Expanding the coal fleet to the east – or sinking it?

Though the business case for coal is becoming ever weaker, several countries, especially in Southeastern Europe, are in total planning over a hundred new coal power plants. Many of these projects are in Turkey. If all installations are constructed, these economies will be locked into unsustainable and uneconomic coal power for decades to come.

This briefing describes the coal threat in detail but will also explain why the many coal projects are doomed to fail – either in the planning stage or when realised.

A few words on the term 'coal project'. Most power plants consist of two to four *units*; they can be coal-fired but for instance also oil, gas or biomass-fired. Some of the projects involve adding extra capacity to existing plants, others entail building entirely new power stations. In this briefing we will just refer to *projects*. One project can consist of building one or more coal units.

State of play

In the EU as a whole, the risk of new coal power plants seems to have been to a large extent averted. Even in Poland, the country with the highest number of new coal projects in the EU, investors are starting to factor in the risk coal proves to have, and are looking into diversifying their portfolio.

But while numerous reports on the death spiral of the coal industry are coming out all the time, and recent investments in building new coal plants have proven to be disastrous, several countries in Europe – especially those outside the EU – are planning to expand their coal fleet. The threat mainly looms large in Southeastern Europe, Ukraine and Turkey. Over 110 new projects are planned, and the majority of these projects is in Turkey. And these projects would in their lifetime emit more than 16 billion tonnes of CO2 into the air. By comparison: the EU as a whole emits around 3.7 billion tonnes of CO2 annually.

These projects are all in different phases of planning; many of them may actually never be realised. In recent years, for each coal project realised in Europe, seven projects were cancelled. Steps include 'announced, 'pre-permit development,' 'permitted' and 'under construction'.

Overview of coal projects per country, added capacity, expected total CO2 emissions

Country	Number of projects	Capacity involved (in megawatts)	CO2 additions (million tonnes) (expected total CO2 emissions of new units per country, assuming an average lifetime of 40 years)
Bosnia & Herzegovina	8	3900	729
Croatia	1	500	86
Czech Republic	1	750	150
FYROM	1	300	59
Germany	4	5120	601
Greece	1	660	125
Italy	1	350	7
Kosovo	1	600	118
Montenegro	1	254	50
Poland	6	8845	1583
Romania	2	790	155
Serbia	5	2900	497
Turkey	75	>65000	11773
United Kingdom	3	1466	96
Ukraine	2	1260	215

In **Turkey** the problem is the biggest. Due to the rapid development of the country in the last few decades and the ambition to become the region's leader, the government has an active stimulation policy for energy projects. At least 75 coal projects are now in the pipeline, dominated by a focus on (domestic) lignite. If all realised – which is unlikely – Turkey would add more than 65 gigawatts to the grid, becoming the third biggest user of coal in the world. The country will also build five of the ten largest new plants in Europe – the other four will be built in Poland and one in Bosnia-Herzegovina. If Turkey realises all these projects, annual CO2 emissions can reach 200 million tonnes by 2023 – compared to 21.5 million tonnes in 1990.

The coal threat is of course still substantial in **Poland**. Nearly 85% of the country's electricity comes from coal and there are plans to expand the industry further. For instance it will extend the Opole power station by 1,800 megawatt and add a

one gigawatt unit to the Kozienice plant. By building a range of further planned projects, Poland would enlarge its capacity with nearly nine gigawatts. No other country in the EU is investing as much in coal infrastructure as Poland.

In the **Balkans** around seven gigawatts of coal capacity is in planning or under construction. The region contains large deposits of (low-caloric) lignite, so mining will be involved in almost each project. This is particularly the case in Bosnia and Herzegovina, and Serbia, both aspiring to become EU member states in the next decade. At the same time, they behave as if the EU climate and energy targets do not exist.

The energy system in the Balkans is already heavily reliant on coal. As the countries are obsessed with energy independence as well as electricity exports, they continue to look for coal as a solution to both energy security and economic development. In Kosovo, plans are on the table to build a 600 MW plant 'New Kosovo' which could cost up to 2 billion dollars. In Croatia, despite legal and public opposition, the government plans to more than double the capacity of the existing Plomin plant. However, new projects in the Balkans are in great risk of becoming stranded assets, in the sense that once built, they cannot become profitable.

Greece seems to be clinging on coal, instead of choosing for renewables. Past and current governments have been pushing for expansion of the lignite activities in northern Greece. The centerpiece is the Ptolemaida V plant, to be constructed in an area already full of coal power plants, with possible 700 million euro financial support from the German government. As we reported on the European Coal Map, the Ptolemaida V project is highly controversial and WWF is campaigning for an alternative approach based on renewables.

Recent investment disasters

Building new power plants is a direct danger for our planet because it locks our energy system into CO2-intensive coal for another half century, heating up the atmosphere. Next to being a climate disaster, these power plants also prove to be risky investments, based on wrong economic assumptions.

To put it short, investing in coal will inevitably result in financial failure.

Coal is quickly becoming an uneconomic fuel. Electricity demand and prices have fallen, renewables are already cost-competitive in several cases (and will continue to become cheaper). The coal rush in Turkey could be fully replaced by renewables at the same price tag.

Already the coal industry, dominated by state-owned enterprises, relies heavily on subsidies because otherwise it has a risk of going bankrupt. Even for countries with domestic hard coal and lignite deposits, it will be hard to have a return on investment from new coal power plants. The building and operation of coal power plants has become very expensive because of stricter pollution standards and the rules on using the latest available techniques in the EU. Moreover, in several countries there already is a huge overcapacity of electricity production.

The market forces may wake the utilities up. Since 2010, many (big) players in the coal industry have seen their stock market value crashing and they are now struggling for survival. In 2014 alone, the utility E.ON lost €3.2 billion; it will split up in two companies – one focusing on renewables and the other used to ditch its fossil fuel assets. The US-based investor in coal Peabody Energy has seen its share price crashing with 87% over the past five years.

In **Slovenia**, the highly controversial Šoštanj 6 power station, built with support of the European Bank for Reconstruction and Developmentill probably run with yearly operational losses amounting up to 70-80 million euros per year. Economic estimates for the plant were highly unrealistic and based on a high electricity price. The Šoštanj 6 project also was plagued by increasing investment costs, up to around 1.5 billion euros, partly because of corruption.

In **Germany**, coal companies are in deep trouble. RWE has written off 4.4 billion euros on its (new built) activities in the Netherlands, for the period 2011-2013. The company built a big coal plant in the Eemshaven (near Groningen), which will never make a profit. E.ON's business investments in southern Europe, amounting up to 11 billion euros, probably have to be written off by half.

Balkan countries use Poland as an example of the country where energy choices in favour of coal do not contradict to being a member of the EU. But they miss the scale of the problem that Polish coal industry is facing. Polish hard coal mining companies are experiencing major losses while new units that are currently under construction might very likely be the last ones built. In fact, several planned projects are already being abandoned and the only units that are under construction are owned by state controlled companies. All foreign investors already cancelled their projects in Poland.

Further reading

For more information on coal in Europe, go to www.coalmap.eu/ for a set of interactive maps.

We also have a policy section on our website – here you may find the contact details of our coal policy coordinators for further enquiries.

www.endcoal.org for very useful factsheets, the Global Plant Tracker and other rich data sources

www.bankwatch.org for investments in coal and a campaign on the Balkans

www.die-klima-allianz.de for information on the coal situation in Germany

www.caneurope.org

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