

Central Europe

The Lignite Triangle

For the second time in just 5 years, Poland is hosting the UN Conference on Climate Change. This record is only topped by its neighbor, Germany, which hosted 3 UN Climate Summits in the 1990s. Germany was also one of the first countries to establish feed-in tariffs for renewable energy, which now accounts for almost 23% of the country’s power generation. You would think these two countries are truly concerned about protecting climate stability. Germany and Poland are, however, the world’s 8th and 9th largest coal producers.

While Germany will soon close its last hard coal mines in 2018, it continues to mine lignite. Lignite – also called “brown coal” – is a low-grade coal that results in the highest CO₂ emissions per unit of energy generated. And climate-concerned Germany is the world’s largest lignite miner. In 2012, it produced 185 million tons of the dirty fuel. That’s almost as much as the lignite production of Russia, Australia and India combined. Poland is the world’s fifth largest producer of lignite (64 million tons in 2012) and mines more hard coal than any other country in Europe.¹¹¹

The Czech Republic is the third cornerstone of Central Europe’s “lignite triangle.” Although its production is significantly smaller than either of its neighbors, it is still the world’s eighth largest lignite producer. Approximately every fourth ton of lignite worldwide is mined either in Germany, Poland or the Czech Republic.¹¹²

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Germany

As government subsidies for the production of hard coal run out in 2018, hard coal mining will soon be history in Germany. The long-term damages, however, are here to stay, and are appropriately termed “eternity costs” (Ewigkeitskosten) in German. The voids created through deep underground mines have caused wide-spread subsidence in the Ruhr and Saar Regions, Germany’s centers of hard coal mining. In many areas, the ground has sunken between 5 and 20 meters, causing not only enormous damages for home-owners, but also creating the need to continue pumping out water as villages and, in some cases, entire cities would otherwise turn into lakes. In 2006, the accounting firm KPMG put forward an estimate of 13 billion euros for the “eternity costs” of Germany’s hard coal mines. KPMG, however, warned that the true costs could be much higher as many of the risks are incalculable.¹¹³

The end of its hard coal mining era, however, hasn’t dampened Germany’s appetite for coal. Its consumption of hard coal has increased. Now, Germany imports its hard coal from countries like Colombia, Russia, the U.S. and South Africa. In return, they get the eternity costs.

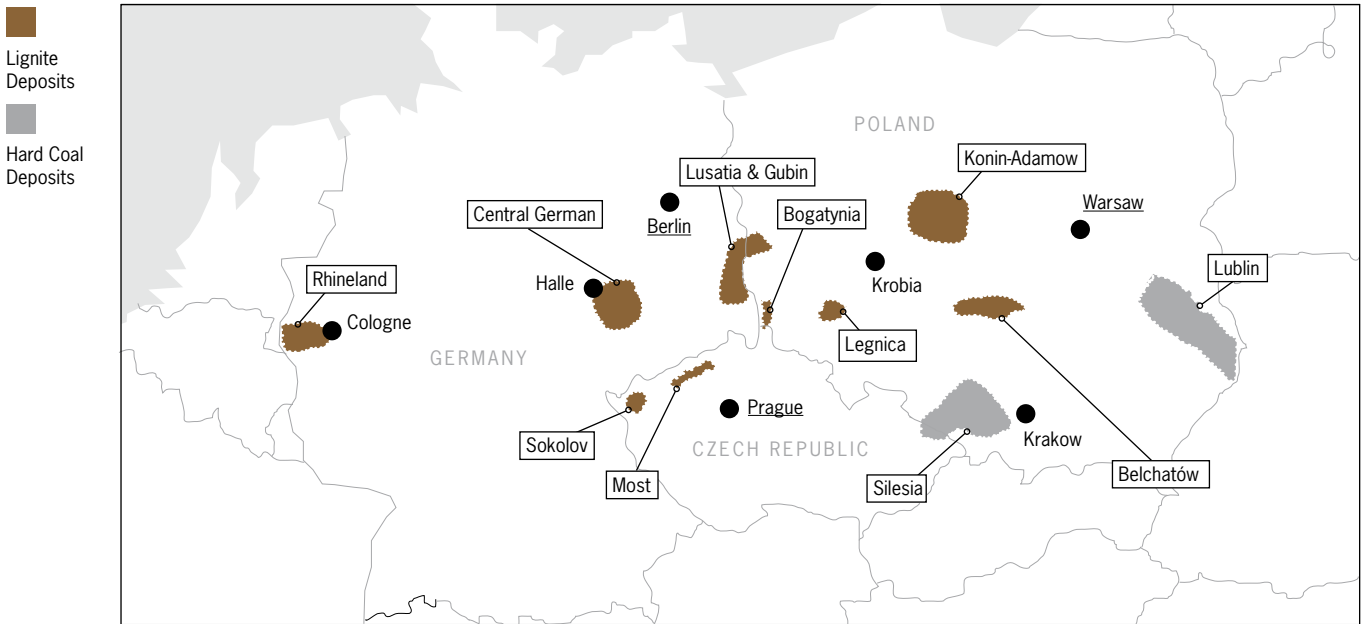
Lignite is, however, a different story. In Germany, it’s a tale of two utilities: Vattenfall and RWE. Both companies operate enormous open cast mines, and their business model is built around this extremely dirty and inefficient fuel. In 2012, Vattenfall produced 80% of the electricity it sold in the German market by burning lignite. The annual emissions of 3 of Vattenfall’s lignite power stations (Jänschwalde, Schwarze Pumpe and Boxberg) exceed the total emissions of Sweden, the country whose government, incidentally, owns Vattenfall.¹¹⁴ Two of RWE’s recently

