

Nuclear Energy: Essential Carbon-Free Energy for a Low Carbon Economy

A consensus has formed that nuclear energy—along with wind, solar, hydro and other zero-carbon power generation sources—is critical to achieving a 100 percent carbon-free energy system. All zero-emissions technologies should be included in any clean energy policy designed to achieve carbon-reduction goals. Nuclear power, the nation’s largest source of carbon-free electricity, is an essential part of the United States’ clean energy portfolio.

To get to a carbon-free future faster and more affordably, we must preserve our current reactors and accelerate the deployment of advanced nuclear technology.

- Nuclear generates nearly 20 percent of U.S. electricity and nearly 55 percent of our emissions-free generation, more than all other sources combined.
- The United Nations International Panel on Climate Change predicted in October 2018 severe effects of climate change by 2030 and identified nuclear as one of the technologies necessary to hold warming to 1.5 degrees Celsius.
- The Union of Concerned Scientists acknowledged in November 2018 the impact that nuclear plant closures have on climate and air quality, embracing the idea of implementing policies to preserve financially struggling plants.
- According to research from Harvard University, Massachusetts Institute of Technology and the Organization for Economic Cooperation and Development, powering the grid with 100 percent renewables is not the most affordable way to create a zero-carbon grid. Instead, the best way to eliminate emissions from the grid is by combining intermittent low-carbon sources, such as wind and solar, with one or more “firm” sources, such as nuclear energy.

Policymakers who want to reduce carbon emissions must support initiatives that embrace all sources of carbon-free electricity.

- Many states have established clean energy policies that recognize the value of all carbon-free energy sources and have acted to preserve their nuclear generating capacity to reduce carbon emissions.
- Congress must continue funding research and development for all carbon-free technology including advanced nuclear reactors through the U.S. Department of Energy and other agencies.

Now is a critical time to invest in new carbon-free technology, including nuclear.

- The nuclear of tomorrow will offer the same reliability and resilience of the existing fleet with more flexibility and versatility; integrate better with other sources like wind, solar and batteries; and help maintain America’s global leadership as carbon-free energy innovators.
- Electric utilities have pledged to reduce or eliminate carbon emissions from their generation portfolios by 2050 or earlier. Maintaining their current nuclear generation and adoption of new nuclear technologies can be part of the answer.