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Coal and gas power plants to replace part of nuclear power plants in Germany by 2014

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On 30 September, the Federal Network Agency (Bundesnetzagentur) presented its data on German power plants and the progress in the construction of new blocks by 2014. According to these data, 676 blocks with a total output of 112 GW are operating at German conventional and unconventional power plants at present. 25 new power plants, with a total output of 12 GW, are under construction, of which 8 GW will belong to the largest corporations in the German market (E.ON, RWE, EnBW and Vattenfall). The new plants will be 67% powered by hard coal and 17% by brown coal. 9% of them will be small gas power plants, and 3% are to use renewable energy sources (RES). Furthermore, old coal power plants, with a total capacity of 4 GW, will be decommissioned by 2014. This report does not take into account the output of approximately 2 GW of the gas power plants which were put into operation between June and September this year and all the power plants using RES which have an output lower than 5 MW.

Commentary

- Since it is necessary to replace nuclear power plants with conventional ones, the demand for coal and natural gas will rise, which may contribute to an increase in imports of these fuels to Germany; hard coal from South Africa, Australia, Russia and Ukraine, and natural gas mainly from Russia and Norway.

- An analysis of this report shows that nuclear power plants, which have a total output of approximately 8 GW (they produce around 10% of Germany's electricity) will be replaced predominantly with coal power plants and to a lesser extent by gas power plants by 2014. The new power plants will be located mainly in the areas to be affected by the decommissioning of the nuclear power plants, i.e. Hesse and Schleswig-Holstein, which will allow them to compensate for power production shortages resulting from the decommissioning of the nuclear power plants.

- The German government will be aiming at increasing the share of gas power plants in the replacement of nuclear energy, considering their significant competitive advantages over coal power plants: they emit less CO_2 (approximately half the amount that coal does), they could co-operate better with RES in the future (for example, with wind and gas power

plants) and it takes less time to put them into operation (small gas power plants need approximately 30 minutes to begin producing energy). German corporations may be unwilling to allocate substantial amounts of money to the construction of gas power plants because they can only expect small profits from the German gas market due to high competition and losses resulting from long-term gas supply contracts with Gazprom. For this reason they may want to co-operate with foreign companies, for example from Russia, in the construction and operation of new gas power plants.

- Power plants using RES will not replace nuclear power plants due to their low ability to guarantee uninterrupted power supplies and the lack of well-developed transmission networks. The government hopes that the role of RES in replacing conventional power plants will grow in the longer term, as new technologies are being developed, for example, for storing electric energy, which will make it possible to keep a constant supply of energy from power plants using RES, mainly wind farms.