CARBON STANDARDS
international

PRINCIPLES OF GLOBAL C-SINK STANDARDS

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1. Vision and Purpose

Founded in 2021 as a joint initiative of the EASY-CERT group AG and the Ithaka Institute, Carbon Standards International AG (CSI) serves as a standard-setting body for nature-based carbon removal solutions. CSI creates a reliable and innovative framework to empower partners and individuals committed to cooling the planet. CSI is a leading organization in the Carbon Dioxide Removal (CDR) market.

The standards are grounded in scientific expertise and practical experience. The Ithaka Institute brings leading-edge research in biochar, carbon sequestration, and atmospheric modelling, while the EASY-CERT group contributes decades of certification experience and an uncompromising commitment to independence and sustainability.

CSI upholds transparent decision-making, inclusive stakeholder participation, and continuous improvement. Governance Rules govern the organization and the management of CSI. They define the processes, the basic tasks and competences of the management bodies and other bodies of CSI. For more information see: Governance Rules of CSI

As a standard-setter, CSI places particular emphasis on:

- Scientifically robust verification of carbon sinks, and
- Low-barrier access to carbon markets and certification, ensuring inclusivity and scalability of climate solutions.

To support effective implementation and scalability of carbon removal projects worldwide, CSI also provides the necessary digital infrastructure and IT tools for transparent data management.

2. Scope

The document of Principles of Global C-Sink Standards establishes a transparent, science-based, and globally applicable framework for quantifying and managing nature-based carbon removal solutions. The Global C-Sink Standards ensure that every verified carbon sink ("C-Sink") represents a real, measurable, and durable contribution to climate mitigation. Each verified C-Sink is issued on the Global C-Sink Registry with their persistence curve and can be retired as a CINKx, representing one tonne of net CO_2e removed from the atmosphere for a duration of x years.

This document outlines the fundamental principles and methodological cornerstones that govern all Global C-Sink Standards. It describes how CSI accounts for the time-dependent carbon sink effect through a conservative and comprehensive approach that includes all relevant carbon fluxes and considers uncertainties and secondary impacts such as leakage.

In addition to explaining the core principles, this document also provides guidance for activity proponents to navigate the project cycle and gives context on the application of the Global C-Sink Tool and the Global C-Sink Registry — digital systems that together form the backbone of CSI's verification and transparency infrastructure. These systems ensure the traceability, integrity, and credibility of each issued C-Sink and enable activity proponents, verifiers, and market actors to engage in a trustworthy carbon removal ecosystem.

3. Glossary

Activity proponent	Registered C-Sink Manager, Biochar Producer, Biochar Processor or Biochar Trader with validated emissions who plays an active role in generating the C-sink. Activity proponents involved in the supply chain must be registered and verified under one of the Global C-Sink Standards. Activity proponents assign a dMRV provider to their account.
Beneficiaries	An organization or individual on whose behalf C-Sink credits are retired. Beneficiaries do not hold accounts in the Global C-Sink Tool/Registry.
CINK	Verified C-Sink credits issued by CSI which represent one net metric tonne of CO_2e. Can be transferred or retired in the Global C-Sink Registry. The smallest unit that can be transferred or retired is 0.001 t CO_2e. Each CINK is labelled with a number that indicates the duration for which the carbon sink claim remains valid. For example, a "CINK1000+" represents a carbon sink that can be claimed for more than 1000 years.
C-sink	A C-sink is the result of CO_2-removal from the atmosphere, its transformation into a storable form and consecutive carbon storage for a verifiably duration. C-sinks are classified depending on their carbon persistence curve (i.e., the time-dependent function, describing the amount of carbon being sequestered in the C-sink in every year since its establishment).
C-Sink Trader	An endorsed entity to hold C-sinks. They are responsible for ensuring transparency when acting on behalf of a beneficiary. C-Sink Traders have an account in the Global C-Sink Tool and Registry. This role is endorsed by CSI. Detailed requirements for C-Sink Traders are accessible publiclyat: Endorsement of a C-Sink Trader for Global C-Sink
C-Sink Unit	A C-Sink Unit is a bundled set of individual C-Sinks that share the same or closely aligned attributes. C-Sink Units are issued on the Global C-Sink Registry.
dMRV Provider	An endorsed entity that provides digital Monitoring, Reporting & Verification (dMRV) to support one or multiple Activity proponents in meeting one of the Global C-Sink Standard requirements and preparing monitoring reports, submitting verification requests via the Global C-Sink Tool for issuance on the Global C-Sink Registry. Only one dMRV provider can be assigned per project. If assigned by the First C-Sink Owner, a dMRV provider may: • Request verification on behalf of the First C-Sink Owner,

	• View the verified C-sinks of the First C-Sink Owner, • Transfer C-Sinks and corresponding CINKs. Detailed requirements for dMRV providers are available at: Endorsement of dMRV for Global C-Sink
Endorsed entities	Refers to Producer, Processor, C-Sink Manager, C-Sink Trader or dMRVs. They have an account in the Global C-Sink Tool/Registry.
First C-Sink Owner	The Activity proponent which holds the ownership of the C-sink value at the time of registration. The First C-Sink Owner requests the verification and issuance of C-sinks through their dMRV provider and initially holds them in their stock. They are responsible for the completeness of the verification request. As First C-Sink Owners, they may transfer C-sinks to C-Sink Traders.
Geological C-sink	A C-sink or a fraction thereof is called geological if the contained carbon enters the geological carbon cycle. Geological C-sinks can be used to compensate for fossil GHG emissions. Geological carbon sinks can be recognized by the fact that they are 100% persistent for a period extending far into the future (i.e., > 1000 years, CINK1000+), which means they enter the geological carbon cycle and thus become geological carbon sinks.
Global C-Sink Registry	The public platform owned and operated by CSI to display details of issued, transferred, retired, and revoked C-Sinks and corresponding CINKs, as well as related project information. This platform is accessible publicly via https://global-c-registry.org/
Global C-Sink Standards	Global C-Sink Standards are CSI's approved standards, which are often referred to as "methodology" in the voluntary carbon market. The terms Global C-Sink Standards and Standards are used synonymously in this document. These standards are accessible publicly at https://www.carbon-standards.com/en/standards#c-sink.
Global C-Sink Tool	The platform owned and operated by CSI for the registration, verification, issuance, transfer and retirement of C-Sinks and corresponding CINKs. Endorsed entities are granted access to this platform and can perform transactions within the scope of their approved permissions. This platform can be accessed via https://global-c-sink.easy-cert.cloud
Persistence	Refers to the stability of a C-sink. It expresses the amount of CO2e that is removed from the atmosphere and remains securely stored without significant risk of reversal for a certain duration of time. Often, it is given as a persistence factor (given in percent) that puts the

	persistent carbon for a certain time in relation to the initial carbon in a C-sink at time zero.
Project	An activity implemented within the boundary of the standard and generates quantifiable and verifiable C-sinks. It is defined in a validated Project Design Document (PDD) developed by Activity Proponents.
Validation	Process for evaluating the reasonableness of the assumptions, limitations and methods that support a statement about the outcome of future activities.
Verification	Process for evaluating a statement of historical data and information to determine if the statement is materially correct and meets one of the Global C-Sink Standard requirements.
Validation and Verification Body (VVB)	Independent, internationally accredited organization endorsed by Carbon Standards International that does validation and verification of the carbon dioxide removal procedures and C-sink values before the issuance of C-sink certificates. This role is endorsed by CSI following these documents Endorsement of VVBs/CBs and Working guidelines https://www.carbon-standards.com/docs/transfer/4000248EN.pdf
Verification requests	A formal submission from a dMRV provider, on behalf of the First C-Sink Owner, seeking independent evaluation of its monitoring data, calculations, and claimed outcomes to confirm compliance with the standard.

