

# USA Leveling Mountains, Demolishing Communities

The United States has by far the world’s largest coal reserves, and is the second biggest coal producer after China. But, with 935 million tons produced 2012, U.S. coal production has fallen more than 10% from its 2008 peak, as strengthened federal regulations on emissions, nationwide campaigns to shut down coal plants and falling natural gas prices have taken their toll on the industry.

Five companies are responsible for 58% of U.S. coal production: Peabody Energy, Arch Coal, Alpha Natural Resources, Cloud Peak Energy and CONSOL Energy. Over 90% of US coal is consumed domestically. However, as domestic consumption falls, exports are growing rapidly, particularly to the EU.<sup>147</sup>

U.S. coal production is witnessing a shift from underground to surface mining and an attendant shift from East to West. Production from underground mines has remained roughly constant since 1949 (and is lower today than in underground mining’s heyday in the 1920s). However, the amount of coal produced by surface mines has exploded, rising more than six-fold in the same period.

This shift has been primarily driven by technological developments that make it feasible to mine the large, deep coal seams of the Powder River Basin. Ironically, it has also been caused in no small part by the passage of air pollution regulations.<sup>148</sup> Western coal, on average, contains significantly less sulphur than Appalachian coal. The restrictions placed on sulphur emissions under the Clean Air Act therefore contributed to a general shift towards large Western surface mines. In 1970, coal mined west of the Mississippi accounted only for 7% of the U.S. total and increased to 58% by 2011.

The Appalachian coal industry’s response has been to turn increasingly to the more labor-saving and cost-efficient mountaintop removal surface mining. This has also allowed the industry to tap into lower-sulphur coal seams in central Appalachia that were previously uneconomical to recover. Mountaintop removal mining began in the 1970s, but has grown rapidly since the 1990s: it currently accounts for no more than 8% of U.S. coal production, but contributes to the widespread environmental devastation of forests and streams throughout Appalachia.<sup>149</sup>

Toxic coal slurry waste ponds have sickened and displaced communities.

## Intoxicated Landscapes

Coal mining in the United States has devastating impacts on the health of miners, communities, and the environment. In the eastern Appalachian region, coal mines and coal slurry waste ponds<sup>150</sup> have sickened and displaced communities, destroyed mountain ecosystems, and put the lives of miners at risk. Out west in the Powder River Basin coalfields, immense strip mines have destroyed grassland habitat and contaminated groundwater.

Coal mines and slurry waste from coal preparation plants threaten human health and endanger the physical safety of communities. Liquid coal slurry contains toxic chemicals that can leach into groundwater and pose severe health risks for communities. Hundreds of coal slurry ponds are located in the central and eastern part of the country, endangering local water sources and risking catastrophic floods of toxic sludge if earthen containment dams were to fail.

147 “Quarterly Coal Report, October-December 2012,” US Energy Information Administration, March 2013

148 “Big Coal: The Dirty Secret Behind America’s Energy Future,” Jeff Goodell, 2006

149 “Mining the Mountains,” Smithsonian magazine, January 2009

150 Coal slurry or sludge is a waste fluid produced by washing coal with water and chemicals before shipping the coal to market.



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## Blasting Appalachia

Coal mines have buried over 3,000 km of streams and clear-cut 5,000 km<sup>2</sup> of forest.

Although both surface and underground coal mines in the US have harmed communities and ecosystems, mountaintop removal surface mining has posed a uniquely destructive threat to Appalachian communities. Mountaintop removal literally means blasting off the tops of mountains to uncover coal seams beneath. The resulting waste rock and soil is deposited as massive valley fills that are hundreds of feet long and hundreds of feet high, and can leach pollutants, including heavy metals, into streams and groundwater. To date, these mines have buried over 3,000 kilometers of streams and clear-cut 5,000 square kilometers of hardwood forest.<sup>151</sup> Despite a recent decline in coal production in the Appalachian region, coal companies are continuing to apply for permits to build new mountaintop removal mines and expand existing ones.

The environmental impacts of mountaintop removal mining include air pollution from blasting, contamination of streams and groundwater from toxic runoff, and the destruction of entire mountaintop and valley ecosystems. A survey of peer-reviewed studies published in *Science* in 2011 concluded that mountaintop removal causes “pervasive and irreversible” environmental damage “that mitigation practices cannot successfully address.”<sup>152</sup> The survey also concluded that public health studies of mountaintop removal mining confirmed its “high potential for human health impacts.” Other studies have found that living near mountaintop removal mines is associated with elevated risks of cancer, heart disease, kidney disease, birth defects, and premature mortality.<sup>153</sup> In addition to threatening human health, mountaintop removal mines have uprooted entire communities and destroyed national historic sites.<sup>154</sup>

151 “Mountaintop Removal: ‘Pervasive and Irreversible’ Damage in Appalachia,” Physicians for Social Responsibility.

