

Talking point

Dark clouds over lignite

May 28, 2015

The German government is sticking to its target of reducing greenhouse gas emissions by 40% from the 1990 level by 2020. As it currently seems doubtful that the target will be achieved, Minister of Economics Sigmar Gabriel suggests introducing an additional climate contribution for older electricity power plants with particularly high CO₂-emissions. Especially older lignite-based power plants would be affected by such a measure. And this at a time when many power plants are under pressure anyway due to changes in the investment strategies of a large Scandinavian investor.

At the end of March this year, the Economics Minister reaffirmed his proposal to introduce an additional climate fee on lignite power plants, which are older than 20 years and whose CO₂-emissions exceed a specific level. The initial plan was an additional reduction of 22 million tonnes CO₂; currently, "only" 16 million tonnes are being discussed. According to the proposal, the operators of coal power plants are to pay a penalty of up to EUR 20 on each tonne of CO₂ exceeding an exemption limit. Those affected most by this new regulation would be the operators of lignite power plants as these of all types of power plant produce the highest emissions per unit of electricity generated.

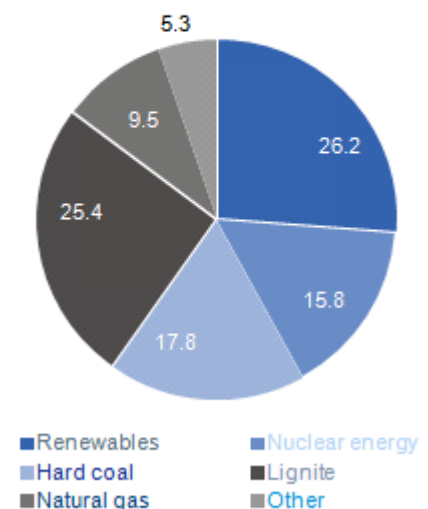
As a proportion of German primary energy production, lignite has been the largest domestic energy source for years. In 2014 it delivered 55.2 million tonnes of coal equivalent (tce) or 41% of the total energy generated in Germany (135.3 million tonnes tce). In the meantime, renewables, which played only a minor role in the past, have almost caught up (close to 50 million tce) as a result of incentive instruments. These are followed at some distance by natural gas and (due to declining production) domestic hard coal (11 million and just below 8 million tce, respectively). For years, Germany has been the world's largest lignite producer – even ahead of China and Russia; currently, more than one-sixth of global lignite production occurs in Germany.

Lignite deposits are concentrated in four regions: the Rhineland, Lusatia, Central Germany and Helmstedt. In contrast to competing energy sources, the transport of raw lignite over fairly long distances is of no commercial interest given the high water content and relatively low heating value. Thus, roughly nine-tenths of lignite production are made available to local power plants for the generation of power and district heating. In Germany, 1 in every 4 units of electricity consumed is generated from lignite.

With the climate fee, German climate targets are to be achieved, even though there are further effects: for example, CO₂-emissions by the EU energy sector are already capped by the EU and are (actually) no longer part of the emission budget of the individual EU countries. National special levies would conflict with the idea of EU emission trading (further). What is more, a special levy on lignite would hit a domestic energy source that has proved to be sustainable, reliable and competitive across the various stages of European electricity market liberalisation and the stormy expansion of green electricity alternatives in Germany. This is added to by the energy supply security of lignite in Germany, which in the current environment of the Russian crisis is gaining more relevance again. Unlike for other fossil energy sources – i.e. coal and natural gas – there is no import dependency for lignite whatsoever. Furthermore, it remains to be seen whether a reduction of lignite-

Over 25% of power generation lignite-based

Shares in gross power generation, %, 2014



Source: BDEW

based electricity production in Germany will lead to a rise in (lignite) coal power exports from Poland to its western neighbour.

Outlook: Lignite is a transition energy in the German energy production mix as the expansion of green electricity production in Germany in the coming decades is an integral part of the energy transition and implies a declining volume of all fossil fuels. This means that lignite-based power generation in Germany will decline in the coming years anyway. This is supplemented by the most recent agreement on the implementation of a market stabilisation reserve in the European emissions trading law already in 2019. This could lead to higher emission prices, which in turn will mostly affect lignite in Germany. Thus, the prospects of lignite in German power generation are anything but rosy. The currently expected failure to meet the German greenhouse gas target in 2020 is also attributable to the fact that the German economy outperformed other European countries in the last few years. Nevertheless, only a few idealists are likely to demand weaker economic growth in Germany for reasons of climate protection. There is much to suggest that in the context of the transformation process of the German energy transition towards power generation focused on renewables in the framework of European emissions trading is the solution of choice, instead of intervening at a national level time and again.

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Author: Josef Auer (+49) 69 910-31878

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