Carbonfuture

Re: Call for input: Industrial Removal Certification Methodologies

Freiburg, 15.09.2023

MRV for durable carbon removals within the EU carbon removal certification framework (CRCF)

The importance of tracking, guidance for digitization and clearly defined roles & responsibilities along the data trail

Summary

Digitization & automatization of MRV within the CRCF is key to massively scale carbon removal activities as it is needed to prevent overshooting more planetary boundaries of the earth system. Standard setters globally need to embrace novel digital technologies and collaborate closely to provide guidance about how to co-create, audit, and verify data trails and software systems to empower a wider variety of contributors to carbon removal. By driving digitization and automatization of MRV, a well-safeguarded, high-accountability, interoperable, and high-performance global certification infrastructure for durable carbon removal can jointly be established.

Carbon removal tracking must be required by the CRCF for all carbon removals to establish the basis for liability and attach a transparent end-to-end look through to each certificate. Durable carbon removal requires tracking because of its nature of moving materials and their custody situation over space and time. By carbon removal tracking, we mean that for every relevant step of the removal value creation, the following information must be recorded until the durable carbon removal is achieved and the registry takes over carbon data management: all data necessary for calculating the net greenhouse gas removal in tCO2eq, i.e., the gross removal potential and all emissions caused within the removal activities' scope as defined in the carbon removal methodology; identification of all involved parties including contractual attestations regarding ownership of the carbon removal physical product outputs and claims as a closed chain of custody to establish a basis for liability, prevention of fraud, and double-counting; a uniquely identifiable and verifiable carbon storage attestation, confirming the establishment of the durable sequestration of carbon including the sink value in tCO2eq and the sink localization.

To operationalize all the above, collaboration and hands-on testing are key to the evolution of the CRCF into the fundament for an impactful compliance scheme to scale carbon removals. The development of a pilot program covering all relevant carbon removal pathways should invite full consortia of carbon removal project

operators, MRV providers, certification bodies, certification scheme developers, and certificate-buyer representatives to implement requirements, roles, and responsibilities along the data trail. Thus, we can jointly build the trustworthy infrastructure to streamline certification of durable carbon removals and drive carbon removal to climate-relevant scale quickly.

Introduction

Carbonfuture is the Trust Infrastructure for durable carbon removal. We offer software-based products to help scale carbon removal activities to a climate-relevant level. We do this by building trust throughout the carbon removal journey with a rigorous, data-driven approach, ensuring continuously improving quality and reliability of the climate action and its certificate representation. Our products support all available durable carbon removals, and we integrate our operations closely with carbon removal suppliers, certification bodies and entities purchasing carbon removals to streamline and automate their business interactions.

We started in 2019 in Freiburg in Germany as a pioneer in industrial carbon removals and have since established Carbonfuture as the **provider of the most comprehensive Monitoring, Reporting, and Verification (MRV) system** and the **leading market maker for durable carbon removals**, facilitating the delivery of more than 32 000 tons of CO2eq removed from the atmosphere and stored long-term. We empower carbon removal suppliers by providing the essential project support and access to financing needed to translate their carbon removal projects into reliably certified carbon certificates. For corporate buyers, we offer access to portfolios of carbon removal certificates adhering to the highest-quality Standards and **provide visibility at each step of the carbon removal value chain via data-driven carbon removal tracking** enabled by Carbonfuture MRV+.

Read more at: www.carbonfuture.earth

While Carbonfuture does not develop carbon removal certification methodologies, we have implemented a range of existing methodologies under various certification schemes for durable carbon removals (e.g. Carbon Standards International, Gold Standard, Verra VCS, and Puro.earth) into operational software, designed to raise the quality bar of the resulting certificates. As we continuously developed the Carbonfuture Trust Infrastructure to automate the steps needed to prove that carbon removals are accurately quantified and additional, that carbon is stored for the long-term, and that carbon removal activities are sustainable along with the emerging certification schemes, we intensely learned how

methodologies should be conceived to optimally support the fast uptake of high-accountability durable carbon removals.

