The role of C-SINK in assuring high quality CDR standardisation for enhanced rock weathering in Europe

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12th November 2024

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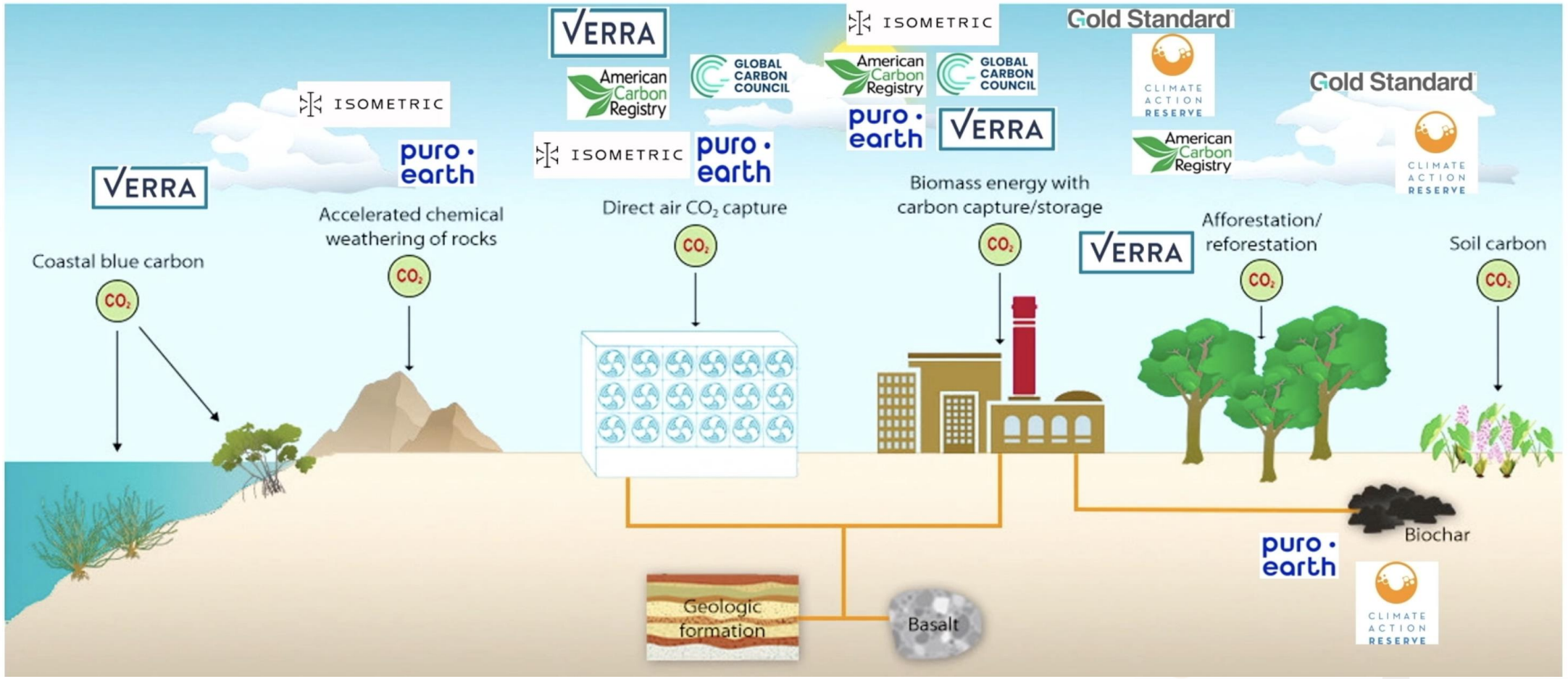
CDR standards and certification programmes



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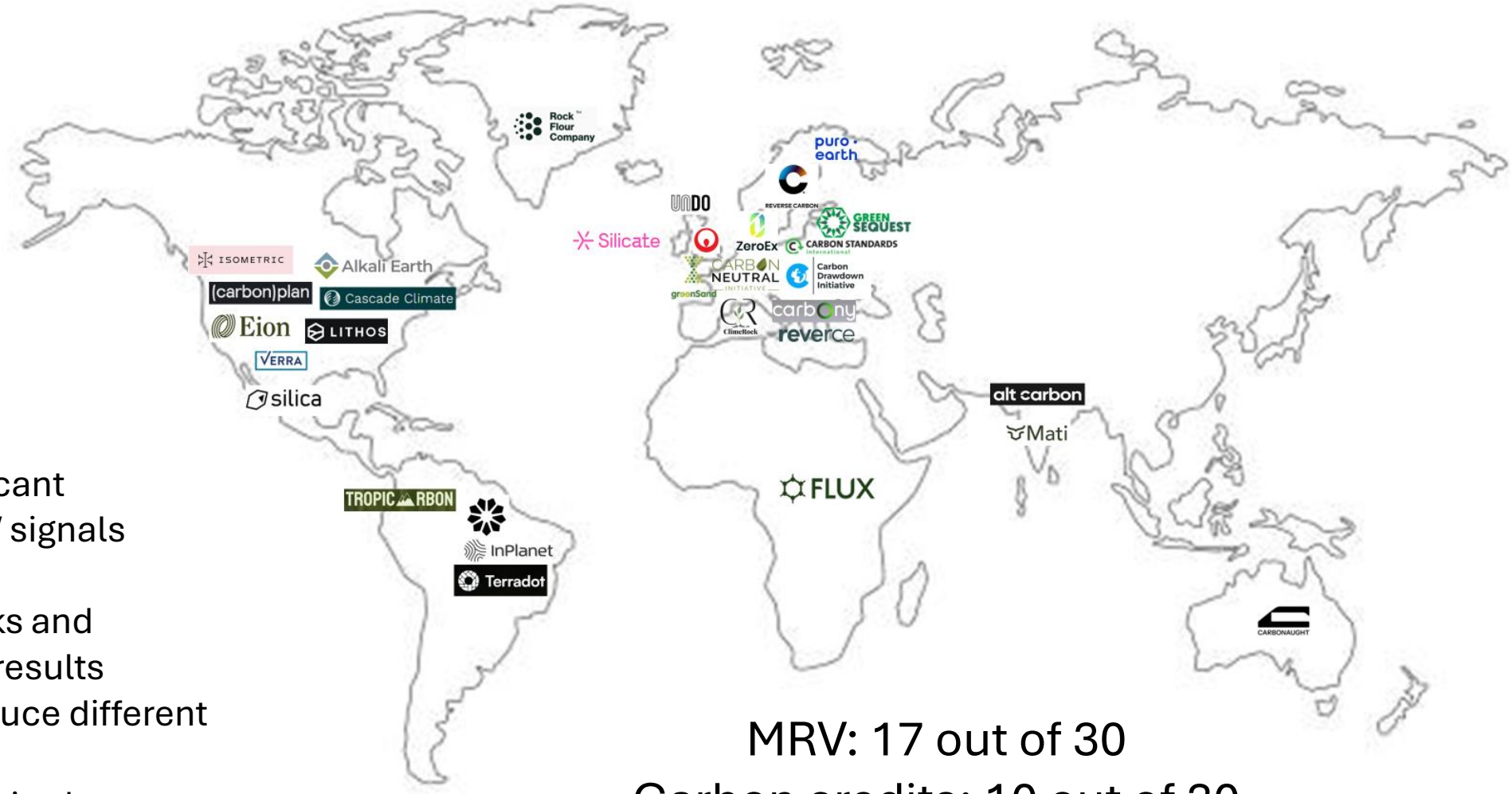
ERW start-ups, developers and registries



Case studies observations:

- Sampling variance is significant
- Difficulty in measuring ERW signals
- Direct carbon and alkalinity measurements in soils/rocks and leachate produce different results
- Cation measurements produce different ERW potential results
- A wholistic approach is required

MRV: 17 out of 30

Carbon credits: 10 out of 30

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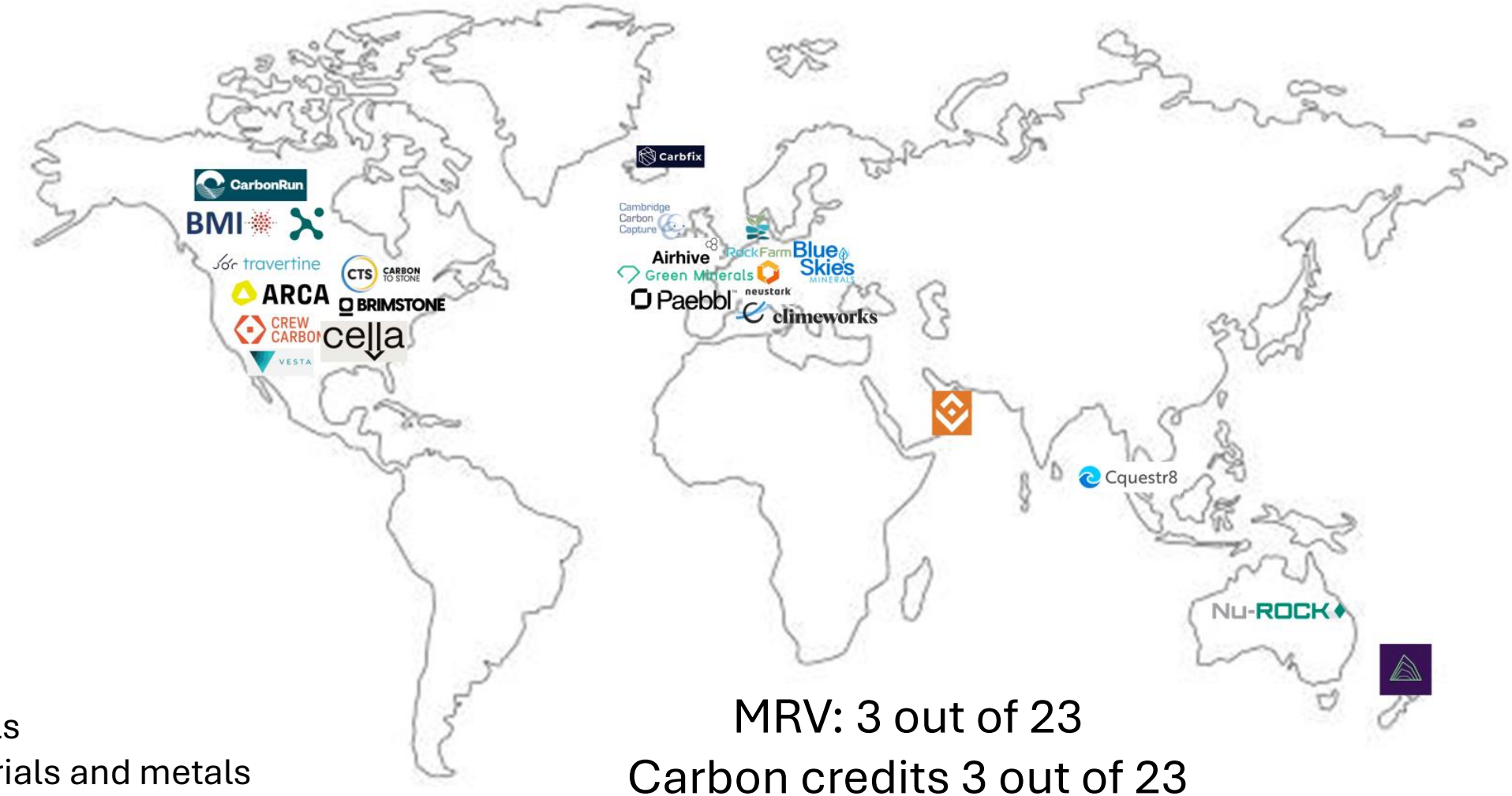
Carbon mineralisation-related start-ups and developers



