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COUNTRY PROFILE – GERMANY¹

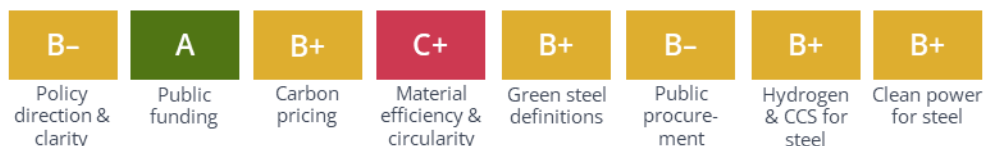
2023 STEEL POLICY SCORECARD

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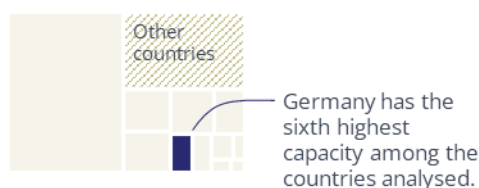
Looking for its place in a green steel future

The large machinery of the German economy is slowly greening its cogwheels. The domestic transition is being tackled from a wide range of policy angles but will depend on securing large energy imports, if current steel capacity levels are to be maintained. This will require Germany to make bold choices on the future direction of its economic model and create meaningful partnerships in Europe and internationally.

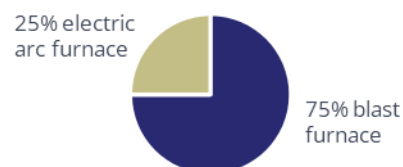
Country profile: Germany



Production capacity



Production methods



Source: Global Energy Monitor, 2023, 2023 Pedal to the metal



¹ This document supplements the main **2023 Steel Policy Scorecard report: Raising ambition on steel decarbonisation**.



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Germany has shown progress across many policy levers in the Steel Scorecard. The government is implementing a good mix of demand-pull and technology-push policy levers, while also leveraging EU-wide instruments such as the EU ETS. Germany is a key potential agenda-setter for the global steel market, with many multinational steel producers headquartered there, and a long track record of ambitious climate policy and fiscal headroom to accelerate the transition.

Priority recommendations for German steel policy

- > Keep emissions reduction targets for industry in place, and ramp up ambition for 2030, along with developing steel specific targets.
- > Accelerate the introduction of ambitious minimum requirements for embodied emissions in building materials and encourage the decarbonisation of both primary and secondary steel production along a 1.5 °C-aligned pathway
- > Ensure that any public funding offered to steel companies is conditional upon clear net zero transition plans.

German has historically been an important steel producer

Germany dominated global steel markets in the nineteenth century. It was still a leading global producer in the 1960s – a close second to the largest producer at that time, the US. Steel played a key role in shaping both Germany’s economic development and its cultural identity.

Today Germany is the largest EU steel producer and holds the biggest coal-based production capacity on the continent. Secondary, scrap-based EAF production makes up 25% of total production.² It is nonetheless a global leader in terms of the green primary steel project pipeline, with plans for new DRI capacity amounting to 10 Mtpa.³ However, recent decisions in 2021 and 2019 to reline blast furnaces will extend the lifetime of these assets by possibly as many as 20 years. This suggests that coal-based production is not yet a thing of the past.

Fighting to green domestic production capacity and leveraging its fiscal power

Germany is making use of large federal and individual state-level budgetary resources to co-finance most coal-based steel sites in the country on their path to net zero. It also subsidises all stages of project development, from R&D to

² Calculated from Appendix C in Global Energy Monitor, 2023, **Pedal to the Metal 2023**

³ Global Energy Monitor, 2023, **Pedal to the Metal 2023**



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capital expenditure (plant transition) and operational expenditure such as higher energy costs.

Germany is one of the first countries to introduce carbon contracts for difference to support its heavy industry sectors to transition. This is reinforced by tens of billions in tax breaks and additional electricity price support for industrial consumers. However, this strategy may prove difficult to sustain in the long term as operational costs of H₂-DRI plants in Germany are projected to be particularly high, even beyond 2030, due to regionally/globally uncompetitive energy prices.