4. Principles

4.1. Transparency

Standards, rule updates and clarification documents are transparently versioned, allowing for public tracking of changes, and public consultation after major updates.

Information about the projects and C-sinks are accessible publicly via https://global-c-registry.org/projects. The publication serves to foster public insight into the projects and underlying technologies, while allowing for inspection of the information used to quantify a C-sink. See Sections 6.5 and Section 9. for more details and possible privacy settings.

4.2. Scientific Committee

CSI works in close, continuous collaboration with Ithaka Institute, leading scientific institutions and research bodies. Scientists from the Ithaka Institute together with representatives of the Carbon Standards International Business Development department are building the Scientific Committee. The Ithaka Institute appoints the Scientific Lead (see organizational chart) who represents the Ithaka Institute in the Scientific Committee, CSI appoints the Head of Business Development and Chief Standard Officer as representatives from the CSI side.

The Ithaka Institute is an international scientific network for carbon strategies. It is a non-profit research foundation headquartered in Europe, with independent offices in Germany, the USA, and Nepal. Over the past two decades, Ithaka Institute has become a leading developer in atmospheric carbon cycling, nano-carbon materials, and climate mitigation strategies. The Institute is renowned for its expertise in the production, post-production treatment, and application of biochar. Through the publication of peer-reviewed scientific studies, it prepares the ground for standard updates. Ithaka Institute is involved in every standard development and adaptation process. In cases where simplifications are introduced, it evaluates and applies necessary safety factors.

4.3. General Terms and Conditions

By using CSI's services, the customer accept the General Terms and Conditions that is accessible publicly at https://www.carbon-standards.com/en/general-terms-and-conditions.

4.4. Price List

CSI is committed to keeping its fees affordable. The applicable price list is publicly accessible on the website.

5. Available Standards and Eligibility

Global C-Sink Standards are CSI's approved standards, which are often referred to as "methodology" in the voluntary carbon market. These standards are publicly accessible at https://www.carbon-standards.com/en/standards#c-sink. Every project must be validated, and C-sinks verified against the respective Global C-Sink Standard.

Depending on the planned activity, the activity proponent should select the appropriate standard and become familiar with its eligibility requirements, as outlined in the

corresponding PDD template. Some standards include geographic limitations or a maximum production threshold.

For industrial biochar production, the technical and quality requirements must fulfill the EBC/WBC quality standard. They are part of the Global Biochar C-Sink Standard and belong to the eligibility criteria of Global Biochar C-Sink Standard. Certification of EBC/WBC and Global Biochar C-Sink Standard can proceed in parallel. All Global C-Sink Standards are interrelated; emission offsetting requirements that occur within one Global C-Sink Standard can be fulfilled by retiring a C-sink credit (CINK) verified against another Global C-Sink Standard. If a Global C-Sink Standard refers to a technology that is already governed by another specialized Global C-Sink Standard (e.g., biochar that is used in construction), then verification must be carried out according to the specialized standard for that specific technology (e.g., the biochar C-sink must be verified under Global Biochar C-Sink Standard to be used in constructions certified under Global Construction C-Sink Standard).

5.1. Geographic Scope

Global C-Sink Standards are applicable worldwide. They are designed for international use and are publicly available in English. However, in some instances, specific standards or requirements may have geographic limitations on their applicability (e.g., the Global Artisan C-Sink Standard is only eligible in low, lower-middle and higher-middle income countries).

5.2. Versioning

Global C-Sink Standards follow a transparent versioning system to ensure clarity and traceability of updates over time. Each version is labeled according to the following structure:

- A leading number indicates a major update, which reflects substantial changes in the methodology. Such changes trigger a public consultation process prior to publication.
- A number following the decimal point denotes a minor update, such as adjustments or additions that do not significantly alter the application or scope of the methodology.
- Minor edits, such as clarifications of existing rules or editorial corrections, are published separately as Rule Update or Rule Clarification Documents. These do not change the official version number of the methodology. Rule Updates will be implemented in the methodology with the next update.

Where applicable, an "E" is appended to the version number to indicate the English version, in cases where a German version is also available.

5.3. Standard Endorsement Process

New standards are added to the Global C-Sink Standards list following procedure that are publicly available at Development and updates of standards and methodologies:

- New standards are developed by the Department of Business Development of CSI in close collaboration with the Scientific Committee.
- During the process, individuals of the Expert Network consisting of experts in the respective methodologies and fields are consulted.
- The first version of the methodology is shared with the experts, who will contribute their comments as part of the Expert consultation round. The input from expert consultation round is reviewed by the Scientific Committee.
- Based on this review, the Scientific Committee creates a pre-final version of the methodology. This is done in collaboration with CSI's Chief Standard Officer, who ensures that the content of the methodologies is in line with the Principles of Global C-Sink Standards outlined in this document.
- The pre-final version is published on the website https://www.carbon-standards.com/en/home to start the public consultation, which is open for at least 30 days. Stakeholder feedback collected during the public consultation is publicly available on the CSI website.
- The inputs from public consultation round are reviewed and publicly commented on by CSI and its Scientific Committee. Based on this review, the final version of the methodology is published.

5.4. Standard Content

The Global C-Sink Standards are designed according to the principle of universal accessibility and inclusivity. The standards are intentionally written to be understandable to individuals without prior experience in the carbon market. For example, sawmill operators implementing biochar systems, or farmers exploring carbon removal, can understand the standard and apply it in practice. To support this, the documents provide clear explanations and background information intended to empower people to engage meaningfully with the concepts and apply the standards in practice.

All standards have a narrow scope and focus on a specific carbon removal activity, which are similar in their technological maturity. Some standards include several equivalent options for fulfilling specific requirements. These options are clearly identified in the standard and backed with sources, and the project developer can choose one. Each option comes with its own set of requirements and safeguards. During the development of the standards, a strategic analysis of the potential environmental or societal impacts of each option was conducted considering the aspects of social and environmental integrity, Sustainable Development Goals (SDG) contributions, poverty alleviation and fair income distribution. If any negative impacts were identified, safeguards were introduced to prevent them. As a result, many negative impacts are already avoided by the selection of available options and the specification of requirements. Others, e.g., environmental integrity, were identified as key factors for the biochar C-Sink standards and require rigorous analysis of biochar composition and limit values depending on the area of application, as well as rigorous rules to comply with air quality regulations and to ensure proper hazardous waste management. CSI's maxim is to minimize the overall impact of pollutants on ecosystems. If any, further risks are addressed by ensuring that activity proponents undertake a risk assessment which is guided by the points listed in the specific PDD templates for the respective Global C-Sink Standard.