- ✓ Mining waste
- ✓ Construction waste
- ✓ Direct air capture
- ✓ Wastewater treatment
- ✓ Ocean alkalinity
- ✓ Carbon absorbing materials
- ✓ Carbon negative raw materials and metals

MRV: 3 out of 23

Carbon credits 3 out of 23

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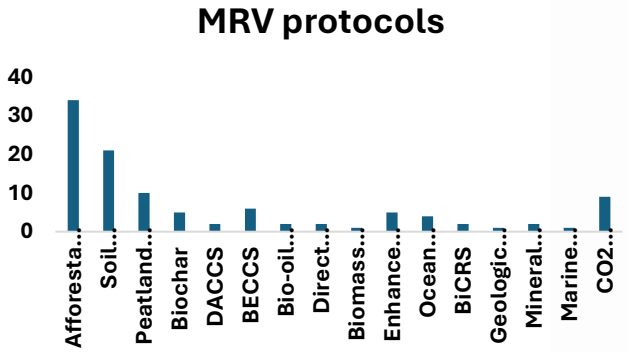
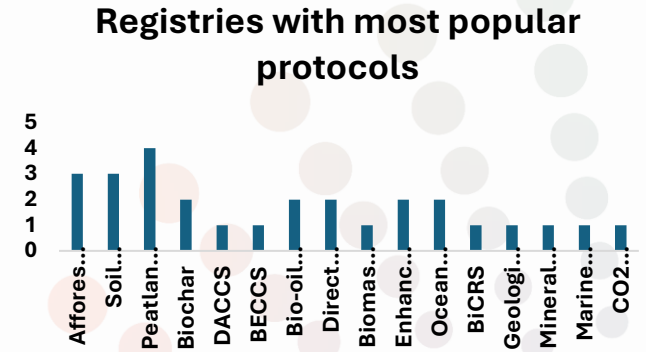
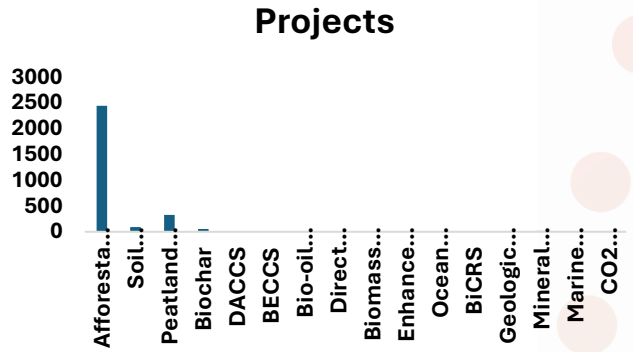
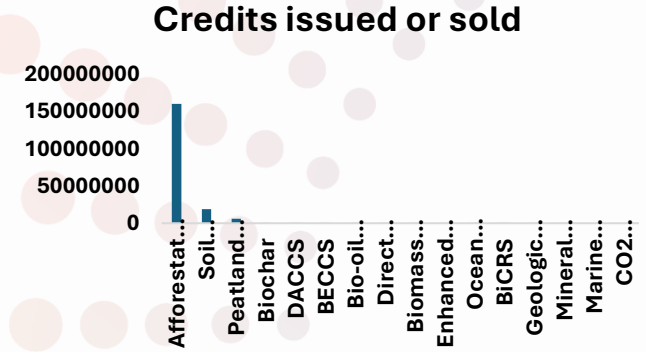
ERW start-ups, developers and registries

CDR-T	MRV protocols	Registries with most popular protocols	Projects	Credits issued or sold
Afforestation, reforestation, agroforestry, forest management	34	3	2443	160653692
Soil carbon sequestration in croplands and grasslands	21	3	89	18957034
Peatland and coastal wetland restoration	10	4	329	6123738
Biochar	5	2	52	295827
DACCS	2	1	10	175836
BECCS	6	1	1	157592
Bio-oil storage	2	2	2	154068
Direct ocean carbon capture and storage	2	2	6	63729
Biomass sinking	1	1	2	18398
Enhanced rock weathering	**5**	**2**	**9**	**12276**
Ocean alkalinity enhancement	4	2	1	8940
BiCRS	2	1	1	4403
Geological storage	1	1	1	587
Mineral products	2	1	15	149
Marine biomass sinking	1	1	3	0
CO2 capture, transport and storage	9	1	1	0
Sum	107	28	2965	186626269









Source: https://www.lse.ac.uk/granthaminstitute/news/introducing-a-new-tool-for-monitoring-reporting-and-verifying-co2-removals/

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MRV: Monitoring, Reporting, and Verification

The framework used to quantify and report CDR projects. With the growing market many novel approaches to CDR are emerging. MRV methodologies have been developed within the private sector to quantify the drawdown of CO_2 and permanence of storage.

Those involved in CDR are requesting standardisation of approaches and terminology. This would allow better comparison of projects and better understanding by stakeholders.

- **QU.A.L.ITY** framework established by the EU expert group on carbon removals.
- Reporting of all data: real-time for process control, monitoring period, historical data on project area for land based deployments (baseline).

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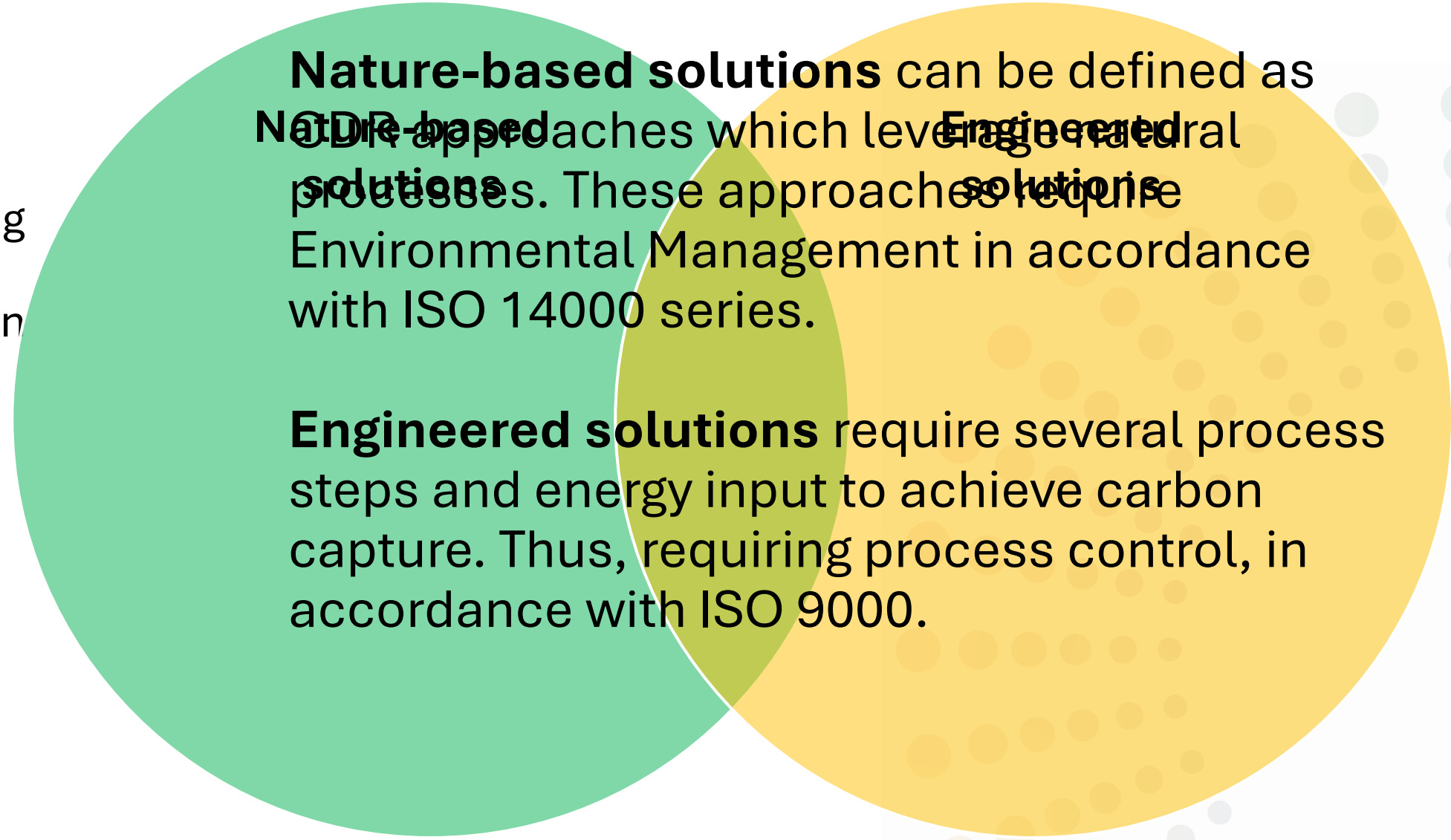
CDR approaches considered within C-Sink

Afforestation
BECCS
Biochar
Enhanced Weathering
Artificial Soils
Biological CO_2 fixation



Nature-based solutions can be defined as CDR approaches which leverage natural processes. These approaches require Environmental Management in accordance with ISO 14000 series.

Engineered solutions require several process steps and energy input to achieve carbon capture. Thus, requiring process control, in accordance with ISO 9000.

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ISO 9000 and Quality Management Systems (QMS)

We believe a foundation for process control, verification and validation based on the criteria of ISO 9000 for these engineered CDR approaches will ensure reliable quantification, and help in upscaling CDR.

This basis for standardisation serves as a foundation for reducing variance, lowering costs, and ensuring traceability through documentation. QMS should be certified by an accredited body, thereby reaching self-verification status. Records of data flow and competence ensures quality assurance.

Currently in the Voluntary Carbon Market (VCM), Verification / Validation Bodies (VVBs) are used to verify and validate projects.