Germany is aiming to retain all its current steel production capacity – including the lower value-added and highly energy-intensive ironmaking – while facing an energy cost disadvantage. German policymakers seem convinced they can afford to do so by leveraging ample budgetary resources. Commentators have questioned whether this is a good and sustainable use of public funding as it risks locking in long-term subsidies with a growing risk of stranded assets.⁴ A shift in strategy towards importing green iron (over importing costly green hydrogen and producing iron domestically) might help: it could lower the costs of the steel sector transition, enhance the competitiveness of downstream sectors and make more green power available, and cheaper, for other users.⁵

Risk of backsliding on sectoral targets but progress on definitions and procurement requirements

Germany's heavy industry-specific emissions reduction target – a 37% reduction relative to 2020⁶ – was made legally binding through the 2019 Climate Protection Act. It clearly signalled its ambition to decarbonise industry. However, a reform tabled in 2023 proposed to remove sectoral targets. If it goes through, it will be a retrograde step for Germany's policy clarity and direction.

A stakeholder consultation process on green steel definitions and measurement standards is under way, which is expected to result in a voluntary green steel labelling system. Germany could be the first country to establish national green steel benchmarks and standards linked to procurement and market building policies.

⁴ Bruegel, 2023, **Adjusting to the energy shock: the right policies for European industry**

⁵ Bähr et al. 2023, **Die Zukunft energieintensiver Industrien in Deutschland. Eine Studie von IW Consult und Frontier Economics im Auftrag des Dezernat Zukunft**

⁶ Bundesministerium der Justiz, 2019, **The national climate protection act (Klimaschutzgesetz)** (Annex 2 Industry emission levels: 186 Mt (2020), 157 Mt (2025) and 118 Mt (2030) – which is a 37% reduction from 2020 to 2030)



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Germany also committed to announce the adoption of IDDI green steel public procurement pledges at COP28 in November 2023.⁷ In parallel it is due to set minimum requirements for embodied emissions in building materials used in constructing and operating federal properties. These were set to be instituted by the first half of 2023, as per the federal Sustainability Action Programme.⁸

Powering ahead on hydrogen and clean electricity

Germany is showing relatively high ambition on greening its grid solely through renewable energy sources. The share of renewables in the power mix is set to increase by roughly 25% from 2022 to 2030. Combined with the great challenge posed by the recent complete phase-out of its nuclear fleet, this might not be enough, given Germany's currently majority fossil-based power system.⁹ At the same time, it is home to possibly the most developed renewable PPA market globally.¹⁰

The Steel Action Concept is a strategy document published jointly by the preceding government and the steel sector.¹¹ It mentions the need to develop modelling on added RES capacity needs, as well as the potential necessity to have to import power. Grid constraints remain a big bottleneck in a country where industry is concentrated in the north, and renewable energy generation in the south. The strategy also foresees meeting parts of Germany's energy demand by using (additional) fossil gas capacity and assumes up to 70% hydrogen imports. A hydrogen import strategy is still in the works; there seems to be an implicit focus on mainly clean imports through developments like an import auction scheme for green hydrogen (H2Global).

Germany's national hydrogen strategy places a high emphasis on steel as an end-use sector and aims to stimulate the development of a market for both blue and green hydrogen.¹² The specific target for electrolyser capacity has been doubled since the strategy's previous version; this indicates a greater emphasis on green hydrogen. A CCUS strategy is also under way. Multiple H2-DRI installations are

⁷ IDDI, 2023, Status update: **The Industrial Deep Decarbonisation Initiative's Green Public Procurement Pledge**

⁸ Bundesministerium für Umwelt, Naturschutz, nukleare Sicherheit und Verbraucherschutz, February 2022, **Maßnahmenprogramm "Nachhaltigkeit" der Bundesregierung**

⁹ Ember, last updated 2023, **Germany: Coal is holding back Germany's transition to clean energy**

¹⁰ EY, 2023, **PPA Index**

¹¹ Federal Government, 2020, **Steel Action Concept: For a strong steel industry in Germany and Europe**

¹² Bundesministerium für Wirtschaft und Klimaschutz, **The National Hydrogen Strategy**, accessed January 2024



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being developed by ArcelorMittal, Salzgitter and Thyssenkrupp. All aim to reach full green hydrogen usage, though only some sites are setting specific timelines.



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About E3G

E3G is an independent climate change think tank with a global outlook. We work on the frontier of the climate landscape, tackling the barriers and advancing the solutions to a safe climate. Our goal is to translate climate politics, economics and policies into action.

E3G builds broad-based coalitions to deliver a safe climate, working closely with like-minded partners in government, politics, civil society, science, the media, public interest foundations and elsewhere to leverage change.

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