



CASE STUDY

Eramet explores the potential of carbon dioxide removal projects to advance decarbonization in a hard-to-abate metals sector

Carbon Direct worked with Eramet, a global mining and metals company headquartered in France, to evaluate carbon dioxide removal (CDR) standards and methodologies that support the generation and potential sale of CDR credits, identifying options for Eramet's decarbonization portfolio across its Norwegian operations.



Solution
CDR strategy + CDR markets



Industry
Metals



Location
Europe



Overview

Headquartered in France, Eramet is a global leader in the responsible beneficiation of metals, including manganese, nickel, mineral sands, and lithium, metals that are critical for the clean energy transition. Eramet is committed to "[Act for Positive Mining](#)," embedding social and environmental sustainability at the core of its corporate culture. To advance this commitment, Eramet has set a 2035 climate target to reduce [scope 1](#) and [2](#) emissions by 40% relative to its 2019 baseline and a long-term climate goal of contributing to neutrality in 2050. To meet these targets, Eramet is exploring innovative decarbonization pathways across its industrial processes, including the utilization of biogenic materials as a substitute for fossil coke and the deployment of carbon capture and storage (CCS) for smelter emissions.

Key Carbon Direct actions

- Mapped and assessed existing CDR registry standards and methodologies applicable to Eramet's decarbonization project concepts.
- Conducted an independent gap analysis to evaluate technical compatibility, market acceptance, and development timelines against the requirements of each registry standard and methodology, as well as Carbon Direct's criteria for [high-quality CDR and sustainable biomass sourcing principles](#).
- Developed and presented recommendations on the most appropriate standard(s) to support Eramet's CDR project development.

About the project

The challenge

To achieve its ambitious decarbonization goal, Eramet is advancing a novel decarbonization pathway in a hard-to-abate sector, rethinking how metals are being produced and processed in alignment with the net-zero transition. The company is exploring innovative decarbonization pathways across its industrial processes, including the utilization of biogenic materials as a substitute for fossil coke and the deployment of carbon capture and storage (CCS) for smelter emissions. While these pathways offer significant potential to advance industrial decarbonization, they remain at early stages of commercial deployment. High abatement costs and limited policy support make it difficult to establish a compelling business case.

To explore options for its decarbonization portfolio, Eramet is evaluating the potential generation and sale of CDR credits as an additional revenue stream. The company is assessing this project concept at various facilities in Norway.

The solution and impact

Eramet selected Carbon Direct to conduct a pre-feasibility assessment of applicable carbon credit methodologies and their suitability for the voluntary carbon market. As a trusted advisor, Carbon Direct evaluated leading methodologies in the context of Eramet's Norwegian facilities.

Carbon Direct’s scientists and technical experts assessed alignment across eight core evaluation themes. The assessment evaluated Eramet’s projects against both established registry standards and Carbon Direct’s criteria for high-quality CDR and sustainable biomass sourcing principles. This process identified the most suitable registry and crediting methodology for Eramet’s decarbonization concepts. Based on these findings, Carbon Direct developed and presented a detailed roadmap outlining key action items and a proposed timeline for registry engagement and requirements for project documentation.



Project eligibility

Overall ability of the project to meet registry requirements.



Baseline

Definition of the counterfactual scenario, in which alloy production relies solely on fossil coke and generates no biogenic CO₂.



Additionality

Demonstration that the project would not proceed without revenue from carbon credit sales.



Durability

Long-term storage of captured CO₂ and mitigation of reversal or physical leakage risks.



Biomass sourcing

Verification that biomass feedstocks are sustainably sourced, traceable, and do not divert carbon from other high-value uses.



Safeguards

Compliance with social and environmental protections to avoid harm to communities and ecosystems.



Governance

Clear definition of responsibilities, liabilities, and contractual arrangements across the value chain.



Measurement, monitoring, reporting and verification (MMRV)

Alignment with MMRV systems that ensure accuracy and transparency.

Why the client selected Carbon Direct

Following a competitive request-for-proposal process, Eramet selected Carbon Direct for three key reasons:

Scientific rigor and proven execution

Carbon Direct has one of the largest in-house science and commercialization teams in the industry, with deep expertise across nature-based solutions, hybrid, and engineered CDR pathways. The team has conducted over 800 project diligences and 150 in-depth reviews of emerging technologies. Having supported more than two-thirds of executed CDR procurement in the market,¹ Carbon Direct helps clients navigate market complexity and perform thorough project diligence, empowering them to make confident, science-based decisions.

Industry-leading CDR technical expertise

Carbon Direct draws on extensive experience developing and assessing methodologies in the carbon market, including [Carbon Direct's Criteria for High-Quality Carbon Dioxide Removal](#) (co-developed and published with Microsoft) and [Carbon Direct's Guide to Sustainable Biomass Sourcing for Carbon Dioxide Removal](#). With expertise spanning process engineering, thermal processing, biocarbon utilization, and mining-sector decarbonization, Carbon Direct delivers practical, science-backed, defensible recommendations grounded in real-world application.

Unique buyer insights

Carbon Direct works closely with buyers and financiers to identify, evaluate, and diligence high-quality CDR projects, building customized portfolios that align with their impact goals. As a trusted advisor to climate leaders including Microsoft, JPMC, Symbiosis, and Salesforce, Carbon Direct brings commercially viable, science-backed insights to unlock and scale innovative decarbonization solutions. With established relationships across the CDR ecosystem, Carbon Direct connects clients to best-in-class suppliers, registries, and scalable climate solutions.

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Eramet is very pleased with the high quality, timely delivery, and flexibility demonstrated by Carbon Direct in the assessment of suitable CDR methodologies for our manganese smelters.”

Julia Lindland, Director Strategic Projects CCUS, *Eramet Norway AS*

1 Including tonnes from direct transactions and procurements where Carbon Direct provided advisory services as part of the transaction.

About Carbon Direct

Carbon Direct is a science-first organization that combines technical and commercial expertise to decarbonize the global economy. Our 70+ scientists work closely with our finance and market experts to design, diligence, and deliver decarbonization solutions across industries. From Microsoft to JPMorganChase, Carbon Direct helps leading companies with carbon dioxide removal, carbon measurement, low-carbon energy solutions, and clean, firm power.

To learn more visit: www.carbon-direct.com

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