A Diverse Energy Mix Helps Keep Electricity Reliable and Affordable

Electric companies use a diverse, domestic, and increasingly clean mix of resources to generate the energy their customers need.

To deliver the safe, reliable, affordable, and increasingly clean energy that powers America’s economy and our daily lives, electric companies use a diverse energy mix. Using all of our nation’s diverse and domestic energy resources takes into account the needs of all customers as well as the need to manage risk and costs.

In just one decade, the mix of resources used to generate electricity in the United States has changed dramatically and is increasingly clean. More than one-third of our nation’s electricity now comes from carbon-free sources (nuclear energy and hydropower and other renewables), and another one-third comes from low-carbon-emitting natural gas. Every day, 24/7 energy sources play a vital role in sustaining a diverse, reliable, and resilient energy mix.

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More than one-third of our nation’s electricity comes from carbon-free sources, including nuclear energy and hydropower and other renewables. Another one-third comes from low-carbon-emitting natural gas.
How a Diverse Energy Mix Works

A diverse and domestic energy mix is critical to the safe, reliable, affordable, and increasingly clean electricity customers expect. By using a diverse energy mix, electric companies create value for customers and enhance national security by ensuring a reliable supply of electricity.

Different regions of the country rely on different energy mixes, depending on the resources available. It is important that electric companies and states be allowed to continue to use resources that are most cost-effective and that provide a range of options for their customers.

To ensure reliability under all circumstances, including weather extremes and emergencies, electric companies use 24/7 energy sources, such as nuclear energy, natural gas, hydropower, and coal, to generate reliable energy consistently. These 24/7 energy sources are key to companies’ ability to serve all customers, including businesses and industries whose energy usage differs from that of most residential customers.

U.S. Electric Generation Mix, 2018

Source: Department of Energy, Energy Information Administration
Electric Companies Are Changing the Energy Mix

Electric companies are investing more than $100 billion each year to build smarter energy infrastructure and to accelerate the transition to clean energy. These investments have helped electric companies reduce their emissions significantly, while keeping electricity affordable and reliable for all customers. Carbon dioxide (CO₂) emissions from the electric power industry were 27 percent below 2005 levels as of year-end 2018—nearly the lowest level in three decades. Additionally, between 1990 and 2018, the industry’s emissions of nitrogen oxides (NOx) were cut by 84 percent and sulfur dioxide (SO₂) emissions by 92 percent, during a period in which electricity use grew by 39 percent.

Today, the mix of resources used to generate electricity in the United States is increasingly clean.

- **The use of coal is declining:** By 2024, the electric power industry will retire more than 100 gigawatts of coal-based electricity.
- **Nuclear energy remains the largest source of emissions-free electricity:** Currently, 98 reactors in 30 states supply more than half of America’s carbon-free electricity—and approximately 20 percent of all electricity.
- **Electric companies’ investments in renewables are increasing:** Since 2005, the percentage of renewable sources has quadrupled, and, over the past five years, more than half of new electricity generation capacity was in wind and solar.
- **Electric companies are building smarter energy infrastructure:** These investments help to integrate more wind and solar into the energy grid.
- **Electric companies are using more energy storage:** Investment in advanced energy storage is growing rapidly, with an estimated 280 megawatts (MW) installed in 2017 alone, up 400 percent from 2014, and it is projected that another 338 MW of battery storage capacity were installed in 2018. Energy storage facilitates the integration of renewable energy resources into the energy grid.

This clean energy transition will continue, and electric companies are at work to ensure that existing clean energy resources are available today and tomorrow.

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Organized in 1933, EEI provides public policy leadership, strategic business intelligence, and essential conferences and forums.

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