

What impact do the decisions of the Climate Cabinet have on German power market developments?

Executive Summary

- On 20 September 2019, Germany's "Climate Cabinet"—a committee of ministers with climate-relevant portfolios – agreed on a compromise to ensure that Germany reaches its 2030 climate target.
- Parties agreed to introduce a national carbon pricing system in the transport and building sectors, and confirmed their commitment to increase the share of renewables in power demand to 65% by 2030.
- While the offshore wind target is raised from 15 to 20 GW by 2030 and the 52 GW subsidy cap for solar PV is abolished, onshore wind buildout will be restricted by minimum distance regulations.
- Proposed measures will raise the renewables share in power demand to 52% in 2030 only. Consequently, an emissions gap for the power sector of 28-34 MtCO₂e remains in 2030. Additional measures are required to achieve the 65% renewables target.

Background

Germany will fail to meet its target of cutting greenhouse gas emissions by 40% by 2020 compared to 1990 levels. Official estimates project an emission reduction by 32% only. In order to achieve the 2020 target as soon as possible and to avoid falling short of the 2030 target of reducing emissions by 55%, additional measures are required.

Following increasing protests for more ambitious climate action and surging election results and polls of the German Green party, the governing parties of the Grand Coalition (CDU, CSU, SPD) were under pressure to come up with a comprehensive climate action plan that would set the country back on track for its climate targets.

In the power sector, Germany aims to reduce emissions to 180-186 MtCO₂e per year by 2030, corresponding to a 60% reduction compared to 1990 levels. Until 2017, power sector emissions have already been reduced by 27%.

Key proposals of the Climate Cabinet

- A national carbon pricing system will be introduced in the transport and building sectors. Starting in 2021, emission certificates will be issued at a fixed price of €10 per ton CO₂, with prices rising every year to €35 in 2025. From 2026 onwards, an emission trading scheme will be implemented.
- Other measures include subsidies for electric vehicles and energy efficient heaters. The vehicle tax will be adjusted to account for CO₂ emissions and air traffic taxes will be increased, while the value-added tax on train tickets will be reduced.
- A reduction of power prices is envisaged to compensate consumers and small to medium-sized businesses. The governing parties agreed to gradually lower the EEG surcharge in line with the increase of carbon prices in other sectors.

Key proposals relevant to the German power market

- The Climate Cabinet has reiterated the government's commitment to phase out coal-fired power plants by 2038 at the latest and to increase the renewables share in power demand to 65% by 2030, i.e. 10 years earlier than currently targeted by law.
- The buildout target for offshore wind is increased from previously 15 to 20 GW in 2030.
- The overall buildout limit of 52 GW for solar PV installations receiving feed-in-tariffs (i.e. those under 750 kW in capacity) is set to be cancelled.
- Onshore wind buildout will be restricted by the introduction of a minimum distance of wind turbines to residential areas of 1,000 m. An opt-out mechanism for federal states and municipalities is intended to allow for shorter minimum distances.

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Sources: Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, Aurora Energy Research

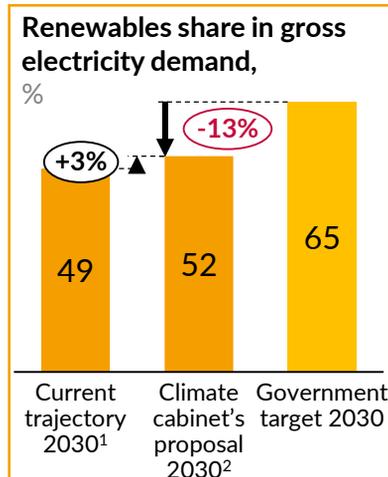
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Impacts on the German power market

Will the 65% renewables target be reached by 2030?

