The Silent Costs of Coal-Based Electricity

In this document, you can expect to find:

- Details about what health problems are linked to and caused by both coal mining and the pollution emitted from burning coal;
- Information about the health costs Kentuckians pay for coal-fired electricity that are not included in the price of utility bills, including nearly **$4 billion** in public health costs;
- And, a list of the major types of environmental destruction in Kentucky caused by coal mining over the last few decades.

THE SILENT COSTS OF COAL-BASED ELECTRIC ENERGY

When coal is combusted to create electric energy, it emits fine particle pollution into the air. Important studies by the Harvard School of Public Health and the American Cancer Society, link exposure to fine particle air pollution to heart disease, lung cancer, respiratory ailments, and premature death. As coal production increases, health status of people living in that area worsens, and rates of cardiopulmonary disease, lung disease, cardiovascular disease, diabetes, and kidney disease increase.[1]

The volume of coal mining is is related to increased risk of hospitalization for both hypertension and chronic obstructive pulmonary disease (COPD), both conditions sensitive to coal mining emission exposure. The chance of COPD hospitalization increases 1% for each 1462 tons of coal, and the odds of having hypertension hospitalization increases 1% for each 1873 tons of coal.[2]

In the U.S., fine particle pollution from coal-fired electric plants causes 94,888 lost work days, 639 hospitalizations and 16,440 asthma attacks every year, 798 of which are so severe they require emergency room visits.[3]

COAL MINING AND BURNING CAUSES ENVIRONMENTAL DESTRUCTION

➡Since 1980, 1.14 million acres of Kentucky's lands, mainly forest, have been cleared or disturbed for strip mining.[4]

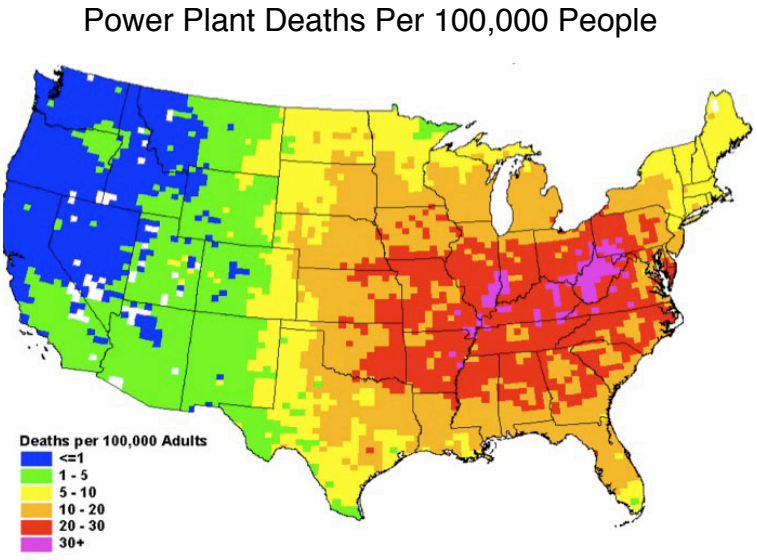
➡More than 200 mountain-tops have been removed due to coal mining practices, often illegal ones.[5]

➡Nearly 500 miles of headwater streams have been destroyed by valley fills from mining.[6]

➡All 89,431 miles of Kentucky's rivers and all 228,385 acres of its lakes are under advisory for mercury contamination.[7] The primary source of mercury emissions in Kentucky is coal-fired power plants, which emitted 2.2 tons of mercury in 2002.[8] Mercury is a known neuro-toxin, especially dangerous to pregnant women (it crosses the placental barrier and exposes the fetus) and young children.

➡Mining has destroyed mountains, contaminated drinking water with pollution and heavy metals, and obliterated home values in many communities.

HEALTH IMPACTS OF COAL DEPENDENCE ON KENTUCKIANS



Fine particle pollution from coal-burning power plants shortens the lives of 745 Kentuckians each year. We have the second highest risk in the country of dying from plant pollution. Each year, 110 Kentuckians die of lung cancer and 1,022 have heart attacks that wouldn't have if coal pollution were eliminated.[9]

Children are the most vulnerable to the negative effects of the air pollution that comes from coal-burning power plants. In Kentucky, **811,993 children live within 30 miles of a power plant**, the area in which the greatest health impacts are felt.[10]

Coal use results in 66% of sulfur dioxide, roughly 33% of all mercury emissions and 22% of nitrogen oxides (NOx) emissions in Kentucky each year.[11] For each ton of SO2 removed, it is a public health savings of $7300. This means if the 482,654 tons of emissions from coal-fired electric energy plants were removed, Kentuckians would save **$3,523,374,200**! For each ton of NOx removed, it is a public health savings of $1300. This means if the 198,541 tons of emissions were removed from coal-fired power plants, we would save **$258,103,300** in public health dollars.[12]

Increased asthma attacks are strongly linked to air pollution emitted during coal combustion. In Kentucky, about one in 10 adults and one in 10 children have asthma (about 45,000 kids in Kentucky). While asthma can affect anyone at any age, it is more common among African Americans. In Kentucky, 14.2% of African Americans have asthma compared to 9.3% of whites. Additionally, African Americans are four times more likely to die from asthma-related illness than whites.[13]

People of color in Kentucky have a 50% increased risk of being exposed to toxic chemicals and a 70% increase risk of getting cancers associated with hazardous air pollutants compared with Caucasians. People of color are 7 times as likely to live near facilities emitting criteria air pollutants restricted and governed by the Clean Air Act and kids below the poverty line face more than twice the risk of living near these facilities.[14]

REFERENCES

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[8] Clean Air Task Force. "Find Your Risk From Power Plant Pollution." Available: http://www.catf.us/projects/power_sector/power_plant_emissions/pollution_locator/. EPA estimated 1.74 tons of emissions from Kentucky coal-burning power generators as of 2000.

[9] Clean Air Task Force based on EPA data.

[10] Clean Air Task Force.

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