Each standard includes details on the scope of carbon removal activities for which it is eligible, as well as its geographical applicability. It also defines the project boundaries and outlines how leakage is managed. The standard describes how the baseline scenario is determined and how all emissions from cradle to grave are accounted for to calculate the final net C-sink. In order to cover uncertainties and emissions which are not monitored, safety margins are included in the C-sink quantification methodologies. If necessary, these margins are reassessed and adjusted every two years. Generally, for all Global C-Sink Standards, the baseline scenario is considered as the business-as-usual scenario in which no C-Sink additional to natural carbon cycles is generated and considered zero.

C-Sink(Baseline) = 0 tCO2e

A C-Sink activity must not result in the decrease of natural C-Sinks which must be demonstrated on a project level during Validation. Each Global C-Sink Standard comprises corresponding safeguards and exclusion criteria. Resulting out of a conservative approach prevented or reduced emissions cannot be offset against emissions from project activities, except in the precisely defined area of methane emissions in the Global Artisan C-Sink. Instead, emissions from project activities must be compensated for with C-Sinks. Fossil emissions must be offset with geological C-Sinks. A C-Sink is considered valid if the risk of reversal is minimal over a specified period. All standards require ex-post verification.

5.5. Document Architecture

Documents relevant for activity proponents are publicly displayed on the CSI website under the corresponding standards. CSI's internal process and documents are managed and stored within the CSI Quality Management (QM) system.

Document properties are assigned to each document within CSI QM system. These properties include document title, department, process, associated standard, internal identification number, approval dates and responsible parties involved in its development. The properties of process within the QM system are as follows (Figure 1):

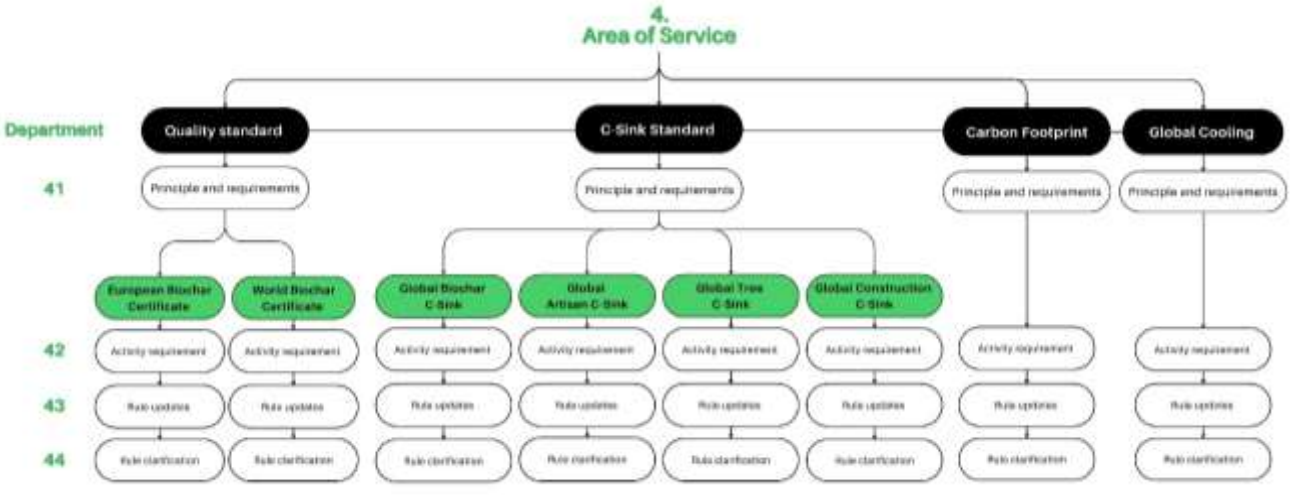

Fig 1. Document architecture based on the Departments. *Document with properties 41 refers to principle and requirements. Number 42 refers to activity requirements. Document with properties 43 and 44 correspond to rule updates and rule clarification, respectively.*

41: Principles and Requirements

These documents are core documents for respective standards and/or services. It can be found in the general documents that are publicly available at https://www.carbon-standards.com/en/documents. Documents with this property include, but are not limited to:

- Requirements on Validation and Verification Body (VVBs). See https://www.carbon-standards.com/docs/transfer/4000007EN.pdf and https://www.carbon-standards.com/docs/transfer/4000248EN.pdf
- "Social responsibility" or "stakeholder engagement" for all project according to a standard of group 42.
- Regulations on project verification inspections.

Global C-Sink Standards are embedded here and fulfill the principles and requirements that are imposed on Global C-Sink Standards. The standards do not stand alone but are supplemented by documents from the following categories. Together, they represent the entirety of the requirements.

42: Activity Requirements

These documents are for a subgroup of the standard. This can be found in the documents on the webpage of the respective Global C-Sink Standards. These documents include, but are not limited to:

- Guidance for biochar activity (independent if artisan or industrial): definition of biochar, annual analysis of biochar in endorsed laboratory.
- PDD template adjusted to a specific standard.

43: Rule Updates

These documents aimed to be included into the next standard revision – therefore have a temporary use. On the webpage they are directly listed below the current standard version. These documents include, but are not limited to:

- QM document as a temporary solution for a problem
- Reply on standard amendment requests

44: Rule Clarifications/Tools

These encompass supporting documents on how to understand the standard. These documents can be found in the documents on the webpage of the respective Global C-Sink Standard. These documents include, but are not limited to:

- QM document that explains how to implement some requirements mentioned in the standard in practice.

6. C-Sink Projects

C-Sink Projects or projects are activities implemented within the boundary of the standard and generate quantifiable and verifiable C-sinks. It is defined in a validated Project Design Document (PDD) developed by Activity Proponents and assigned a unique Project ID. Every C-sink must be linked to a specific project to enable successful verification. The procedure for project validation is accessible publicly via https://www.carbon-standards.com/docs/transfer/4000108EN.pdf.

6.1. Registration

Creating an account through registration to CSI is mandatory to ensure proper identification and verification of customers. While public viewing of C-Sinks in the Global C-Sink Registry does not require login, accessing detailed information and conducting transactions does.

The registration process requires clear identification of the customer, which must be supported by an official commercial register excerpt. If a company is not officially registered or a private individual's address cannot be verified, no login will be granted. This verification helps prevent the generation of fraudulent or machine-created access credentials. The Activity Proponent must hold an operating license for the country of implementation.