In this position paper, we explain why we suggest the following **five topics** to be considered for the development of highly performant certification methodologies for durable carbon storage under the CRCF:

1. The need for **digitization & automatization of MRV** (incl. data security)
2. The definition of **roles, responsibilities, and relationships within digitally-enabled MRV** ecosystems
3. The necessity of **tracking the creation of durable carbon removals** (for the example of Biochar Carbon Removal)
4. The transparent **recording of the chain of custody** of durable carbon removals as the **basis for liability**
5. **Inspiring practical use cases** of Standard & methodology evolution for durable carbon removals in the voluntary carbon market

1. The need for digitization & automatization of MRV

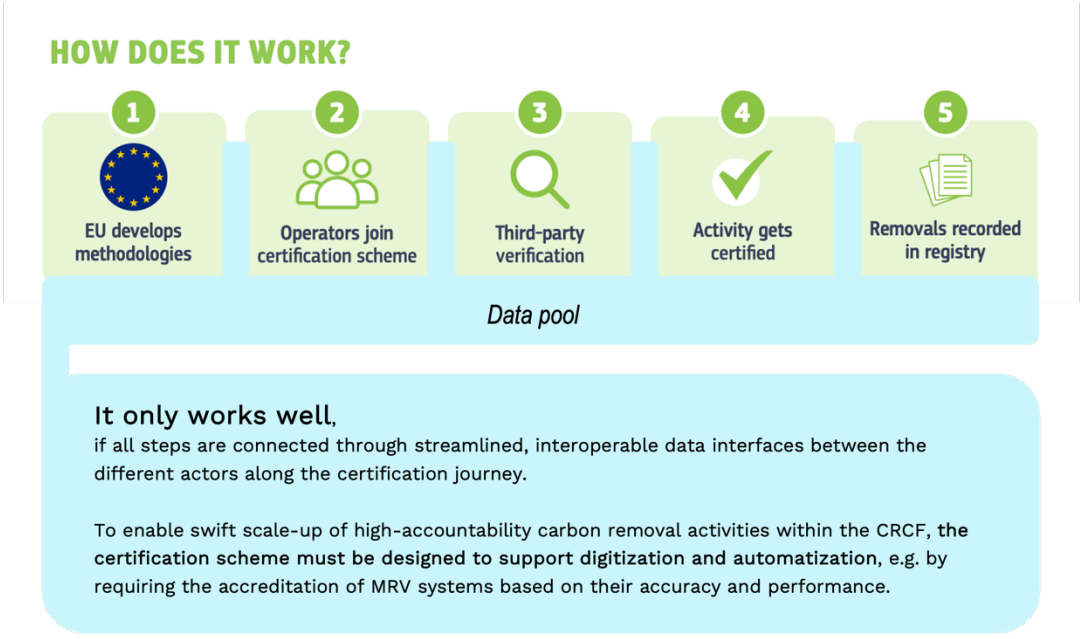

Figure 1: Digitization and automatization of Monitoring, Reporting, and Verification (MRV) of the carbon removal certification process should be built into the CRCF to enable effective scaling of carbon removal activities (modified from the *CRCF fact sheet, European Union, 2022* (link)).

Digitization and automatization are not just conveniences but essential tools for achieving the necessary scale of durable carbon removal rapidly. These technological advancements play a pivotal role in enhancing scalability, effectiveness, convenience, consistency, and transparency in carbon removal efforts. Thus, digital MRV should be a focal point for the CRCF.

Without digitization and automatization, achieving 5 000 times increase in durable carbon removals globally by 2050 becomes impossible. Digitization and automatization streamline data collection, processing, and verification throughout the carbon removal value chain. Thus, digitally-enabled certification schemes can operate efficiently and consistently, reducing the room for error and fraud. Moreover, by approaching real-time tracking, measuring progress, and assessing the impact of carbon removal projects accurately is being made much more straightforward (see Figure 1).

The absence of certification schemes and methodologies developed with optimal digitization and automatization in mind would result in a cumbersome, slow, and error-prone system. This would hinder the rapid scaling of carbon removal efforts required to globally enter the net-negative emissions regime.

An example:

When a new carbon removal method is published in sufficient detail, numerous providers of digital MRV can try to convert its carbon quantification into software, often creating proprietary, non-transparent MRV systems (“black boxes”). To harness the benefits of digitization and automatization, it is essential to establish mechanisms for auditing and accrediting these MRV providers' systems to ensure that they align with the relevant certification Standards and are fit to support large-scale adoption of the certification framework.

As innovation is key to establishing trustworthy carbon removals, Carbonfuture recommends that the CRCF Expert Group outlines the CRCF to enable streamlined, interoperable data flows between the actors involved in the certification journey ecosystem from the start.

