Gold Standard for the Global Goals

SUMMARY

Engineered Removals

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BACKGROUND

Following the release of the first Gold Standard approved engineered Carbon Dioxide Removal (CDR) methodology in 2022, Gold Standard published its Engineered Removals Activity Requirements in July 2025, to support the development of robust engineered removal methodologies and high integrity projects.

The Activity Requirements outline eligible activities and sector-level requirements for engineered CDR projects to establish the foundation for methodology and project development under Gold Standard for the Global Goals.

Building on over 20 years of experience in setting the highest benchmark for quality and integrity in the voluntary carbon market, Gold Standard is working to expand its CDR options to help scale this vital sector in a way that positively impacts the planet, people and nature. Gold Standard-certified CDR projects must:

— Follow safeguarding principles to ensure that there are no risks to ecosystems or communities;

— Deliver and quantify wider sustainable development impact, contributing towards at least 3 of the United Nation's Sustainable Development Goals;

— Establish formal channels to enable inclusive stakeholder engagement throughout the project's lifetime.

These are Core Principles embedded within the Gold Standard framework and are underpinned by leading technical governance and a robust assurance process, aligned with ISEAL's Codes of Good Practice.

IMPACT

Achieving global net-zero requires durable CO2 removal. While reducing emissions must always come first, and mitigation measures have their place, it is widely recognised that to achieve net-zero, businesses must compensate

for residual emissions with CO2 that is durably removed from the atmosphere. CDR is therefore not just an option; it is a necessity.

Natural CDR solutions such as afforestation and soil carbon sequestration play a vital role, but a diverse portfolio of removal approaches, including engineered solutions, offers a more robust and resilient path to net-zero.

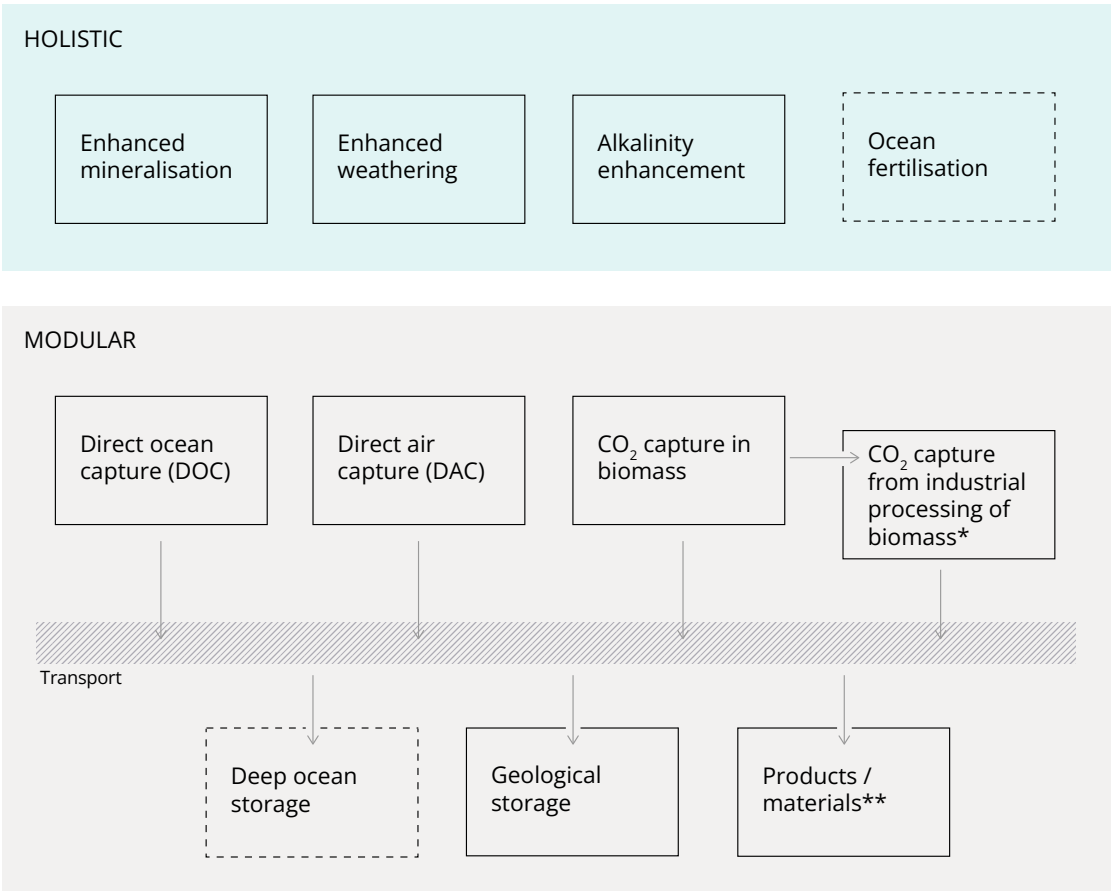
As the engineered CDR market scales to service net zero strategies, businesses can be confident that Gold Standard projects deliver real, verifiable removals that go beyond current market practices to drive sustainable development while safeguarding communities and ecosystems.

