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Carbon Dioxide Removal Credits:

Perspectives from Swiss Buyers and Project Developers

July 2025

WHY CDR MATTERS NOW – FOR BUYERS AND DEVELOPERS IN SWITZERLAND

1) Policy Momentum – The Swiss Climate Protection and Innovation Act:

Switzerland has legally committed to reaching net zero by 2050, with interim targets along the way. The new law explicitly supports carbon dioxide removal (CDR) technologies as part of the national climate strategy – creating new opportunities, requirements, and incentives for both buyers and project developers.

2) Shifting Global Standards – SBTi's Updated Guidance

The Science Based Targets Initiative (SBTi) now calls for earlier integration of CDR into corporate net zero strategies – moving it from a distant concern to an immediate planning priority.

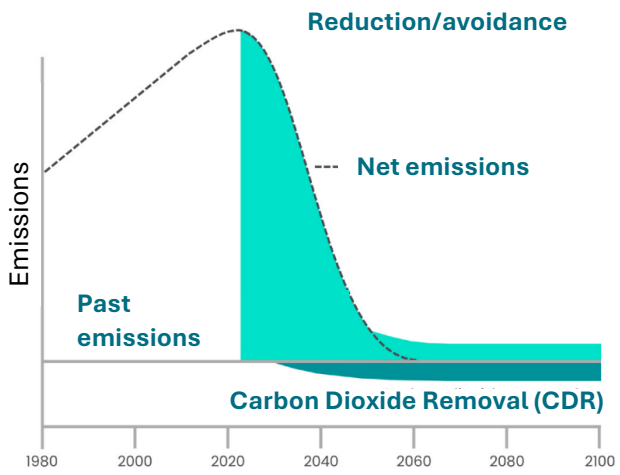
3) Strategic Relevance

For buyers, understanding and engaging with CDR is key to future-proofing climate commitments and securing high-integrity removal credits.

For developers, this shift opens new market demand and funding pathways for high-quality CDR projects, especially in Switzerland's innovation-driven context.

CARBON DIOXIDE REMOVAL VS. CARBON DIOXIDE REDUCTION

Removal involves actively extracting and storing CO_2 from the atmosphere, whereas reduction focuses on preventing or decreasing new emissions.



Reduction / avoidance of greenhouse gas emissions

Mitigation technologies are solutions that aim **to reduce or prevent greenhouse gas emissions,** including renewable energy sources, carbon capture and storage (CCS), and energy efficiency improvements.

Carbon dioxide removal (CDR)

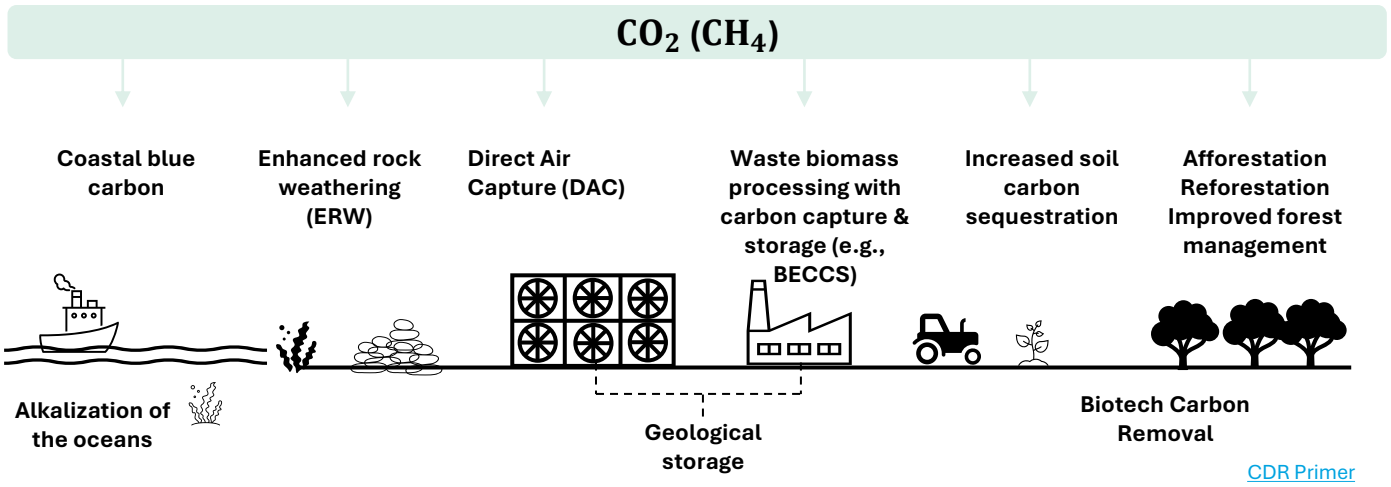
CDR describes the methods **of capturing CO_2 from the atmosphere** through a series of mechanisms. These methods are currently technically mature to varying degrees.

