states, with California and Texas employing the most workers in those industries.
- Wind employment exceeded 100,000 jobs in 2016, and grew 16 percent from the previous year
- The fastest growing jobs in the solar and wind industries pay wages that meet or exceed national averages
- The Bureau of Labor Statistics project that solar PV installers and wind turbine service technicians will be the two fastest growing jobs in America from 2016 to 2026, roughly doubling during that period.
- The energy storage market grew 46 percent between 2016 and 2017, with 28.6 megawatts deployed in Q3 2016 and 41.8 megawatts deployed in Q3 2017. Additionally, the market is projected to grow nine times between 2017 and 2022.
- In 2016, employment in energy storage increased 235% from the previous year to reach 90,800 jobs, with battery storage accounting for over half of these jobs.
- A study by The Brookings Institution found that 49.3 percent of jobs in energy efficiency required a high school diploma or less and 75 percent of positions within the energy sector were considered "green collar" or "middle-wage" jobs
- The majority of energy efficiency workers are in construction, representing 21 percent of the 6.5 million jobs in the construction industry, and cannot easily be outsourced due to the local nature of these positions.
- Globally, in 2026, the market for energy efficient building technologies is expected to have grown by 58 percent from 2017 levels—reaching over \$360 billion.



**Name of the Study:** [Unlocking the Inclusive Growth Story of the 21<sup>st</sup> Century: Accelerating Climate Action in Urgent Times](#)

**Background on the Organization:** The Global Commission on the Economy and Climate, and its flagship project the **New Climate Economy**, were set up to help governments, businesses and society make better-informed decisions on how to achieve economic prosperity and development while also addressing climate change. It was commissioned in 2013 by the governments of Colombia, Ethiopia, Indonesia, Norway, South Korea, Sweden, and the United Kingdom. The Global Commission, comprising, 28 former heads of government and finance ministers, and leaders in the fields of economics, business and finance, operates as an independent body and, while benefiting from support of the partner governments, has been given full freedom to reach its own conclusions.

**Methodology:** This Report was prepared by teams from the following institutions: the Brookings Institution, the Energy Transitions Commission (ETC), the Coalition for Urban Transitions, the Food and Land Use Coalition (FOLU), the Grantham Research Institute on Climate Change and the Environment, the Overseas Development Institute (ODI), SYSTEMIQ, and World Resources Institute (WRI).

**Summary of Findings:**

- The Report finds that taking ambitious climate action could generate over **65 million** new low-carbon jobs in 2030, equivalent to today's entire workforces of the UK and Egypt combined, as well as avoid over 700,000 premature deaths from air pollution compared with business-as-usual.
- "Transitioning to this low-carbon, sustainable growth path could deliver a direct economic gain of US\$26 trillion through to 2030 compared to business-as-usual, according to analysis for this Report."
- The next 10-15 years are a unique 'use it or lose it' moment in economic history. We expect to invest about **\$90 trillion USD** in infrastructure to 2030, more than the total current stock. Ensuring that this infrastructure is sustainable will be a critical determinant of future growth and prosperity. The next 10-15 years are also essential in terms of climate: unless we make a decisive shift, by 2030 we will pass the point by which we can keep global average temperature rise to well below 2 degrees C.
- "Coordinated, compact, and connected cities could result in **\$17 trillion USD in economic savings** by 2050."
- Improving energy efficiency in buildings creates jobs. Each investment of \$1 million USD generates an average of **14 job years of net employment**—up to three times the number of jobs for the same investment in fossil fuels.
- In 2017, renewable energy companies employed **10.3 million people worldwide**, and they are the fastest growing source of jobs in several countries. Based on E3ME modelling results, more than 65 million additional jobs can be created in low-carbon activities by 2030 from actions identified in this Report, relative to the baseline, which would more than offset an expected loss of about 28 million jobs in high-carbon activities (i.e. coal; oil and gas; manufacturing of fuels; and the supply of electricity, water, and gas) for the same period.

**Name of the Study:** [2018 US Energy and Employment Report](#)

**Background on the Organization:** This work was prepared under a Memorandum of Understanding between the Energy Futures Initiative (EFI) and the National Association of State Energy Officials (NASEO) and a contract between EFI and BW Research Partnership. The survey instrument and underlying methodology is identical to that used in the primary data collected on behalf of the U.S. Department of Energy (OMB Control No. 1910-5179) for the 2017 U.S. Energy and Employment Report and secondary data from the United States Department of Labor’s Quarterly Census of Employment and Wages for the second quarter of 2017.

**Methodology:** The USEER examines four sectors of the economy: Electric Power Generation and Fuels; Transmission, Distribution, and Storage; Energy Efficiency; and Motor Vehicles. The first two of these sectors—Electric Power Generation and Fuels and Transmission, Distribution, and Storage—make up what are generally considered the Traditional Energy sectors.

Current labor market data from the Bureau of Labor Statistics (BLS) Quarterly Census of Employment and Wages (QCEW) track employment across many energy production, transmission, and distribution subsectors. To enhance QCEW data, BLS conducts two supplemental surveys. The first is the Multiple Worksite Report (MWR), which is collected each quarter to disaggregate the employment and wages of numerous establishments owned by a single employer into their individual worksite locations. This survey allows the employment and wages for each worksite location to be placed in their correct industrial and geographical category, thereby improving the accuracy of QCEW data.

**Summary of Findings:**

- Based on a comprehensive analysis of employer data collected in the fourth quarter of 2017, the 2018 USEER finds that the Traditional Energy and Energy Efficiency sectors in 2017 employed **approximately 6.5 million Americans** out of a workforce of approximately 145 million.
- Employment in these sectors increased in 2017 by over 2 percent from the previous year, adding **133,000 net new jobs**, nearly 7 percent of all new jobs nationwide
- Electric Power Generation and Fuels directly employed more than 1.9 million workers in 2017, up 15,000 jobs from 2016. In 2017, 55 percent, or 1.1 million, of these employees worked in traditional coal, oil, and gas Electric Power Generation and Fuels, while almost 800,000 workers were employed in low-carbon emission generation technologies, including renewables, nuclear, and advanced/low-emission natural gas.
- Battery storage added almost 6,000 new jobs for a 12% growth rate in 2017
- Energy Efficiency employed 2.25 million Americans, in whole or in part, in the design, installation, and manufacture of Energy Efficiency products and services, adding 67,000 net jobs in 2017
- Motor Vehicles (including component parts) employed over 2.46 million workers, excluding automobile dealerships, adding 29,000 jobs in 2017.
- Transmission, Distribution, and Storage employed more than 2.3 million Americans, with just over 1 million working in retail trade (gasoline stations and fuel dealers) and another 869,000 working across utilities and construction. This represents a net increase of 50,000 jobs.