

POLICY *focus*

RECIPES FOR RATIONAL GOVERNMENT

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Nuclear Energy Policy

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IN THIS ISSUE

- 1 What You Need To Know
- 2 Why You Should Care
- 2 More Information
- 2 U.S. Nuclear Power
- 3 The New Generation of Nuclear Reactors
- 3 America Must Be The Global Leader For Nuclear Energy Investment and Deployment
- 4 Making the Next Generation of Nuclear Technology a Reality
- 5 Nuclear Power Is Safe
- 6 What You Can Do

What You Need To Know

Nuclear power is the largest source of clean energy in the United States. Producing about **20 percent** of total U.S. annual electricity, nuclear's electricity production capability dwarfs other clean energy sources like wind, solar, and hydropower, which only produce **7.2 percent**, **2.5 percent**, and **6.3 percent**, respectively. Nuclear power is carbon-free and provides cheap and reliable electricity, making it essential to lowering U.S. carbon emissions both in the short- and long-term.

Despite nuclear power's safe and reliable track record for reducing emissions, leftist policies and extreme environmental groups have consistently **undermined its growth**. This has caused America's nuclear power capabilities to remain at the same level for the past three decades while increased energy consumption has led to overall higher carbon emissions.

Unfortunately, the U.S. is currently ceding its leadership role in the nuclear power space to China, Russia and other competitors with poor track records on human rights, safety and international cooperation. It is in the world's best interest for the U.S. to reverse this trend and lead the world in harnessing the power of nuclear energy technologies.

By supporting American innovation, fostering public-private partnerships, and implementing regulatory reform to reduce unnecessary delays and high costs, the U.S. can reclaim its position as a leader in nuclear power and ensure that the world has access to a safe and reliable method of reducing carbon emissions.

Why You Should Care

Unfortunately, many environmentalists who believe climate change is a global threat don't support expanding the use of nuclear energy. But already, nuclear power has played a critical role in reducing carbon emissions. Here are the facts:

- **Nuclear power is carbon-free, cheap, and reliable.** But it is underutilized in the United States despite the increased calls to reduce carbon dioxide emissions. Instead, environmental purists advocate for renewables only, such as the wind turbines that shut down when Texas faced freezing temperatures in February 2021.
- **Nuclear power is a matter of national security and global leadership.** If America does not lead the world in the development and deployment of nuclear energy, China, Russia and other international competitors will dominate the nuclear energy space, ceding environmental and safety standards to political foes and giving these countries strategic advantages over the U.S.
- **Policy change is needed.** We need to invest further in the new generation of nuclear technologies, such as small modular reactors, to reduce initial costs and commercialize them to make nuclear power more widely available domestically and abroad. It's good for the environment, energy costs and our global leadership.

More Information

U.S. Nuclear Power

Nuclear power plants were first built in the United States in 1958, and have provided cheap, carbon-free electricity ever since. According to the [U.S. Energy Information Administration](#), in 2019, there were 96 operating reactors on 58 nuclear sites across 29 different states.

While only making up **20 percent** of total U.S. annual electricity generation, U.S. nuclear power contributes more than **30 percent** of the total worldwide nuclear electricity generation. That's a lost opportunity since increasing power generation from nuclear energy could help the U.S. achieve its clean energy goals.

Unfortunately, only **one new U.S. nuclear reactor** has come online since 1996: the Tennessee Valley Authority's Watts Bar Unit 2 in 2016. Two other reactors in Georgia are expected to come online within the next two years. At the same time, some states are allowing these zero emission assets to go offline: since 2013, 13 reactors were prematurely closed, and 8 additional ones **are closing**.

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In their steadfast promotion of renewables, many environmentalists ignore nuclear's ability to provide reliable, consistent and affordable carbon-free electricity. While renewable energy sources like wind and solar play a valuable role in our energy grid, nuclear power offers a

more reliable path to lowering carbon emissions in electricity production without increasing energy bills for Americans. Other countries, such as France, have already shown that they can essentially decarbonize by significantly relying on nuclear power. No country has ever decarbonized on wind and solar energy alone.