Actions may include:

- Methodologies, monitoring, and audit reports etc. are designed to be **machine-readable** to promote quick and accurate adoption by MRV system providers.
- Monitoring and quantification requirements for carbon removals empower the application of **modern sensing (Internet-of-Things) devices** with

automized and standardized data recording **or Application Programming Interfaces (API)** to adjacent data systems to advance precision and mitigate errors and manipulation vulnerabilities. By embracing and guiding the application of new digital technology, the acceleration power of digitization and automatization can be harnessed.

— MRV frameworks for specific removal pathways are conceived with the **third-party auditability requirements for independent MRV providers** in mind, to ensure functional integrity, cyber security, and reliable performance while inviting participation on the massive scaling challenge for carbon removals. This way, incentive structures are upheld to promote integrity.

— Data input into any CRCF data infrastructure forms is designed to establish high data quality: measures such as **automatically checking manual user input for completeness and sanity** (incl. image/text recognition) and random spot checks are facilitated to build high-quality ground truth datasets for carbon removals from the start.

— **Data privacy** requirements are conceived to balance rigorous personal data and business confidentiality protection for all CRCF users with the need for detailed carbon removal records hosted transparently by public registries.

2. The definition of roles and responsibilities within digitally-enabled MRV ecosystems

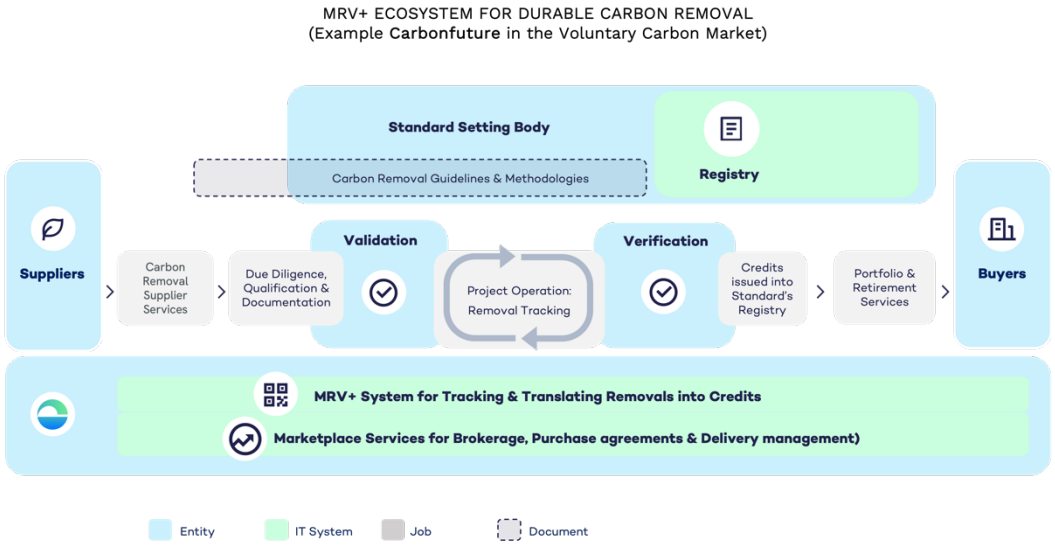

Figure 2: The success of data-driven MRV ecosystems relies on clearly defined roles, responsibilities and streamlined data interfaces along the data trail. Here, the actors are depicted for the example of Carbonfuture, an MRV+ and Marketplace provider, connecting suppliers and buyers of durable carbon removals in the voluntary carbon market, collaborating closely with Standard setters, methodology developers, credit issuers, registry operators, and validation/verification authorities (see Building a Trustworthy Carbon Removal Credit Market through dMRV & Standards, 2023 (link)).

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Digitally-enabled MRV ecosystems rely on clearly defined roles, responsibilities and streamlined data interfaces along the data trail.

For the example of Carbonfuture in the voluntary carbon market (see Figure 2), this covers the whole data trail from carbon removal project initiation through third-party validation and verification to the issuance of credits into a Standard's registry, and finally delivering the carbon removal credit portfolios to buyers who can retire them for their individual corporate net-zero claim, all empowered by us as MRV+ provider and market maker.

The complex quality control framework is one of the greatest hurdles for emerging carbon removal companies and scaling the carbon removal credits market. The process for creating and adopting new methodologies for carbon removal approaches is a laborious one, and a real-time issuance process for all carbon removal credits has not been established yet. While companies are emerging to cover parts of the credit journey, independent stakeholders need to increase collaboration to create more trustworthy carbon removal credits.

