

POLICY BRIEF | SUPPORTING THE SCALE-UP OF PERMANENT CARBON REMOVAL: FOUR RECOMMENDATIONS FOR THE IDAA

Carbon Gap proposes four targeted measures to integrate permanent CDR into the IDAA framework:

1. **Integrate CDR in carbon intensity labels.** Recognise permanent removals in product carbon footprints to drive demand for net-zero industrial materials and enable access to IDAA support.
2. **Introduce sectoral interim CDR milestones.** Set voluntary, then mandatory milestones for permanent CDR uptake to provide clear market signals and avoid deployment bottlenecks.
3. **Establish EU Contracts for Difference (CfDs) for CDR.** Establish EU-level CfDs to close the cost gap for high-integrity permanent removals and unlock private investment.
4. **Streamline permitting through EU harmonisation.** Support Member States in aligning permitting standards and timelines to accelerate deployment while respecting local authority.

Introduction

The Industrial Decarbonisation Accelerator Act (IDAA), as a core component of the Clean Industrial Deal (CID), offers a unique opportunity to future-proof European industry while scaling **permanent carbon dioxide removal (CDR)**¹. All energy-intensive industries identified by the European Commission in the CID will retain some level of economically and technically hard-to-abate emissions, making permanent CDR indispensable for achieving net-zero across sectors and essential for enabling net-negative emissions beyond 2050. Beyond climate benefits, permanent CDR also represents a multi-trillion-euro industrial opportunity for Europe. By 2050, Europe's CDR sector could generate [€220 billion annually](#) and create 670,000 high-quality jobs across Europe, driving innovation, supporting a just transition, and strengthening Europe's global competitiveness.

Our recent policy brief [“Divide to Deliver”](#) shows that **meeting a 90% emissions reduction target by 2040 will require deployment of permanent CDR beyond current projections**. Depending on how emissions reductions evolve, the EU will need between 100–280 MtCO₂/year of permanent removals by 2040 — far more than the 75 Mt presented in the Commission's 2040 Targets Impact Assessment. Yet today, permanent CDR remains prohibitively expensive and is largely absent from EU industrial policy frameworks, which in turn discourages private investment. As companies plan with emissions reductions along

¹ The permanent CDR bucket under the [Carbon Removals and Carbon Farming Certification Framework](#) currently includes: direct air capture (DACCS), bioenergy with carbon capture and storage (BECCS), biochar and enhanced rock weathering (ERW).

their marginal abatement cost curves (MACC), they will realise that some decarbonisation levers are simply not mature enough or prohibitively expensive. Ensuring that carbon removals are captured within sectoral MACCs is essential for reaching net zero.

Integrating permanent CDR into industrial decarbonisation strategies — through the IDAA — is therefore crucial. It will give industries the policy clarity and long-term signal they need to plan for and invest in these solutions.

Why CDR belongs in the IDAA?

[Permanent CDR methods](#) actively remove CO₂ from the atmosphere and lock it away for centuries to millennia, providing durable climate benefits. These technologies are particularly relevant for:

- **Hard-to-abate sectors** like cement, lime, steel, and chemicals, where process emissions cannot be fully avoided.
- **Clean product innovation**, enabling the production of “carbon-negative” or net-zero industrial materials.
- **Long-term climate compliance**, ensuring that EU industries can contribute to climate neutrality and net-negative targets post-2050.

While the EU ETS can help generate long-term demand for CDR, and the Innovation Fund can support selected project financing, the IDAA is uniquely positioned to address the systemic enablers that CDR deployment needs. Specifically, the IDAA can deliver the foundational infrastructure, permitting clarity, skilled workforce, and strategic market signals required to integrate CDR as a core industrial capability — much like past EU efforts to scale renewables and hydrogen. Positioning CDR in the IDAA ensures alignment with Europe’s industrial competitiveness goals, clean tech innovation agenda, and strategic autonomy ambitions. CDR represents not just a necessary climate tool, but a new industrial value chain, enabling the production of net-zero materials and securing high-value, future-proof jobs across Europe.

This paper proposes four targeted recommendations to integrate permanent CDR into the IDAA framework:

Recommendation 1: Integrate CDR in carbon intensity labels

Why would carbon intensity labels work for CDR?

Embedding CDR into the IDAA — for instance through **carbon intensity labelling** — would provide a clear market signal and drive early demand. Carbon intensity labelling could play a significant role in enabling this integration. If done well, it can:

- Create demand pull for CDR by rewarding companies that reduce their net carbon footprint through high-quality removals.

