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THE BUZZ ABOUT CLEAN COAL

by Jennifer Rohleder*

The term “clean coal” figures prominently in discussions about the future of United States energy policy, but what exactly is it, and can it really help? Coal generates over half of the electricity used in the United States,¹ and accounts for 36 percent of the United States’ overall releases of carbon dioxide (“CO₂”).² Coal-fired power plants in general are the largest source of man-made CO₂, and these plants account for over one quarter of the world’s total emissions.³

Clean coal technology (“CCT”) is actually a variety of technologies designed to reduce the environmental impact of coal-fired power plants. CCT encompasses technologies for coal preparation, coal gasification, pollutant removal, and carbon capture and storage.⁴ Despite improvements to coal-fired plant efficiency, carbon emissions still remain a problem for using coal to produce electricity. Carbon capture and storage (“CCS”) technology captures CO₂ and stores it deep underground, preventing the gas from entering the atmosphere.⁵ CO₂ could be pumped into and stored in underground saline aquifers, or pumped into oil fields to maintain pressure and facilitate oil extraction.⁶

Coal gasification plants are considered a key element for a zero-emissions power system; however, the technology has not yet been proven on a wide-scale commercial basis.⁷ When coal is gasified, it is not actually burned; rather it is broken down into its chemical components and chemical reactions are performed. Impurities are removed from the resulting gas, many of which are valuable by-products. This process also produces significant

amounts of CO₂; however, unlike traditional coal-fired power plants, separating the CO₂ requires little to no additional effort or expense, making carbon capture economically feasible, particularly if the gasifier has a market for the CO₂.⁸

If captured CO₂ is used to recover more oil through enhanced oil recovery, thus encouraging more oil consumption, is there really a net benefit?⁹ Supporters of CCS say yes. When using man-made CO₂, rather than natural CO₂, it is substantially decreasing what would otherwise be emitted into the atmosphere. This outcome is of course dependent on the fact that the

CO₂ actually stays in the ground and does not leak out. Studies are taking place around the world, but it could be years before we know whether storage is a viable option.¹⁰

CCT could potentially make great strides for stabilizing and reducing U.S. and global CO₂ emissions, but it could come at the cost of the natural landscape. Additional coal demand will naturally encourage more coal mining. The face of coal mining has changed from the ubiquitous under-

ground shafts of Pennsylvania to open pit mining in the Western states and mountain-top removal mining in Appalachia. The question remains, are we simply trading one ecological disaster for another?



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Endnotes:

¹ Marilyn Berlin Snell, *Can Coal Be Clean?*, SIERRA MAG., Jan. / Feb. 2007, available at <http://www.sierraclub.org/sierra/200701/coal.asp> (last visited Feb. 5, 2007).

² Snell, *id.*

³ Craig Canine, *How to Clean Coal*, NAT. RESOURCE DEF. COUNCIL’S ONEARTH MAG., Fall 2005, at 22, available at <http://www.nrdc.org/onearth/05fal/coal1.asp> (last visited Feb. 5, 2007).

⁴ BBC News, *Clean Coal Technology: How it Works*, (Nov. 28, 2005), available at <http://news.bbc.co.uk/1/hi/sci/tech/4468076.stm> (last visited Feb. 5, 2007).

⁵ BBC News, *id.*

⁶ BBC News, *id.*

⁷ BBC News, *id.*

⁸ Canine, *supra* note 3, at 24.

⁹ Canine, *supra* note 3, at 26.

¹⁰ Canine, *supra* note 3, at 26.

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