Designing the „coal exit game“ in Germany

Commission on Growth, Structural Change and Employment

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The problem

The beautiful colours of human extinction

Scenarios for 2020 and for 2030 show that Germany will not meet its climate protection target without additional closures of coal-fired power stations.

Since 1990, three different phases can be distinguished:

**Phase 1 (1990 – 2000):** Sharp reduction triggered by structural changes (shutdown of industry and lignite power stations after reunification).

**Phase 2 (2000 – 2010):** Moderate reduction as a result of modernisation and climate policies.

**Phase 3 (2010 – 2017):** Stagnation

The 2020 climate target is basically out of reach. Meeting the climate targets for 2030 remains a major challenge.
The German coal phase-out is the largest phase-out plan in Europe

Compilation: Felix Matthes / Öko-Institut 2019
What are the options to reduce coal-based electricity generation?

\[ \text{CO}_2 = \text{Number of power plants} \times (\text{capacity}) \text{ utilisation} \]

\[ \text{CO}_2 \text{ reduction} = \text{fewer power plants and/or lower utilisation} \]

Instrumental options

- Decommissioning or reserves
- Limitation of operating hours
- \( \text{CO}_2 \) pricing

Source: Presentation to the Commission by Patrick Graichen, Agora Energiewende, September 2018
Annual lignite mining in million tons 1930-2013

Prof. Dr. Barbara Praetorius | Berlin, 21 February 2020
Regional concentration of employees in coal mining still relevant, despite major decline over the last decades

Number of employees in coal mining in Germany (1960 - 2018)

Source: Statistik der Kohlenwirtschaft; graphics: Agora Energiewende
Commission on „Growth, Structural Change and Employment“

Non-permanent commissions on energy and climate policy in Germany

Expert Commissions
→ Expert Commission on the Monitoring Process "Energy of the Future"

Joint Parliament/Expert Commissions
→ Study Commissions (“Enquete-Kommissionen”) of Federal and State Parliaments

Stakeholder Commissions with a (more or less) narrow mandate and/or (more or less) pre-defined outcomes
→ Ethics Commission on Nuclear Phase-out
→ Commission to Review the Financing of the Phase-out of Nuclear Energy

Stakeholder Commissions with a broad mandate and/or (more or less) open outcomes
→ Commission on the Storage of High-level Radioactive Waste
→ Commission on Growth, Structural Change and Employment (“Coal Commission”)

Source/Inspiration: Presentation by Felix Matthes, 2019
Negotiating the exit game:
The idea of designing a stepwise phase-out in a “Round Table” process has been around for a while …

<table>
<thead>
<tr>
<th>A. Frame</th>
<th>B. Power plants</th>
<th>C. Lignite regions</th>
<th>D. Economy and society</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
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<tr>
<td>„Round Table for a national consensus on coal“</td>
<td>No new coal power plants</td>
<td>No new coal surface mining sites and no new resettlement processes</td>
<td>Ensuring security of supply</td>
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<td>Gradual statutorily regulated coal phase-out till 2040</td>
<td>Establishment of a phase-out plan for all remaining plants based on a remaining term with flexibility options for the lignite regions</td>
<td>Financing subsequent costs of lignite mining through levies/surcharges</td>
<td>Reinforcing the EU Emissions Trading System and cancellation of surplus emission permits</td>
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<td>3</td>
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<tr>
<td>No new coal power plants</td>
<td>No additional, national climate protection regulations for coal power plants</td>
<td>Establishment of a government fund for structural change</td>
<td>Securing the business location and the energy-intensive industries</td>
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<td>Prof. Dr. Barbara Praetorius</td>
<td>Berlin, 21 February 2020</td>
<td>Agora „11 principles for a Consensus on Coal“, January 2016</td>
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</tbody>
</table>
... until, eventually, the German Government announced the appointment of the Commission „Growth, Structural Change and Employment“ in June 2018

Main tasks (mandate) of the Commission

- To suggest measures to reduce the gap expected in meeting the German 2020 climate target of minus 40% compared to 1990
- To suggest measures to meet the 2030 sectoral climate target for the energy sector (-61/-62% compared to 1990)
- To develop a masterplan and an exit date for the stepwise reduction of coal-based power generation
- To create perspectives for employment in regions & industries affected by coal phase out
- To suggest a tool box of instruments to enable growth, structural change, social acceptance and cohesion and climate mitigation at the same time
The „three pillars of sustainability“ are reflected in the mandate of the Commission

- Climate protection targets to be met
- Reliable and affordable energy for consumers and industry
- Regional growth and employment for the regions affected
Members of the Commission:  
Government appointed representatives from main societal stakeholder groups