- Build lead markets for CDR-integrated materials, such as carbon-storing concrete or net-zero steel.
- Support performance-based incentives under IDAA and ensure coherence with EU industrial product standards

How could carbon intensity labels work?

Labels could allow net carbon intensity accounting, with strict conditions:

- Only permanent CDR methods (as defined under the CRCF) should be included.
- MRV requirements must be robust and verifiable to prevent greenwashing.
- Projects using a carbon intensity label could get preferential access to support under the [Industrial Decarbonisation Bank](#)
- Example: A cement producer that emits 0.7 tCO₂ per tonne but integrates 0.2 tCO₂ via enhanced mineralisation could label the product as 0.5 tCO₂/t.

Precedents and examples

- Switzerland: The Swiss Concrete Grade Calculator (by the Coordination Group for Construction and Property Services) includes options for biochar and CO₂ mineralisation, explicitly referencing their negative emissions potential. In parallel, the Swiss CDR Roadmap proposes updating eligibility rules to allow carbon-storing concrete to count toward climate targets.
 - [Betonrechner Calculator](#)
- Finland: Lacking domestic CO₂ storage, Finland is prioritising storage in long-lived products like construction residues. Under the Construction Act (entered into force January 2025), Decree 1027/2024 permits carbon storage in building materials (e.g., carbonation) to be included in carbon footprint calculations. This means some CDR methods are now officially recognised in Finland's building carbon labelling.
 - [Construction Act](#)
 - [Decree 1027/2024](#)

Policy considerations

- **Clarity on use cases:** For the label to create meaningful incentives, the Commission must clarify how it will be used in practice. Will it be linked to green public procurement, access to finance, consumer-facing eco-labelling, or mandatory performance standards? Without a clear use case, the label risks becoming a disclosure exercise with limited impact on market behaviour.
- **Link to CBAM:** Including net carbon intensity on EU product labels can support CBAM implementation by offering a credible benchmark for comparing EU and extra-EU products, particularly if CBAM is expanded to cover residual emissions and/or incentivise removals.

Recommendation 2: Introduce sectoral interim CDR milestones

Why establish sectoral interim milestones?

Europe's industrial decarbonisation journey requires a gradual but decisive build-up of permanent CDR capacity. Interim milestones for procurement or deployment by hard-to-abate industries can:

- Provide the predictability and direction needed for companies to integrate CDR into long-term investment plans based on sectorial MACCs
- Enable infrastructure planning and supply chain development for CDR technologies, ensuring they scale in tandem with industrial needs.
- Avoid a late-decade “cliff edge” of demand that risks supply bottlenecks and price volatility.
- Interim milestones also align with the EU's strategic ambition to lead in emerging climate technologies and strengthen industrial resilience in a net-zero economy.

How could sectoral interim milestones work?

Pre-2030: Encourage voluntary milestones on a 3–5 year cycle for permanent CDR purchases or projects, supported by IDAA instruments like:

- Assess short-term need for CDR using sectorial MACCs to determine when they would need to come online for further decarbonisation.
- Access to subsidised high-integrity CDR credits under the CRCF.
- Preferential loans or grants from the Industrial Decarbonisation Bank for companies demonstrating early CDR leadership.

Post-2030: Gradually evolve milestones into mandatory targets, harmonised across sectors and Member States, with exemptions or flexibilities for SMEs.

Precedents and examples

- [SBTi's Net-Zero Standard revision](#) signals a global shift towards requiring companies to include removals in decarbonisation pathways.
- [Canada's Clean Fuel Standard](#) phased in interim carbon intensity reductions with credit trading mechanisms.

Policy considerations

- **Link with CSRD:** Consider integrating milestones with Corporate Sustainability Reporting Directive (CSRD) updates to ensure transparent tracking and disclosure.

- **Link with EU ETS:** Consider designing milestones to complement the EU ETS, allowing companies to use procured CDR credits for compliance in a way that respects caps and integrity standards.

Recommendation 3: Establish EU-level contracts for difference (CfDs) for CDR

Why EU-level CfDs are likely key for permanent CDR?

Durable removals are likely to cost more than EU allowances (EUA) for some time; a CfD can bridge that gap and let projects scale as allowance supply tightens.

How would EU-level CfDs work?