111 “Coal Statistics,” World Coal Association, 2013

112 Calculated on the basis of “Statistik der Kohlenwirtschaft” (Coal Industry Statistics) for 2011, as the 2012 data was not yet available.

113 “KPMG Studie: Ewigkeitskosten der Kohle betragen 13 Milliarden Euro,” Wirtschaftswoche, December 14, 2006

114 According to the IEA’s Energy Statistics 2013, Sweden emitted 44.9 million tons of CO₂ in 2011.



extended lignite-fired power plants now emit more CO₂ than Finland.¹¹⁵ And what's worse: both of these power stations are set to operate until at least 2045.

Europe's Biggest Hole

RWE mines around 100 million tons of lignite per year in three huge opencast mines between Cologne and Aachen. With a depth of more than 450 meters, and an operating surface of 40 square km, RWE's open pit mine in Hambach is Europe's biggest hole. By 2040, over 15.4 billion tons of overburden will have been removed to reach the seams of lignite with which RWE plans to feed its new power stations. Over 5,000 people will be displaced, one of Germany's oldest forests destroyed and the water balance of the entire region permanently disturbed.¹¹⁶

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Vattenfall does most of its lignite mining in Eastern Germany in Lusatia, the border region to Poland. The company is trying to push through three mine expansions and two new pits here. Its expansion plans will displace many villages inhabited by Sorbs, a distinct Slavic minority with its own traditions and language, which has lived in Lusatia since the 6th century AD. The Domowina, the Sorbs' traditional government, has appealed to the German Federal Government for protection against the growing threat of their cultural extinction through lignite quarries.¹¹⁷

Although local communities and the environment movement have fought tooth and nail against further lignite mining, they have sadly seen little success in stopping new mines. Legally, coal is still “king,” in Germany. This goes back to a law from 1937, when the Nazi regime declared mining of raw materials a “national priority,” making it easy for companies to relocate communities living on top of the coal fields. Since 1945, an estimated 110,000 people have been displaced for coal mines in Germany. Communities are, however, challenging this law, and in the upcoming weeks, a judgment of Germany's Constitutional Court is expected.

The scale of destruction still being wreaked on communities and landscapes to mine yesterday's fuel is unconscionable. As an old saying in Lusatia goes, “God created Lusatia, but it was the devil who put the coal under it.”