Generally, for every industrial carbon removal certification, these or similar entities ideally derive robust and high-quality chain-of-custody carbon removal data and avoid perverse incentives for overestimating or double-counting carbon removal claims. Effective interaction mechanisms need to be orchestrated by the certification scheme.

The value of carbon markets is currently bottlenecked by the high level of bureaucracy in the un-harmonized procedures established by various certification bodies, as well as by the scarce availability of accredited auditors for the verification process. The conventional certification pathways including outsourcing of documentation and reporting to isolated IT systems with significant manual labor for both documentation and verification, are not easy to navigate for novel project developers or credit buyers and take too long.

As collaboration is key to establishing trustworthy carbon removals, Carbonfuture recommends that the CRCF Expert Group considers clearly defining roles & responsibilities along the data interfaces in the certification ecosystem to empower streamlined collaboration and high-integrity certification.

From developers of the certification schemes, certification bodies, program developers, to project operators, each entity needs to specialize in what they can do best, but also have streamlined and open communication channels. Ideally, mechanisms are conceived to incentivize seamless integration of certification actors (e.g. **through the multi-stakeholder establishment of a general**

quantification model for durable carbon removals and its operationalization through **pilot projects of full consortia** of actors along the certification path).

3. The necessity of tracking the creation of durable carbon removals

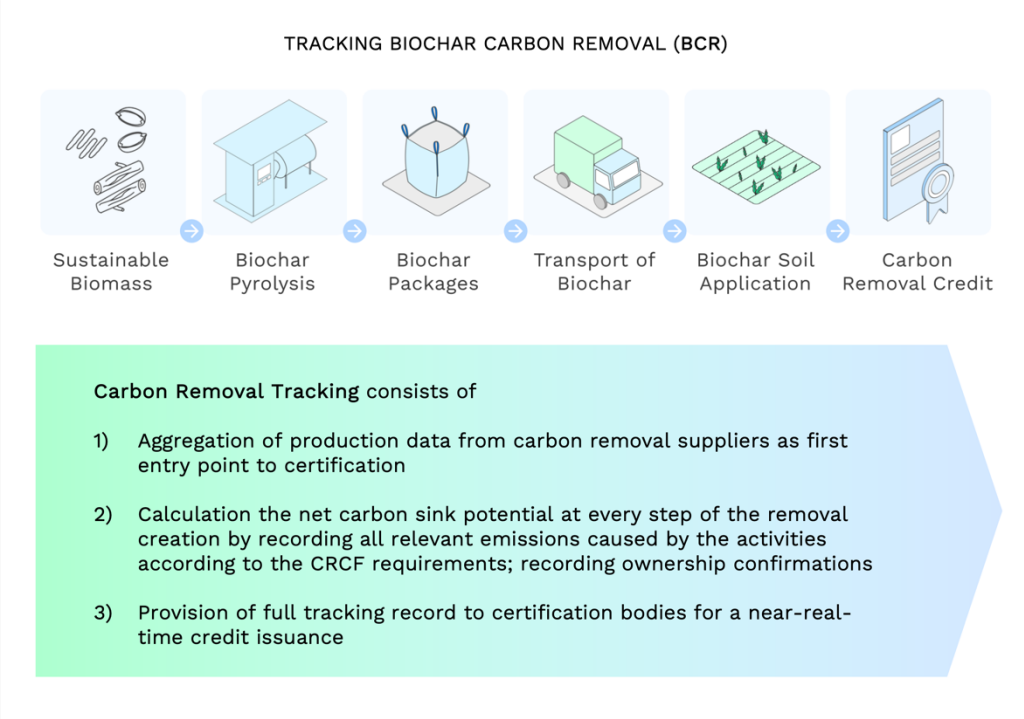

Figure 3: By meticulously tracking the complete value creation along the chain of custody of durable carbon removals (illustrated for the example of Biochar Carbon Removal), carbon removal tracking ensures transparency of carbon removal activities and supports net-zero claims by establishing accurate records of long-term storage, accountability, and value creation (see Carbon Removal Tracking, 2023 (link)).

The nature of durable carbon removals calls for **tracking of moving materials and their custody**. To ensure the effective and trustworthy management of carbon removals like Biochar Carbon Removal (see Figure 3), BECCS, DACCS, and Enhanced Weathering (Enhanced Rock Weathering & Material Carbonation), it is essential to track how certain attributes, such as materials, their location and ownership, change – and cause emissions – as they move through space and time.