ELIGIBLE ACTIVITIES

The publication of the Engineered Removals Activity Requirements provides clarity on the eligible activities under Gold Standard, which covers both holistic and modular activities.

Holistic engineered CDR solutions integrate capture and storage in open environments, such as enhanced weathering in fields or ocean alkalinity enhancement along coastlines. In contrast, modular engineered solutions have separate capture and storage, often involving transport between sites and operating in closed systems, like direct air capture paired with geological storage.

ENGINEERED CDR



IMPACT QUANTIFICATION METHODOLOGIES

Currently, Gold Standard offers two approved methodologies under the engineered CDR scope:

Biomass Fermentation with Carbon Capture and Geologic Storage

Carbon Mineralisation Using Reactive Mineral Waste

In addition to these, several new methodologies are in development, with a particular focus on biochar and Direct Air Capture (DAC) concepts. For an up-to-date overview of all methodologies in progress, please visit our Methodologies Under Development page.

New methodology developers are encouraged to contact us at methodologies@goldstandard.org.

KEY REQUIREMENTS

STAKEHOLDER ENGAGEMENT

The project shall engage relevant stakeholders and seek expert stakeholder input where necessary in the design, planning and implementation.

CREDITING PERIOD

Projects shall adopt a maximum crediting period of 45 years, unless stated otherwise in the applied methodology. Each project shall renew their certification every 5 years to ensure alignment with the latest scientific understanding.

DURABILITY

Durability will be defined according to the specific technology type. Gold Standard is working with the Science Based Targets initiative (SBTi) to clearly define appropriate use cases for different levels of durability, recognising that all play a vital role in achieving net zero.

POST-CREDITING MONITORING

After the final crediting period, activity developers shall continue monitoring in line with regulatory and methodological requirements.

LIFE CYCLE ANALYSIS

Activities must undergo a full, independently verified cradle-to-grave LCA and, where material, incorporate the emissions into project accounting.

ADDITIONALITY

All activities shall demonstrate financial additionality and regulatory surplus.

ADDRESSING REVERSAL RISK

REVERSAL RISK ASSESSMENT

The project shall engage Developers must assess the risk of reversals associated with their activity and implement measures to mitigate and monitor these risks.

