

FACTSHEET - Carbon Dioxide Removal

Country Report: Germany

Germany's carbon management framework establishes a strict statutory demarcation between point-source emissions reductions (CCS/CCU) and carbon dioxide removal (CDR). Anchored in the Federal Climate Protection Act (KSG) and the enacted Carbon Dioxide Storage and Transport Act (KSpTG), the legislation accelerates deployment by legally designating CO₂ transport and offshore storage as serving an "overriding public interest". This regulatory opening is tightly bounded by spatial constraints and the categorical exclusion of coal-fired facilities to prevent fossil-asset life extension. While current subsidies target hard-to-abate industrial emissions, the Long-term Strategy for Negative Emissions (LNe) outlines the roadmap for future market integration and aligns national MRV implementation with the binding EU Carbon Removals Certification Framework (CRCF).



Legal Framework & Targets

In Germany, carbon management is framed primarily by the Federal Climate Protection Act (KSG) and the enacted Carbon Dioxide Storage and Transport Act (KSpTG). The KSG establishes binding targets for greenhouse gas neutrality by 2045 and net negative emissions from 2050 onward (§ 3 (2) KSG), while maintaining that the statutory reduction targets for 2030 and 2040 are to be achieved independently of negative emissions

(§ 3b sentence 6 KSG). It also distinguishes between LULUCF removals and technical sinks by setting removal targets for the former (§ 3a KSG) and authorizing future binding targets for the latter (§ 3b KSG). The KSpTG constitutes the key sectoral framework for CO₂ transport and geological storage and establishes a regulated opening for CCS infrastructure, especially for unavoidable emissions and offshore storage.



Economic Instruments

Germany's primary state support mechanism for industrial carbon management is the Federal Funding for Industry and Climate Protection (BIK)¹. The BIK subsidizes point-source CCS and CCU deployments exclusively for unavoidable or hard-to-abate industrial emissions, excluding fossil-fueled power plants. With a target of reducing 40 million tonnes CO₂ equivalents by 2045 and scheduled to run until 2030, the BIK's first funding call concluded in November 2024.

Parallel to this industrial state aid framework, targeted federal grants finance the research and scaling of terrestrial and marine CDR methods². The LNe, issued pursuant to § 3b sentence 5 KSG, explicitly examines economic incentive models for the scale-up of CDR, highlighting state funding mechanisms in the short term and outlining integration into the EU ETS as the long-term target market framework.



Infrastructure & Permitting

The KSpTG establishes a comprehensive regime that elevates CO₂ transport to an independent regulatory area equivalent to permanent storage. To accelerate planning and approval procedures, the legislation statutorily designates CO₂ pipelines and storage facilities as serving an „overriding public interest“ (§ 4 (1) KSpTG). The framework imposes strict regulatory boundaries on infrastructure access: it categorically excludes coal-fired power plants and heating facilities, while permitting access for gas-fired plants and hard-to-abate industrial

emissions. Spatially, offshore geological storage is authorized within Germany's Exclusive Economic Zone, subject to rigorous environmental exclusions (e.g. eight-kilometer buffer zones from marine protected areas per § 13 (1) KSpTG). Conversely, onshore commercial storage remains statutorily prohibited, subject only to a state-level opt-in mechanism and nationwide exemptions for research (§ 2 (5) KSpTG). Furthermore, legislation has now established the legal prerequisites for transboundary CO₂ transport and export in accordance with the London Protocol.

1 Bundesministerium für Wirtschaft und Energie, Bundesförderung Industrie und Klimaschutz (BIK) – Förderung von CCU und CCS. <https://www.foerderdatenbank.de/FDB/Content/DE/Foerderprogramm/Bund/BMWi/bundesfoerderung-decarbon-bik-Mod2.html>

2 Bundesministerium für Forschung, Technologie und Raumfahrt, Forschung zu CO₂-Entnahme an Land und im Meer: Wie gestalten wir die Entnahme von CO₂ aus der Atmosphäre umweltverträglich und sicher? <https://www.fona.de/de/massnahmen/foerdermassnahmen/cdr.php>



Monitoring, Reporting, Verification & Transparency

Germany's carbon accounting framework, governed by the KSG, imposes strict transparency rules by prohibiting the offsetting of land-use (LULUCF) removals (§ 3a KSG) against future technical sink targets (§ 3b KSG). The LNe outlines the national strategy for implementing comprehensive MRV standards for negative emissions. It proposes the core governance structures

and transparent certification mechanisms required for CDR in Germany, ensuring alignment with the binding EU Carbon Removals Certification Framework (CRCF). Crucially, this developing framework places an emphasis on verifying the permanence of carbon sequestration and actively quantifying the probability of storage failure for respective CDR methods.



Just Transition & Equity

Within the current framework, socio-economic and equity considerations are addressed primarily through procedural justice mechanisms and transition-forcing infrastructure restrictions. By explicitly prohibiting coal-fired power plants and heating facilities from accessing CO₂ infrastructure under the KSpTG, the legislation legally forecloses the use of carbon capture for fossil-asset life extension, thereby enforcing a definitive

sectoral transition. Additionally, federally funded policy development frameworks mandate active public engagement in terrestrial CDR design and require the structural assessment of societal impacts for marine-based carbon removal. Crucial socio-environmental safeguards are anchored in the LNe, which systematically evaluates eligible CDR methods against broader sustainability criteria.

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