For climate-relevant scale, it is important to do this with a **performant data model**, because each of these industrial carbon removal technologies involves a **complex series of steps and ownership changes until the durable carbon storage is established in the litho- or hydrosphere**. The data record established by tracking

is key to defining how much (net) carbon is removed and stored: it serves as the data basis for certification.

Carbon Removal tracking generally **provides the end-to-end record needed to issue carbon removal certificates**. It captures essential data about the creation of a carbon sink and ideally seamlessly submits this digital information to certification bodies, ensuring the high-integrity establishment of carbon removal certificates. Effectively built on a general, comprehensive, and expandable data model, tracking provides accelerated monitoring, flexible reporting, and transparent verification support all in one. For each removal type, and every given methodology, the relevant events during the establishment of the carbon sink can be easily mapped to whatever is required by the considered certification framework.

For carbon removal suppliers, carbon removal tracking offered by an independent MRV provider replaces the need to invest in and wait for laborious monitoring reports by providing **near-real-time, high-integrity records of carbon removal accounting and ownership attributes along the value chain**. A complete chain of contracts ensures that all parties engaged in generating a carbon removal credit – from capturing carbon dioxide from the atmosphere to storing it durably – are recorded and informed. This provides the basis needed to prevent double counting of carbon credits and ensures that liability of the achieved removal can be followed up with.

Each removal pathway has its merits and challenges, and it is important to define the removal scope, baseline, and data tracking requirements specifically for each, prioritizing them based on scalability, cost and resource effectiveness, environmental impact, and technological readiness.

While for BECCS and DACCS the CRCF methodology development can build upon the guidance laid out under the CCS Directive and in the quantification of greenhouse gas emission avoidance of BECCS and DACCS projects under the Innovation Fund, **Biochar Carbon Removal and Enhanced Weathering quantification are the next in line to be intensively focused on by EU policy**.

The regenerative co-benefits (such as biodiversity, circular economy, effects on water, soil, and marine resources) and scaling potential of Biochar Carbon Removal and Enhanced Weathering are favorable, aligning well with the Commission’s dedication to the key criterion of sustainability within the CRCF.

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Today, **Biochar Carbon Removal (BCR)** accounts for about 40% of the coverage of carbon removal methods in the scientific literature[1]. This is because BCR is the only industrial durable carbon removal technology that can already be implemented on a large scale, using organic residues to generate renewable energy (emission reduction) while creating a functional, durable, and co-benefit rich carbon sink (biogenic carbon removal) when sequestered into soil or mineral matrices (e.g. concrete).

In the first half year of 2023, **Biochar Carbon Removal accounted for 92% of all durable carbon removal deliveries globally**[2] (in 2022 for 87%[3]) at by far **the lowest cost of any durable carbon removal**. In Europe alone, Biochar Carbon Removal could lead to carbon removal of more than 6 million tons per year by 2030 and 100 million tons per year by 2040.[4] Further, recent scientific progress suggests that durability of high-quality biochar (called “inertinite” in the geochemical domain) in soil or mineral matrices can reach geological time scales.[5]

To enable maximal climate impact in the short-term, Carbonfuture prioritizes the most scalable and high-accountability durable carbon removals available and thus naturally focuses on Biochar Carbon Removal. BCR is the only industrial carbon removal pathway currently available for significant delivery volumes and covered by multiple well-refined methodologies in the voluntary market (e.g. by Carbon Standards International, Puro.earth, Verra, C-Capsule, and the Climate Action Reserve, *see other submissions to this call for input*).

While **Biochar Carbon Removal Tracking** is already well established in the voluntary carbon markets, all other industrial removals with their chain-of-custody nature will profit from the fine-tuning of the general carbon removal quantification model as to be elucidated in the CRCF methodologies.