115 Finland emitted 55.6 million tons CO₂ in 2011.

116 „Braunkohlentagebau Hambach,” Webpage BUND, 2013

117 <http://en.wikipedia.org/wiki/Sorbs>

Renewable David Versus Carbon Goliath

For decades, the combination of strip-mining and building huge thermal power plants nearby has generated enormous profits for Vattenfall and RWE. Now, there is, however, talk that Vattenfall may get rid of its German operations¹¹⁸ and RWE has recently announced radical plans to re-shape itself.¹¹⁹ What has happened?

Economically, RWE and Vattenfall are both troubled companies. They have maneuvered themselves into a vicious circle by building extremely expensive new power plants, which require huge amounts of lignite to operate at capacity. This in turn, forces them to sink large amounts of money into developing new mine expansions. These power stations may, however, never return a profit as Germany's rapidly expanding share of renewable energy is beginning to push coal out of the market. Whereas the electricity market used to be dominated by a handful of large utilities, the revolution in renewables has enabled a multitude of small companies, energy cooperatives, municipalities and private citizens all over the country to produce electricity. The days of “peaceful coexistence” between renewables and coal are over in Germany.

Poland

Poland has a long history of coal mining and was, for many decades, a major coal exporter. Although domestic production remains at high levels, the country has become a net importer since 2008. The reason is obvious: Poland generates more than 80% of its electricity by burning coal.¹²⁰ The Polish power plants are, however, outdated: 2/3 of the installed generation capacity is more than 30 years old. The modernization of the sector could be the perfect opportunity to shift energy generation towards renewables and energy efficiency, but the government, unfortunately, seems unwilling to abandon the well-trodden dusty coal track. No other member of the European Union is planning as many new coal-fired power plants as the host of the UN Climate Summit 2013. The government's plans foresee the construction of 11,300 MW of new coal-fired generation, with lignite playing a major role.¹²¹

As many of the country's coal mines will be mined out within the next few years, it looks as if Polish utilities are about to create the same vicious circle that RWE and Vattenfall are experiencing in Germany. New plants will require new mines, new mines will require a constant coal demand, and power plants will need many operation hours to stay profitable...

Most of Poland's coal and lignite mining companies are completely or partially state-owned or state-controlled. While Kompania Weglowa focuses its production on hard coal, the two main drivers of lignite mining expansions are PGE and Ze Pak. State-owned PGE is Poland's biggest energy supplier with a 40% market share in 2011. PGE produced 69% of its energy on the basis of lignite. It runs Europe's biggest climate killer, the lignite-fired power plant Belchatów, which emitted 35.2 million tons of CO₂ in 2012.¹²²

PGE is pushing plans to open a new open-pit lignite mine near Gubin, close to the German border. PGE is, in fact, operating in the same lignite basin as Vattenfall on the other side of the border. The Gubin reserves are supposed to secure PGE's coal supply from 2030 onwards. If this plan proceeds, lignite will be “locked” into Poland's electricity generation for many decades to come.

No other member of the EU is planning as many coal-fired power plants as Poland.

118 “Vattenfall will angeblich deutsche Kraftwerke verkaufen,” Der Tagesspiegel, March 1, 2013

119 “Under threat, German utility says it will create a new “Prosumer” business model,” Peak Oil News, October 26, 2013

120 “Strategia Bezpieczenstwo Energetyczna i Srodowisko,” Ministerstwo Gospodarki i Ministerstwo Srodowiska, 2012 (Ministry of Economy and Ministry of Environment)

121 “Coal-fired Power Plants in Poland,” Webpage CEE Bankwatch Network, 2013

122 This is more than the total emissions of neighboring Slovakia.



Bogusz Bilewski/Greenpeace

Protest in Krobia (Wielkopolska region) against planned open cast mine, 2012

“Are sun and
wind less Polish
than coal?”
Polish speaker
in a radio
debate.

Around 2,000 people from 15 settlements would have to leave their homes to make way for the mine. But protests are growing. People in Gubin are already feeling the impact of lignite mining because the operations of Vattenfall on the German side have led to a significant drop of ground water levels and rising dust pollution on both sides of the border. Two referendums held in 2009 in the affected communities of Brody and Gubin rejected the plans for the mine, but were ignored by the relevant authorities. Communities on both sides of the border oppose the expansion plans of PGE and Vattenfall for lignite in the region.