- According to Aurora analyses, the decisions of the Climate Cabinet lead to an overall renewables share in gross electricity demand of **52% by 2030**, i.e. only 3 percentage points more than under the current EEG trajectory.
- Additional measures, corresponding to an overall increase in solar capacity of 80 GW or onshore wind capacity of 29 GW by 2030, respectively, will be required to meet the 65% renewables target.

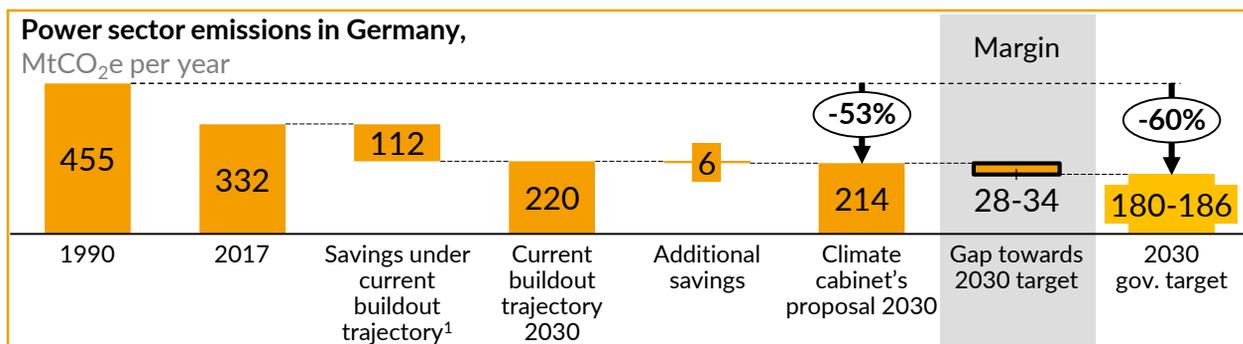


What impact do the Climate Cabinet's decisions have on power prices?

- Wholesale power prices in 2030 will be **4% lower** compared to the current trajectory as additional renewables generation replaces more costly generation from coal and gas power plants.

Will emission targets of the power sector be met under the Climate Cabinet's proposals?

- By 2030, the increased offshore target will result in additional emission savings of 6 MtCO₂e compared to the current trajectory. However, a **gap of 28-34 MtCO₂e** remains in 2030.
- In comparison to the power sector target to cut carbon emissions by 60%, proposed measures will achieve an overall reduction of 53% only.



Conclusions and further thoughts

- The decisions of the Climate Cabinet are neither sufficient to achieve the power sector's emission target nor the 65% renewables target by 2030, leaving a gap of 13 percentage points regarding the latter.
- On top of the new 20 GW offshore wind target for 2030, significant additional buildout is required to achieve the 65% renewables target – in particular from onshore wind and solar.
- However, even the implementation of the current buildout trajectory is at risk. In the first half of 2019, onshore wind in Germany saw a gross capacity addition of no more than 287 MW, which is far off the annual buildout target of 2,900 MW. New restrictions on the minimum distance of wind turbines to residential areas will further impede onshore wind buildout.³
- Plans of the Climate Cabinet to increase public acceptance through reducing retail power prices are unlikely to succeed. The stipulated reductions of the EEG surcharge effectively translate into an annual price reduction of no more than 0.8 - 2% between 2021 and 2023.
- Apart from lowering public acceptance of the energy transition, persistently high electricity prices also present barriers to electrification in the transport and building sectors.

¹ Based on EEG 2017 trajectory including additional auctions as specified by the Collective Energy Act (*Energiesammelgesetz*), but assuming onshore wind auctions to be undersubscribed between 2020 and 2025.

² In our modelling, we considered the increased offshore wind buildout target for 2030. For solar, we continue to assume solar buildout to follow the current EEG 2017 trajectory (including additional auctions), given that it has not been adjusted by the Climate Cabinet – despite the abolishment of the 52 GW cap.

³ According to a recent study of the German Environment Agency, a 1,000m minimum distance will limit available space by up to 50%.