As quality is key to establishing trustworthy carbon removals, Carbonfuture recommends that the CRCF Expert Group considers for each CRCF methodology to make carbon removal tracking mandatory to record:

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1 Smith, S. M., Geden, O., Nemet, G., Gidden, M., Lamb, W. F., Powis, C., Bellamy, R.,Callaghan, M., Cowie, A., Cox, E., Fuss, S., Gasser, T., Grassi, G., Greene, J., Lück, S., Mohan, A., Müller-Hansen, F., Peters, G., Pratama, Y., Repke, T., Riahi, K., Schenuit, F., Steinhauser, J., Strefler, J., Valenzuela, J. M., and Minx, J. C. (2023). The State of Carbon Dioxide Removal - 1st Edition (link)
2 CDR.fyi 2023 Mid-Year Progress Report (link).
3 CDR.fyi. 2022 Year in Review (link).
4 European Biochar Industry Consortium. European Biochar Market Report 2021-2022 (link).
5 H.I. Petersen, L. Lassen, A. Rudra, L.X. Nguyen, P.T.M. Do, H. Sanei, Carbon stability and morphotype composition of biochars from feedstocks in the Mekong Delta, Vietnam, International Journal of Coal Geology, Volume 271, 2023, 104233, ISSN 0166-5162 (link).

- **All data necessary for quantifying the net removal value** in tCO2eq, i.e., the gross removal potential and all emissions caused within activity scope (to calculate net removal);
- **a closed chain of ownership** attestations as the basis to prevent double counting of carbon certificates, establish data provision accountability and record owners of the removal for liability reasons (no claims may be associated with the underlying physical product that interfere with the carbon removal claim);
- **a verifiable carbon storage attestation**, confirming the ex-post establishment of durable carbon storage with a negligible risk of removal reversal (re-emission).

Thus, the CRCF framework will be able to leverage the **QU.A.L.ITY criteria's full impact** by putting methodology-specific carbon removal tracking in place to:

- replace laborious monitoring reports by near-real-time, high-integrity records of carbon removal accounting and ownership attributes along the value chain;
- facilitate verification of carbon removal records to prove that the claimed activities have been conducted as specified by the CRCF requirements by accountable entities;
- streamline data management among removal suppliers & certification authorities to enable massive scale up of certified removals;
- instill confidence to invest in certificates by substantiating net-zero claims and connecting with marketplaces and rating systems adapted to this domain requirement.

High-integrity, digital MRV with physical output and custody tracking is a necessity for next generation carbon removal methodologies. Fully tracking the climate impact generated in the carbon removal process and accurately attributing its value to a certified removal credit enables buyers of carbon removal certificates to invest with confidence, be it individual, corporate or (supra)national buyers.