- Projects bid a strike price in an EU-wide reverse auction. After delivery and independent CRCF verification, the Commission pays the difference between the strike and the prevailing EUA price. If EUAs later rise above the strike, the project refunds the surplus. These bankable, medium-term contracts give financiers the revenue certainty needed to unlock private capital.
- Begin with a pilot volume, then expand along a pre-announced trajectory, allowing investors, clusters, and regulators to plan ahead. Allocate separate auction “pots” to diverse CDR pathways to avoid single-technology lock-in.
- Only CRCF-compliant and permanent removals qualify. The Impact Assessment should model both full and partial EUA cancellation options to determine the best approach for locking in additional climate ambition.

Precedents and examples

- [UK renewables CfDs](#) – Six competitive allocation rounds have already contracted almost 10 GW of clean-energy capacity in a single auction, confirming the model’s ability to mobilise private capital at scale.
- [Germany’s Klimaschutzverträge](#) – In 2024, the Federal Government launched a €4 billion call for carbon contracts for difference to de-risk green steel and other energy-intensive projects, providing a direct EU precedent for industrial CCfDs.

Policy considerations

- **Funding:** The payout pool could be funded from a predefined share of EUA auction revenue, complemented by voluntary Member State top-ups or credit guarantees. Private capital is leveraged through bankable, long-term cash flows.

Recommendation 4: Streamline permitting through EU-supported harmonisation

Why is permitting reform critical?

Complex and fragmented permitting regimes delay first-of-a-kind CDR projects and deter investment. BECCS and DACCS face regulatory hurdles across biomass sourcing, CO₂ capture, transport, and storage. Emerging CDR methods like mineralisation or ocean-based approaches also struggle to fit neatly within existing national permitting categories, which were never designed for such novel technologies.

A key challenge lies in variability between jurisdictions – even neighbouring towns can apply different permitting interpretations, creating delays and uncertainty for developers. Since permitting powers rest with national and local authorities, centralising the process at EU level is neither realistic nor desirable. Instead, the EU has a critical role to play in supporting Member States to harmonise permitting standards and processes, enabling consistent, efficient deployment of CDR and other clean technologies across Europe. This approach would:

- Accelerate deployment of CDR infrastructure vital for 2040 and 2050 targets.
- Facilitate cross-border projects by aligning standards for CO₂ transport and storage.
- Lower costs and reduce risks for investors by improving regulatory predictability.

How could EU-supported harmonisation work?

- Develop EU-level guidance on permitting standards and procedures for permanent CDR, covering environmental assessments, public consultations, and technical specifications for CO₂ transport and storage infrastructure.
- Facilitate a platform for Member States to share best practices, align on timelines, and coordinate cross-border permitting issues.
- Support national authorities through technical assistance programmes to build capacity for evaluating novel CDR projects.
- Promote common technical standards for CO₂ infrastructure (pipelines, shipping, monitoring) to ensure interoperability and safety across borders.
- Encourage Member States to adopt time-bound approval processes for strategic clean-tech projects while respecting subsidiarity.

Precedents and examples

- Nordic bilateral agreements (Sweden–Norway, Sweden–Denmark, Finland–Norway) reduced legal uncertainties for cross-border CO₂ transport and storage
- [Germany's EEG reform](#) halved permitting timelines for wind and solar.
- [NZIA](#) streamlined permitting for listed net-zero technologies (permanent CDR technologies like BECCS and DACCS were not included in NZIA's list of strategic net-zero technologies. BECCS and DACCS should be added under the IDAA's scope).

Policy considerations

- Pair streamlining permitting with technical assistance for Member State authorities to build capacity on evaluating CDR projects.
- Consider establishing an EU-level coordination body or expanding existing networks (e.g., NGCCUS in the Nordic region) to facilitate ongoing alignment and dialogue between regulators, developers, and industry.

Conclusions

The IDAA is set to become Europe's flagship framework for clean industrial transformation. Permanent CDR must be part of this transformation — not as a marginal add-on, but as a strategic enabler. By adopting the measures proposed in this paper, the Commission can create a robust business case for industrial removals, deliver clean industrial leadership, and align Europe's industry with its long-term climate goals.

Permanent CDR is not an alternative to emissions reductions — but it is an essential complement. The IDAA is the right place to help it scale. Embedding CDR in the IDAA will not only unlock its industrial potential but also ensure Europe leads the world in building the technologies and infrastructure essential for a net-zero future.

Additional Carbon Gap resources

- [Divide to deliver: Why 2040 separate targets for carbon removal are feasible and necessary to reach EU net zero](#)
- [The case for carbon removal in the EU Industrial Decarbonisation Bank](#)
- [Envisioning a carbon removal strategy for Europe](#)
- [Introducing an EU Public Procurement Pilot for CDR](#)