IDENTIFYING THE GLOBAL COAL INDUSTRY'S WATER RISKS

Coal-related industries—including mining, coal-to-chemicals, and power generation—are extremely water-intensive. Photo credit: Peter Van den Bossche, Flickr

Water is essential for energy production—when water risks arise, energy producers around the world feel the impacts. A massive flood in Australia in 2011 reduced its coal export volume, pushing global coal prices higher. Drought in the U.S. Midwest ravaged corn fields in 2012, contributing to higher gasoline prices.

The trend is clear: Regional water concerns are creating significant financial risks, thanks in large part to advanced global commodity trading and energy industries' high dependence on water. And it's a trend that is poised to worsen.

BP projects a 36 percent increase in global energy consumption by 2030, while the Water Resources Group predicts that in the same amount of time freshwater supplies will fall 40 percent short of total demand globally.

The water–energy nexus is becoming one of the great challenges of our generation—one that also holds significant implications for political leaders and investors alike. This article explores how water risks are already impacting the world's coal industry, and how risks will change over time.

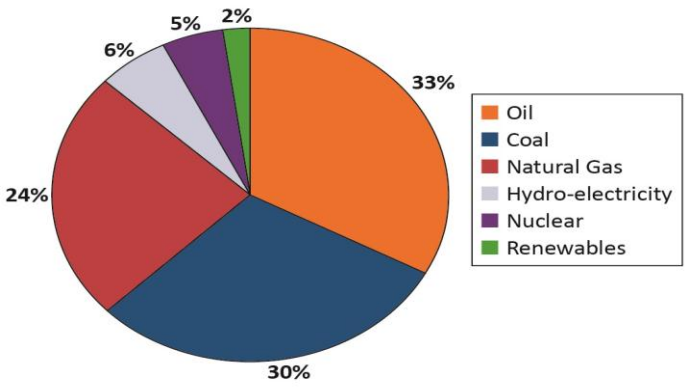

Figure 1. 2012 Global energy producers by fuel type (Source: BP)

Global Energy and Coal Industry Overview

Coal continues to be a dominant force in the global energy market (Figure 1). The fossil fuel accounts for one-third of total energy consumption, second only to oil.

Global coal consumption grew by 2.5 percent in 2012, continuing coal's years-long streak as the fastest-growing fossil fuel. Many of the world's top coal producers are also the biggest consumers (Tables 1 and 2, respectively), with China, India, and the U.S. near the top of both lists.

TABLE 1. Top 10 coal-producing countries as of 2012[3]

Ranking	Country	Coal Production (Mtoe)
1	China	1825.0
2	U.S.	515.9
3	Australia	241.1
4	Indonesia	237.4
5	India	228.8
6	Russian Federation	168.1
7	South Africa	146.6
8	Kazakhstan	58.8
9	Poland	58.8
10	Colombia	58.0

TABLE 2. Top 10 coal-consuming countries as of 2012[3]

Ranking	Country	Coal Consumption (Mtoe)
1	China	1873.3
2	U.S.	437.8
3	India	298.3
4	Japan	124.4
5	Russian Federation	93.9
6	South Africa	89.8
7	South Korea	81.8
8	Germany	79.2
9	Poland	54.0
10	Australia	49.3

Table 1. Top 10 Coal-producing Countries (2012) | Table 2. Top 10 coal-consuming countries (2012)

According to an analysis by the World Resources Institute (WRI), as of July 2012, 1199 new coal-fired power plants with a total installed capacity of more than 1400 GW have been proposed for construction in 59 countries worldwide (Figure 2). More than three-quarters of this capacity is slated for development in China and India.

Source: http://endcoal.org/resources/identifying-the-global-coal-industrys-water-risks/?ref=water