Method specification > Product specification

Four pillars of QMS

Quality Planning

- Organisation structure
- Chains of responsibilities for QMS staff
- Training
- QMS scope
- Reporting
- Data security
- Life-cycle
- ESG

Quality Control

- CCPs
- Test methods
- Protocol for sampling and testing
- Limits
- Nonconforming products or feedstock
- Preventative action (safety)

Quality Assurance

- Internal auditing
- Record keeping
- Accreditation

Quality Improvement

- Scheduled maintenance
- Review of currently available technology
- Best scientific consensus

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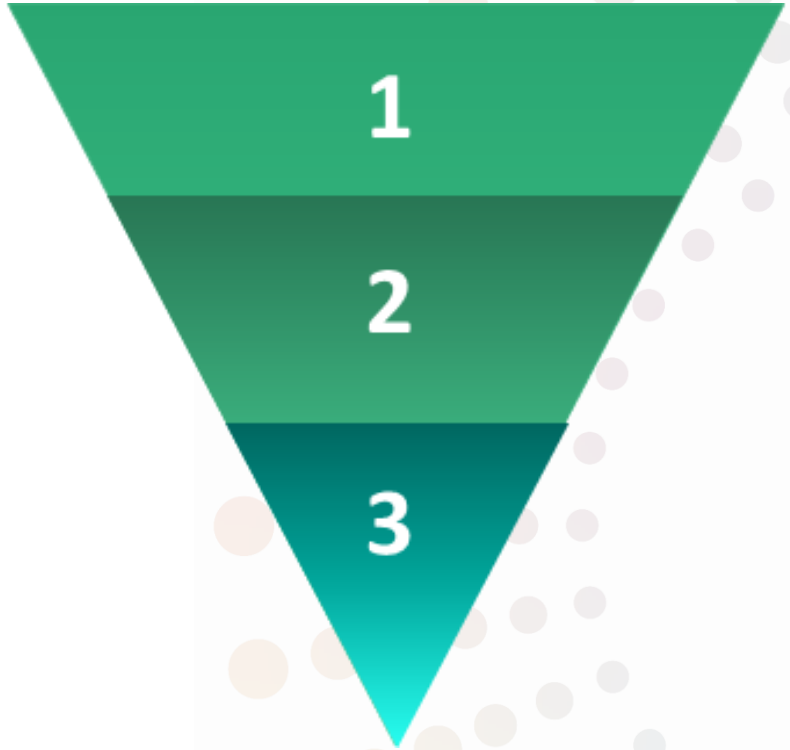
Three levels of QMS

There are three levels of guidance on QMS required for the CDR approaches considered within the C-Sink project:

Level 1. Guidance applicable to all Developers of CDR projects across the range of the six CO_2removal (CDR) approaches covered in the C-Sink project.

Level 2. Guidance applicable to every project of a particular CDR approach.

Level 3. A QMS manual for a particular CDR project. This will be a basis for securing validation and verification.



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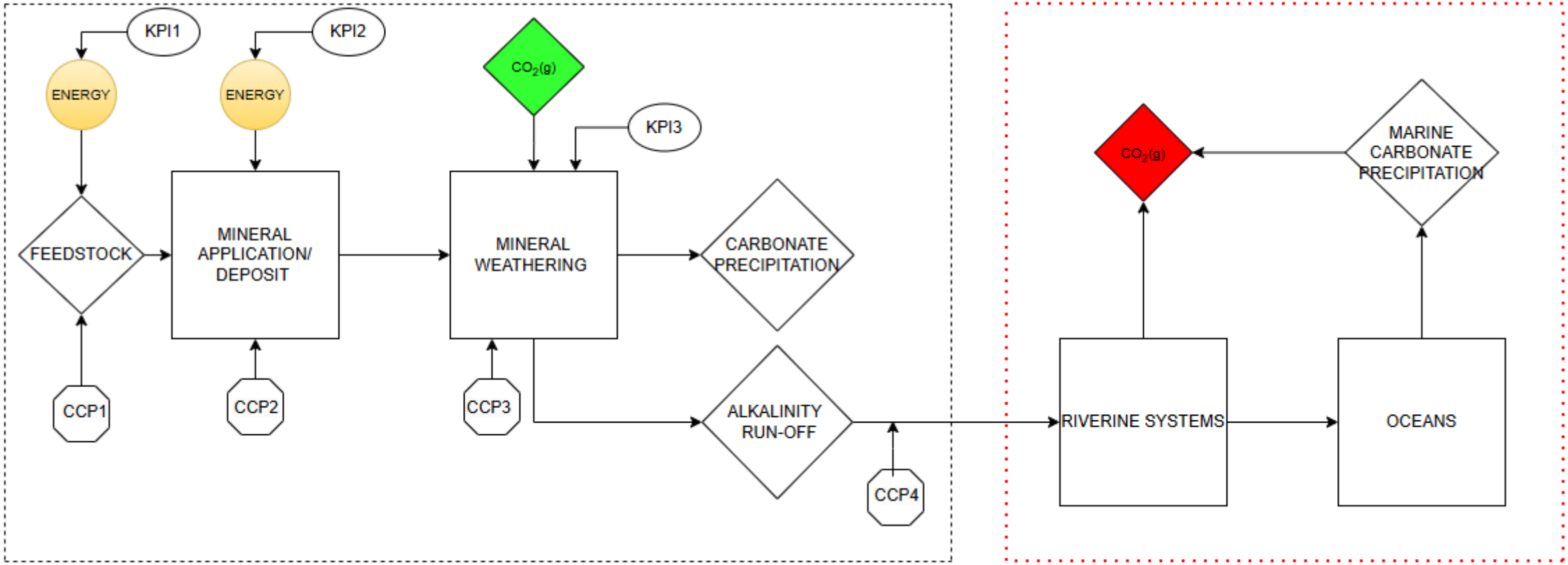
ERW Process diagram



Process boundary

Sink boundary

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CCPs identified for ERW

		Specific Requirements	Test methods
Critical Control Points (CCPs)			
CCP1	Feedstock characterisation	The first critical control point (CCP1) defines the necessary pre-characterisation of the alkaline feedstock, this CCP requires (a) mineralogical, (b) elemental, (c) geochemical and (d) geotechnical characterisation of the feedstock.	XRD, SEM-EDX, CHNS/O analyser, Net Acid Generating, Acid Neutralising Capacity, Total Inorganic Carbon, oven drying, pycnometer, dry sieving, Brunauer-Emmett-Teller.
CCP2	Quantity of feedstock	Total amount of feedstock applied/deposited to the project area.	Mass or volume measured.
CCP3	Sampling of rock, soil, and gas flux	Mineralogical analysis for qualitative evidence of weathered rock. Solid phase measurement of alkalinity. Measurement of gas fluxes to monitor Green-House-Gas release and change of gas concentration across profile.	CO_2 / O_2 probes, gas flux box, eddy covariance tower. SEM-EDX. Mass balance approach. Immobile and trace elements.
CCP4	Sampling of porewater/leachate	pH, total alkalinity, dissolved inorganic carbon, partial pressure of CO_2, temperature, major and trace elements, non-carbonic acid acidity, electrical conductivity	pH probe, titration, infrared spectroscopy, ICP-MS, Ion chromatography.

Critical Control Point (CCP) is

- Where sampling and testing can be conducted to monitor quality.
- A step in the process at which a control can be most effectively implemented to prevent hazards.
- The minimal required elements that must persist in a process to ensure it is completed successfully.

CCP3: Considerations for agricultural deployment:

- Sampling of soils (heterogeneous)
- Field management (e.g. tilling)
- Counterfactual baseline
- Biomass cation uptake
- Non-carbonic acids

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KPIs identified for ERW

		Specific Requirements	Test methods
Key Performance Indicators (KPIs)			
KPI1	Source of feedstock	The source of feedstock will affect the overall CDR as part of the Life-Cycle-Analysis.	Record of source of feedstock.
KPI2	Energy requirements (transport, crushing, etc)	Energy balance across the process should be produced.	Energy balance and source of energy (green energy, recycle streams)
KPI3	Climate conditions (temperature, precipitation)	Climate conditions affect the reaction kinetics of ERW. Temperature, rainfall, humidity, and wind must be measured.	Weather station, sensors.
KPI4	CDR per tonnes rock [$CO_{2,drawdown}$/$tonne_{rock}$]	Overall efficiency of the process.	Calculated from overall CDR and quantity of feedstock.

Key Performance Indicator (KPI) is

- A quantifiable metric that is used to gauge the success of a process over time.

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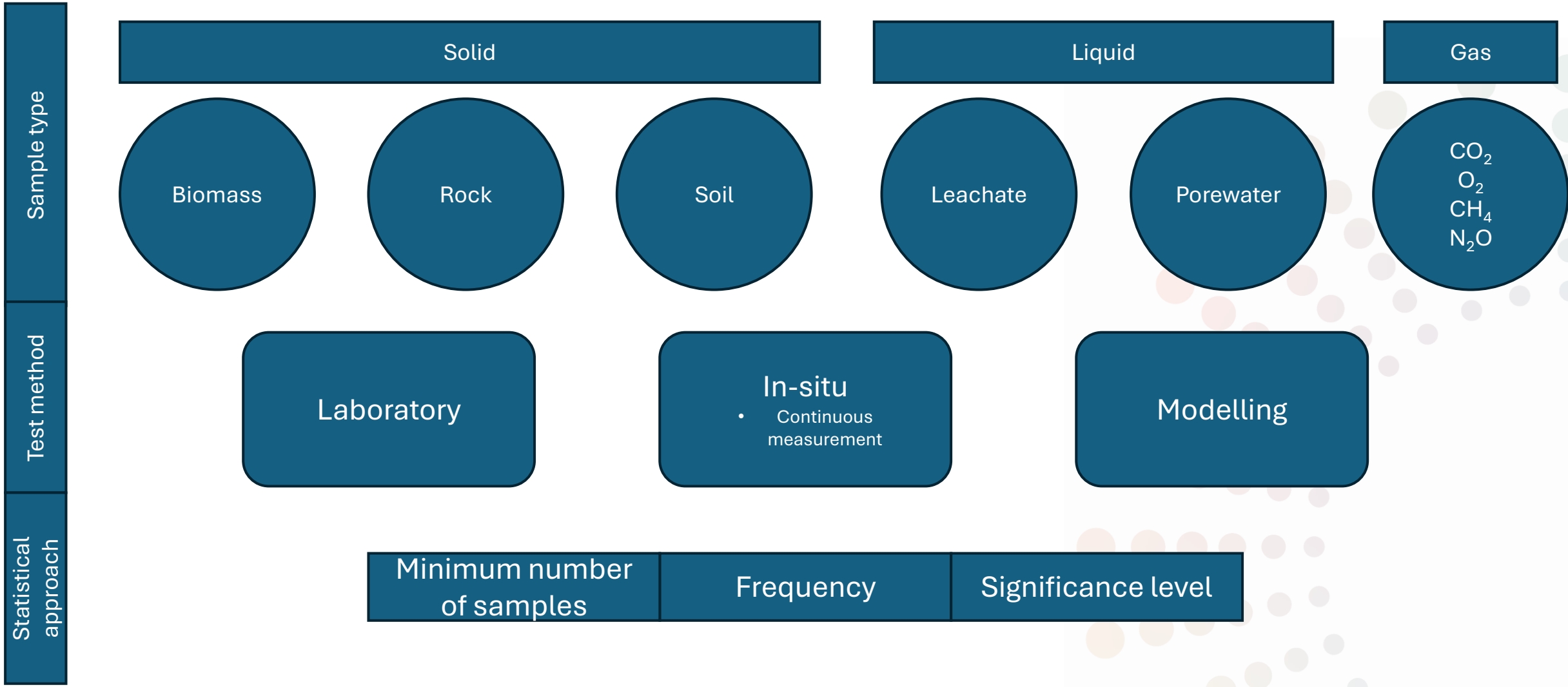
Pre-standards for sampling and testing



