

Eleven Principles for Reaching a Consensus on Coal

Summary

The goal of Germany's *energy transition* is to create a sustainable, economically viable, and reliable energy system that is based primarily on inexpensive wind and solar power as well as greater efficiency in the supply and use of energy. According to resolutions adopted by the German cabinet and parliament, Germany aims to reduce its greenhouse gas emissions by at least 55% by 2030, by at least 70% by 2040, and by 80–95% by 2050 (against 1990 levels). Germany's last nuclear power plants will be taken offline at the end of 2022, and renewable energy is slated to make up at least 80% of power generation by the middle of the century. Hence, the German energy sector will be almost totally decarbonised within the next 35 years.

Extended time frames are required for decisions in the energy economy, as investments often have time horizons of several decades. Accordingly, reliable framework conditions that enable planning for the future are essential for the energy sector. In this regard, and in light of Germany's decarbonisation targets, a gradual phasing out of coal-based electricity is ultimately unavoidable. Denying this fact would mean to deceive and create false hopes for stakeholders in impacted regions, companies, and energy service providers. There is thus a pressing need to develop a strategy that sets out how new jobs and new business models can replace the role currently fulfilled by coal. In this way, the key issue at hand is to create reliable framework conditions that enable planning for necessary structural change. This is not a new-fangled endeavor, but was previously done when the decision was taken to phase out the mining of hard coal (which will be complete by 2018) and the use of nuclear power (which will be complete in 2022).

Ultimately, there is no alternative to the phasing out of coal power if Germany is to fulfill its climate goals. It is not possible to boost the CO₂ reductions achieved in the transportation and heating sectors to the extent that would be necessary to allow continued coal-based power generation. This is because, first of all, the electricity sector is currently by far the largest producer of national greenhouse gas emissions. Second, the preservation of the current generation mix will only become more problematic in the future if – as expected – the use of electricity is expanded in the transportation and heating sectors. The integration of the electricity, heating, and transportation sectors makes the decarbonisation of the electricity sector all the more pressing. Furthermore, waste management, industrial processes, and the agricultural sector will be less capable of reducing emissions than the energy sector in the future. As a consequence, greater than average emissions reductions are needed in the electricity sector. And, in light of the expanded future use of electricity in other sectors, these reductions need to be realised with particular speed if Germany's emissions reduction targets on the whole are to be achieved.

In specific terms, the "phasing out of coal" means that coal-based electricity generation must be gradually reduced from the 42% share it comprises in 2015. In view of trends in the energy

economy (including in particular persisting low prices for coal and CO₂ certificates), the consensus among experts is that the gradual reduction of coal-based electricity will not take place in sufficient scope without effective regulatory rules to supplement the EU Emissions Trading System. In order to ensure the climate goals set for 2030 and beyond can be met, it is necessary to take targeted action to begin the gradual phasing out of coal power, for the measures already taken or ratified by the German government as part of the Climate Protection 2020 Action Program are not sufficient.

Like others who are participating in the debate over the future of Germany's energy system, Agora Energiewende would like to propose that a non-partisan, structured dialog process be initiated with key stakeholders in the near term in order to negotiate the details of an action plan for phasing out coal power in an economically viable and socially responsible way. The goal of this process would be to reach a consensus about the future of coal that is both comprehensive and long-term. Such a dialog process is crucial if the uncertainties surrounding planning and investment that are currently plaguing actors in the energy economy and other stakeholders are to be overcome.

With this Impulse Paper, we hope to provide a foundation for discussion that will culminate in a consensus on coal. It addresses eleven key issues, and seeks to identify compromise positions between competing interests.

A. The Foundation

1. Convening a "Round Table on a National Consensus on Coal"

The German cabinet should soon invite impacted stakeholders to a "Round Table on a National Consensus on Coal." This round table should provide a venue for building trust and negotiating key issues of the phase out, thus preventing a fundamental conflict in energy policy from becoming entrenched for decades. The goal should be to reach a consensus with broad political and societal support before the end of 2016. Similar to when the decision was made to phase out hard coal mining and nuclear power, this consensus will ensure that all stakeholders have a sound foundation to plan for the future.

2. Incremental, legally based phase-out of coal power by 2040

The phasing out of coal power in Germany requires clarity in three key respects: The use of coal in Germany requires an "expiration date" that all actors can rely on when making decisions about the future; the phase-out needs a clearly defined reduction path; and all stakeholders need legal certainty about the trajectory of the incremental phase-out to take place. The incremental phasing out of coal power beginning in 2018 and ending in 2040 is compatible with Germany's climate protection goals. The phase-out should be based in law and ratified with a broad majority by the German legislature.

B. Phasing Out Coal in Germany's Power Plant Fleet

3. No new construction of coal-fired power plants

No legal approval should be granted for the construction of new coal-fired power plants, as the construction of new plants is not compatible with Germany's mid and long-term emissions reduction targets.

4. Determine a cost-efficient decommissioning plan for existing coal power plants based on remaining plant lifespans, including flexibility options in lignite mining regions

In order to realise the phasing out of coal power in a cost-efficient manner that avoids highly disruptive structural change, it will be necessary to adopt a binding plan for the decommissioning of existing coal-fired power plants that is based on residual lifespans. The order in which plants are decommissioned should be based on CO₂ abatement costs. In the initial phase from 2018 to 2025, the decommissioning will be limited to three gigawatts per year. In lignite mining areas, the transfer of remaining lifespans from one plant to another should be permitted to avoid domino effects.