4. The transparent recording of the chain of custody of durable carbon removals as the basis for liability

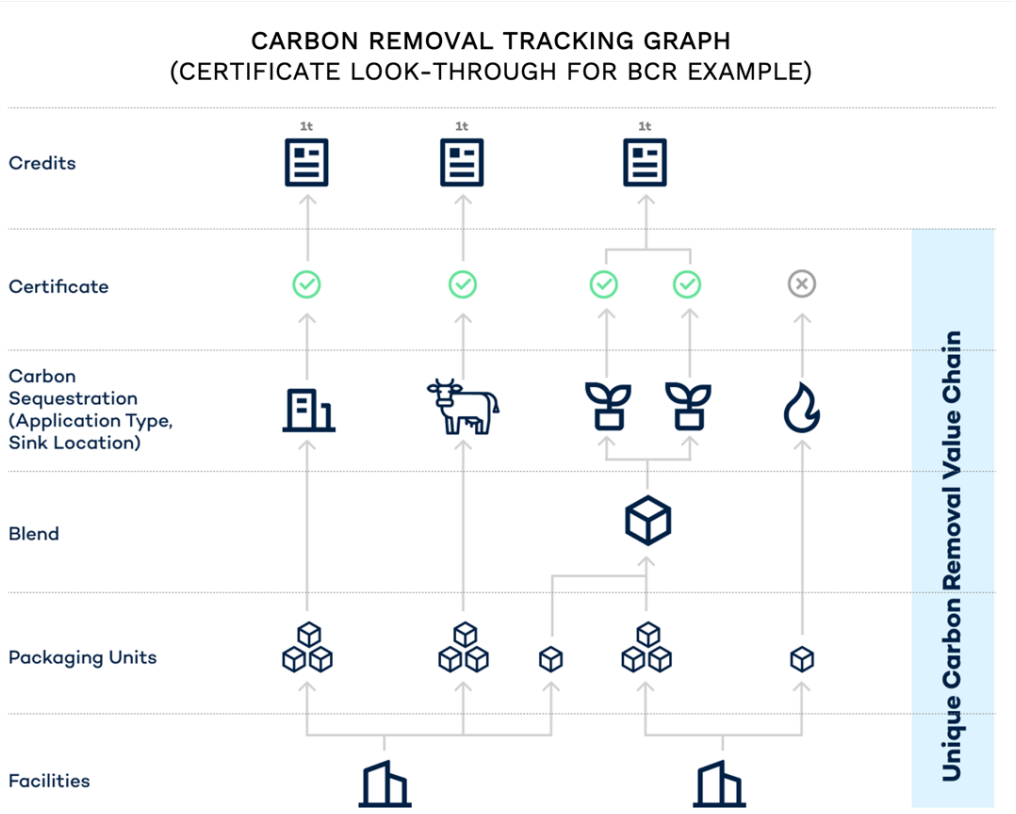

Figure 4: The carbon removal tracking graph is the visual representation of the full carbon removal data record which is the basis for certification. Illustrated here for the case of Biochar Carbon Removal are three certificate look-throughs for various originations, processing, and storage destinations. Durable carbon sinks are established by adding biochar to construction materials, animal feed, or agricultural soil for example. In the case that biochar is burned, and the contained carbon is re-emitted, of course no carbon removal certification can be issued and the occurrence is captured in the data record transparently.

Liability is the state of being legally responsible for something. Without establishing clear liability for each step of the carbon removal value creation, resulting certificates remain as difficult to grasp as single molecules of the greenhouse blanket covering our planet.

Tracking ownership attributes along the chain of custody does not make fraud impossible, but it identifies the party that is legally bound to the custody of the carbon removed from the atmosphere, processed, and stored durably. With novel data-driven MRV, even more meaningful advances can be made to mitigate

opportunities to manipulate data. However, identifying and making the ownership transparent is the first fundamental step.

The need for a tracked carbon removal value chain becomes crystal clear as soon as the stewardship and success of each individual step is acknowledged as decisive to the full establishment of the associated carbon sink. Every step, be it handling a truckload of CO2, or a big bag of biochar, bears the risk of leading to carbon re-emission as long as the carbon is not securely sequestered in a durable reservoir. This is why tracking every step is equally important as tracking the custody of the resulting credit itself.

Clear liability is a pre-requisite to unlocking investments in carbon removals, independent of the business case the buyers pursue. We should establish a complete assignment of all parties involved in the removal activity regarding potential liability to prepare for the case that carbon removal is failing for any reason at any step of the process. **The basis for establishing liability for carbon removal activities is carbon removal tracking**. Only if we track the chain of custody and removal location, can we directly identify the responsible actor who can be held accountable for the removal activity. By granting relevant stakeholders access to detailed information on the creation of a carbon sink, carbon removal tracking fosters inclusivity in value chains and promotes equitable participation.

As transparency is key to trustworthy carbon removals, Carbonfuture recommends that the CRCF Expert Group considers adding requirements to methodologies that state that accountable custodians of the physical carbon sink as well as the owners of the corresponding carbon removal claims must be monitored and recorded consistently during the carbon removal value creations to establish the basis for liability.

5. Inspiring practical use cases of Standard & methodology evolution for durable carbon removals in the voluntary carbon market

Digital MRV initiative under Gold Standard

Gold Standard, IOTA and ClimateCHECK have jointly started working in 2022 as an Open Collaboration on Next Generation Digital Solutions to Transform Climate Actions and Sustainability and have received a 1 Mio USD grant from Google.org.

Their mission is to launch an extensive multi-stakeholder effort to develop governance and digital innovations to build trust and empower stakeholders to

help scale the resources and actions needed to achieve the goals of the Paris Agreement and the Sustainable Development Goals.

Carbonfuture appreciates the continued program including calls for proposals to collaborate with this consortium on MRV digitization pilot projects and suggests drawing inspiration from open hands-on collaborations such as this one.

Digital MRV Initiative under Verra VCS

Since the end of 2022, Verra has launched their digital MRV (dMRV) pilot initiative to seek dMRV technology experts from various sectors and geographies to develop and test the implementation of dMRV technology tools and platforms within the VCS program. Through these pilots, Verra aims to assess the potential applications of dMRV platforms, gain a better understanding of the benefits and risks of using dMRV platforms, draft guidance for broader development, use, and certification of dMRV in Verra's programs, and begin to create a pathway towards achieving Verra-envisioned dMRV.

Carbonfuture supports the initiative and especially highlights the importance of working in full consortia on real use-cases of certification journeys to co-create guidance about roles & responsibilities along the data trail as well as fine-tune carbon removal tracking requirements.

