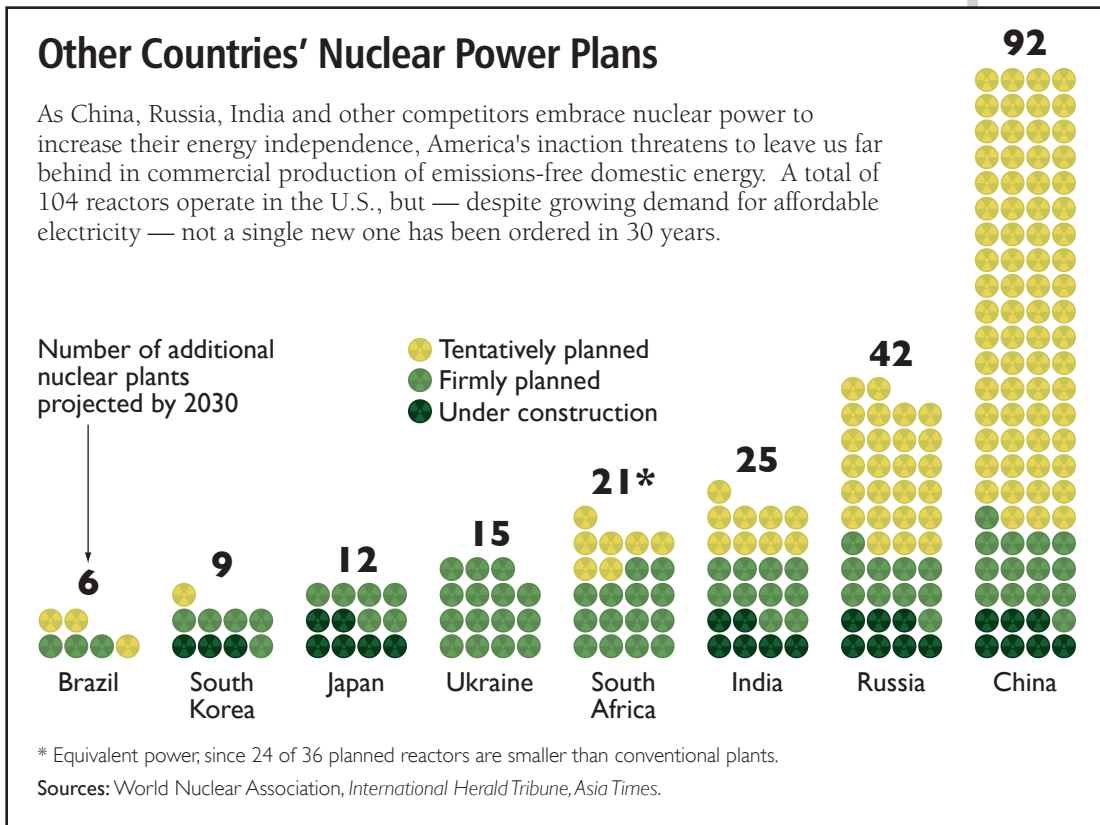


# Nuclear Energy

Notes

To meet the energy challenges of the future, America needs to reinvigorate its nuclear industry. Despite the growing need for the affordable and clean energy that nuclear power plants provide, U.S. policy has led to a weakened domestic nuclear industry. While foreign countries have been building nuclear power plants and increasing their use of nuclear energy, America has lagged behind.



To begin a sustained nuclear renaissance, America must reject the illogical fear-mongering of anti-nuclear activists and adopt a sensible, market-based approach to nuclear energy. Instead of providing hand-outs to nuclear energy companies, the government should provide a stable regulatory environment, allow industry to handle its own spent nuclear fuel, and lower barriers to international trade in the commercial



nuclear energy market. This will lead to the development of an efficient nuclear energy industry that will be able to provide more of America's electricity needs in the future.

## RECOMMENDATIONS

**1. Make regulation predictable and effective.** The permitting process to build a new nuclear power plant currently takes four years. The Nuclear Regulatory Commission should create a fast-track certification process that would shorten the time to two years for certain applicants with proven records and specified plans. Safely shortening the application process for certain applicants will allow those companies to provide cheaper electricity more quickly.

**2. Allow the private sector to manage spent nuclear fuel.** While the private sector performs well in front-end activities and plant operation, America's system for the management of nuclear waste is dysfunctional. The government has not lived up to its obligations under the Nuclear Waste Policy Act of 1982. It should get out of the way and allow the private sector to safely handle waste management.

Countries like France, Great Britain, and Japan have managed to effectively recycle spent nuclear fuel in ways that increase resources and reduce waste that needs to be stored. The American nuclear industry should be allowed to do the same.