5. No additional national environmental policy regulations for coal-fired power plants beyond the phase-out plan

The German government should legally commit to adopt no additional measures that discriminate against the use of coal in a one-sided manner beyond the ratified phase-out plan. Furthermore, the German government should not grant any special benefits for decommissioning coal-fired power plants.

C. The Coal-Phase Out in Lignite Mining Regions

6. No additional lignite mines and no further relocation of affected communities

As the incremental phase-out of power plants up to 2040 will mean that less lignite is needed, no new lignite mines or excavation areas should be exploited. Accordingly, numerous villages would be spared from relocation.

7. The follow-up costs of lignite open-pit mining should be financed with a special levy on lignite

A foundation should be started to finance open-pit mine re-cultivation and other follow-up costs as Germany's lignite mines are decommissioned. This foundation should be funded with a special surcharge that is levied on all lignite that is mined in the future up to 2040. The amount of this levy will be set based on an environmental assessment that estimates future follow-up costs. Costs of approx. 2.5 euros per MWh of lignite-based power are expected.

8. Creation of 'Structural Change Fund' to ensure a sound financial basis for structural change in affected regions

A "Structural Change Fund for Lignite Regions" should be created within the federal budget and outfitted with 250 million euros annually over the entire transformation period. Funding should be allocated to each region based on the number of jobs impacted in each respective lignite mining area. The governments of the *Länder* should decide on how this funding is spent.

D. Economic and Social Aspects of the Coal Phase-Out

9. Ensuring security of supply over the entire transformation period

Policymakers should monitor the phase-out and ensure adequate reserve capacities, thus guaranteeing the usual high level of security of supply in Germany now and in the future. In order to achieve the greatest cost efficiencies, a procurement process that does not give preference to certain technologies should be held for the provisioning of reserve capacities. This procurement process will be monitored on a continuous basis, particularly after 2025, when the construction of new gas-fired power plant capacity is expected to become necessary. At the end of the phase-out period, a portion of the last coal-fired power plants to be shut down will be held as reserve capacity for an interim period.

10. Strengthening EU Emissions Trading and the prompt retirement of CO₂ certificates set free by the coal phase-out

The German government should encourage a stronger Emissions Trading Scheme at the EU level, particularly against the backdrop of the pledges made at the Paris Climate Conference for more ambitious efforts in the EU. In this context, a rule should be introduced for the permanent retirement of CO₂ certificates that are set free.

11. Ensuring the economic competitiveness of energy-intensive companies and the Germany economy as a whole during the transformation process

Due to increasing renewable energy generation and the merit order effect in Germany, wholesale prices for electricity are expected to remain low in the future. Policymakers should nevertheless reassure actors in the private sector, particularly energy-intensive companies, that measures will be taken to ward off any negative effects to international competitiveness that are associated with the coal phase-out. At the same time, policymakers should create incentives for greater energy efficiency and the further decarbonisation of the private sector on the whole, for such incentives would not only serve the environment, but also bolster economic competitiveness.

The consensus on coal in the triad of climate/environmental protection, economic efficiency and security of supply

Achieving a comprehensive consensus on coal will necessitate a broad-based, structured dialog process between political decision-makers and other stakeholders. It will be crucial as part of this process to balance the competing requirements of environmental protection, affordability, and security of supply. Furthermore, for a consensus to be achieved it will be necessary to find a fair compromise between divergent interests as well as establish a framework for long-term structural adjustment in impacted regions.

In specific terms, this means that the phase-out of coal – a necessary step for Germany's climate protection goals to be reached – must be carried out in a manner that helps rather than hurts the German economy. Without a doubt, the future is always uncertain and reality is much more complex than market models predict. In light of Germany's overarching decarbonisation goals, this paper seeks to furnish a foundation for the fact-based discussion of key issues in the phase-out of coal power, as well as to create a sound basis for future planning where uncertainty currently prevails.

The recommendations contained in this paper are economically realistic. Given sufficient entrepreneurial initiative and flexibility, actors in the energy economy will be able to adapt their activities to the new reality of an economy without coal power within the outlined time frame. The recommendations contained herein provide a sound basis for future investment decisions and long-term planning. Redistributive effects between energy producers and consumers can be minimised if Germany abstains from introducing a special levy on coal (*viz. Nationaler Klimaschutzbeitrag*) and also does not grant benefits for the decommissioning of power plants. The structural changes that have been outlined in the foregoing would not threaten the international competitiveness of the German economy as a whole. The recommendations take a cue from the following maxim: "The renewable energy revolution can only be ecologically successful if it makes economic sense."

Security of supply will remain at a high level during the entire restructuring process. The foregoing recommendations ensure that the emissions reductions that are needed in the power sector over the mid to long-term will be achieved. The structural transformation that is already underway in the regions that will particularly be impacted by the phasing out of coal power can be managed in a socially responsible way while avoiding highly disruptive change. A sound financial basis for this structural change will be provided, and a special levy will ensure that the ecological consequences of lignite mining are addressed.