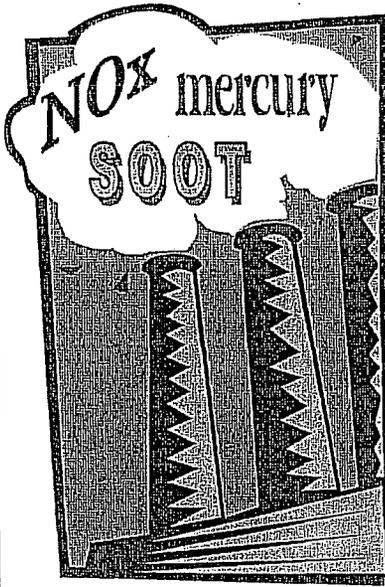


Replace Coal Power with Clean Wind Energy



Problem

Otter Tail Power Company, in conjunction with several other power companies, is proposing a major new source of air and water pollution for South Dakota and Minnesota. Otter Tail plans to more than double the output of the existing coal-burning power plant at Big Stone by building a new plant on the same site – Big Stone II. Coal pollution is a threat to our health and environment. Investing in a new coal-burning power plant wastes money and takes South Dakota away from safe, clean renewable energy from wind.

Toxic Coal Pollution

Coal-burning power plants are a significant source of air pollution. Coal-burning power plants emitted 3,762 thousand tons of carbon dioxide, 16 thousand tons of nitrogen oxides and 13 thousand tons of sulfur oxides in South Dakota in 2002.¹ Coal plants also emit significant amounts of lead and mercury. These pollutants are linked to serious health problems that lead to thousands of unnecessary deaths each year – more than from drunk driving or homicide.² Additionally, these health impacts often leave vulnerable populations – like children and the elderly – hardest hit.

Nitrogen oxides (NO_x) combine in the presence of sunlight with other organic compounds to form ground-level ozone, or smog. Smog is a powerful lung irritant that can exacerbate asthma and other respiratory problems.³

Sulfur dioxide (SO₂) is the primary component of particulate matter (PM), commonly known as soot. Some of these particles are so small they can travel deep into the lungs where they have adverse impacts on respiratory health. PM is especially dangerous for those with lung diseases (such as asthma and emphysema), for the elderly and for children. PM also contributes to haze, obscuring the visibility of our skylines and cherished recreation areas.⁴

Mercury is a heavy metal and a potent neurotoxin that is emitted from power plants when coal is burned. Mercury is released into the air and settles downwind of power plants where it contaminates lakes, rivers and the fish we eat. Exposure to mercury pollution may be especially harmful to women of child-bearing age, fetuses and children because it interferes with the development of the nervous system and can lead to delayed mental development, learning disabilities, and deficiencies in language, motor function, attention and memory.⁵



Coal pollution can cause or aggravate lung problems like asthma.

The Solution to Coal Pollution: Clean Wind Power

Wind power can reduce pollution generated by fossil fuels such as coal, oil, and gas. Wind power generates electricity with no air emissions; no fuel to mine, transport, or store; no cooling water; no water pollution; and no wastes. Using responsible siting practices, wind projects now have minimal impacts on wildlife and natural resources.

The Midwest is blessed with such an abundance of windy terrain, especially in the Great Plains states of North and South Dakota, Iowa, Minnesota and Nebraska – so much so that it is sometimes referred to as the “Saudi Arabia of wind energy.” South Dakota ranks fourth in the U.S. in renewable energy potential, with a potential power output of 117,200 MW.⁶ That is the equivalent of 195 coal plants the size of the proposed Big Stone II.



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44.48 MW of installed and projected wind energy capacity, and new wind projects planned.⁷ South Dakota should harness its abundant wind resources, rather than investing money in a new coal-burning power plant.



South Dakota has incredible potential to generate renewable wind energy – improving our economy and environment.

Benefits of switching from coal to wind include:

- reduced air and water pollution and toxic wastes,
- health benefits from less air pollution – 54 fewer deaths, 1290 fewer asthma attacks and over 7000 fewer lost work days due to various illnesses caused by coal pollution,⁸
- improved electricity reliability, thanks to a diversified power portfolio,
- economic development and job growth through wind power “cash crops” for landowners and clean energy exports, increased business for wind turbine manufacturers and new skilled jobs in installation and maintenance of wind turbines.

Clean Water Action's Position

The Big Stone area is not the right place for a new coal plant. Although Big Stone II would be across the border in South Dakota, air pollution knows no boundaries. Airborne toxins would affect Big Stone Lake and Minnesota's Big Stone State Park. Known for fishing, recreation, and camping Big Stone Lake is already under fish consumption advisories for mercury.

Before South Dakota builds another polluting coal plant, the public health and economic development benefits of renewable energy options must be considered. Since coal plants can operate for at least 40 years, every time a new one is built we commit to dirty energy for generations to come. For the future health and economic well-being of the region, we should use clean, innovative renewable energy options, not polluting coal technology developed long ago.

¹ Energy Information Association, “State Electricity Profiles 2002,” www.eia.doe.gov/cneaf/electricity/st_profiles/south_dakota.pdf

² Abt Associates, “Death, Disease and Dirty Power: Mortality and Health Damage Due to Air Pollution from Power Plants,” Bethesda, MD, 2000.

³ US EPA, “National Air Quality and Emissions Trends Report, 1999.” Office of Air Quality Planning and Standards, EPA 454/R-01-004, 2001.

⁴ Abt Associates, 2000.

⁵ Minnesota Department of Commerce, “2001 Energy Planning Report,” Appendix A: Dealing With Environmental Impacts of Electric Generation, 2001.

⁶ Union of Concerned Scientists, “Plugging in Renewable Energy,” 2003. www.ucsusa.org/documents/Plugging_in_Renewable_Energy.pdf

⁷ American Wind Energy Association, “Wind Project Database- South Dakota,” www.awea.org/projects/southdakota.html

⁸ Abt Associates, “Power Plant Emissions: Particulate Matter-Related Health Damages and the Benefits of Alternative Emission Reduction Scenarios,” June 2004.