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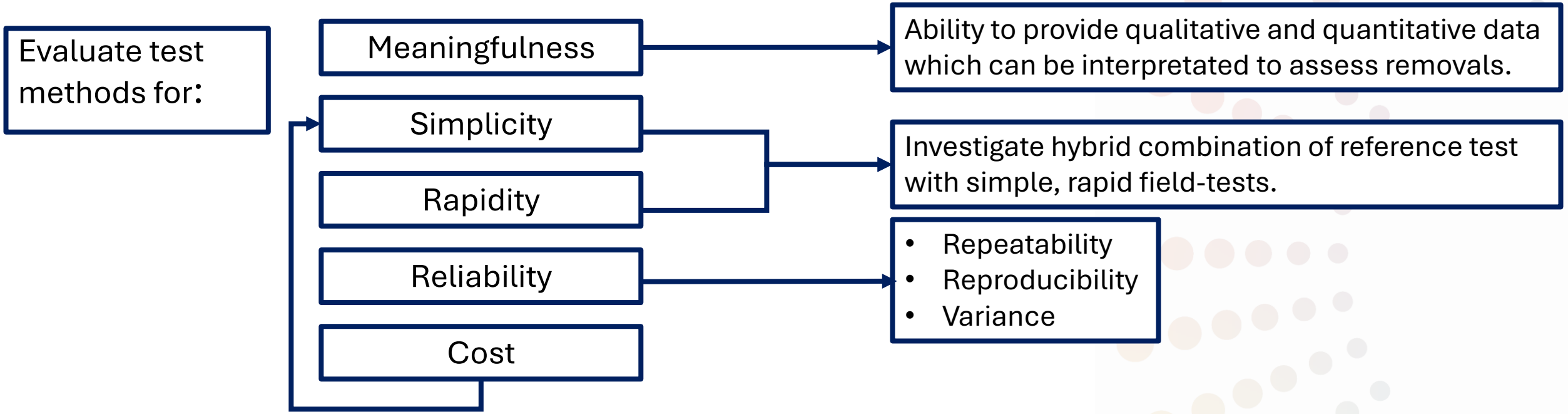
Pre-standards for sampling and testing

To begin drafting standards the requirements must first be defined:
Overall requirement for any CDR project, is to remove carbon dioxide from the atmosphere using proven technology within an approved framework of governance containing (a) accurately described boundaries, (b) a certified level of performance. (c) an approved plan for the control of environmental and social impacts.
Specific requirements are the key signals that can be measured for quantification of removals, and other quality criteria. Sampling and testing must be conducted at CCP's to ensure specific requirements are met.



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Conclusions

- CDR R&D currently dominated by VCM, this is helping grow the market, however standards and regulation are needed for public investment, which will be required to reach net-zero targets.
- Engineered approaches should require conformity with ISO 9000.
- ISO 9000 is required to reduce uncertainty by increasing process control, and therefore ensuring the specified quality is achieved. Records of data flow and competence provides quality assurance, when adhering to a certified QMS.
- This system would allow Developers to provide evidence of the quality of the process and conformity to national and international legislation and regulation.
- Robust QMS and MRV methodologies are needed: baselines, boundaries, requirements, sequestration duration (permanence) are all essential.
- More data is required to calculate uncertainties.
- QMS methodologies will be made publicly available as part of C-Sink deliverable in six months.

Thanks for listening!

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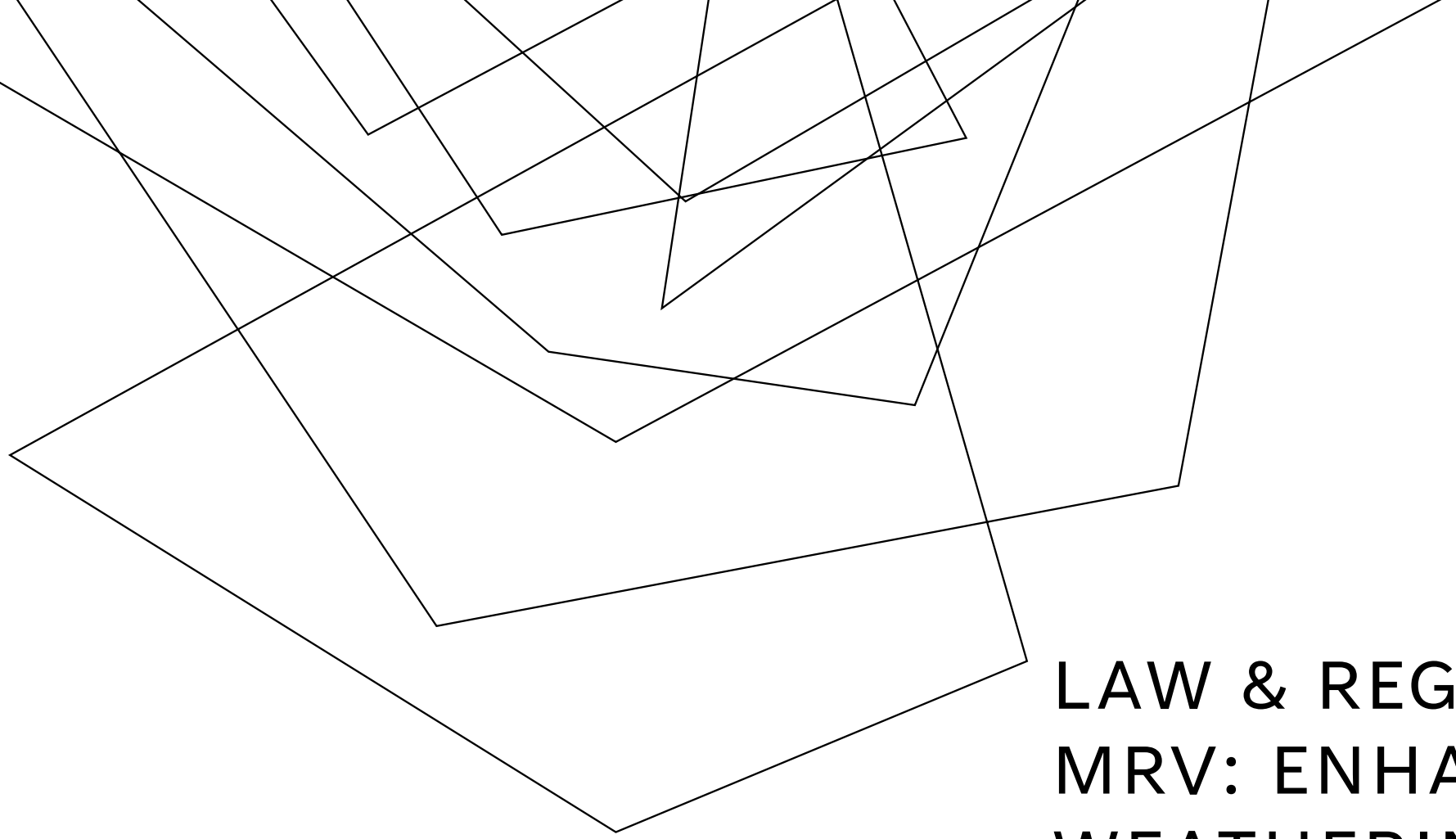


LAW & REGULATION OF MRV: ENHANCED ROCK WEATHERING IN THE EU

LUKA STRUBELJ,
UNIVERSITY OF EDINBURGH

JANUARY 2021

TASKFORCE ON SCALING VOLUNTARY CARBON MARKETS

Revealed: more than 90% of rainforest carbon offsets by biggest certifier are worthless, analysis shows

Investigation into Verra carbon standard finds most are 'phantom credits' and may worsen global heating

- 'Nowhere conservat
- Greenwas carbon of
- Carbon of

Climate change + Add to myFT

Brazil minister warns carbon credit buyers to beware fraud

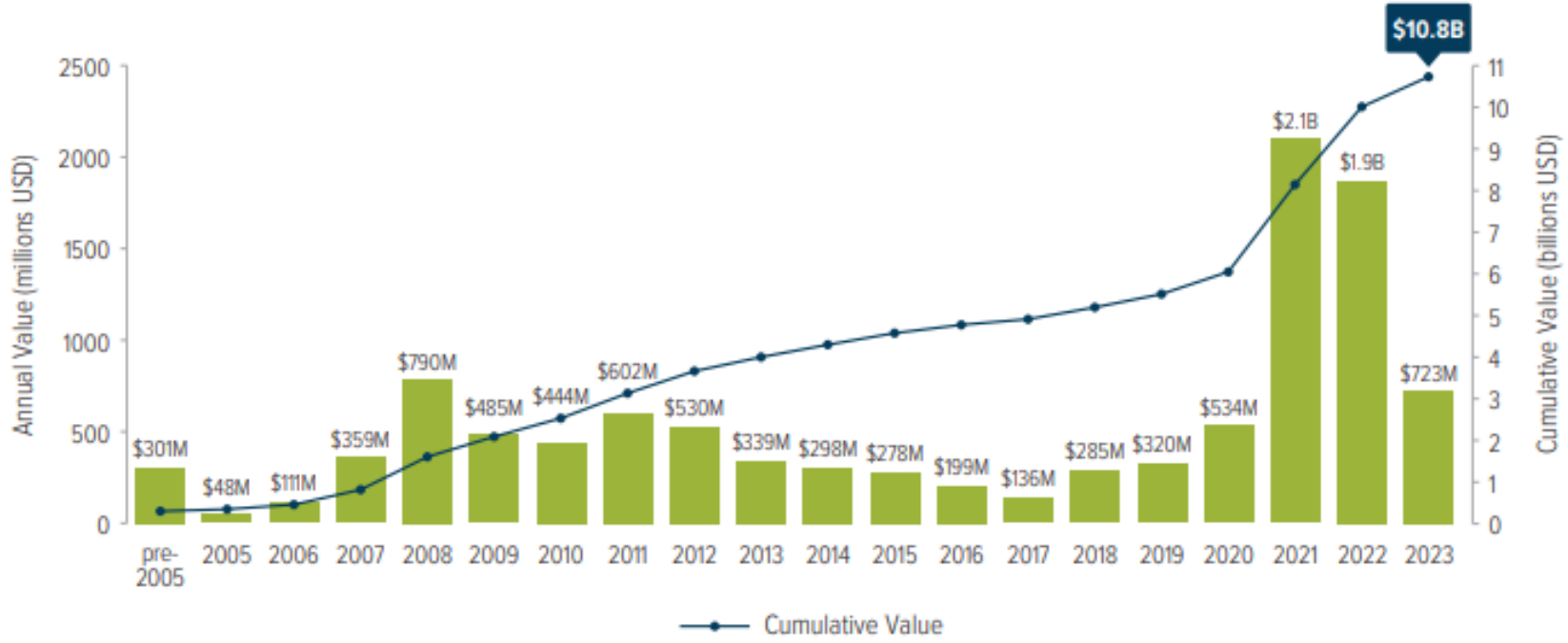
Environment minister Marina Silva says alleged criminal schemes in Amazon could harm reputation of credits