Registered companies may assign additional logins to employees but remain responsible for managing these accounts. All addresses and login data undergo an annual review to ensure accuracy and validity. If a company ceases to exist or a contractual relationship is terminated, associated logins are deactivated through internal administrative processes. Additionally, CSI's annual endorsement audit guarantees that only verified individuals and existing companies maintain access to the Global C-Sink Tool.

6.2. Project Requirements

A project encompasses all steps from capturing CO_2 from the atmosphere to its storage and any subsequent monitoring cycles. The chosen carbon removal pathway must be represented by one of the eligible Global C-Sink Standards (see Section 5). Activity proponents must follow the project cycle (see Section 6.4). Some Global C-Sink Standards allow the project to be divided into individual activities, which only represent the project as a whole. In this case, each activity proponent must go through the project cycle independently. This allows for flexible value chains that might evolve during the project duration.

CSI is committed to only accepting projects to its Global C-Sink Registry that provide positive benefits to the climate, environment and society. Activity proponents must not execute forced physical and/or economic displacement in order to implement the project. The compliance with labor rights and working conditions must be proven by a detailed and signed self-declaration that covers at least the points publicly accessible via https://www.carbon-standards.com/docs/transfer/4000216EN.pdf.

Appropriate safeguards are integrated into the designs of the standards, each of which allows only a very small range of actual project designs (see Section 5.4). Furthermore, each project undergoes an endorsement process by CSI and a validation process by a VVB. Depending on the Global C-Sink Standard and the risks identified for the project type, appropriate checks are carried out during these steps. The project must demonstrate

that it contributes to sustainable development consistently with the SDG objectives of the host country.

Within the project area, measures to mitigate any negative impact must be implemented if there are indigenous land rights, ancestral or customary rights, or equivalent claims pertaining to the area in which the project operates. The assessment must follow the United Nations Declaration on the Rights of Indigenous Peoples and ILO Convention 169 on Indigenous and Tribal Peoples. Relevant information and free and prior consent of indigenous people and local communities and protection of cultural heritage must be secured.

Local consultations are mandatory to the extent required by local provisions. It is verified by requesting the operating permit. In addition, local parties also can participate in public consultation.

All projects need a PDD that applies a Life Cycle Assessment (LCA) focusing on GHG emissions, covering all stages from atmospheric CO_2 capture to its final storage (cradle-to-grave). The PDD must include life-cycle-based calculation of the achieved C-sinks, as well as the corresponding system boundaries, emission factors and monitoring parameters.

As part of the PDD, the project must provide a robust assessment of potential increases in greenhouse gases outside the project boundaries (leakage):

- If it has been identified that the project leads to activity shifts or market transformations, the project proponent shall monitor and quantify the identified leakage. The determined leakage emissions are considered in the calculation of resulting C-Sink.

- If it has been identified that the project leads to depletion of natural carbon sinks, or displacement of agricultural or pastoral activities, the project is considered ineligible at validation stage. The proponent is encouraged to redesign the project.

During the project, the project proponent assesses whether the exclusion of the risk can still be ensured. As part of the annual project verification, it will be checked whether the leakage assessment is still accurate. If the project verification concludes that the original assessment is no longer applicable (e.g. if the project grew significantly in size), the projects must be revalidated with a new PDD. The risk of leakage is then reassessed as part of the new PDD.

For each project, the additionality of carbon removal must be ensured. It must be demonstrated that the removal would not have been achieved without the project by means of following criteria:

- The carbon removal activity is not legally mandated.
- The carbon removal activity is not common practice
- The carbon sink is superior to the baseline scenario

The fulfilment of these criteria shall be demonstrated in the PDD, or in case of some C-Sink Standards, the fulfilment is a direct consequence of the eligibility criteria for the standard in question.

CSI aims to support a diverse range of stakeholders and ensure the widest possible participation in carbon removal efforts. Therefore, CSI standards are designed according

to the principle of universal accessibility. The Project Design Documents (PDDs) reference and are grounded in CSI's accessible standards. Their structure follows the commonly accepted format in the voluntary carbon market. Activity proponents must follow this structure to ensure that projects developed under CSI systems are aligned with market expectations and can compete with other offerings.

6.2.1. Project Design Document (PDD)

A PDD generally consists of a Description part, a Calculation part and a Documentation part. Templates for the PDD are available on the CSI website within the relevant standard webpage.

The following structure must be adhered to by all PDDs. Minor deviations and the integration of intermediate steps are permitted depending on the Global C-Sink Standard.

Description

- Chapter 1 provides a general overview of the producer's activities and justifies why the chosen Global C-Sink Standard is applicable. This chapter also covers the analysis of additionality and eligibility, including a statement, that the C-sinks issued in this project are not claimed in any other Carbon Crediting Scheme.
- Chapter 2 gives an estimate of the impact these activities can have in terms of established C-sinks.
- Chapter 3 provides more details about the project design and describes how the activity proponent covers the project requirements and safeguards that originate from the Global C-Sink Standard and corresponds to the chosen options of implementation.

Calculation

- Chapter 4 provides all monitoring parameters and calculations needed by the producer to calculate the emissions caused by establishing the C-sink and the size of the C-sink. In the PDD Section 4.1, the monitoring plan is outlined. It does not contain any specific values but gives information about how the activity proponent plans to monitor their activities. It shall answer questions like:
    - What are appropriate indicators/parameters to report on the activities/emissions?
    - What data sources can the producer provide to substantiate this data in the event of an audit?
    - What frequency is appropriate to collect the data (here you can specify both a temporal frequency (continuous, monthly, ...) and one that is triggered by an event (in case of ...))?

The data monitored in Section 4.1 will be used in the calculations in Section 4.2. That means all parameters used in the calculations in 4.2 must be listed in Section 4.1. The subsections of 4.2 of the calculation part are structured from the overall formula to the detail.

If the Global C-Sink Standard allows subdivision into sub-activities, placeholders can be inserted that enable this content to be delivered as an annex to the PDD by another activity proponent. However, the PDD must still indicate at a high level how the monitored values will be considered in the calculation of the final C-sink.

Documentation

- Chapter 5 lists all inputs from the public consultation.

A typical table of content looks like this:

1. Purpose and general description of project
    1.1. Project location
    1.2. Description of baseline scenario
    1.3. Pathway specific C-sinks
    1.4. Project Boundary
    1.5. Eligibility
    1.6. Ownership
    1.7. Additionality
    1.8. Contribution to SDGs
2. Ex-ante estimate of impact
3. Technology and business cases
    3.1. Description of technology
    3.2. Leakage by activity shifts outside the project boundaries
    3.3. Planned business development
4. Determination of C-sink
    4.1. Monitoring Plan
    4.2. Calculations
5. Public consultation
6. Annexes

6.2.2. Project Crediting

Under the Global C-Sink Standards, no *ex-ante*[1] credits are issued. Crediting occurs only after the carbon removal has been verified and issued in the Global C-Sink Registry. While pre-purchase agreements are allowed, these transactions do not constitute issuance or ownership of verified C-Sinks until the verification process is successfully completed, and

1 Ex-ante describes estimation of calculation made prior to the actual project taking place.

credits are recorded in the Registry. The Global C-Sink Tool functions as the operational backend for data collection, calculation, and monitoring. All verified results and issuance records are transferred to and managed within the Global C-Sink Registry, which functions as the single source of truth for crediting, ownership, and retirement. Each credit is uniquely identifiable, fully traceable, and linked to a specific project and issuance batch, ensuring transparency throughout its lifecycle.