CDR supports:

- **In reducing the carbon already emitted**, which remains in the atmosphere for hundreds to thousands of years.
- In reducing greenhouse gas emissions in the near future, especially **in hard to abate sectors**.
- Offsetting the **remaining emissions** in order to achieve net zero in the medium term and **net negative emissions** in the long-term.

CDR TECHNOLOGIES

Multiple CDR methods are required to achieve the required scale of removal for global decarbonization.

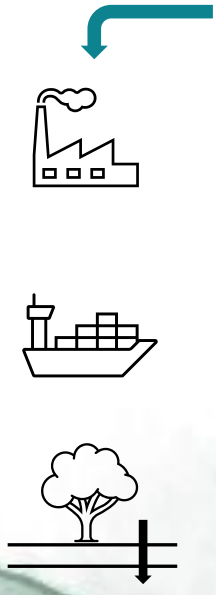


CDR Primer

	Permanence	Technology
Technology-based	Long-term, low emission release risk	• Direct Air Capture (DAC) • Biomass with Carbon Removal and Storage
Hybrid		• Biochar • Enhanced rock weathering (ERW) • Mineralization
Nature-based	Shorter storage period, higher risk of CO_2 release	• Reforestation, afforestation • Ecosystem restoration

POSSIBLE PROJECT DEVELOPER: SWISS WASTE INCINERATION PLANTS

Negative emissions can be generated at Swiss waste incineration plants by burning biogenic waste and capturing and storing the emitted CO_2.



Capture: Capture of CO_2 from fossil or biogenic waste

Transport: Transport of compressed CO_2 by ship or pipeline from the point of withdrawal to the place of use or storage

Storage: Permanent storage of CO_2 in underground geological formations, onshore or offshore

Reduction: Fossil waste with CCS

- Fossil waste (e.g. plastics) contains carbon that has been bound in fossil raw materials such as crude oil or coal for millions of years.
- When **fossil waste is burned, carbon is released, which contributes to increasing the atmospheric CO_2 concentration**.
- **Treating fossil waste with Carbon Capture and Storage (CCS) is a reduction technology that allows for the permanent storage of CO_2** that would otherwise be released during combustion.

Removal: Biogenic waste with CCS (BECCS)

- Biogenic waste, such as plant residues or wood materials, consists of organic materials whose carbon has been absorbed from the atmosphere by photosynthesis during plant growth.
- If biogenic waste is incinerated and the carbon **is captured and stored by CCS, this atmospheric carbon remains permanently removed from the cycle**, resulting **in negative emissions.**
- The **resulting negative emission technology (NET)** would need to be certified.

CARBON MARKETS AND STANDARDIZATION/CERTIFICATION BODIES

While carbon credits are traded in regulated compliance markets, carbon offsets operate in voluntary markets without government regulation, which requires independent verification measures. The **Voluntary Carbon Market (VCM)** allows carbon emitters (companies) **to offset their carbon emissions by purchasing carbon offsets** issued by projects that remove or avoid GHG emissions.

