

10 Harsh Realities of the US Coal Industry

Excerpted from the Union of Concerned Scientist [Clean Energy report](#)

A typical-sized 500 megawatt coal-fired electricity plant in the United States puts out each year:

- 1. 3.7 million tons of carbon dioxide.** Carbon dioxide (CO₂) is the main greenhouse gas, and is the leading cause of global warming. There are no regulations limiting carbon dioxide emissions in the U.S.
- 2. 10,000 tons of sulfur dioxide.** Sulfur dioxide (SO_x) is the main cause of acid rain, which damages forests, lakes and buildings.
- 3. 10,200 tons of nitrogen oxide.** Nitrogen oxide (NO_x) is a major cause of smog, and also a cause of acid rain.
- 4. 500 tons of small particles.** Small particulates are a health hazard, causing lung damage. Particulates smaller than 10 microns are not regulated, but may be soon.
- 5. 220 tons of hydrocarbons.** Fossil fuels are made of hydrocarbons; when they don't burn completely, they are released into the air. They are a cause of smog.
- 6. 720 tons of carbon monoxide.** Carbon monoxide (CO) is a poisonous gas and contributor to global warming.
- 7. 125,000 tons of ash and 193,000 tons of sludge from the smokestack scrubber.** A scrubber uses powdered limestone and water to remove pollution from the plant's exhaust. Instead of going into the air, the pollution goes into a landfill or into products like concrete and drywall. This ash and sludge consists of coal ash, limestone, and many pollutants, such as toxic metals like lead and mercury.
- 8. 225 pounds of arsenic, 114 pounds of lead, 4 pounds of cadmium, and many other toxic heavy metals.** Mercury emissions from coal plants are suspected of contaminating lakes and rivers in northern and northeast states and Canada. In Wisconsin alone, more than 200 lakes and rivers are contaminated with mercury. Health officials warn against eating fish caught in these waters, since mercury can cause birth defects, brain damage and other ailments.
- 9. Trace elements of uranium.** All but 16 of the 92 naturally occurring elements have been detected in coal, mostly as trace elements below 0.1 percent (1,000 parts per million, or ppm). A [study](#) by DOE's Oak Ridge National Lab found that radioactive emissions from coal combustion are greater than those from nuclear power production.
- 10. A 500 megawatt coal-fired electrical plant burns** 1,430,000 tons of coal, uses 2.2 billion gallons of water and 146,000 tons of limestone a year.