6.3. Environmental, social, and governance (ESG) principles

CSI is committed to advancing environmental, social, and governance (ESG) principles within the C-Sink Standard framework. This includes ensuring contributions to the United Nations Sustainable Development Goals (SDGs), with project developers required to demonstrate their contributions in the Project Design Document (PDD). At both the standard and project levels, a comprehensive risk analysis is conducted to assess potential environmental and social risks, with mitigation strategies provided to address identified risks. Projects involving forced resettlement, or those with a potential for social harm, are excluded to uphold social responsibility, while the impact on indigenous peoples is carefully evaluated to protect their rights and interests. CSI's environmental commitment is rooted in minimizing pollutants and preserving ecosystems, ensuring that projects contribute positively to the environment and society at large.

6.4. Project Cycle

The project cycle provides activity proponents and the public with a clear overview of the current status of each project. It is designed to enhance transparency. All stages of the project cycle are publicly accessible on the https://global-c-registry.org/projects. Project cycles are structured according to the following main stages:

6.4.1. Registration Received

This status indicates that the registration has been signed and that the initial required information about the project has been provided. A project page was automatically created and filled with the information provided by the customer: brief project description, contact address, website, location(s) and photos.

6.4.2. Ongoing Endorsement

This status signifies that an endorsement call has been scheduled with CSI team, and the endorsement phase is about to commence. The project idea and initial documentation will be reviewed to ensure they align with the specifications of the respective standards.

6.4.3. Endorsed

This status confirms that the project idea has been reviewed and approved by the CSI team. It meets the necessary specifications and standards for further development. The project has successfully passed the initial screening process and is deemed viable for progression. The next steps would be to focus on creating a comprehensive and detailed PDD that accurately reflects the project's design, methodology, and expected impact (see Section 6.2.1).

6.4.4. Ongoing Validation

This status indicates that the Project Design Document (PDD) is open for public consultation for the first 30 days after reaching this status (Procedure of Public Consultation is available publicly on https://www.carbon-standards.com/docs/transfer/4000108EN.pdf?t=301583), and the project is undergoing a rigorous validation process by an independent third-party, the Validation and Verification Body (VVB). At this stage, VVB is assessing the PDD and all supporting documentation to ensure the project's credibility, feasibility, and compliance with relevant standards.

6.4.5. Validated

To be eligible for C-Sink issuance, each project must have a validated PDD, along with the corresponding documents from the endorsed VVB, such as Validation Finding Report, Validation Report, and Validation Statement. During project validation the compliance of the project with the respective Global C-Sink Standards as well as the sufficiency of the individual monitoring parameters are validated. The project description includes the definition of project boundaries, the evaluation of impacts outside the project boundary as well as description of the implementation of the requirements of a Global C-Sink Standard, e.g., sustainability and technology.

This status confirms that the project has been successfully validated and approved by the VVB and Carbon Standards International has given the final approval to the project. The VVB has determined that the project meets the required standards and is credible, feasible, and compliant. This is a significant milestone, indicating that the project is ready for implementation.

If the project is compliant with third-party endorsements the respective information and label is added to the project page and corresponding C-Sinks.

6.4.6. Project Verification

The project verification involves an audit once per year conducted by the VVB. The implementation according to the description in the PDD is verified. Furthermore, verification of monitored data according to the monitoring plan is carried out by an endorsed VVB. The correct execution and documentation of everyday quality assurance processes are checked. Furthermore, the total emissions for the past monitoring period are calculated and verified. It is determined whether they have been offset. Depending on the amount already offset, a credit or debit or zero balance will be taken into account for the upcoming C-sink verification. Based on the verified data, the emission factors are determined for the subsequent C-sinks verifications. The status of the project verification can be accessed publicly on the https://global-c-registry.org/projects, under the Certificates section.

6.4.7. Inactive

This status indicates that the project has been discontinued or is temporarily on hold. The project remains visible in the Global C-Sink Registry, and already issued C-Sinks can still be linked to it.

6.5. Project Transparency

The following information about the project is publicly available in the https://global-c-registry.org/projects:

a. Name of the Project: A project name submitted by the Company.

b. Name of the Company: A company name of the First C-Sink Owner.

c. Standard: e.g. Global Artisan C- Sink

d. Project ID: Automatically generated by the Global C-Sink Tool, with the prefix "GCSP" — e.g., GCSP1234.

e. Status: Refers to the position of the project within the project cycle (See Section 6.4). The status is updated throughout the lifecycle of the project to reflect its current stage.

f. Project location: GPS location(s) of project.

g. Expected, issued and retired C-sinks credits with respective vintages (year when C-sink is/will be issued).

h. Images of the project

i. Public documentation: Project Design Document (PDD), Validation Finding Report, Validation Report, Validation Statement, other publicly available documents based on the specific Global C-sink Standard

j. Link to further certificates and statements issued by CSI or VVB.

6.6. Design Change Approval

A PDD that represents a specific project design is valid for five years and requires revalidation after five years. There is no limit to the number of possible re-validations as the C-sink project duration is not limited. These regular revalidations evaluate whether the respective Global C-Sink Standard has been correctly interpreted for the project.

If an update is necessary, only the modified part is revalidated, and a supplement to the validation statement and report is created by the VVB. The progression and changes are visible on the project page in the Global C-Sink Registry. An update to the PDD may be necessary when a new version of a relevant standard is released, which can be identified by the leading number before the decimal point. The PDD must always reflect the current project design and is reviewed during project verification audits. An update is needed if the project undergoes changes.

6.7. Host country attestation for C-Sink Units used for CORSIA

In case of projects, which are intended to generate carbon sink units according to CORSIA, project proponents must obtain a written attestation from host country (represented by the country's national focal point or focal point's designee), upload it to the project page and request CSI to review it and make it publicly available.

The attestation shall confirm that the resulting C-Sink Units are appropriately accounted by the host countries when claiming mitigation contributions and targets, in line with relevant international provisions.

