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GLOBAL TRADE:

THE IMPACT OF MASSACHUSETTS' ENERGY POLICY ON COLUMBIA'S MINING INDUSTRY

by Cynthia Wildfire*

The United States relies heavily on the assertion that domestic coal reserves supply the nation's electricity with a continuing secure energy source. The oft-cited figure that a 150 year supply of domestic coal is available often underlies the energy policy debate.¹ While energy plan proposals suggest reducing dependence on foreign oil, "clean coal" technology remains the focus for electricity generation.² However, a closer look at the types of coal available displays flaws in this simplistic view of total reserves. Massachusetts already imports over eighty percent of the coal used to produce the state's electricity from other countries, primarily Columbia.³ The results of Massachusetts' air quality regulations reveal how shifts in environmental regulations can make domestic coal too expensive to compete in the market, even without serious regulation of greenhouse gases.⁴ Meanwhile, importing coal adds to the environmental and social problems of the countries that produce it. Environmental regulations need to catch up to the globalization of markets and trade, or the air quality regulations designed to reduce power plant emissions and acid rain in Massachusetts may translate to polluted water and damaged land in Colombia, rather than a net global environmental improvement.⁵

Coal in the United States comes primarily from Western states, with Wyoming in the lead, and from Appalachia, the historic coal mining region.⁶ Because of the long history of coal mining in Appalachia, the best and most accessible coal is gone, making mining more expensive and the region unlikely to regain its former market share.⁷ Much of the coal from the West is closer to the surface and cheaper to mine, but has relatively low energy content.⁸ It takes about fifty percent more Western coal to produce the same amount of electricity as Appalachian coal.⁹ One of the benefits, however, of Western coal is that it is low in sulfur, a key pollutant targeted by Clean Air Act regulations.¹⁰ Meanwhile, Columbia's coal has high energy content and is low in sulfur and ash, making it ideal for power generation under U.S. regulations.¹¹ Ground shipping between Wyoming and New England is expensive, particularly given that more coal is needed to provide the same energy output, while cheaper, high quality coal from Colombia can be shipped on barges to New England at lower total cost.¹²

Massachusetts has enacted clean air regulations for power plants that are stricter in some ways than the Clean Air Act regulations in place nationally.¹³ Power plants have the option of retrofitting, switching to renewable or other cleaner energy sources, or using cleaner inputs.¹⁴ Simply switching to lower sulfur coal that produces fewer emissions is less expensive

than either updating emissions controls or switching to a clean energy source.¹⁵ Power plants must submit compliance plans to the Massachusetts Department of Environmental Protection ("DEP"), and most have chosen to comply through substitution of cleaner coals.¹⁶ In a more globalized coal market, the United States, and particularly Massachusetts, rely more heavily on coal imports to obtain the best quality coal at lower prices and to continue to avoid building power plants with better emissions reduction technology.

Colombian coal has a competitive advantage in part because shipping costs from Wyoming are so high and the Colombian coal industry is relatively new, allowing companies to mine the "easy" coal that has been mined out in Appalachia, but largely because regulation in Colombia is lax compared to that in the United States.¹⁷ In Columbia, workers have few rights and are paid substantially less, approximately one-seventh the pay of U.S. coal miners.¹⁸ The environmental impact of Colombian mines, particularly degraded water quality, ensures that the increased exports fail to improve the standard of living in coal communities.¹⁹ Colombia boasts the world's largest open pit coal mine, the scale of which increases the environmental and social problems attendant with mining.²⁰

If Massachusetts, or any other state, truly wants to lower emissions and improve the environment, regulations need to mandate genuinely clean energy sources and not merely transfer the environmental costs across the globe or across sectors. Rather than allowing utilities to meet the requirements by switching to low-sulfur coal from South America, Massachusetts should take a longer view approach by investing in renewable energy sources. As long as coal continues to be used, regulations should ensure that power plants are equipped to burn it cleanly rather than sourcing low-sulfur coal from developing countries. While domestic coal reserves ensure that dependence on foreign coal will not carry the same risks and foreign policy implications as dependence on foreign oil, states should combine their environmental policies with local energy rather than searching farther afield to remain dependent on coal and resistant to a more meaningful shift in energy policy.



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¹ See, e.g., *Coal Explained: How Much Coal is Left*, U.S. ENERGY INFO. ADMIN., http://tonto.eia.doe.gov/energyexplained/index.cfm?page=coal_reserves (last updated Feb. 19, 2010).

