



Nuclear Clean Air Facts

About one-third of U.S. electricity production is generated by carbon-free sources. Nuclear energy accounted for **71 percent** of America's carbon-free source generation. The other sources are hydro—25 percent; and solar, wind and geothermal combined at 4 percent.

Land consumption required to produce electricity

You can produce a million megawatt-hours of electricity a year from a **nuclear reactor** sitting on 1 square mile. That's enough electricity to power 2 million homes. In comparison:

- A **coal-powered** plant absorbs 4 square miles when you count all the land to produce the same amount of electricity
- **Natural gas** takes 7 square miles
- **Solar** - photovoltaic cells that turn sunlight directly into electricity - takes 15 square miles
- **Petroleum** takes 17 square miles—counting the land needed for drilling and refining
- **Wind** is even more diluted, taking 30 square miles (19,200+ acres) to produce the same amount of electricity

Capacity for U.S. power plants in 2009

- Nuclear power facilities 91.1 percent
- Coal-fired power plants about 70 percent
- Natural gas-fired power plants 40 percent
- Wind and solar power projects about 20 - 30 percent

Comparing Electricity Sector Carbon Dioxide Emissions

To compare the greenhouse gas impacts of electricity generation from various fuel sources, generating 1 million-kilowatt hours of electricity produces:

996 metric tons of carbon dioxide from a coal-fired plant
 809 metric tons of carbon dioxide from an oil-fired plant
 476 metric tons of carbon dioxide from a natural gas-fired
ZERO from a nuclear power plant.

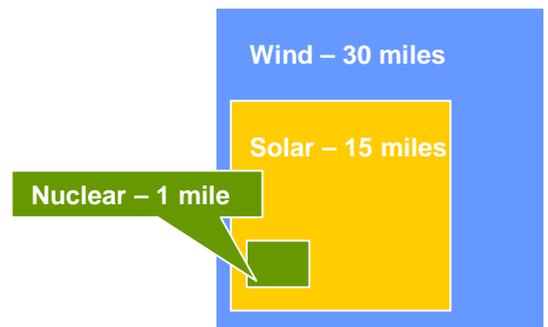
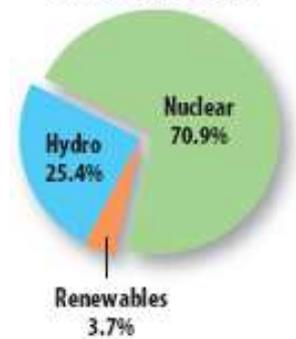
Nuclear Fuel

If one American got all of this person's electricity of a lifetime of 77 years from nuclear power, the total share of spent fuel (waste) would weigh two pounds and fit into one soda can.

If an American got all his or her electricity from coal over a lifespan of 77 years, that person's mountain of solid waste would weigh 68.5 tons.

Picture a soda can next to that.

Emission-Free Power



The energy in one uranium fuel pellet –
 the size of the tip of your little finger – generates the same amount of electricity as:

- 1,780 pounds of coal
- 149 gallons of oil
- 17,000 cubic feet of natural gas

The average price per kilowatt hour:

Nuclear	2.03 ¢
Coal	2.26 ¢ *
Gas	5.11 ¢ *
Petroleum	13.39 ¢ *
Wind	17 - 21 ¢ **
Solar	13 - 31 ¢ ***

* U.S. Energy Information Administration, Sept. 2010 report

** Cape Wind pricing, Boston Globe, May 2010

*** Southern California Edison, July 2010

Did You Know?

- For nuclear power, a single gram of uranium-235, a nuclear fuel, packs the same punch as
4 TONS of coal
8 TONS of wood
- On a cross-country flight, you will receive an average of 3-5 *millirems* of radiation. This is more than you would receive standing at the gate of a nuclear power plant 24 hours a day for a year. (Source: DOE)
- The nuclear industry produces less CO2 than Google!
See the facts below:

A typical Google search generates 7 grams of carbon dioxide, the gas responsible for global warming. In fact, two Google searches nearly equals the amount of CO2 generated by boiling a teapot – 15 grams – according to research by Harvard University physicist Alex Wissner-Gross. Globally, it's estimated that about 200 million Internet searches are typed in daily, and according to research firm Garner, the Internet tech industry creates about 2 percent of the world's carbon dioxide emissions, equaling the airline industry's CO2 output. (Media magazine, Feb. 2009)

The Clean Air Economics of Nuclear

In a local community, each year the average nuclear plant generates approximately:

- \$430 million in sales of goods and services
- Nearly \$40 million in total labor income
- Approximately \$13 million in taxes*

* Energy Nuclear average for 2009.

Employees at U.S. nuclear plants earn salaries approximately 40% more than average earnings in communities near the plants.

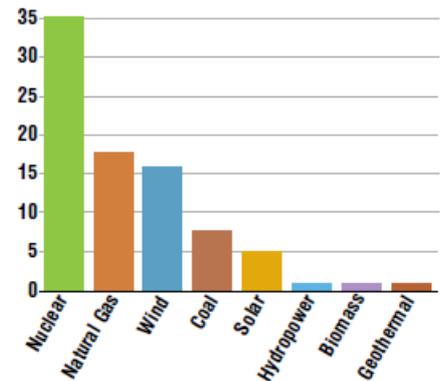
There has been no other energy source in the last thirty years that has a better track record for returning money for those that make an investment than nuclear power.

A single new nuclear power plant requires approximately:

- 400,000 cubic yards of concrete
- 66,000 tons of steel
- 44 miles of piping
- 300 miles of electric wiring
- 130,000 electrical components

State electric utility regulators prefer nuclear energy over other forms by a two-to-one margin, a recent independent survey has found. State regulators increasingly are viewing nuclear energy as the preferred type of electricity generation.

Regulators Prefer Nuclear Energy



Radiation exposure near a nuclear power plant

is very low. Operation of a reactor that generates electricity adds about three millirem a year if one stood right next to a plant for that entire year. A person would have to live next door to a nuclear energy facility for more than 1,000 years to get the same amount of radiation dose as a single whole-body CT scan.