Carbon trading + Add to myFT

Carbon credit standards body defends policies after former director charged with fraud

New chief executive of Verra says code of conduct and conflict of interest rules are robust enough

Figure 1. Voluntary Carbon Market Size, by Value of Traded Carbon Credits, pre-2005 to 2023



Alex Procton et al, State of the Voluntary Carbon Market 2024, On the Path to Maturity

ENHANCED ROCK WEATHERING

Novel approach to CDR

Varied project configurations (excavation, processing, transportation, use on land)

MRV methods rapidly developing

Standard	DACCS	BECCS	Biochar	EW	Oceans	Concrete
Puro Earth						
Verra						
Gold Standard						
American Carbon Registry						
Climate Action Reserve						
Climeworks, Carbfix						
Carbon Standards Int.						
Planetary						

Colour code for table: Dark Green – existing methodologies; Light Green – publicly available draft methodologies under development; Tan – potential future methodology, but no public drafts or expansion plans; Blank – the standard is not expected to expand to other GGR technologies

Jo Howes et al, A Review of Engineered Greenhouse Gas Removal (GGR) Standards and Methodologies (2023)

Isometric, project developers themselves, Verra...

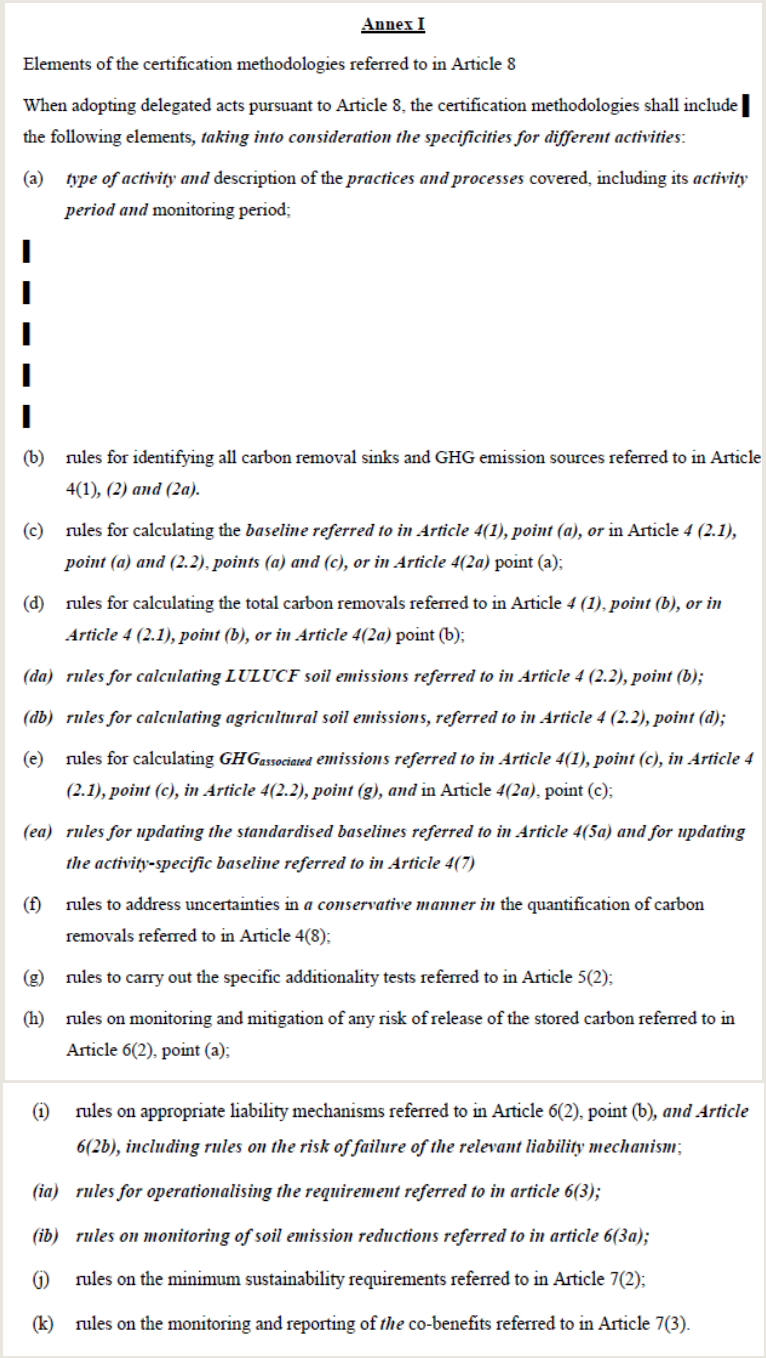
CARBON REMOVAL AND CARBON FARMING CERTIFICATION (CRCF)

Comprehensive regulation on CDR MRV = overarching regulation over the whole lifecycle of the activity

Voluntary rules on the certification procedure and governance of certification schemes

Four quality criteria

Delegated "detailed certification methodologies"



Annex I

Elements of the certification methodologies referred to in Article 8

When adopting delegated acts pursuant to Article 8, the certification methodologies shall include the following elements, *taking into consideration the specificities for different activities*:

(a) *type of activity and* description of the *practices and processes* covered, including its *activity period and* monitoring period;

(b) rules for identifying all carbon removal sinks and GHG emission sources referred to in Article 4(1), *(2) and (2a).*

(c) rules for calculating the *baseline referred to in Article 4(1), point (a), or* in Article *4 (2.1), point (a) and (2.2), points (a) and (c), or in Article 4(2a)* point (a);

(d) rules for calculating the total carbon removals referred to in Article *4 (1), point (b), or in Article 4 (2.1), point (b), or in Article 4(2a)* point (b);

(da) rules for calculating LULUCF soil emissions referred to in Article 4 (2.2), point (b);

(db) rules for calculating agricultural soil emissions, referred to in Article 4 (2.2), point (d);

(e) rules for calculating $GHG_{associated}$ *emissions referred to in Article 4(1), point (c), in Article 4 (2.1), point (c), in Article 4(2.2), point (g), and* in Article *4(2a)*, point (c);

(ea) rules for updating the standardised baselines referred to in Article 4(5a) and for updating the activity-specific baseline referred to in Article 4(7)

(f) rules to address uncertainties in *a conservative manner in* the quantification of carbon removals referred to in Article 4(8);

(g) rules to carry out the specific additionality tests referred to in Article 5(2);

(h) rules on monitoring and mitigation of any risk of release of the stored carbon referred to in Article 6(2), point (a);

(i) rules on appropriate liability mechanisms referred to in Article 6(2), point (b), *and Article 6(2b), including rules on the risk of failure of the relevant liability mechanism*;

(ia) rules for operationalising the requirement referred to in article 6(3);

(ib) rules on monitoring of soil emission reductions referred to in article 6(3a);

(j) rules on the minimum sustainability requirements referred to in Article 7(2);

(k) rules on the monitoring and reporting of *the* co-benefits referred to in Article 7(3).

REGULATION OF COMPONENT ACTIVITIES

Rock sourcing and processing

- Environmental permitting – EU and national law
- Planning law – national law
- Waste law (end-of-waste?)– EU and national law

Land application

- Planning law – national law
- Soil pollution regulation – national law and proposal for an EU Soil monitoring law
- Waste law (landfilling)– EU and national law
- Private law – dust, noise, etc. – national law

Interaction with the CRCF?

IS CRCF (IN)VOLUNTARY?

Compliance through interaction with other legal regimes

Emerging regulatory exemptions for CDR claims (Proposal for a Green Claims Directive)

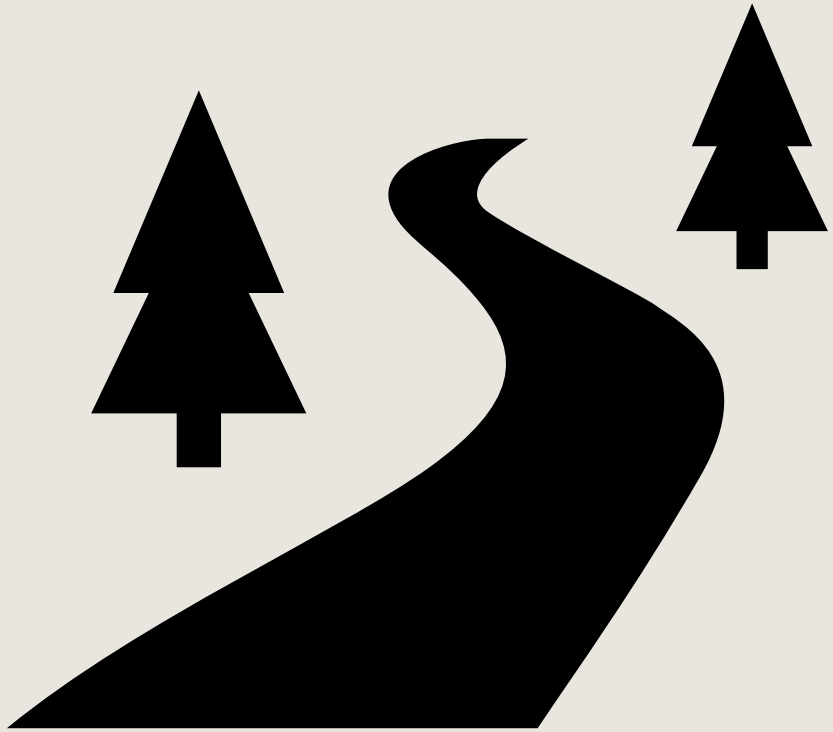
Existing requirements from CSRD (ESRS E1)