Gold Standard: Gold Standard is a **certification body** that ensures carbon offset projects deliver **real and measurable climate benefits** while supporting sustainable development. Established by WWF and other NGOs, it sets **strict environmental and social criteria** for carbon credit projects, such as renewable energy, reforestation, and clean water initiatives.
Gold Standard

Verified Carbon Standard (VCS): Verra is a **leading global carbon credit registry**, managing the **Verified Carbon Standard (VCS)**, one of the world's most widely used carbon certification programs. VCS ensures that carbon offset projects meet **rigorous standards for credibility and impact**, covering areas like **forestry, renewable energy, and carbon capture**.
Verified Carbon Standard – Verra

Puro Standard: Puro.earth is a **carbon removal marketplace** that focuses exclusively on **verified, long-term CO_2 removal solutions**. It issues **Puro Carbon Removal Certificates (CORCs)** for projects that store CO_2 permanently, such as **biochar, carbonated building materials, and enhanced weathering**.
Puro.earth - carbon removal standard and registry

HIGH QUALITY CARBON OFFSETS

Buyers are willing to pay a premium for high-quality credits. Some of the most influential quality dimensions include durability, ease of monitoring, reporting, and verifiability (MRV), and additionality.

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

"Companies shall remove carbon from the atmosphere and permanently store it to counterbalance the impact of unabated emissions."

European Commission

"The EU certification framework can only be used to certify carbon removals that meet the QU.A.L.ITY (quantification, additionality, long-term storage, sustainability)."

Durability/ permanence	Permanent storage for Carbon Dioxide Removal (CDR) refers to the long-term retention and stability of captured carbon dioxide, ensuring it remains securely stored without re-entering the atmosphere.
Monitoring, reporting and verification	MRV is used to measure the GHG emissions reduced by a particular mitigation measure and to report these results to an accredited third party.
Additionality	Is a dynamic measure of the extent to which an emissions credit contributes to an emission reduction or removal that would not have occurred.

INSIGHTS FROM SWISS CDR BUYERS

CDR Strategy

- Focus is on **building the CDR market** by supporting start-ups and innovation rather than immediately offsetting 10% of emissions, due to the **limited availability of scalable technologies**.
- Buyers invest in **measurable, durable, and certified technologies,** adhering to strict risk grids and **preferring recognized certifications like Gold Standard and VCS from Verra.**

Markets and Regulations

- **In the case of foreign credits, trust and quality are often compromised**, although the prices are significantly lower.
- The only viable option for **foreign carbon offsets**, in relation to the compensation claim, **involves implementing 'corresponding adjustments'** to prevent double counting.

Buyer preference

- **Buyer preferences vary**: While some search globally, others value proximity. However, it is in the interest of buyers not to limit themselves to local options, but **to focus on the highest quality.**
- The **willingness to pay varies depending on the industry and the organization's progress on its CDR journey**. Typically, they start with smaller investments and increase them over time.
- Swiss buyers aim for a **balanced distribution of uncertainties and risks**.

DELOITTE OFFERING

We help project developers scale their impact and access opportunities while supporting buyers with tailored strategies and insights to navigate the negative emissions ecosystem effectively.

PROJECT DEVELOPER SUPPORT

Commercial DD
Tailored support for project developers with commercial due diligence, benchmarking, and market analysis to ensure informed decision-making and competitive positioning.

Grants and Incentives
Support for project developers in accessing grants and incentives under, e.g., Switzerland's Climate and Innovation Act, to drive sustainable innovation.

Scale-up Support
Comprehensive scale-up support for project developers, enabling growth through strategic guidance, operational optimization, and access to key networks and resources.

BUYER SUPPORT

Advisory on NET
Providing buyers with a comprehensive understanding of various negative emission technologies, their potential, and limitations, alongside benchmarking analysis to evaluate performance, costs, and scalability for informed decision-making and strategic alignment.

Advisory on NET Purchase
Guidance for buyers in developing tailored carbon offset procurement strategies, ensuring cost efficiency, portfolio diversification, and alignment with regulatory and voluntary market requirements

Modelling of Future NET-Need
Expert support in modeling future negative emissions technology needs, providing insights for strategic planning and alignment with long-term sustainability objectives.

CONTACTS

If you would like to discuss this topic, please reach out to our key contacts below.

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