HealthFacts

Dirty Coal Is Hazardous to Your Health: Moving Beyond Coal-Based Energy

There are more than 600 coal-fired plants generating electricity in the United States and another 150 new or proposed power plants currently in the pipeline, according to the U.S. Department of Energy. Burning coal releases enormous amounts of harmful pollutants into the air and water, with serious health consequences. Power plant pollution is responsible for 38,200 nonfatal heart attacks and 554,000 asthma attacks each year. The continued use of older coal power plants—many of which have minimal pollution controls or none at all—and the construction of more coal plants will only exacerbate these dangers. To meet future energy needs without jeopardizing our health we must reduce our energy demand through gains in efficiency, and move toward cleaner, renewable sources of energy already available.

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Coal-Fired Power Plants Threaten the Environment and Your Health

Burning coal pollutes the air we breathe. Coal-fired power plants are among the most polluting industrial facilities. They produce staggering amounts of greenhouse gases and pollute the air with sulfur dioxide, nitrogen oxides, and particulate matter, all of which can cause respiratory problems.

Burning coal pollutes the water we drink. In addition to the pollutants released into the air—many of which later settle on our land and in our water—coal-fired power plants in the U.S. annually produce more than 130 million tons of coal combustion waste (CCW)—coal ash, scrubber sludge, and other by-products. This waste contains toxics such as arsenic and heavy metals. A single large power plant may require several hundred acres of landfill space to dispose of its coal ash, which causes the destruction of green areas. The pollutants in the coal ash can get into the soil and contaminate nearby groundwater and surface water, endangering marine life, poisoning the fish we eat, and putting drinking water supplies at risk. This can be a problem for residents who depend on public water systems, domestic drinking water wells, or springs.

Sometimes coal ash from power plants is placed in mine pits, called minefills, where it is supposed to help "reclaim" land and improve water quality in previously mined areas. However,

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What goes up the stacks also goes into your lungs:

Mercury – Mercury is a potent neurotoxin that causes neurological and developmental problems. Children and pregnant women are especially vulnerable. Power plants in the United States release approximately 45 to 50 tons of mercury into the air every year. This mercury settles into water bodies, where it works its way up the food chain and contaminates the fish we eat. Even the best controlled new coal-fired utility boiler will emit more than 100 pounds of mercury each year.

Nitrogen oxides – Nitrogen oxides react with other chemicals in the air in the presence of sunlight to form ground level ozone, or smog. Ozone aggravates asthma and causes lung damage and decreased lung function.

Sulfur dioxide – Sulfur dioxide in the air can aggravate respiratory problems such as asthma and can worsen heart disease. Some older power plants built before 1970 are allowed to operate without the pollution control equipment necessary to control emissions of sulfur dioxide.

Particulate matter – Particulate matter can cause respiratory problems such as bronchitis, reduce lung function, cause breathing difficulties, aggravate asthma and heart disease, and increase the chance of heart attack and stroke. Particulate matter causes thousands of premature deaths every year.

many of these minefill projects are done without adequate environmental protections and often not enough is known about a site to predict what the negative environmental effects will be. The result is that some minefills actually worsen water pollution when toxic pollutants from the minefill dissolve and migrate into groundwater or nearby streams.

In addition to the environmental and public health hazards associated with burning coal, coal extraction—especially practices like mountaintop removal mining—devastates landscapes, contaminates waterways, and endangers communities. Because a large coal plant can burn more than 2 million tons of coal per year, even the best controlled sources endanger public health and contribute to serious environmental damage.

Moving Away from Dirty Coal

To meet America's energy needs while protecting our health and environment, we must:

- Increase energy efficiency and conservation, thereby reducing per capita energy consumption and reducing the need for more power plants, including dirty coal plants.
- Aggressively pursue renewable sources of energy such as wind, solar, and biomass, which can provide additional energy resources without many of the harmful consequence of coal-based power generation. Nearly 20 states already require utilities to generate a certain percentage of their electricity using renewable energy, and Congress recently passed a national renewable standard that would require utilities to produce 15 percent of their electricity using renewable sources of energy by 2020.
- Use natural gas to provide energy in areas where, after taking full advantage of gains from energy efficiency and renewables, greater capacity is still need. Natural gas is a cleaner fuel with significantly lower emissions of harmful air pollutants, a dramatically smaller waste steam, and fewer upstream impacts.

Pollutants from disposal sites infiltrate water supplies:

Arsenic – Arsenic increases the risk of skin, lung, bladder, liver, kidney and prostate cancer. It can also cause liver disease, anemia, gangrene and various skin diseases.

Boron – Boron causes harm to the reproductive system and increases the risk of birth defects.

Heavy metals – This includes metals such as cadmium, chromium, lead, mercury, molybdenum, nickel, selenium, and zinc. These metals can cause a number of health problems, including cancer, nervous system and brain damage, kidney and liver damage, and learning and behavioral problems in children.

Recently, advanced coal technologies have emerged that have the potential to improve the emissions performance of coal-fired power plants and capture greenhouse gases for permanent disposal. While clearly preferable to dirtier, existing coal technologies, these new technologies do little or nothing to address the adverse impacts of coal combustion waste or the upstream impacts of coal mining.

How to Reduce Pollution in Your Community

If you are concerned about the health effects of pollution from an existing or proposed coal-fired power plant near your community, there are several things you can do:

- Practice energy efficiency at home. Using energy-efficient appliances (Energy Star rated), weatherizing your home, and reducing the waste of energy around the home with programmable thermostats and compact fluorescent light bulbs will save energy and money.
- Ask your utility regulators to support the use of renewable energy sources and to adopt aggressive energy efficiency and conservation programs.
- Contact your state environmental agency if there are plans to build a coal-fired plant in your area. Companies must apply for permits to build new power plants in the state. The environmental agency must open a public comment period on these applications and may hold public hearings to give the public an opportunity to voice their opinion about the project.
- Contact your utility regulatory agency (public service commission or public utility commission). In many states, new coal plants must first obtain approval from the public utility commission, which may provide for a public hearing in which the public can participate. Additionally, existing plants may need to demonstrate periodically that they are taking appropriate action to pursue energy efficiency and renewable energy sources.

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