Funneling access to finance (Innovation Fund, CAP, potentially EU ETS)

PITFALLS 1

Path dependency

- Effect of detailed certification methodolgies on innovation in MRV
- UK and the US are adopting a more flexible approach
- Ultimately depends on the level of "detail" in methodologies



PITFALLS 2

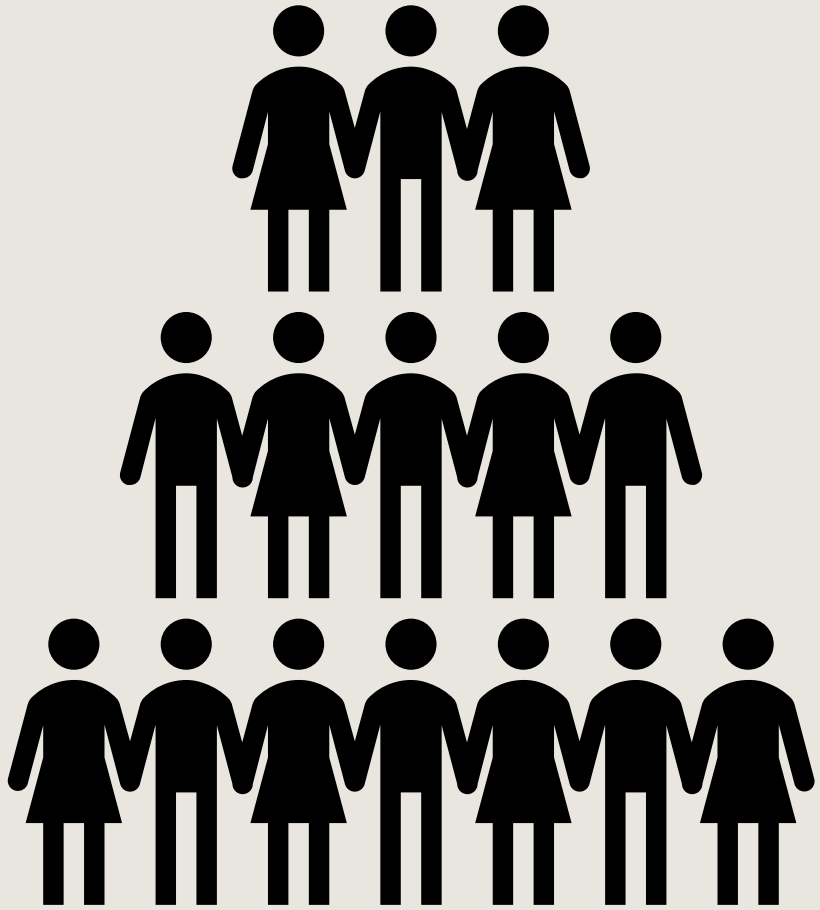
Global developments

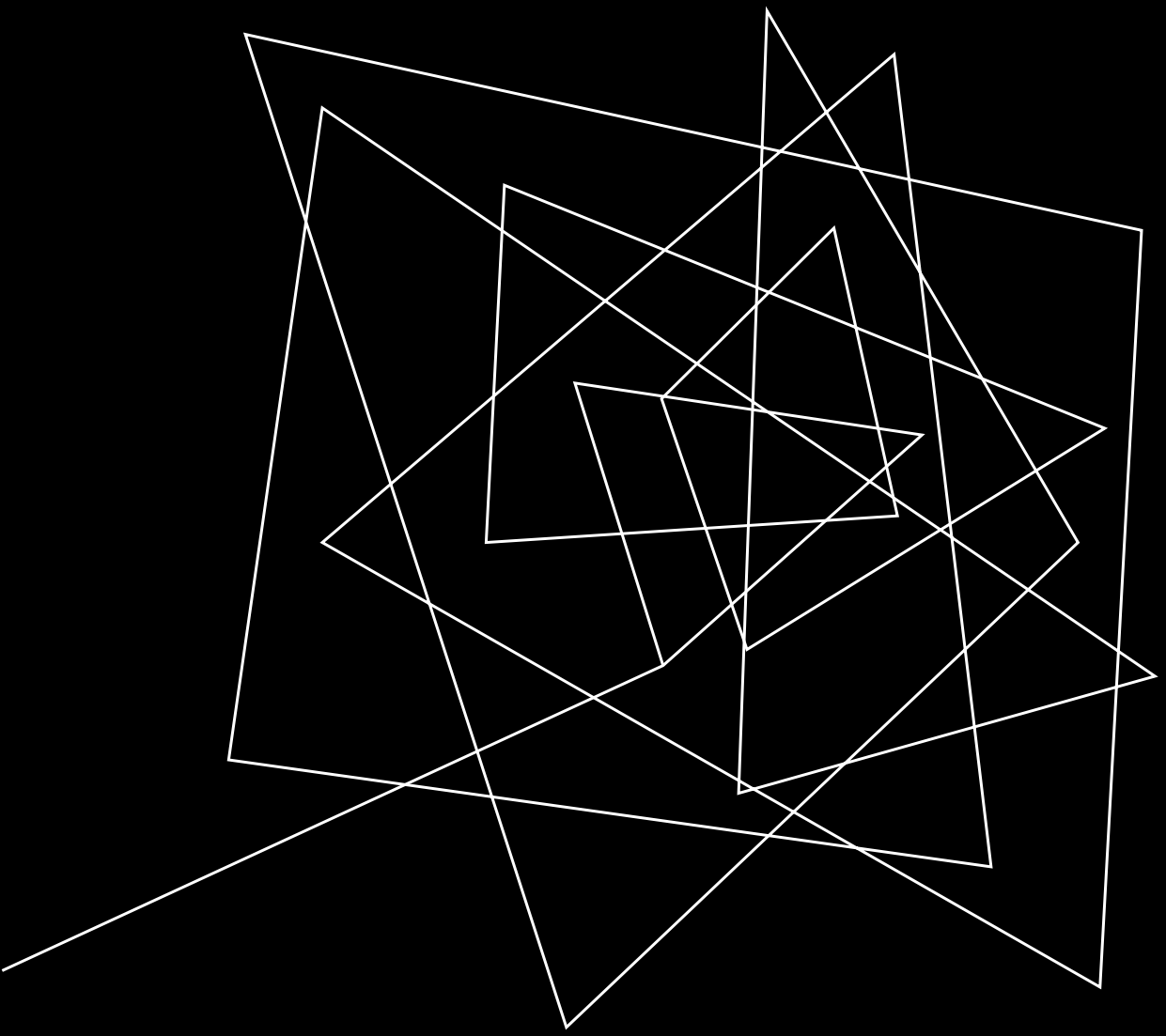
- The CRCF envisions influence on MRV development globally – Brussels effect
- Divergence with other jurisdictions
- Divergence with the IPCC

PITFALLS 3

Legitimacy

- Delegated decision-making
- Expert group on carbon removals
- Most of these activities will impact national or even local environments





WAY FORWARD

1. Further research on how will the CRCF integrate MRV rules in existing legal regimes and its effects for CDR developers.

2. Construct methodologies in a way that leaves open space for innovation in MRV.

3. Evolve legitimacy of delegated decision-making.

THANK YOU

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CO$_2$RE

THE GREENHOUSE GAS REMOVAL HUB

From science to policy: standardising CDR MRV for carbon ….and beyond

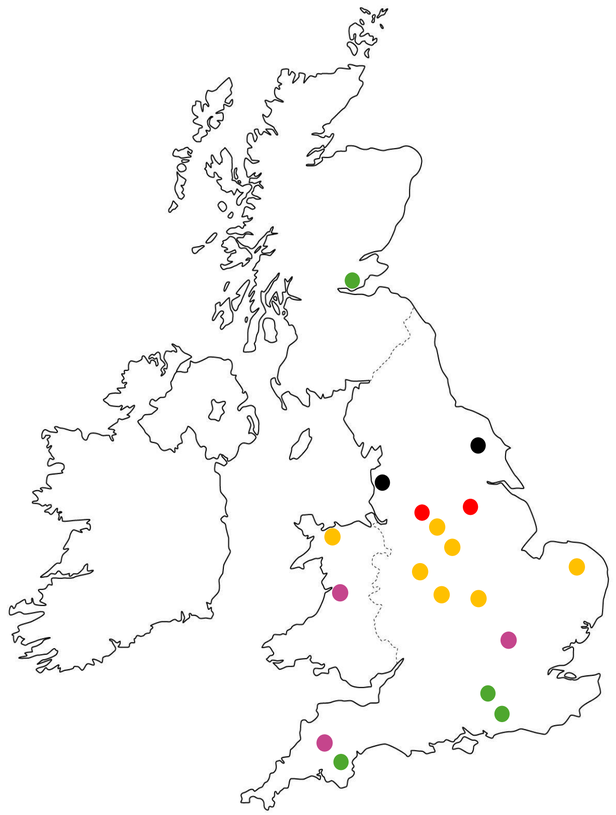
Jo House, Uni Bristol UK

Evangelos Mouchos, Sue Rodway-Dyer, Natasha Martirosian, Murali Thoppil, Isabela Butner, John Lynch, Navraj Singh Ghaleigh, Luka Strubelj, Josh Burke, Leo Mercer, Natalie Seddon, and others in CO_2RE

C-SINK workshop12 November 2024

UK Greenhouse Gas Removal Program:

GGR Demonstrators



Legend

- Woodland creation & management
- Perennial crops biomass
- Peatlands
- Biochar
- Enhanced rock weathering

CO_2RE GGR Hub

GGR evaluation framework: harmonised, science-based criteria

- GHG net removal life-cycle
- Environmental & SDGs
- Social readiness/acceptability
- Business models
- MRV & Legal

Principles: Accuracy, Transparency Consistency, Comparability, Completenes

UNFCCC Country GHG inventories & IPCC guidelines

Includes: engineered capture, geological storage, biochar, BECCS, peat, transport
Missing: DACCS, EW, ocean removals

Convention on Biological Diversity 30x30 goal for nature

National/regional regulations, standards, approaches

- UK environmental regulations, Nature Markets Framework, ELMS; DESNZ MRV GGR task and finish group (2021)
- EU CRC-F, LULUCF & wastes regulation

UNFCCC/Paris Agreement

- Article 6.2 trading through bilateral agreements "internationally transferred mitigation outcomes" ("ITMOs")
- Article 6.4 International mechanism with approved methodologies and inclusive of countries, companies, citizens (oct 24 in force)

Sustainable Development Goals

Voluntary and private standards

e.g woodland carbon code, peatland carbon code, biochar standards, DRAX, VERRA; Verified Carbon Standard (VCS), the Gold Standard (GS), the American Carbon Registry (ACR)

Reality: variable definitions/methods/uncertainties/baselines = lack comparability/ transparency/consistency, few include all GGR approaches or externalities or full life-cycle...no current internationally agreed standards...equity/social justice issues

UNFCCC Country GHG inventories & IPCC guidelines

Includes: engineered capture, geological storage, biochar, BECCS, peat, transport

Missing: DACCS, EW, ocean removals

- Methods Report Update

- Nationally determined contributions under Paris Agreement

UNFCCC/Paris Agreement

- Article 6.2 trading through bilateral agreements "internationally transferred mitigation outcomes" ("ITMOs")
- Article 6.4 International mechanism with approved methodologies and inclusive of countries, companies, citizens

EU

EU Carbon Certification Framework (parliament agreed to move forward in 2024).