Chair of the Commission „Growth, Structural Change and Employment“

- 3 environmental associations
- 2 energy industry associations
- 3 trade unions
- 3 industry associations
- 3 companies from infrastructure industry
- 3 scientists on energy & climate
- 1 scientist on materials and innovation
- 2 experts on structural change & labor
- 2 representatives of people affected by lignite
- 2 representatives of people fearing job losses
- 1 regional and renewable representative
- 2 former minister presidents
- 1 ex member of government (CSU; Hasselfeld)
- 3 representatives from governing parties

Source: BMWi
Procedural core elements of the „Coal Commission“

• 10 plenary meetings
  – 3 of which in the lignite mining regions
  – hearing of approx. 80 specialists and representatives
  – right to speak for commission members (not for sherpas/deputies) and observing states (6 states with significant coal mining activities)

• 2 (negotiation) working groups
  – Friends of Chair (energy and climate policy issues): 6 commission members and sherpas/deputies
  – Working group on structural change: 8 commission members and sherpas/deputies

• Voting rules
  – a two thirds majority for reports, a simple majority for all other matters
Complex structure and ambitious time schedule

Commission „Growth, Structural Change and Employment“

4 chair persons
24 regular members
3 parliamentary members without voting rights
Representatives from six Federal States (Bundesländer)

Office

Appointment

June  July  August  September  Oktober  November  December  January

Interim report on structural change policies
[Interim report on 2020 climate measures]

Final Report

8 Ministries (Secretaries of State)

Prof. Dr. Barbara Praetorius | Berlin, 21 February 2020
Decommissioning roadmap

Capacity of lignite & hard coal plans according to recommendations 2017-2038

**Phase-out trajectory**

- Reduction from 43 GW (end 2017) down to 30 GW until 2022 (15 GW lignite and 15 GW hard coal)
- Steady decommissioning until 2030 down to 17 GW (9 GW lignite and 8 GW hard coal)
- Last plant to close in 2038 at the latest (to be revised in 2032, aiming at phase-out by 2035)
- No details on power plants

**Compensation payments for operators**

- 2019 – 2022: „mutual agreements on a contractual basis“
- 2023 – 2030: „mutual agreements for lignite operators and voluntary phase-out premium for hard coal capacities“
Support programme for coal regions and employees

→ infrastructure investments (transport, digitization)
→ innovation and research (new institutions, demonstration projects, innovation zones)
→ (re)settlement of government agencies incl. military
→ early retirement / adaptation allowance mechanisms (labour market policies following the blueprint of hard coal mining phase-out)
→ civil society and community support programmes

Funding resources:
→ € 1.3b annually for 20 years for specific measures (controlled by federal legislation)
→ € 0.7b annually for 20 years at the disposal of the States
→ funds will be only partly additional (re-distribution of existing funding mechanisms)
Power prices are set to rise in the next years, due to higher fuel and CO2 prices: *Business as usual scenarios* until 2030 usually expect a price of around 57 €/MWh

Additionally, the reduction of coal capacities according to the targets for 2030 is expected to drive up electricity prices by approximately 3 to 5 €/MWh in 2030

Renewables expansion to 65% in 2030 is expected to dampen or may even overcompensate this effect
Compensation for consumers

The Commission recommends a “compensation” mechanism for power consumers

→ payment to reduce grid feeds (or a measure with similar effects)

→ "at least 2 billion euros per year"

→ exact volume to be determined during the 2023 review

→ to be paid out of the federal budget.

→ Commission also recommends the “continuation and further development” of ETS price compensation for energy-intensive companies.
Emissions trading and CO$_2$ price

→ Emissions allowances corresponding to plants decommissioned under the phase-out plan shall be deleted from the national budget

→ (basic legal EU framework exists, implementation provisions pending, volume to be fixed)

→ A price on carbon emissions should be examined for sectors not covered by the ETS

→ **Dissenting opinion** of several commission members on examining a CO$_2$ floor price for the ETS sectors in cooperation with neighbouring countries
Monitoring

→ Regular monitoring in the years 2023, 2026 and 2029
→ Set of sub-targets for all aspects (climate protection, energy security, employment and regional development)
→ In case of risking to miss subtargets, government shall develop more appropriate mechanisms to meet respective targets without compromising on other sub-targets
Effect on carbon emissions

Additional emission reduction, in million tons of CO₂

Green bars: Total emission reduction in Germany

Grey negative areas: Rebound effects in Europe outside Germany

On average, about one third of emission reductions are lost due to rebound

The main reason is that Germany’s current electricity exports are to be replaced in the surrounding countries

Source: Öko-Institut 2019a
References and further information


→ All other references to be found on the website of the organisation quoted