The reliability of nuclear power was demonstrated in February 2021 during extreme winter weather in Texas. While natural gas plants shut down due to lack of weatherization, and some wind turbines became iced over and inactive, **all but one** of Texas' nuclear reactors stayed online. (A single generator shut down due to its **automatic safety protocol**).

The cost of building new nuclear reactors is often the greatest hurdle for new projects to overcome. While nuclear energy is cheap once the reactors are built, upfront construction costs are significant, as projects work through the various research, development and regulatory stages. This is a problem that policymakers can work to overcome.

The New Generation of Nuclear Reactors

While high initial costs are a barrier to developing new nuclear projects, small modular reactors (SMRs), which American engineers are in the process of developing, can cut down on upfront capital investment needs. This is true in part because SMRs can be built much faster than traditional reactors thanks to their “modular” nature—the reactor parts can be made in a factory and then shipped to the construction site.

Safety measures are innate to the design, which has the added benefit of reducing the size of the nuclear power plant. And with limited on-site assembly needed, SMRs can substantially reduce construction times and costs compared to larger nuclear reactors. This more simple, modular construction can also make it easier to add on new modules in the future if there is an increased energy demand.

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In 2020, the federal government launched the **Advanced Reactor Demonstration Program (ARDP)** to provide millions of dollars in funding for advanced reactor demonstrations, risk reduction for future demonstrations, and advanced reactor concepts (innovative and diverse reactor designs). This investment of taxpayer dollars seeks to help American innovators get technology from the research to the commercialization stage more quickly.

America Must Be The Global Leader For Nuclear Energy Investment and Deployment

Beyond the goals of reducing carbon emissions and providing cheap, reliable electricity, the U.S. has another important reason to advance nuclear technology: to protect and enhance our national security goals. If America does not assert itself as the leader in nuclear energy, China and Russia will gladly fill those shoes. This risks compromising nuclear technology and safety standards to countries with poor track records on human rights, safety and international

cooperation. It also opens the door to allow bad actors to repurpose nuclear technologies to produce nuclear weapons.

Already, the U.S. has fallen behind on this front. According to the **Nuclear Energy Institute** and International Atomic Energy Agency, 53 nuclear reactors are currently under construction around the world, but only two are in the United States. China is building 12 nuclear reactors, India is building 7, and Russia is building 4. Beyond those, China and Russia are supplying via technology, materials, minerals, manufactured fuel and financing **more than half** of the world's total reactors. This gives China and Russia great strategic advantages over the U.S., making countries such as Pakistan, Egypt and Turkey reliant on them for energy sources versus the U.S.

The Trump administration made historic advances in creating a robust, independent energy economy in the U.S.—a feat that was once thought to be impossible. In September 2019, the U.S. became a net petroleum exporter for the **first time** since monthly records began in 1973. Becoming a net-exporter of oil and natural gas allowed us to no longer be held hostage by foreign oil producers that do not have our best interests at heart.

Unless we invest in our own nuclear technology and enable it to be exported abroad, we risk once again relying on international competitors for clean energy sources—and this would lead other developing nations to do the same, and particularly to become dependent on China and Russia.

This is not only a geopolitical loss, but an environmental one as well. Environmental and safety standards are more stringent in the U.S. than they are in China and Russia. While China pays lip service to tough environmental standards, the country is exporting outdated polluting technologies such as **coal-fired power plants** to second- and third-world countries as part of its Belt and Road Initiative. The projected increase in emissions in developing Asian countries alone from Chinese-financed or developed coal-fired power plants will be greater than all U.S. emissions today. Lowering carbon emissions requires a global solution, and it's in everyone's best interest for the U.S. to lead.

