

Coal Costs the U.S. \$500 Billion Annually in Health, Economic, Environmental Impacts

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A report from Harvard researchers in this month's *Annals of the New York Academy of Sciences* will reveal that coal use costs the U.S. between a third and over half a trillion dollars each year in health, economic, and environmental impacts.

Coal is the most popular electricity-generating fuel, with 40% of electricity worldwide generated by coal plants. It's a number that is only expected to grow; by 2030, electricity demand around the world will double. But while coal is cheap and abundant, it has plenty of hidden costs.

The report, written by Dr. Paul Epstein, associate director of the [Center for Health and the Global Environment](#) at Harvard Medical School, examines the life cycle of coal production to find "hidden costs," or costs that occur "when the activity of one agent affects the well-being of another agent outside of any type of market mechanism."

These costs include damages from climate change (like weather events and rising seas, public health damages from toxins released during electricity generation, deaths from rail accidents during coal transport, public health problems in coal-mining regions (in Appalachia, mountaintop removal contaminates surface and groundwater with carcinogens and heavy metals), government subsidies, and lost value of abandoned mine areas.

In Appalachian communities alone, public health burdens from coal mining cost \$74.6 billion each year. Air pollutant emissions cost \$187.5 billion, mercury emission impacts reach \$29.3 billion, and greenhouse gas emissions (and accompanying climate change effects) from coal-fired plants costs between between \$61.7 and \$205.8 billion. And then there are the smaller costs--between \$2.2 and \$10 billion in impacts from land disturbances, and impacts from toxic spills, declines in property values, tourism loss, and crop damage.

The paper isn't too bullish on carbon capture and storage at coal plants, either, explaining that "in addition to the control technique not altering the upstream life cycle cost--significant obstacles lie in the way, including the costs of construction of suitable plants and underground storage facilities."

So what can be done? The world must phase out coal use--or face ever-increasing health and environmental costs. Alternative energy sources may be more expensive when the monthly energy bill arrives, but that is clearly only part of the story.