

# COAL EXPORTS: 19TH CENTURY FUEL MOVES ENERGY POLICY BACKWARDS, NOT FORWARDS

In 2009, the United States produced over one billion tons of coal from 23 states.<sup>1</sup> The majority of that coal went to create electricity at the over 600 coal-fired power plants across the nation. Fuel switching to natural gas and increased use of renewable energy continues to decrease the amount of coal fired power on the US grid. Coal-fired power declined to 44.5% in 2009—a major reduction from the 51% share it had in 1999 (45% in 2010).<sup>2</sup>

These changes have pushed coal companies to eye emerging export markets in Asia. A total of 60 million tons of coal were exported in 2009. The majority of this coal is metallurgical (very high BTU/pound) coal, much of which is shipped to Europe to be used in steel making. In 2010, coal exports increased to 82 million tons.<sup>3</sup>

## MOVING TO EXPAND WEST COAST SHIPPING CAPACITY

Coal is the cheapest and most abundant source of energy in the United States today, but it is also a major contributor to air and water pollution. New federal and state regulations, the discovery of other abundant energy sources such as natural gas, and the increased use of renewable energy such as wind are leading the coal industry to look to overseas markets in China and India, where the demand for cheap energy is on the rise and few environmental laws stand in the way.

The global impacts of coal production to atmospheric carbon and climate change will be felt whether the coal mined in the Wyoming's Powder River Basin is burned in the U.S. or China, but the transportation of the coal halfway around the world increases the environmental and community impact.

Coal companies are candid about their desire to increase coal exports from the West Coast. In an investor presentation given in June 2010 Peabody President, Rick Navarre, highlighted that coal shipments to the Asia-Pacific Region could reach 140 million tons by 2015.<sup>4</sup> The two largest US coal companies, Arch and Peabody, have bought into export terminals projects on the West Coast of Washington that combined would have the capacity to ship over 110 million tons of coal.<sup>5</sup>

Millennium Bulk Logistics, a subsidiary of Australian company Ambre Energy, is seeking permission to build a terminal on the Columbia River in Longview, Washington, that would export up to 60 million tons of coal a year. Arch bought a 38% share in this terminal in early 2011<sup>6</sup>. Permits for this facility were withdrawn, after being challenged by a coalition of environmental groups in Washington. The company misled the public about the size of the facility, initially saying it would export less than 6 million tons of coal while internal documents said it could to increase to 60 million.

The nation's largest coal producer, Peabody Energy, has invested in a proposed coal export terminal in Bellingham, Washington being developed by SSA Marine. The project, known as Cherry Point, would export up to 50 million tons per year. Peabody intends to ship the coal on rail lines along the Columbia River and up through Seattle on its way to Bellingham.

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## IMPACTS OF INCREASING COAL EXPORTS

Increasing coal exports would have a wide range of impacts on communities where the coal is mined, transported through and exported from. Further, increasing exports would subvert the nation's efforts to reduce reliance on coal, its impacts on global warming, and damages done by mining. Construction of new railroad lines and increased traffic on existing lines would create impacts to the environment, communities along the route and other rail users.



Coal train traveling through eastern Montana.

## COAL MINING

Already the Powder River Basin of Wyoming and Montana is the single largest source of coal in the United States. Meeting export goals would likely require Arch, Peabody and other coal companies to open brand new areas of mining and expand existing coal mining operations.

Increasing coal exports from the West Coast could have a similar impact as the amendments to the Clean Air Act in 1990. These amendments put into place strict air quality controls making low-sulfur Western coal more attractive to utilities. Western coal accounted for 54.5% of the total coal produced in the United States in 2009,<sup>7</sup> compared to just 30% in 1990.<sup>8</sup> Western coal would have a major transportation advantage if it were shipped from the US West Coast to the Pacific Rim.

Coal mining causes significant air pollution, mainly from fugitive emissions of particulate matter and gases including methane, sulfur dioxide and nitrogen oxides.<sup>9</sup> These emissions are largely created when blasting, drilling, collecting, hauling and moving heavy machinery.