Therefore, the attestation shall contain at minimum:

- Official name of the Host Country
- Name of the issuing authority (national point of contact)
- The name and ID (GCSPxxxx) of the project(s) covered with explicit naming of the respective C-Sink Standard and activity type
- Details time periods for C-Sink establishment and issuances covered
- Specification of the CORSIA compliance period for which the C-Sink Units are authorized
- A statement indicating limits on the number of credits permitted for CORSIA use and any applicable restrictions.
- Steps taken by the host country, so that no double claiming will occur between the host country, where the project is located, and any owner or beneficiary of the carbon sink unit – typically a Corresponding Adjustment will be made in line with the requirements of the Paris Agreement, to account for the use under CORSIA.
- A definition of "first transfer" specifying when a Corresponding Adjustment will be applied – this could be (i) host country authorization for international use, (ii) C-Sink issuance, or (iii) use/cancellation (the trade or retirement) of the C-Sink.
- The expected timing and processes for applying and reporting adjustments that are informed by the host country's specified definition of "first transfer"
- The country's chosen accounting method consistent with the relevant provision of 2/CMA.3 Annex I "Guidance on cooperative approaches referred to in Article 6", paragraph 2, of the Paris Agreement.
- A declaration that a country will report on granted authorizations and use of carbon dioxide removals for CORSIA in a transparent manner through the country's biennial transparency reports per Article 13 of the Paris Agreement or subsequent reports as required by any future decision of the CMA.

Project Proponent shall draft the content before requesting the Attestation from the Host Country. When the Attestation expires, it must be replaced with a new one and also uploaded to the project page so that CSI can publish it.

Project Proponents must obtain host country attestations and document fulfilment. The report must include at minimum the total number of C-Sinks generated, the C-Sinks available for CORSIA and the fulfilment of all conditions for a specified timer period. In case of the definition of the "first transfer" as (i) authorization or (ii) issuance the documentation must be handed in as supporting documents to the Monitoring Report prior when requesting verification. In case of the definition of the "first transfer" as (iii) use/cancellation documentation must be handed in before use (transfer or retirement). Endorsed C-Sink Traders may only execute the transfer or retirement after verification of the fulfilment of the CA. C-Sink Trader endorsement for CORSIA compliant projects contains the respective additional checkpoint.

During annual project verification VVB verifies that country's biennial transparency reports confirm that no double counting has happened. Results from comparison are public as part of the public project verification documentation.

7. Quantification of Carbon Storage Activities

C-sinks are defined by their duration and persistence. In general, the persistence factor depends on the properties of the carbon storage material and the storage conditions.

The persistence factor for CINK1000+ describes the portion of a C-sink that will remain in place for at least 1000 years. In general, it is not assumed that the C-sink will be emitted after the 1000 year limit but rather that it enters the geological carbon cycle and will persist for very long times after the verified duration Persistence factors of up to 100% may be credited for shorter durations, depending on the properties of the carbon storage material and the storage conditions. CINKs are defined either as temporary (≤ 1000 years) or geological (> 1000 years) (see Section 7.5).

Before a C-sink can be issued to the Global C-Sink Registry, all GHG emissions caused within its supply chain must be offset with a C-Sink issued on the Global C-Sink Registry. This can also be done by retiring the corresponding amount of the C-sink as CINK at the time of issuance.

Upon issuance, CINKs can be transferred between endorsed entities. For final use, CINKs are retired by a C-Sink Trader, often on behalf of a beneficiary who does not hold an account in the Global C-Sink Registry.

7.1. C-Sink Lifecycle

Solely validated projects are eligible for C-Sink issuance. A C-Sink lifecycle consists of the following stages:

7.1.1. C-Sink Registration

Verification requests, including the monitoring data, are submitted to the Global C-Sink Tool by the dMRV provider on behalf of the First C-Sink Owner. Individual C-sinks can be bundled into larger C-Sink Units, as detailed in the document Endorsement of dMRV for a Global C-Sink standard, Chapter 3.1 and 3.2 of Bundling of C-Sinks into a C-Sink Unit https://www.carbon-standards.com/docs/transfer/4000162EN.pdf?t=554581.

For every C-Sink Unit the required information must be uploaded to Global C-Sink Tool. This can be done either via Application Programming Interface (API) or by manual data entry. These data requirement ensure consistency, traceability, and completeness across all C-Sink Units submitted for verification and issuance.

7.1.2. C-Sink Verification

C-sink verification is conducted continuously by VVBs and comprises the allocation of the respective amount of C-sink material to a batch of known parameters with validated emission factors that result from project verification. These batch-specific parameters are used to determine the size of a C-sink in terms of the amount of carbon. The application to an eligible matrix is verified and the corresponding persistence curve is assigned.

The emissions associated with the creation of the C-sink from cradle-to-grave are verified on the basis of monitoring data that enables the usage of the validated emission factors. It is checked whether these have already been offset; if not, they are deducted from the C-sink when the C-sink is registered. If there are still outstanding emissions to be offset from the project verification, these must be offset before new C-sinks can be created for C-sink trading.

7.1.3. C-Sink Issuance

Upon successful verification, C-Sinks Units are issued and made visible in the Global C-Sink Registry, marked with the status "verified". The issued C-Sink Unit visualizes the gross amount of CO_2e removed with its persistence curve. This gives public the possibility to transparently see all aspects considered in issuing the C-Sink Unit. Each issued C-Sink Unit has a unique identifier assigned.

Following information is visualized on the Global C-Sink Registry after the issuance process. First C-Sink Owner (or the dMRV provider on behalf of the customer) can configure the visibility of sensitive attributes such as:

- Name of C-Sink owner
- Name of product owner
- Precise GPS location of the C-Sink

The following attributes are always public to support full traceability:

- C-Sink Unit ID

- Quantity of issued C-Sinks
- Supply chain emissions of the C-Sink Unit
- Date of sink establishment
- Issue date
- Standard
- Project name and Project ID
- Issuance date and sink establishment date
- Quantity of retired and transferred C-Sinks
- Type of sink matrix
- Public documentation (monitoring reports, annex to the monitoring report)

7.1.4. C-Sink Transfers

C-sinks can be transferred by a First C-sink Owner to endorsed entities, resulting in a transfer of ownership of the issued C-sink. Further transfers can be carried out by C-sink Traders to other endorsed entities. For each C-sink, the initial issuance and all subsequent transfers are logged and displayed in the Tracker of the Global C-Sink Tool.

Following rules need to be fulfilled in order to handle a transfer:

- C-sinks can only be transferred after they have been issued
- C-sinks can only be transferred from an endorsed entity.
- Transfer transaction needs to be approved by the receiving endorsed entity
- The minimum amount that can be transferred is 0.001 t CO_2e.

In the Global C-Sink Registry the transfer transaction is publicly visualized. The name of the C-Sink Owner may be disclosed or withheld. Each transfer generates a unique ID, which is always publicly visible in the Global C-Sink Registry.

7.1.5. CINK Retirements

Retirement is the process by which the status of a C-Sink is finalized, ensuring that the CO_2e represented by the retired CINK can no longer be transferred or claimed again by the current owner, the beneficiary of the retirement, or any other party. Once retired, the associated climate benefit is permanently assigned.