- Voluntary regulatory framework
- Separates permanent removal , temporary in long lasting produces, temporary from farming (terrestrial or coastal management)
- Must meet criteria for: quantification, additionality, long-term storage and sustainability

Adjacent laws and regulations e.g. European Green Deal, Environmental Impact Assessment Directive, Air and Water Pollution, Nature Restoration Law, 2030 Biodiversity Strategy, LULUCF Regulation (Land use land use change and forestry), Waste Regulation, European Framework for Forest Monitoring, Common Agricultural Policy

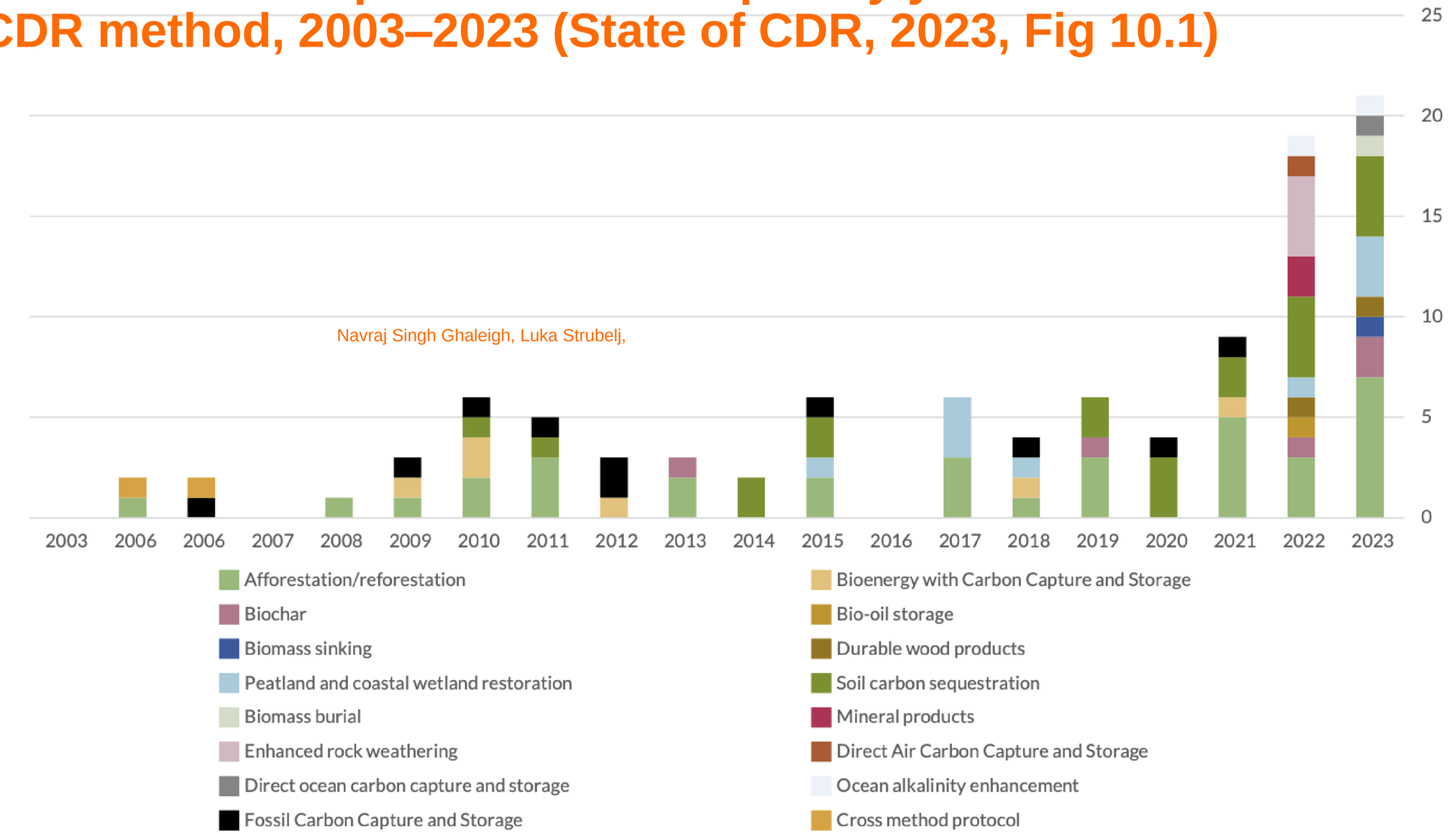
United States

- CDR developing faster than MRV with focus on innovation and rapid-scaling (more tech led than regulatory led in EU and UK)
- Public funding under Inflation Reduction Act and Bipartisan Infrastructure Law
- CDR Purchase Pilot did not outline requirements for e.g. permanence
- Several technology specific MRV efforst now underway
- $15 million funding call from Dept of Energy to develop MRV best practice and technologies

UK

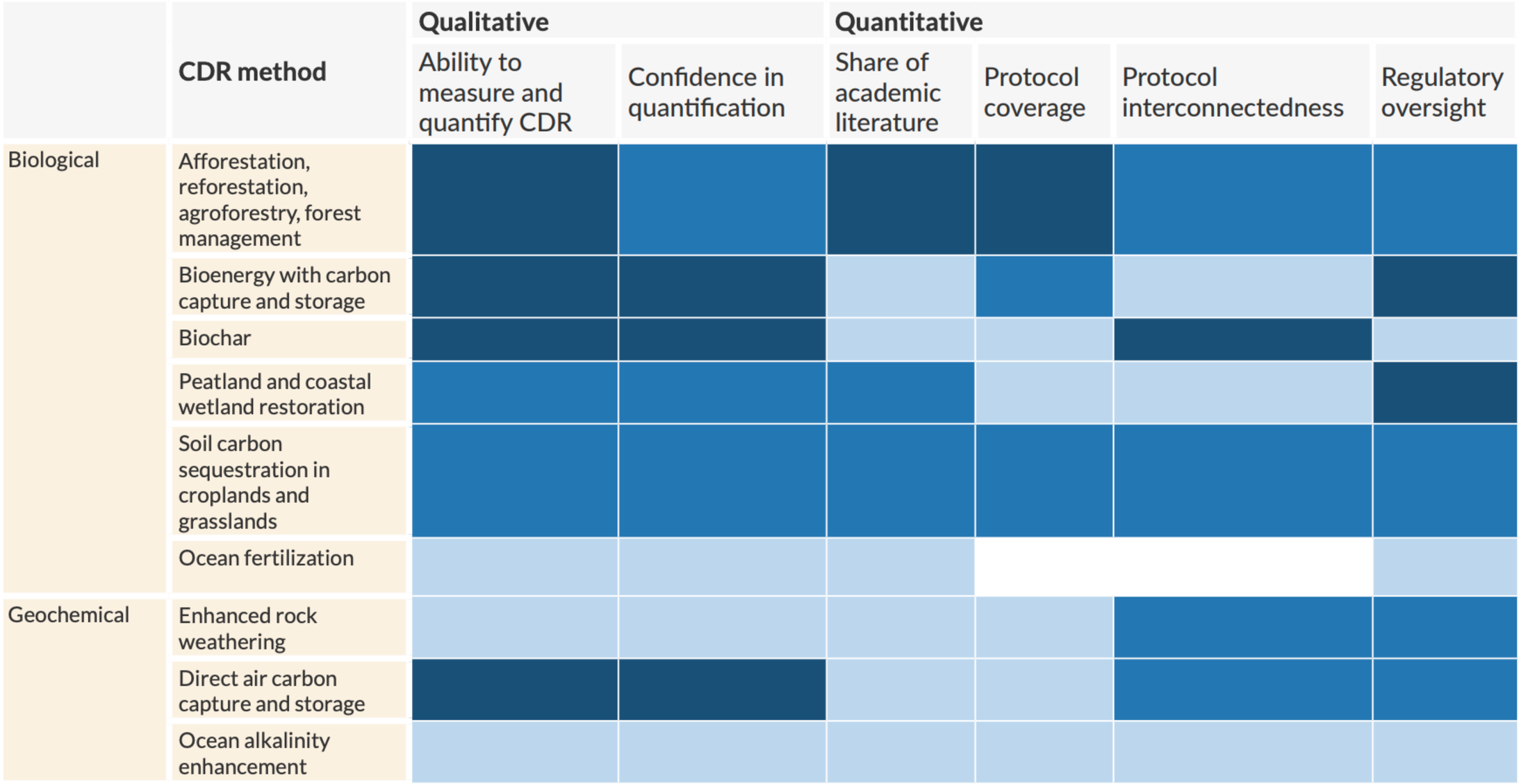
- Dec 23, consultation and outline on “Engineered removals” DESNZ
- Intention to define and establish own MVR methods (few existing methodologies deemed suitable to endorse!)
- Interim developing **set of quality threshold to be met by demonstrator project funded by government**
  - Funded BSI to develop minimum standards for DACCS and BECCS early next year.
- Creditation only if adhere to thresholds and verified by third parties

Number of MRV protocols developed by year and CDR method, 2003–2023 (State of CDR, 2023, Fig 10.1)



The comparative state of MRV for different CDR methods

State of CDR, 2023



	CDR method	Total	Voluntary	Regulatory	Internati
Biological	Afforestation, reforestation, agroforestry, forest management	34	22	12	12
	Bioenergy with carbon capture and storage	6	1	5	4
	Biochar	5	4	1	4
	Bio-oil storage	1	1	0	1
	Biomass sinking	1	1	0	1
	Durable wood products	2	1	1	1
	Peatland and coastal wetland restoration	9	8	1	5
	Soil carbon sequestration in croplands and grasslands	21	15	6	15
	Biomass burial	1	1	0	1
	Ocean fertilization	0	0	0	0
Geochemical	Mineral products	2	2	0	2
Chemical	Enhanced rock weathering	4	4	0	4
	Direct air carbon capture and storage	1	1	0	1
	Direct ocean carbon capture and storage	1	1	0	1
	Ocean alkalinity enhancement	2	2	0	2
Carbon capture and storage	Fossil carbon capture and storage	10	2	8	3
Cross method protocol	Multiple methods	2	0	2	2
	Totals	102	66	36	59

