
What about the environmental impact of electricity generation?

NUCLEAR VS. FOSSIL FUELS

- Making electricity contributes 40% of world carbon dioxide emissions.

They and other greenhouse gas emissions from burning fossil fuels trap solar heat in the upper atmosphere that would normally be radiated into space. This process is causing the global temperature to rise. The effects are already having an impact on all life and could cause the extinction of as much as 30% of all species.

- Electricity use is rising in the U.S. and is expected to double before mid-century. From 1990 to 2005, American output of greenhouse gases rose by 17%, with most coming from residential sources.

- On average, an individual American's contribution is 24.5 metric tons of greenhouse gases a year and growing. Even though Americans make up only 5% of the world's population, they account for 25% of the world's total.

- There are only three sources of electricity generation reliable and steady enough to meet 24/7 demand: fossil fuels, hydroelectric dams, and nuclear power.

- Worldwide, 0.02% of our electricity comes from wind and solar power and in the U.S., less than 1%. These systems operate at best only one-third of the time and require backup systems, usually fossil-fuel powered. Until battery storage technology is radically improved, wind and solar power will be able to meet only a fraction of growing electricity needs.

- In the U.S., three-quarters of the electricity comes from burning fossil fuels that emit greenhouse gases.

- To keep a 100-watt bulb burning for ten hours requires burning a pound of coal in a coal-fired electric plant. The electricity use of an average American home results in 18,000 pounds of carbon dioxide a year released into the atmosphere.

- To provide energy, fossil fuel combustion produces 27 billion tons of global-warming carbon dioxide yearly. If solidified it would make a mountain about a mile and a quarter high and a base over 6 miles in circumference.

- The same quantity of energy provided annually by nuclear fuel would produce only 14,000 tons of solid waste. Since that fuel is made from uranium, which is very dense, the volume is small. It would occupy a cube that was about 20 yards on a side—about the size of a big townhouse.

- The comprehensive life cycle of nuclear power emits the same quantity of greenhouse gases as the life cycle of wind power and less than that of solar power.

- The U.S. gets 20% of its electricity from 104 commercial nuclear reactors. Nuclear power accounts for 71% of greenhouse-gas free generation in the U.S. Nuclear power is the single largest displacer of greenhouse gases in the world.

- The UN Intergovernmental Panel on Climate Change has concluded that nuclear power must play a greater role in minimizing greenhouse gases.

- The debate about nuclear power and its role in mitigating greenhouse gas emissions will step up significantly in the near future. The first two applications to build new nuclear plants were filed in September, 2007, with the Nuclear Regulatory Commission. The NRC expects as many as three dozen nuclear plant license applications in the next year or so. Mining companies plan to invest in U.S. uranium mining to meet the increased demand for nuclear fuel, and new prospecting has begun.