The beneficiary of a retirement is the organization or individual on whose behalf the CINK is retired. The beneficiary must be clearly identified and will be recorded in the Global C-Sink Tool. In the Global C-Sink Registry, the name and location of the beneficiary may be disclosed or withheld and may either be the current owner of the C-Sink at the time of retirement or an organization represented by a C-Sink Trader acting on its behalf. The C-Sink Trader initiates retirement through the Registry interface, following the retirement process provided. An unretired C-sink may be publicly promoted or marketed by its current owner, including the potential for future retirement. However, only the beneficiary of a retired CINK is entitled to claim the corresponding climate impact.

Following rules need to be fulfilled in order handle a transfer:

a. A CINK can only be retired once

b. Any number of CINKs may be retired in a single transaction, as long as the number of retired CINKs does not exceed the number of CINKs held in the account.

c. The minimum amount that can be retired is 0.001 t CO_2e.

Following information needs to be added in a retirement transaction:

a. Name of beneficiary*

b. Amount of retired CINKs (in to CO2e – minimum of 1 kg CO2e)*

c. Retirement start year/end year*

d. Location of beneficiary*

e. Country of emission

f. Year of emission

g. Reason for retirement*

**Mandatory information. The name and location of the beneficiary, as well as the reason for retirement, are not required to be publicly displayed in the Global C-Sink Registry.*

Each retirement generates a unique Retirement ID, which is always publicly visible in the Global C-Sink Registry. The ID begins with the prefix "GCSR" (e.g., GCSR1234). A Retirement Certificate is issued through the Global C-Sink Tool, including all Beneficiary details. This certificate can be shared with the Beneficiary and serves as official proof of retirement.

7.1.6. C-Sink Revocations

First C-Sink Owners are required to monitor events indicating a risk of reversal that may result in a revocation. Identified occurrences of the issued C-Sink Unit must be reported to CSI without delay. An initial notification is expected within one business day of identification, with a complete report submitted no later than three business days. CSI will review the case and, if applicable, record a non-conformity for the affected First C-Sink Owner. In addition, the VVB is responsible for assessing the risk of reversal during the on-site audit and must report any relevant findings to CSI without delay.

If the C-Sink has already been issued, it may be revoked under specific circumstances, changing its status in the Global C-Sink Registry from "verified" to "revoked." If a retirement has already been performed, the validity of the retirement claim must be preserved by conducting a replacement retirement using another verified C-Sink. In this case, the original retirement record of the revoked C-Sink will be updated with information indicating where the replacement retirement has been made. The replacement retirement will, in turn, reference that it was executed to replace a revoked retirement and will include the corresponding Retirement ID.

7.2. Risk of Reversal

C-Sinks issued under CSI standards are temporally precise and show a defined persistence in their name. The persistence gives the percentage of C-sink carbon remains stable for a given duration within a given matrix (e.g., https://www.carbon-standards.com/docs/transfer/4000078EN.pdf). The durations are defined by the respective Global C-Sink Standards in a way to minimize the risk of reversal. After the end of the duration the existence of the carbon storage must be proven if a subsequent C-sink shall be issued for the same C-sink material.

The Global C-Sink Standards support different types of carbon sink activities. The potential risk of reversal differs structurally between these activity types. The risk of reversal is structurally minimized.

a) Matrix-Based Carbon Storage

This category includes activities where carbon-containing material is transferred into a stable matrix (e.g., mineral matrices, durable construction materials, soil).

The permanence curve of the matrix can be assessed at the time of carbon incorporation. The physical and chemical stability of the matrix is evaluated ex-ante. The probability of carbon re-release under foreseeable conditions is assessed as negligible. C-Sinks are issued for the duration for which the risk of reversal has been assessed as negligible. Any identified leakage or non-persistent fraction for this duration is deducted before issuance.

Hence, a C-Sink is issued only after a verified incorporation of the carbon-containing material into the defined matrix, for which the persistence is known.

b) Dynamic Biological Carbon Sinks

Biological sinks such as afforestation present a structurally different risk profile:

- Carbon removal from the atmosphere and biomass accumulation occurs gradually over time.
- Reversal risks (e.g. fire, disease, land-use change) may occur before the full expected carbon uptake has materialized.

For these activity types, the Global C-Sink Standards apply the Certified C-Sink Option model. A C-Sink Option represents an expected future carbon removal curve. It is not yet registered as a C-Sink. It is a bilateral contract, analogous to an OTC call option, granting the buyer the right (but not the obligation) to acquire certified C-Sink units at a future date under predefined conditions. Certification and conversion into actual C-Sink units occur after ex-post verification of carbon sequestration. This structure eliminates the risk of reversal of issued units in biological systems, because no compensatory unit exists prior to verified sequestration.

7.3. Double Counting

CSI has implemented clear rules and processes to minimize the risk of Double Counting within the Global C-Sink Registry. Double Counting can occur in several forms, such as double issuance, double use, or double claiming.

7.3.1. Double Issuance

The issuance of more than one unique C-Sink for the same carbon sink activity is strictly prohibited. CSI has introduced system-based checks and procedures for dMRV providers to prevent such cases. Additionally, the Activity Proponent confirm in the basic eligibility criteria in their PDD: "The C-sinks issued in this project are not claimed in any other Carbon Crediting Scheme". Furthermore, all issuances are publicly available in the Global C-Sink Registry.

7.3.2. Double Use

The Global C-Sink Tool/Registry ensures that the status of each verified C-Sink is fully traceable and guarantees that the same C-sink cannot be transferred or retired more than once.

7.3.3. Double Claiming

Once retired, this part of the C-Sink is permanently removed from circulation, and a unique, publicly available Retirement ID is issued to document the action. During the retirement process, specifying the name of the beneficiary and the reason for retirement is mandatory. This ensures that climate mitigation claims can only be made once.

7.4. Persistence

The Global C-Sink Registry enables the visualization of different persistence curves, depending on factors such as methodology, matrix, and other parameters. These curves vary in terms of degradation and growth. These curves are explicitly defined in the respective C-Sink Standard.