**3. Lower barriers to international trade.** The lack of construction of new reactors in recent decades has caused America's nuclear industrial base to wither. International trade will be required for the domestic nuclear industry to reestablish itself, so lower barriers to trade will result in more nuclear energy at a reduced price for consumers.

**4. Move forward with Yucca Mountain.** The reality is that America needs a place to safely store some nuclear waste. Scientific and technological considerations, not politics, should determine whether Nevada's Yucca Mountain can continue to serve as a waste storage site. Congress should also repeal Yucca Mountain's artificial storage limit of 70,000 tons of waste and replace it with a science-based figure.

## FACTS AND FIGURES

■ **Nuclear energy is a significant source of clean energy.** Nuclear energy currently provides 20 percent of America’s electricity and 73 percent of America’s CO<sub>2</sub>-free electricity. Like wind and solar energy, nuclear power does not produce CO<sub>2</sub>, but unlike wind and solar energy, nuclear energy can constantly provide large amounts of power. That is one reason why France uses nuclear power to supply 80 percent of its electricity.

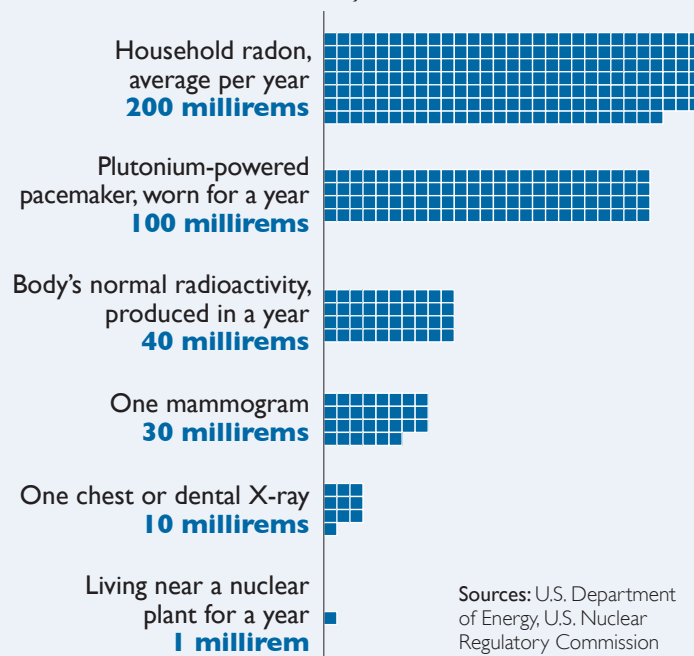
■ **The nuclear industry can create jobs.** The expansion of nuclear power will create significant numbers of private sector jobs. Each new plant requires 2,000 people to build it and 500 to 600 people to operate it.

■ **There is little to no danger from another accident like the one at Three Mile Island.** The significant technological and regulatory improvements made since 1979 make it unlikely that an accident like the one at Three Mile Island could happen again. The industry now has superior plant designs and safety equipment while the Nuclear Regulatory Commission has increased performance and safety inspections of power plants.

Despite the misinformation spread by anti-nuclear activists, the Nuclear Regulatory Commission has determined that the accident “had negligible effects on the physical health of individuals or the environment.” In fact, the average dose of radiation for the two million people in the area at the time was only one millirem. By comparison, a person getting a chest x-ray receives about 6 millirem.

### Nuclear Power’s Safety by the Numbers

Candidates for President reintroduced the public to nuclear power as part of America’s energy mix of the future, noting it’s nearly emission-free, relatively inexpensive, recyclable — and safe. But what about all that radiation? In fact, someone who lives near a nuclear power plant gets exposed to one millirem of radiation a year, 300 times less than what comes from the natural environment. Other ways to look at it:



#### A bigger picture

Federal regulations limit annual on-the-job exposure — for doctors, nurses, lab techs, plant employees and so on — to no more than **5,000 millirems** (the proportions of this box)

## **ADDITIONAL RESOURCES**

Jack Spencer and Nicolas Loris, "Five Free Market Priorities for a Nuclear Energy Renaissance," Heritage Foundation *WebMemo* No. 2475, June 9, 2009, at <http://www.heritage.org/Research/EnergyandEnvironment/wm2475.cfm>

Jack Spencer and Daniella Markheim, "Nuclear Energy Renaissance: Global Supply Chain Critical," Heritage Foundation *WebMemo* No. 2495, June 19, 2009, at <http://www.heritage.org/Research/EnergyandEnvironment/wm2495.cfm>

U.S. Nuclear Regulatory Commission, "Backgrounder on the Three Mile Island Accident," August 2009, at <http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/3mile-isle.html>

## **HERITAGE EXPERT**



Jack Spencer