Opposition is also rising because of the air pollution caused by Poland’s coal-burning. Recently, Polish citizens took to the streets in Krakow to demand immediate steps to lower concentrations of particulate matter in Krakow and other cities. According to European Environmental Agency data, 6 out of 10 European cities with the highest concentrations of particulate matter are in Poland.

Ze Pak, Poland’s second biggest lignite miner, owns exploration licenses for untapped reserves of nearly 3 billion tons, more than Poland’s total lignite output since 1945. Zbigniew Bryja, the head of Ze Pak’s mining unit, leaves no doubt about his company’s plans to recover these reserves: “Lignite is the cheapest fuel at the moment. Moreover, its price is the most stable and predictable compared to hard coal, oil or gas. I think lignite is becoming Poland’s *raison d’état*.”¹²³

The relationship between the coal industry and the Polish state seems, indeed, to be very close. So close that it’s sometimes hard to tell who is who. The Polish Government is, for example, doing its best to give coal “a voice” during the UN climate talks. Parallel to the UN Conference on Climate Change, it will be presiding over a high-profile “summit” of the international coal industry in Warsaw. It has also consistently opposed all EU climate regulation efforts.

Can anyone tell us why Poland is hosting the UN Climate Summit for the second time in five years?



Antismog Mourning Procession, Cracow, 2013

Photo: Mateusz Wojton

Czech Republic

The Czech Republic is the third cornerstone of Central Europe's lignite triangle. At 55 million tons, the Republic's annual coal production is much smaller than Germany's or Poland's.¹²⁴ The country, however, has one of the world's highest coal per capita ratios. For every citizen in the Czech Republic, about 5 tons of coal are mined annually. If China had a similar coal appetite, it would almost have to double its production.

There are three important coal basins in the Czech Republic: the Most and Sokolov lignite basins in northern Bohemia and the Silesia hard coal basin. The biggest expansion plans are in the Most basin. The existing mining permits, however, set strict boundaries to protect both inhabited and ecologically valuable areas in the region. But if mining continues at the current rate, the area will be mined out by 2022. Outside of the boundaries, however, lie 750 million tons of brown coal which would enable coal mining to 2100 and beyond.

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The fight is on about the future of northern Bohemia.

Policy makers are therefore at a crucial crossroads, and the fight is on about the future of northern Bohemia. The expansion of the ČSA mine would destroy the town of Horní Jiřetín and the village Černice. More than 2,000 citizens would have to be relocated. Furthermore, the 27,000 citizens of Litvinov would be affected by the nearby open-pit mine which would reach as close as 500 meters to inhabited areas. Not to mention the irreplaceable natural habitats on the hillsides of the Ore Mountains. Grassroots movements and a national network of environment NGOs are fighting to keep this coal in the ground.

Top Coal Mining Banks for Central Europe

The following chart shows the 15 biggest financiers of coal mining in Central Europe from 2011 onwards. When looking at the combined total, Goldman Sachs is a clear number one with 229 million euro. Next is Citi (168 million euro), followed by Deutsche Bank (149 million euro). All 3 banks, however, acted mostly as underwriters. The largest deal we turned up was a bond issue of over 2 billion euro for RWE, Germany's largest lignite miner. The bond issue was underwritten by Goldman Sachs and Deutsche Bank.¹²⁵

While the Polish State Development Bank BGK is number 10 and the PKO Bank Polski is number 15 in our overall ranking, they jump up several ranks when only direct lending is considered. Both BGK and PKO Bank Polski provided their biggest loan to Kompania Weglowa. Although PKO Bank Polski's total contributions to the coal mining sector were smaller than BGK, it was much more engaged in backing lignite mining operations. Citi, the number one lender in our analysis, supported virtually all of the companies active in the "lignite triangle."

Banking on Central European Coal, 2011 – mid-2013