152 “Mountaintop Mining Consequences,” Palmer, et al., *Science* 8 January 2010

153 Several health studies on MTR are available at the Coal River Mountain Watch website: <http://crmw.net/resources/health-impacts.php>

154 “Coal Risk Update: Arch Coal, the Blair Mountain Battlefield, and Bank Human Rights Commitments,” Rainforest Action Network, March 2013

## Blue Skies to Brown Horizons

The Powder River Basin in the western states of Montana and Wyoming contains one of the largest coal deposits in the world and is home to the North Antelope Rochelle mine and the Black Thunder mine, the world’s two largest coal mines by production volume. Coal mining and coal bed methane production from this region pose significant threats to the climate and have also caused air pollution, drained aquifers, contaminated water supplies and sacrificed delicate grassland ecosystems for massive strip mines.<sup>155</sup>

These impacts have been felt by ranchers and Native American communities alike. As Otto Braided Hair of the Northern Cheyenne notes: “Within minutes of where we live, in almost any direction, there is ongoing destruction from coal mining. The blue skies are streaked with a brown haze of pollution, and the sacred waters are being threatened and damaged.”<sup>156</sup>

As U.S. coal-fired power generation is declining, coal producers in the Powder River Basin such as Arch Coal and Peabody Energy have sought to tap export markets as a source of future growth. These coal exports have already generated controversy. In January 2013, two senators called for investigations into royalty payments on exported coal that mining companies allegedly failed to pay the U.S. government. And with existing U.S. coal export terminal infrastructure operating at maximum capacity, there are several proposals to develop new coal terminals in the Pacific Northwest and along the Gulf Coast. These plans have met with strong popular resistance.<sup>157</sup>

Shipping an anticipated 127 million metric tons of coal by rail per year through West Coast and Gulf communities would have huge impacts on air quality, public health, and local economies. At port communities, rail, road and ship traffic and fugitive dust from coal stockpiles would put Native American heritage sites, public health, and the survival of coastal fisheries at risk. For example, the site of the proposed Cherry Point terminal would desecrate land that is holy to the Lummi Nation, while endangering crab fisheries and feeding grounds for salmon and orca.

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## Fruitful Resistance

In the face of coal mining’s impacts on communities and the environment, pressure on the coal industry has been building from Native American nations, port cities throughout the Pacific Northwest, communities in the Appalachian coalfields and university campuses across the country. This pressure, combined with strategic litigation, has accelerated the shutdown of the U.S. coal fleet, with 150 coal plant retirements announced since 2010.<sup>158</sup> In addition, community pressure coupled with deteriorating financial outlook for coal exports has led to the cancellation of 3 proposed coal export terminals in the Pacific Northwest as of 2013.<sup>159</sup> In Appalachia, Patriot Coal was compelled to agree to phase out its mountaintop removal mining operations as part of its 2012 bankruptcy settlement. And a growing wave of student movements on hundreds of campuses has called on universities to divest from coal miners and other fossil fuel companies.

## Top Coal Mining Banks for the U.S.

The following 13 banks have been the largest financiers of the coal mining sector in the United States since 2011. Morgan Stanley is way out in front, with an exposure of 3.4 billion euros. Next come Citi with 2.4 billion euros and Bank of America with

155 “Conservation Groups Challenge US Forest Service’s Plan for Dirty Coal Strip Mining in National Grassland,” Powder River Basin Resource Council, December 6, 2011

156 “The True Impact of Coal Mining,” Bruce Nilles, Huffington Post, October 30, 2009

157 “Demand Cools as Fight Rages over Coal-Export Terminals,” Seattle Times, Sept. 3, 2013

158 “150 Plants Retired: Another Major Milestone Hit in Moving Beyond Coal,” Mary Anne Hitt, October 8, 2013

159 “The declining value of coal just killed another export terminal,” Kiley Kroh, August 20, 2013

1.4 billion euros. The majority of funding was provided through corporate loans.

The biggest deal was a massive 2.7 billion euro corporate loan to Arch Coal in June 2011, financing its acquisition of the International Coal Group. Sixteen banks participated in the deal, including Morgan Stanley and PNC as bookrunners, and Bank of America, Citi and Credit Suisse as participants. This loan helped Arch Coal expand its reserves in Appalachia, where it is one of the primary companies engaged in mountaintop removal.

### Banking on U.S. Coal, 2011 - mid-2013