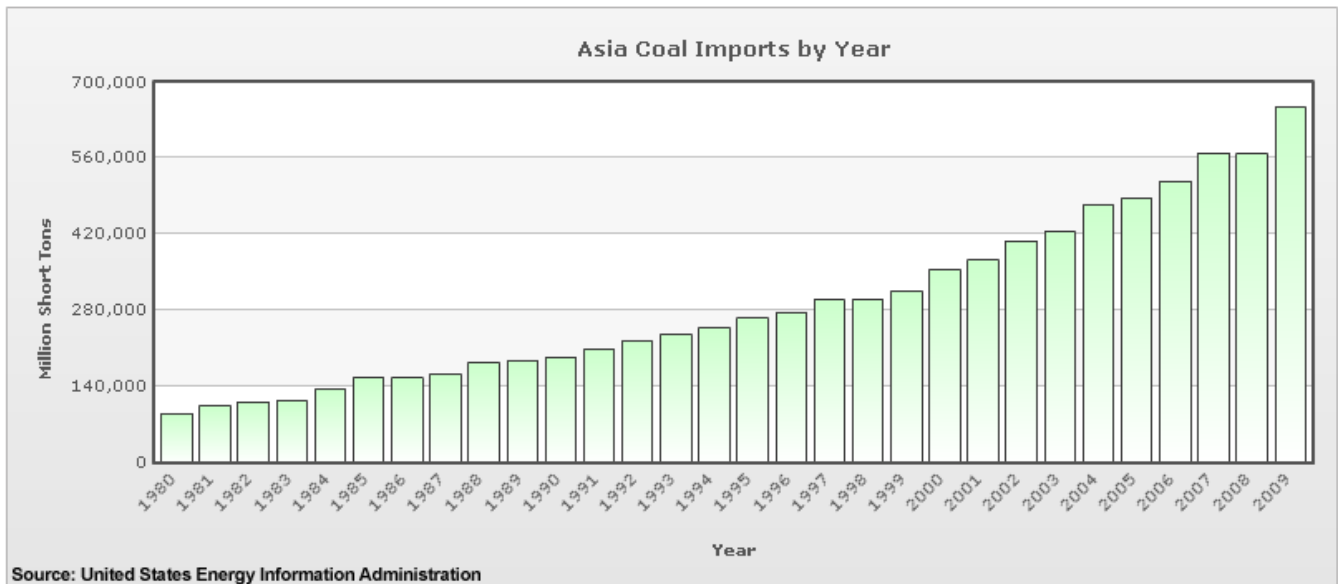
Additional mining will increase these air pollutants in the coal fields. New mines will put more communities at risk and expanded mines will make problems worse for those already experiencing air pollution caused by mining.

Exporting coal will mean the expansion of existing mines and development of new mines, requiring the industrialization of thousands of acres of agricultural land and wildlife habitat.

Coalbeds in the Powder River Basin serve as aquifers for the region. Strip mining severs and destroys these aquifers, which are critical sources of groundwater for agriculture and wildlife. These destroyed aquifers are

not reconstructed by typical mine reclamation practices. Coal mining is already depleting and degrading the water in this region; more mines to expand coal production will compound this damage.

Despite federal and state laws requiring coal companies to reclaim mines after use, the jury is still out on whether companies will be able to meet reclamation standards. Using the best measure for reclamation success, bond release, companies in the Powder River Basin have not been successful. To date nearly 200,000 acres have been disturbed by coal mining in Montana and Wyoming with less than 27% of that land being released from initial stages of bond release, and only about 4% of the disturbed land is reclaimed to pre-mining productivity standards.<sup>10</sup>



## IMPACTS FROM TRANSPORTING COAL

Sending 60 coal trains a day to and from the West Coast would likely require major rail construction and have major disruptions to communities and other rail users along the rail route. Heavy train traffic will clog the hearts of cities along the route, threatening safety and commerce and the vitality of their historic core neighborhoods.

New rail lines can split ranching operations, wildlife habitats and interrupt migratory patterns affecting a wide range of economic activity, as well as the environment.

In communities, increased traffic will also have a wide range of impacts. These include railroad-crossing collisions and pedestrian accidents, interruption in traffic flow and disruption to emergency responders such as police, ambulance services, and fire departments.<sup>11</sup>

Transporting coal produces significant quantities of air pollution and other environmental problems. Diesel trucks, trains, and barges which transport coal all emit toxic chemicals, such as nitrogen oxide and particulates, which pose serious public health risks. According to a National Resources Defense Council study, railroad engines and trucks hauling coal together release more than 600,000 tons of nitrogen oxide and 50,000 tons of particulate matter into the air every year, mostly in diesel exhaust.<sup>12</sup>

Transporting coal in open rail cars also produces a great deal of pollution coal dust. Burlington Northern Santa Fe estimates that a single loaded car can lose 500 pounds of coal, lost primarily from blowing off the top of the car. Coal dust pollutes the communities that coal trains pass through. Coal dust can blow into rivers and streams. Coal dust even causes fires in areas where coal dust blown from trains has built up near the tracks.<sup>13</sup>



Twenty-two trains cut through downtown Billings, Montana, each day congesting traffic during peak driving times. (Taken at 8:30 a.m. on a typical week day.)

Photo: John Smillie, WORC

Large amounts of coal dust escaping from the rail cars weaken the rail bed and lead to more derailments. Not only would this inconvenience all rail customers, but it could lead to a coal train derailment with major environmental and property damage.