ADDRESSING REVERSALS

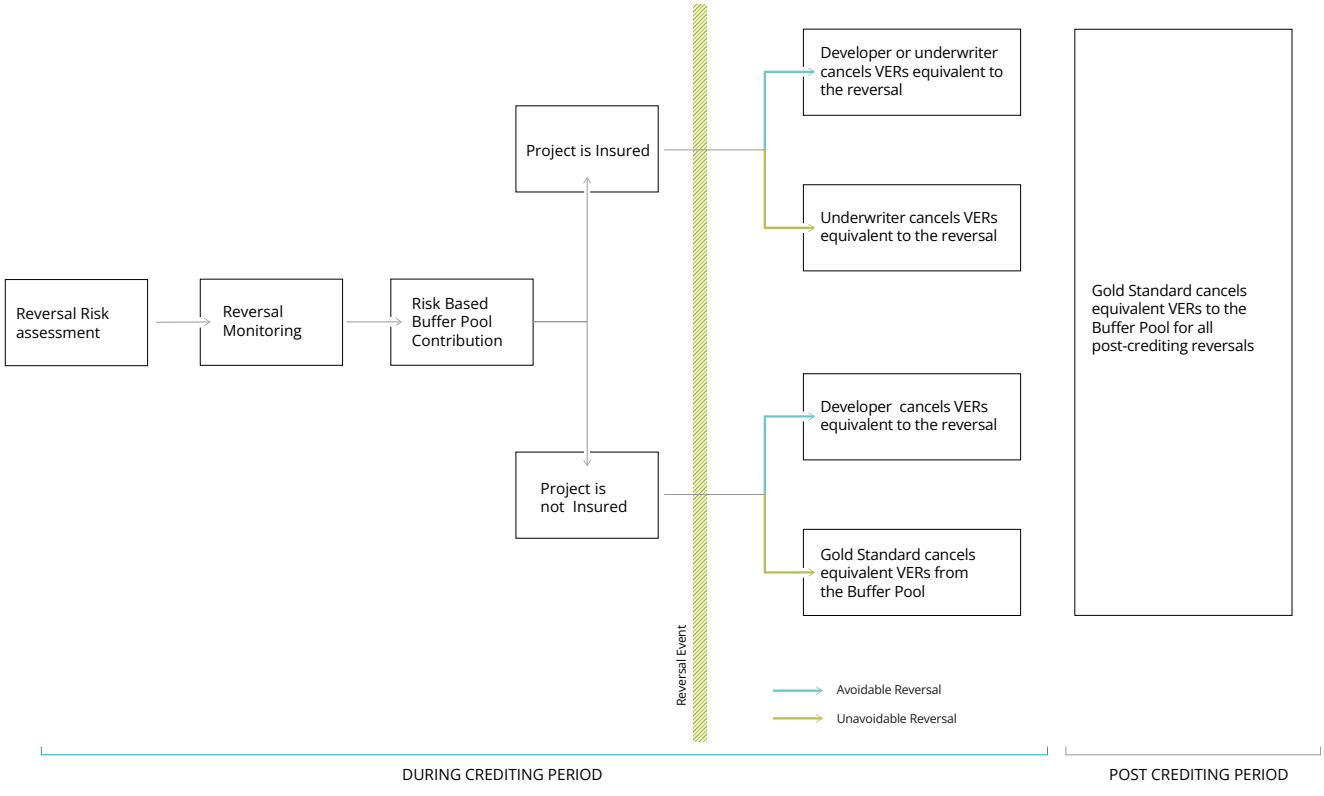
Project developers are responsible for addressing all avoidable reversals.
If an avoidable reversal occurs, developers must utilise an insurance policy, guarantee, or ringfenced funds to cancel the equivalent number of GS-VERs.

BUFFER POOL

All projects must contribute a portion of GS-VERs, equivalent to the risk rating of the project, to the Gold Standard buffer pool. If an unavoidable reversal occurs, and the developer does not hold an insurance policy, the equivalent number of VERs may be cancelled to account for the loss.

INSURANCE

Large scale activities must obtain and maintain coverage under an insurance policy to ensure the continued implementation of the activity in case a reversal event occurs.



MARKET ALIGNMENT

PARIS AGREEMENT

All new engineered CDR methodologies will be aligned with the Paris Agreement Crediting Mechanism (PACM).

CCP ELIGIBILITY

Gold Standard is Core Carbon Principle (CCP) eligible at the programme level, and specific engineered CDR methodologies such as accelerated carbonation of concrete, and biomass fermentation with carbon capture, are currently under review by the Integrity Council for the Voluntary Carbon Market (ICVCM), with decisions expected in later in the year.

EU CRCF

The European Union's upcoming Carbon Removal Certification Framework (CRCF) will establish a voluntary system for certifying carbon removals and storage. Gold Standard intends to seek recognition as a certification standard under the CRCF once a process has been established. Such recognition could provide opportunity for EU-based projects.

CORSIA

CORSIA's Technical Advisory Body has currently excluded engineered CDR methods. However, a reassessment is planned for 2025 and as a CORSIA-eligible crediting mechanism, Gold Standard will advocate for the inclusion of engineered CDR.

FURTHER INFORMATION

Find out more information about the Activity Requirements and other supporting resources below. Contact us via our helpdesk at help@goldstandard.org

FAQS

Engineered CDR Frequently Asked Questions

GUIDE

Certification Step-by-step Guide

METHODOLOGIES

Eligible Methodologies

List of eligible Methodologies

IMPACT REGISTRY

Gold Standard Impact Registry