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Making the Next Generation of Nuclear Technology a Reality

Becoming the global leader in nuclear energy development and production requires the Nuclear Regulatory Commission (NRC) to update its outdated regulatory process. This process was designed to regulate traditional nuclear energy sources, where advanced nuclear reactors, which are the future, are a fraction of the size and very different in scope. An update is long overdue.

In addition, the government should streamline the process for approving the locations where demonstration reactors are allowed to be built. Similar to the way the U.S. government sped up development and production of COVID-19 vaccines by approving production prior to gaining FDA approval, the NRC, which regulates nuclear reactor site permits, should complete its approval process in advance so actors in the private sector can begin construction as soon as they have the financing.

Even the new generation of smaller, advanced nuclear reactors are **expensive to develop**. By more effectively leveraging public-private partnerships via competitions with award mechanisms, the U.S. can incentivize competition, ensure safety, and streamline testing so that advanced nuclear can be deployed and sold to energy providers.

Finally, unlocking international markets and investments is essential for the broad deployment of new nuclear technologies. In 2020, the Trump administration took an important step towards reclaiming our role as the primary exporter of vital clean energy technologies by **lifting** the nuclear financing moratorium that was issued under the Obama administration. Financing nuclear projects will open the door for the U.S. to export advanced nuclear technologies to developing nations, which are in desperate need of safe, reliable, and affordable clean energy sources. Again, if the U.S. does not engage with these countries, then others—namely China and Russia—will, and they will do so with dubious commitments to environmental and safety standards. U.S. leadership will also ensure that nuclear nonproliferation agreements remain intact, which China, Russia and other international competitors may not value or seek to protect.

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Nuclear energy development offers a rare opportunity for bipartisan cooperation. In addition to helping address the global fight against carbon emissions, nuclear energy has a proven track record of being safe and reliable. America has always led the way with innovation, and it would be a grave mistake to cede that position. By removing regulatory barriers and focusing on developing new nuclear technology, American innovators can lead the world to a cleaner, more secure energy future.

Nuclear Power Is Safe

Studies in top scientific journals find that nuclear power plants are by far the safest way to make clean and reliable electricity. Still, some Americans continue to be afraid of reactors. Since the Chernobyl disaster in 1986, there has been only one notable nuclear accident. In 2011, a magnitude 9.0 earthquake unleashed a tsunami that devastated large areas of Japan's coast including the Fukushima power plant, which led to the meltdown of three reactors. While many were evacuated and the cleanup efforts were significant, there were **no casualties** from radiation. Following these accidents, the Nuclear Regulatory Commission established additional stringent requirements for nuclear safety.

What You Can Do

Get Informed

Learn more about nuclear power. Visit:

- [ClearPath](#)
- [U.S. Energy Information Administration](#)
- [The American Nuclear Society](#)

Talk to Your Friends

Help your friends and family understand these important issues. Tell them about what's going on and encourage them to join you in getting involved.

Become a Leader in the Community

Get a group together each month to talk about a political/policy issue (it will be fun!). Write a letter to the editor. Show up at local government meetings and make your opinions known. Go to rallies. Better yet, organize rallies! A few motivated people can change the world.

Remain Engaged Politically

Too many good citizens see election time as the only time they need to pay attention to politics. We need everyone to pay attention and hold elected officials accountable. Let your Representatives know your opinions. After all, they are supposed to work for you!

CONNECT WITH IWF! FOLLOW US ON:

ABOUT INDEPENDENT WOMEN'S FORUM

Independent Women's Forum (IWF) is dedicated to building support for free markets, limited government, and individual responsibility.

IWF, a non-partisan, 501(c)(3) research and educational institution, seeks to combat the too-common presumption that women want and benefit from big government, and build awareness of the ways that women are better served by greater economic freedom. By aggressively seeking earned media, providing easy-to-read, timely publications and commentary, and reaching out to the public, we seek to cultivate support for these important principles and encourage women to join us in working to return the country to limited, Constitutional government.

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the support of
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information and
consider making a
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