Coal dust can have a major impact on communities where an export terminal is located. At these terminals, huge piles of coal are stored in open air making it nearly impossible to prevent coal dust from impacting nearby communities. In Norfolk, Virginia, the export terminal is permitted to release up to 50 tons of coal dust each year. Researchers found 20% coal in soil samples taken less than a mile from the facility, and hypothesized that the terminal could be responsible for higher levels of arsenic found in Norfolk soils.<sup>14</sup>

## COAL TRAIN FACTS

- ✓ 125-130 cars long
- ✓ 115 tons/car
- ✓ 14,950 tons/train (130 cars)
- ✓ 1.36 miles long (130 cars plus engines)
- ✓ 5-10 mph in cities
- ✓ 6-12 minutes/train at crossings
- ✓ 50 trains - approximately 8 hours at each crossing every day

## GREENHOUSE GAS EMISSIONS

Exporting coal overseas subverts domestic efforts to reduce greenhouse gas emissions and weakens international efforts to combat climate change. A coal export facility with the capacity to ship 20-30 million tons per year of Peabody Powder River Basin coal would result in the export of 35-53 million tons of CO<sub>2</sub> per year.<sup>15</sup> Exporting 140 million tons a year would produce roughly 280 million tons of CO<sub>2</sub> per year.

Though small compared with the emissions from burning the coal itself, burning diesel to move coal also emits global warming pollution. According to an analysis done by Earthworks, approximately 700,000 tons of carbon dioxide (CO<sub>2</sub>) could be emitted every year if 20 or 30 million tons of coal were shipped to China from the Powder River Basin. A shorter trip to Japan would still result in emissions of up to 500,000 tons of CO<sub>2</sub>.

### MORE INFORMATION

*Exporting Powder River Basin Coal: Risks and Costs - A WORC White Paper*, January 2011, [http://www.worc.org/userfiles/file/Coal/Exporting Powder River Basin Coal Risks and Cost.pdf](http://www.worc.org/userfiles/file/Coal/Exporting%20Powder%20River%20Basin%20Coal%20Risks%20and%20Cost.pdf)

*Massive Coal Export Terminals Target Washington - Climate Solutions Factsheet* on coal export in Washington State, <http://climatesolutions.org/nw-states/washington/no-coal/factsheet>

## NOTES

- 1 <http://www.eia.doe.gov/cneaf/coal/page/acr/table1.html>
- 2 [http://www.eia.doe.gov/cneaf/electricity/epm/table1\\_1.html](http://www.eia.doe.gov/cneaf/electricity/epm/table1_1.html)
- 3 U.S. Coal Supply and Demand: 2010 Year in Review, William Watson, Nicholas Paduano, Tejasvi Raghuvver and Sundar Thapa, U.S. Energy Information Administration, <http://www.eia.gov/coal/review/pdf/feature10.pdf>.
- 4 Navarre, Rick, Peabody Energy, June 17, 2010 Expanding Markets and Peabody Growth Opportunities. 2010 Analyst and Investor Forum, Slide 42.
- 5 Climate Solutions Factsheets, "Will Whatcom County Cave in to Dirty Coal?" <http://climatesolutions.org/nw-states/washington/no-coal/cherry-point> & "Massive Coal Export Terminals Target Washington" <http://climatesolutions.org/nw-states/washington/no-coal/factsheet>
- 6 Jeffrey Tomich, "Eyeing Asian market Arch Coal invests in western port," Saint Louis Today, January 13, 2011 [http://www.stltoday.com/business/local/article\\_043c5fbf-845f-527e-934b-b82b444d1f5f.html](http://www.stltoday.com/business/local/article_043c5fbf-845f-527e-934b-b82b444d1f5f.html)
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- 8 Coal Industry Annual 1994, Energy Information Administration, accessed electronically 9/9/2010.
- 9 Sharma, Partha Das, "Coal Mining Pollution and its control measures" <http://www.docstoc.com/docs/6608086/Coal-Mining-Pollution>
- 10 All data are from OSM regulatory reports EY2010, <http://www.osmre.gov/Reports/EvalInfo/EvalInfo.shtm>
- 11 <http://www.nrdc.org/globalwarming/coal/coalclimate.pdf>
- 12 <http://www.nrdc.org/globalwarming/coal/coalclimate.pdf>
- 13 <http://www.bnsf.com/customers/what-can-i-ship/coal/coal-dust.html>
- 14 [http://daily.sightline.org/daily\\_score/archive/2011/03/15/are-coal-export-terminals-good-neighbors](http://daily.sightline.org/daily_score/archive/2011/03/15/are-coal-export-terminals-good-neighbors)
- 15 <http://www.sciencedaily.com/releases/2007/11/071114163448.htm>