

Nuclear Energy Quick Facts

Nuclear Energy Institute



Reliable Electricity

- 104 nuclear power plants provide 20% of all U.S. electricity
- Nuclear energy generated 806.2 billion kilowatt-hours of electricity in 2008—the second-highest total ever and enough to power one of five U.S. homes and businesses
- Improved efficiency and technologies at U.S. nuclear power plants since 1990 have led to an increase in electricity production equivalent to 29 new reactors
- Since 2000, the industry has added 3,730 megawatts of capacity through plant improvements—enough to power 2.8 million homes
- The United States generates more nuclear energy than any other nation—more than France and Japan (the second- and third-largest programs, respectively) combined
- Nuclear power plants are reliable, generating electricity 24/7 at a 91.5% capacity factor. This is more efficient than coal plants at a 70.8% capacity factor, combined cycle natural gas plants at 41.7% and wind at 31.1%

Used Nuclear Fuel

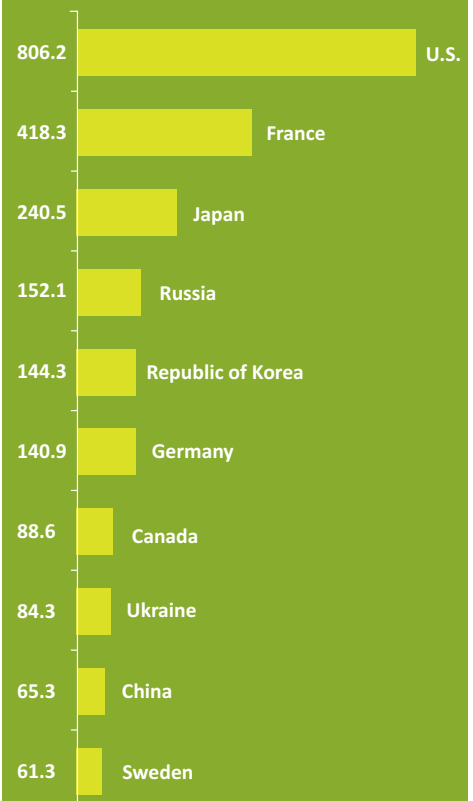
- The volume of used nuclear fuel rods created over 50 years (60,000 metric tons) would only cover one football field seven yards deep
- Used fuel rods are stored safely in steel-lined concrete vaults or in concrete and steel containers at each plant site
- Used nuclear fuel is solid material, safely contained and safely transported
- Since U.S. nuclear power plants began operating, more than 3,000 shipments across 1.7 million miles have been conducted safely, without any harm to the public or the environment
- Shipments they cannot break open in a severe accident because of safety precautions and regulatory oversight every step of the way

Safety

- The independent Nuclear Regulatory Commission inspects and monitors each nuclear power plant daily
- Every nuclear power plant has multiple back-up safety systems, including an automatic safe shutdown mechanism
- If a nuclear power plant is not operating safely, the regulator will shut it down until safety practices improve
- Nuclear power plants are safe places to work, with one of the lowest industrial accident rates at 0.13 accident per 200,000 worker hours

Top 10 Nuclear Energy Countries

Billion kilowatt Hour



Source: International Atomic Energy Agency, U.S. is from Energy Information Administration Updated: 4/09



Economic Benefits

- Production costs at nuclear power plants in 2008 averaged 1.87 cents per kilowatt-hour, cheaper than coal (2.75 cents) and natural gas-fueled (8.09 cents) plants
- Each nuclear power plant provides about \$430 million annually to state and local economies
- Approximately \$40 million is spent annually in labor income
- 15,000 new, high-paying jobs have been added to the industry over the last three years
- 16 license applications are being reviewed by the U.S. Nuclear Regulatory Commission for 25 new reactors
- Up to 21,000 high-paying jobs will be created if all planned nuclear reactors come on line
- 1,400 to 1,800 construction jobs will be created to build each new reactor
- 400 to 700 permanent jobs will be created to operate each new reactor
- An additional 700 indirect jobs are expected to be created at each project
- Nearly \$100 million in local, state and federal taxes will be generated by each project
- A new nuclear energy facility creates 500 jobs per 1,000 MW of electric generating capacity, compared to 220 jobs for a coal plant, 90 for a wind farm and 60 for a natural gas plant

Environmental Benefits

- Nuclear energy produces 72% of all U.S. emission-free electricity
- In 2008, nuclear power plants prevented nearly 700 million metric tons of carbon dioxide emissions, almost equal to the amount of carbon dioxide emissions from all U.S. passenger cars
- A nuclear energy facility's life-cycle carbon emissions are among the lowest of any electricity generation source at 17 tons of CO2 equivalent per gigawatt-hour, comparable to geothermal (15 tons) and wind (14 tons)

Public Opinion

- 70% of American adults favor using nuclear energy
- 84% say nuclear energy is important to the United States' energy future
- 62% say the industry should "definitely build new nuclear plants"
- 90% of nuclear power plant neighbors hold a favorable impression of the local facility; 76% would find it acceptable to add a new reactor at the nearby site

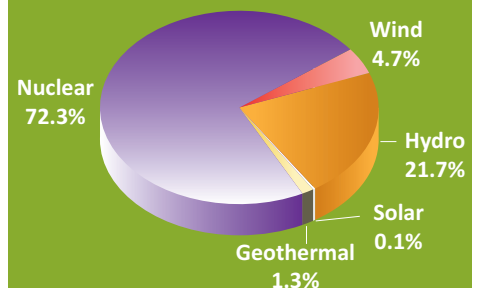
Nuclear Power Plants Provide More Jobs Than Other Sources of Electricity

Jobs per 1,000 MW of generating capacity

Nuclear	500
Coal	220
Natural Gas	60
Wind	90

Source: Ventyx and U.S. Department of Energy (numbers are averages)

Electricity Sources That Do Not Emit Greenhouse Gases During Operation



Source: Energy Information Administration Updated: 4/09



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