

Top 10 Myths about Nuclear Energy

Myth # 1: Americans get most of their yearly radiation dose from nuclear energy.

Truth: We are surrounded by naturally occurring radiation. Only 0.005% of the average American's yearly radiation dose comes from nuclear power; 100 times less than we get from coal [1], 200 times less than a cross-country flight, and about the same as eating 1 banana per year [2].

Myth # 2: A nuclear reactor can explode like a nuclear bomb.

Truth: It is impossible for a reactor to explode like a nuclear weapon; these weapons contain very special materials in very particular configurations, neither of which are present in a nuclear reactor.

Myth #3: Nuclear energy is bad for the environment.

Truth: Nuclear reactors emit no greenhouse gasses during operation. Over their full lifetimes, they result in comparable emissions to renewable forms of energy such as wind and solar [3]. Nuclear energy requires less land use than most other forms of energy.

Myth # 4: Nuclear energy is not safe.

Truth: Nuclear energy is as safe or safer than any other form of energy available. No member of the public has ever been injured or killed in the entire 50-year history of commercial nuclear power in the U.S. In fact, recent studies have shown that it is safer to work in a nuclear power plant than an office [4].

Myth # 5: There is no solution for huge amounts of nuclear waste being generated.

Truth: All of the used nuclear fuel generated in every nuclear plant in the past 50 years would fill a football field to a depth of less than 10 yards, and 96 % of this "waste" can be recycled [5]. Deep geologic burial has been shown to be safe and effective means of used fuel disposition, and Yucca Mountain has been deemed a technically sound burial site by the Department of Energy.

Myth # 6: Most Americans don't support nuclear power.

Truth: In surveys conducted in 2007, it was found that 63% of Americans support nuclear power [6]. Further, 82% of Americans that live within 10 miles of an existing nuclear power plant favor nuclear energy.

Myth # 7: An American "Chernobyl" would kill thousands of people.

Truth: A Chernobyl-type accident could not have happened outside of the Soviet Union because this type of reactor was never built or operated here. The known fatalities during the Chernobyl accident were mostly emergency first responders [7]. Of the people known to have received a high radiation dose, the increase in cancer incidence is too small to measure due to other causes of cancer such as air pollution and tobacco use.

Myth # 8: Nuclear waste cannot be safely transported.

Truth: Used fuel is being safely shipped by truck, rail, and cargo ship today. To date, thousands of shipments have been transported with no leaks or cracks of the specially-designed casks [8].

Myth # 9: Used nuclear fuel is deadly for 10,000 years.

Truth: Used nuclear fuel can be recycled to make new fuel and byproducts [9]. Most of the waste from this process will require a storage time of less than 300 years. Finally, less than 1% is radioactive for 10,000 years. This portion is not much more radioactive than some things found in nature, and can be easily shielded to protect humans and wildlife.

Myth # 10: Nuclear energy can't reduce our dependence on foreign oil.

Truth: Nuclear-generated electricity powers electric trains and subway cars as well as autos today. In the near-term, nuclear power can provide electricity for expanded mass-transit and plug-in hybrid cars. In the longer-term, nuclear power can directly reduce our dependence on foreign oil by producing hydrogen for fuel cells and to produce synthetic liquid fuels.

National Council on Radiation Protection and Measurements No. 92 and 95

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