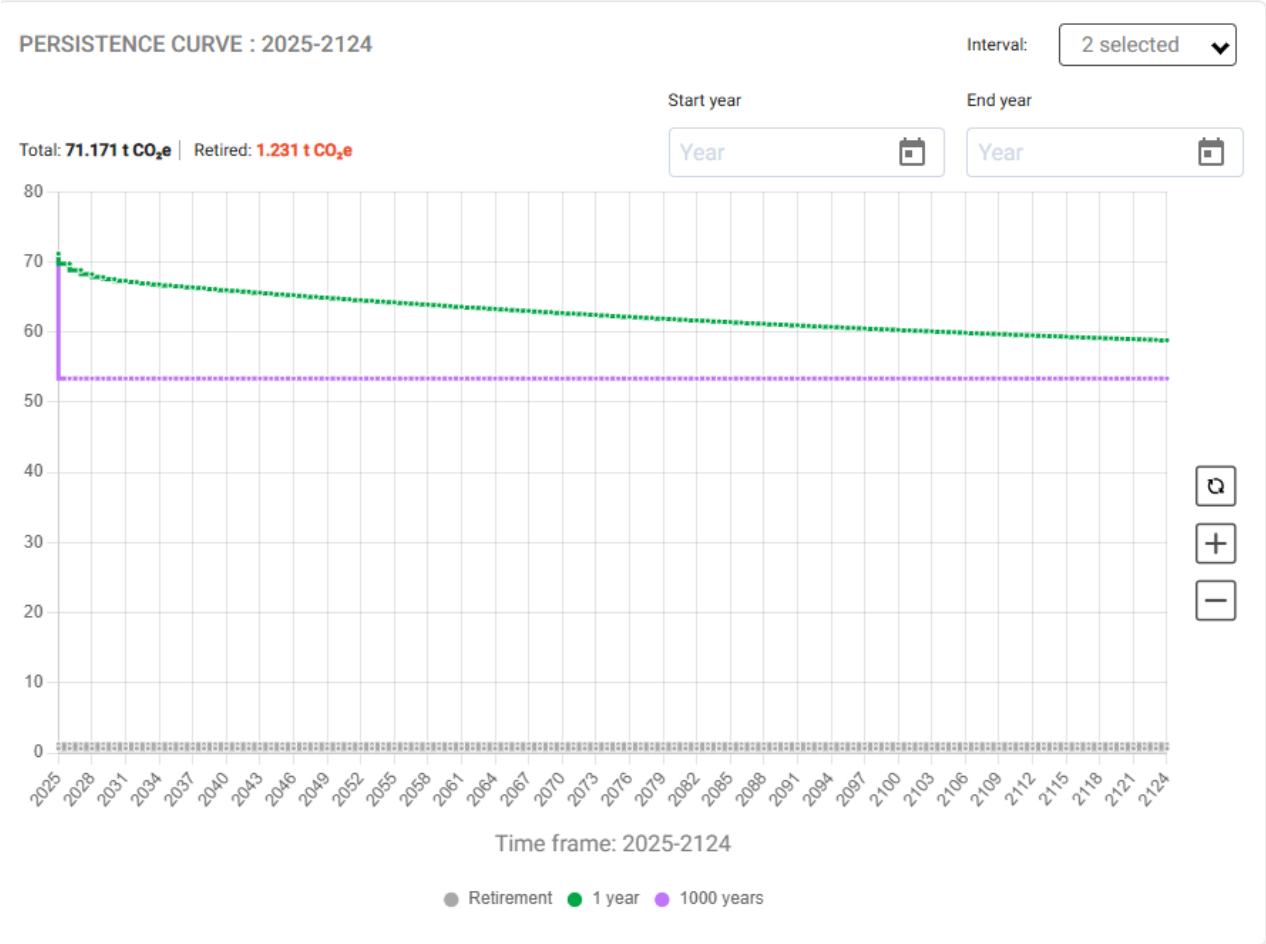

Fig 2. Decay of a biochar-based C-Sink over time presented as graph*. At the moment of issuance, the C-Sink Unit on the y axis contains 71.171 t CO_2e. of this amount, 53.378 t CO_2e qualify as CINK1000+ (purple). The x-axis represents time. The persistence curve is visible in green.*

7.5. Products

Linked to the persistence curve and emitted emissions within the supply chain, different C-sink credits (CINKs) are available as products. The following principles apply to the retirement of CINKs. Various products can be transacted within the Global C-Sink Registry:

- CINK1000+: Represents the credit for a C-Sink with a stability of > 1000 years.
- CINK100: The annual values over 100 years are added up (integrated) and divided by 100.
- CINK20: The annual values over 20 years are added up (integrated) and divided by 20.
- CINKx: The annual values over x years are added up (integrated) and divided by x. The minimum for x is 1 year.

8. Compliance Guidelines

As operator of the Global C-Sink Registry, CSI maintains the highest standards of transparency, integrity, and accountability. To safeguard the credibility of the Global C-Sink Registry and the trust of all participants, CSI has established Compliance Guidelines that include also the Whistleblower Policy that provides a structured and confidential mechanism for reporting suspected misconduct or unethical behavior. The Compliance Guidelines set out the general code of conduct and form an integral part of the corporate culture. This policy applies to all employees and managers of CSI, all Registry users and affiliated stakeholders, including but not limited to C-Sink Managers, Producers, Processors, C-Sink Traders, VVBs, dMRV providers, and other endorsed partners. It complements CSI's broader governance and compliance framework and aims to ensure that any concern that could compromise the integrity of the registry or CSI's reputation is promptly addressed.

Reports may include, but are not limited to:

a. Suspected violations of law, regulations, or Global C-Sink Registry rules.

b. Breaches of CSI's standards and methodologies (with impact on C-sink quantification), Code of Conduct, or contractual obligations.

c. Fraud, corruption, conflicts of interest, or misuse of registry data.

d. Harassment, discrimination, or other unethical workplace behavior.

e. Practices that could result in environmental, social, or reputational harm.

Whistleblowers may submit reports confidentially or anonymously through email: compliance@carbon-standards.com.

CSI guarantees that all reports made in good faith will be treated confidentially and without retaliation. Each report will be acknowledged, assessed, and, where appropriate, investigated by independent staff or external experts. Feedback will be provided to the whistleblower (where contact is possible) within a reasonable timeframe, typically between 30 to 90 days.

Individuals/Companies named in a report will be granted the opportunity to respond (statement), and their privacy will be safeguarded in line with applicable data-protection laws. The result will be evaluated. A lack of cooperation will be viewed with suspicion, and we reserve the right to take consequences. These consequences may include termination of the contract.

9. Data Exchange, Data Security and Privacy

The Global C-Sink Registry ensures that all data exchanges are conducted in a secure, transparent, and traceable manner. Access to registry data is limited to authorized users and governed by role-based permissions.

CSI applies appropriate technical and organizational measures to protect all information handled through the Registry against unauthorized access, misuse, or loss.

All provisions regarding data confidentiality, data exchange, privacy, and information security are defined in detail in the CSI General Terms and Conditions document that is

publicly accessible at https://www.carbon-standards.com/docs/transfer/4000081EN.pdf, which form an integral part of this guideline.

9.1. Data Security and Privacy Statement

- All data are hosted by a sister company located in Switzerland. CSI's network is secured by firewall systems. Data access is strictly controlled through defined application interfaces. During website visits, SSL (Secure Socket Layer) encryption is used in conjunction with the highest encryption level supported by the user's browser to ensure secure data transmission.
- CSI employees are contractually bound by legally binding confidentiality agreement, which prohibits the unauthorized sharing of any confidential or personal data.
- For more detailed information on how CSI handles personal data and safeguards customers' privacy, please refer to CSI's full Privacy Statement. CSI reserves the right to revise this Privacy Statement from time to time. The most recent version is always available at https://global-c-registry.org/privacy-statement.
- The Terms of Use governs and explains the conditions for using the online tools as outlined publicly at https://www.carbon-standards.com/docs/transfer/1000075EN.pdf.