² See *Obama Announces Steps to Boost Biofuels, Clean Coal*, DEP'T OF ENERGY (Feb. 3, 2010), <http://www.energy.gov/news/8596.htm>.

³ JEFF DEYETTE & BARBARA FREESE, UNION OF CONCERNED SCIENTISTS, *BURNING COAL, BURNING CASH* 13 (2010), http://www.ucsusa.org/clean_energy/technology_and_impacts/impacts/burning-coal-burning-cash.html.

⁴ Mark Clayton, *Why Coal-Rich U.S. is Seeing Record Imports*, CHRISTIAN SCI. MONITOR (July 10, 2006), <http://www.csmonitor.com/2006/0710/p02s01-usec.html>.

⁵ See *The Price of Colombian Coal*, THE WORLD, PUB. RADIO INT'L (Jan. 10, 2009, 10:33 AM), <http://www.pri.org/business/global-development/price-colombian-coal.html> (detailing some of the environmental degradation experienced in

Colombia); Emissions Standards for Power Plants, 310 MASS. CODE REGS. 7.29 (2010) (providing the regulation governing Massachusetts power plant emissions for pollutants including, among other things, mercury, particulate matter, and sulfur dioxide).

⁶ *Coal Explained: Where Our Coal Comes From*, U.S. ENERGY INFO. ADMIN., http://tonto.eia.doe.gov/energyexplained/index.cfm?page=coal_where (last updated Oct. 6, 2010).

⁷ Robert C. Milici & Kristen O. Dennen, *Production and Depletion of Appalachian and Illinois Basin Coal Reserves*, in NATIONAL COAL RESOURCE ASSESSMENT OVERVIEW, Ch. H, 1 (Brenda S. Pierce & Kristen O. Dennen eds., U.S.G.S. Prof. Paper 1625-F, 2009), <http://pubs.usgs.gov/pp/1625f/downloads/ChapterH.pdf>.

⁸ *How Coal Works*, UNION OF CONCERNED SCIENTISTS, http://www.ucsusa.org/clean_energy/coalvswind/brief_coal.html (last visited Apr. 8, 2011).

⁹ *Id.*

¹⁰ Milici & Dennen, *supra* note 7, at 4-5.

¹¹ Susan J. Trewalt et al., *World Coal Quality Inventory: Colombia*, in *WORLD COAL QUALITY INVENTORY: SOUTH AMERICA*, Ch. 5 132, 140 (Alex W. Karlsen et al. eds., U.S.G.S Open File Rep. 2006-1241, 2006), <http://pubs.usgs.gov/of/2006/1241/Chapter%205-Colombia.pdf>.

¹² See Clayton, *supra* note 4.

¹³ 310 MASS. CODE REGS. 7.29; *Update on State Regulations that Affect Electric Power Producers*, U.S. ENERGY INFO. ADMIN. (2005), http://www.eia.doe.gov/oiaf/aeo/otheranalysis/aeo_2005analysispapers/usaer.html (last visited Apr. 8, 2011).

¹⁴ Milici & Dennen, *supra* note 7, at 5; *Update on State Regulations that Affect Electric Power Producers*, *supra* note 13.

¹⁵ *Update on State Regulations that Affect Electric Power Producers*, *supra* note 13.

¹⁶ See *id.* See, e.g., EMISSIONS CONTROL PLAN FINAL APPROVAL, HOLYOKE WESTERN REGION, POWER PLANT EMISSION STANDARD, APPLICATION NO. 1-E-01-072 3 (June 7, 2002), www.mass.gov/dep/air/community/mttomfin.doc.

¹⁷ AVIVA CHOMSKY, *LINKED LABOR HISTORIES: NEW ENGLAND, COLOMBIA, AND THE MAKING OF A GLOBAL WORKING CLASS*, 265 (2008); *The Price of Colombian Coal*, *supra* note 5.

¹⁸ *The Price of Colombian Coal*, *supra* note 5.

¹⁹ *Id.*

²⁰ CHOMSKY, *supra* note 17, at 264-68; Aviva Chomsky & Cindy Forster, *Extraction: In Colombia, a Mine Takes Much More from the Land than Coal*, CULTURAL SURVIVAL, Winter 2006, <http://www.culturalsurvival.org/publications/cultural-survival-quarterly/colombia/extraction-colombia-mine-takes-much-more-land-coal> (discussing the impact of the mine on the Wayuu, an indigenous people whose communities were destroyed to make way for the mine).