Climate Action Data Trust (CAD Trust)

The CAD Trust is a decentralized metadata platform founded and sponsored by IETA, the World Bank group, NCCS, and Google.org that links, aggregates and harmonizes all major carbon credit registry data to enhance transparent accounting in line with Article 6 of the Paris Agreement. Its fully operational data dashboard is announced for Q4 2023 (link).

Carbonfuture shares the CAD Trust's aim to avoid double counting, increase trust in carbon credit data and build confidence in carbon markets through improved transparency and suggests collaborating with the consortium for the development of the implementing acts. Jointly, comprehensive guidance for the establishment and management of public registries, which will serve as repositories for cataloging CRCF carbon removals could be developed as a basis for operational regulations of the certification scheme.

National Carbon Credit Registry

The National Carbon Credit Registry Digital Public Good (DPG) is a software repository (link) is coordinated by ExO/CDO & BPPS/Climate.

The registry follows (inter)national best practices based on inputs from countries and is a result of ongoing work by the Digital4Climate (D4C) Working Group, which includes the European Bank for Reconstruction and Development (EBRD), United Nations Development Program (UNDP), United Nations Framework Convention on Climate Change (UNFCCC), International Emissions Trading Association (IETA), European Space Agency (ESA), and the World Bank Group.

Carbonfuture acknowledges the ambition of the D4C working group to provide an interoperable digital system as part of a broader suite of digital public infrastructure. We suggest collaborating for the CRCF development to elucidate how the achievements and learnings can be operationalized and specifically tailored to the nature of durable carbon removals.

Following these inspiring practice examples and recognizing that impact is key to trustworthy carbon removals, Carbonfuture recommends that the CRCF Expert Group considers establishing the required CRCF guidance interactively by inviting full consortia for hands-on pilot projects for every methodology early-on to operate in parallel to the first launch of the methodologies. We are confident that going forward stepwise and explicitly together, the CRCF can continuously be embedded into operational schemes for the transition from a voluntary to a globally interoperable compliance system for carbon removals.

From the fundamental shared understanding about what a high-integrity general quantification infrastructure for carbon removals looks like, data aggregation systems and repositories such as National Inventory Reports (NIRs) and national carbon registries can be linked and harmonized iteratively to instrumentalize the effective carbon management of the future.

These proposed pilot consortia should include at least each a carbon removal creator, MRV provider, Validation and Verification Body (VVB), Standard & Buyer-side representative and other scientific or technical support as relevant. These pilot projects should be incentivized and instructed to advance the CRCF capacities on actionable digital MRV and its integration into the core the CRCF technology-agnostic general carbon quantification model. They should provide real-case examples from which lessons can be drawn and formulated within the CRCF requirements.

We propose to set as general objective for this pilot program to jointly assess information security and other operational vulnerabilities. Subsequently, guiding suggestions could be made to ensure the protection of operational and personal data and future design of a secure and actionable accreditation framework of digital infrastructures and procedures.

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For each removal methodology, the deliverables could be outlined to include:

- Testing the data interfaces between different roles and responsibilities in the MRV ecosystem, including project proponents, Validation/Verification/Certification Bodies and CRCF for existing carbon removal use cases;
- From the learnings pilot consortia could derive
    - recommendations for process maps to determine data flow architectures suitable to support each stakeholder's function from onboarding to project development, validation, verification, and recording into a public registry;
    - requirements on input data specifications, their sources, recording intervals and input automatization opportunities;
    - suggestions for a transition from linear issuance processes towards a revised and digitalized model that incentivizes swift market growth and invites a diverse group of highly qualified project drivers to apply for certification;
- Support CRCF guidance development on how digital models and tools can contribute to increased certification process automatization and transparency through open documents and software models; help define requirements for the assessment and accreditation of digitally-enabled MRV systems; multi-stakeholder establishment of a general quantification model for durable carbon removals.

In closing, we would like to express our deep gratitude for the opportunity to contribute feedback to the CRCF Expert group to this *Call for input on Industrial Removal Certification Methodologies* from our perspective as MRV+ and marketplace provider for durable carbon removals.

Carbonfuture's Trust Infrastructure is designed for the acceleration of climate change mitigation by facilitation of proof and investment for the management of carbon flows.

We cordially invite everybody who is motivated to help sustainably clean up the atmosphere from heat-trapping gases to join our ecosystem and empower the scale of durable carbon removal through convenient, efficient, and transparent collaboration.