Table 10.2 *Overview of monitoring, reporting and verification protocol development and attributes, 2003–2023. Protocols in the "voluntary "regulatory" for use in a regulated compliance scheme or by a jurisdictional agency; "international" for projects in different geographies; and "d national jurisdiction. It is also indicated whether protocols cover avoidance and removal activities or removal activities only. A higher number time – which is one reason there are currently fewer protocols in existence for novel CDR methods than for conventional – but not necessarily*

MRV Protocol Development 2003-2023

Most associated with conventional CDR ie. biological forest management and soil management

Total 102:
Voluntary 66
Regulatory 36
International 59

State of CDR, 2023

State of CDR: some key messages

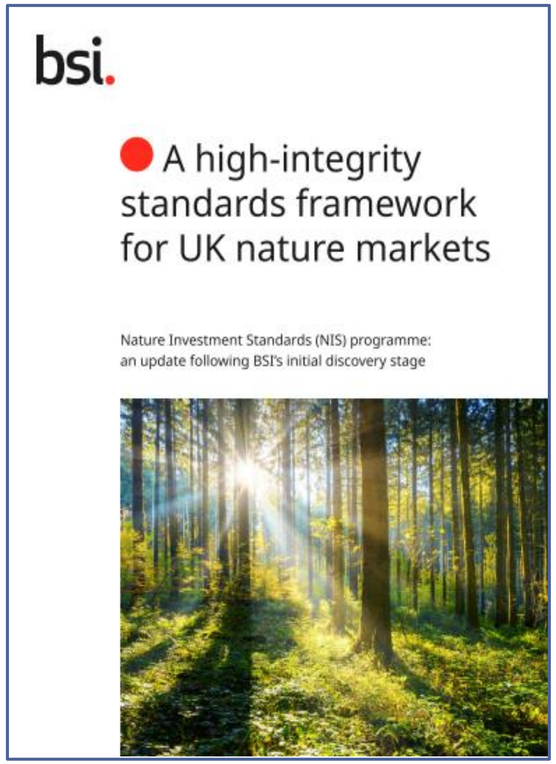
Novel CDR methods often propriatory and unavailable publicly

Many overlapping protocols makes oversight difficult

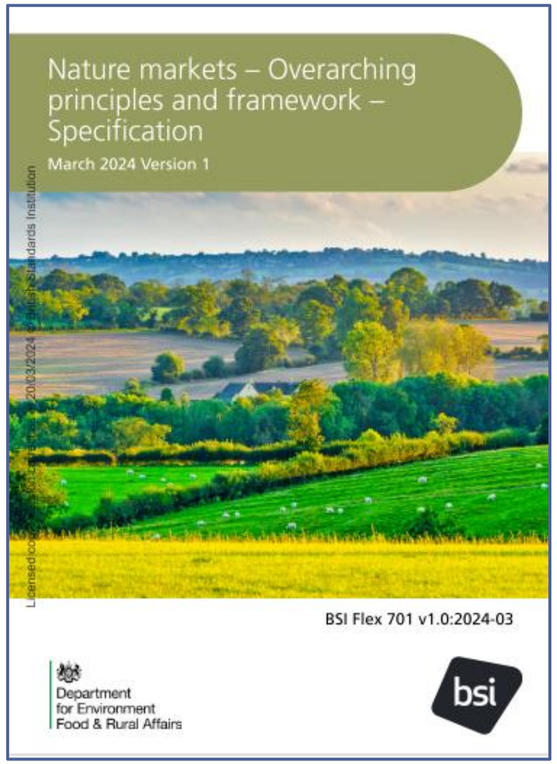
Common framework: risks and opportunities or uncertainties and errors propogating….opportunity of widespread reform

CDR Beyond Carbon

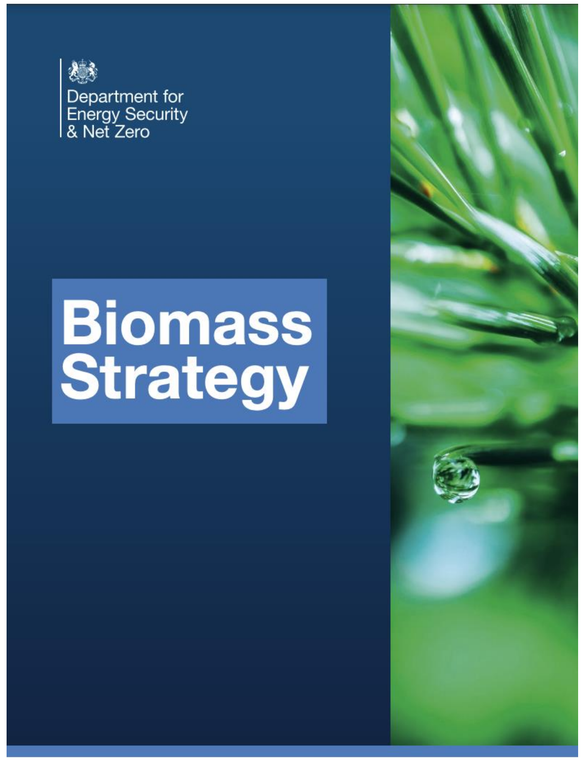
Standards Framework for a UK Nature Market



July 2023



March 2024



- Woodland carbon code
- Peatland carbon code
- DRAX sustainability criteria

Puro.earth

2
ZERO HUNGER

7
AFFORDABLE AND CLEAN ENERGY

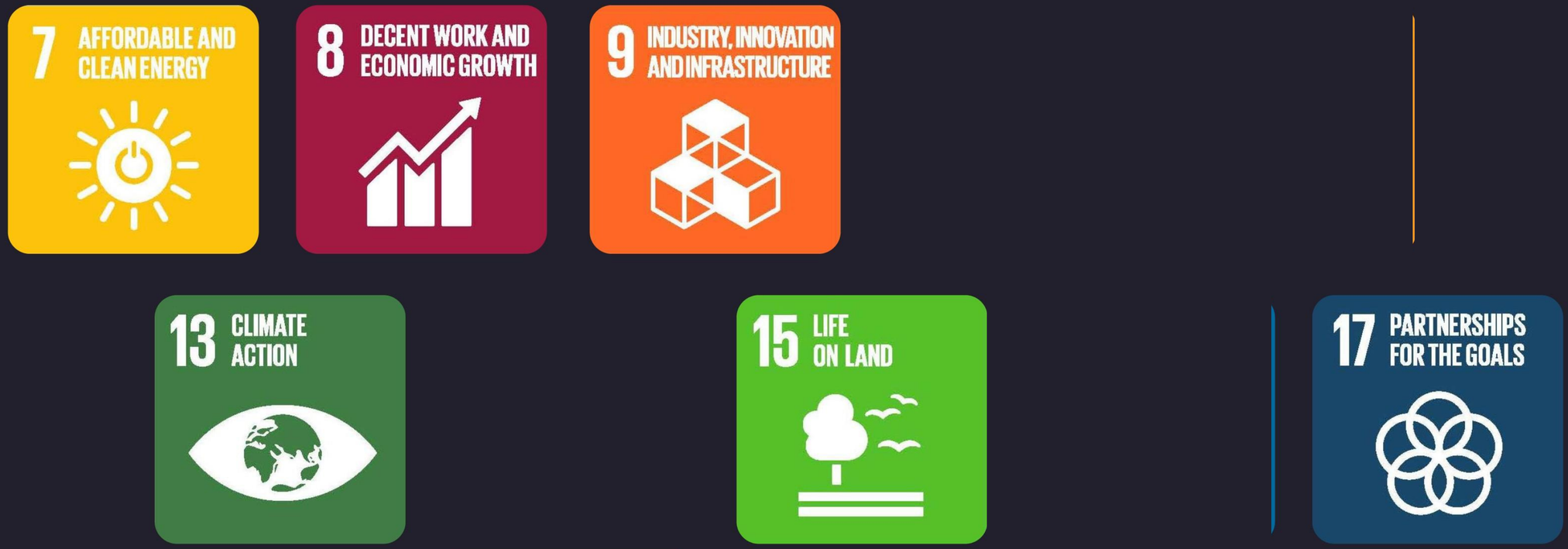
9
INDUSTRY, INNOVATION AND INFRASTRUCTURE

11
SUSTAINABLE CITIES AND COMMUNITIES

13
CLIMATE ACTION

17
PARTNERSHIPS FOR THE GOALS

DRAX


7 AFFORDABLE AND CLEAN ENERGY
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
13 CLIMATE ACTION
15 LIFE ON LAND
17 PARTNERSHIPS FOR THE GOALS

SomeTake Home messages

- Developing an overarching meta standard while supporting exploration at the grass roots
- Reward early adopters for transparency and data sharing and learn from what they share
- MRV beyond carbon - and across full life-cycle to meet multiple goals and opportunities requires coordination across regulatory and incentive frameworks.

Accuracy

Pragmatism

Rigorous, transparent credible for investors

Ease of use, capacity, cost

Not overly burdensome to producers

Consequential (indirect impacts across wider system)

Attributional (direct impacts only)

Harmonisation, comparability, fungibility, parity, level playing field across technologies + Interoperability of data/tools

Common but differentiated methods and uncertainties depending on technology, sector, producer, end user

“Gold Standard”
What does best look like?

Credible minimum standard
What is acceptable?

Is it possible to consider scaling issues with project-based approach? (e.g. limitations of land area, residue availability, other resources may incur higher externalities)

How to ensure frameworks are adaptive, updated, enable innovation?

At what level(s) of confidence can there be confidence in MRV?

Recommendations

- Consider full life-cycle LCA, including baselines, additionality, counterfactuals for carbon and beyond
- long-term monitoring
- Co-production and consultation to find balance between accuracy and pragmatism, equity and social justice/license
- A credible regulatory framework to address rapidly developing markets to ensure investor, producer and public confidence.
- Regulatory bodies with clear powers that can work across multiple CDR technologies and services from carbon to sustainability.

Recommendations

- Protocols and standards to be harmonised internationally, especially in the context of international carbon trading. = Fungibility of "biological" and "engineered" CDR principles (eg. full Life-cycle, including externalities), but not of everything (eg. permanence and uncertainties)

- Embed flexibility to avoid disincentivising action and stifling innovation while continuing to raise credibility/accuracy/equity and include new data, methods, technology, best practices (within and outside carbon markets) and agility with changing targets.

- Reward early adopters for transparency and data sharing

Don’t let the perfect be the enemy of the good

Thank you

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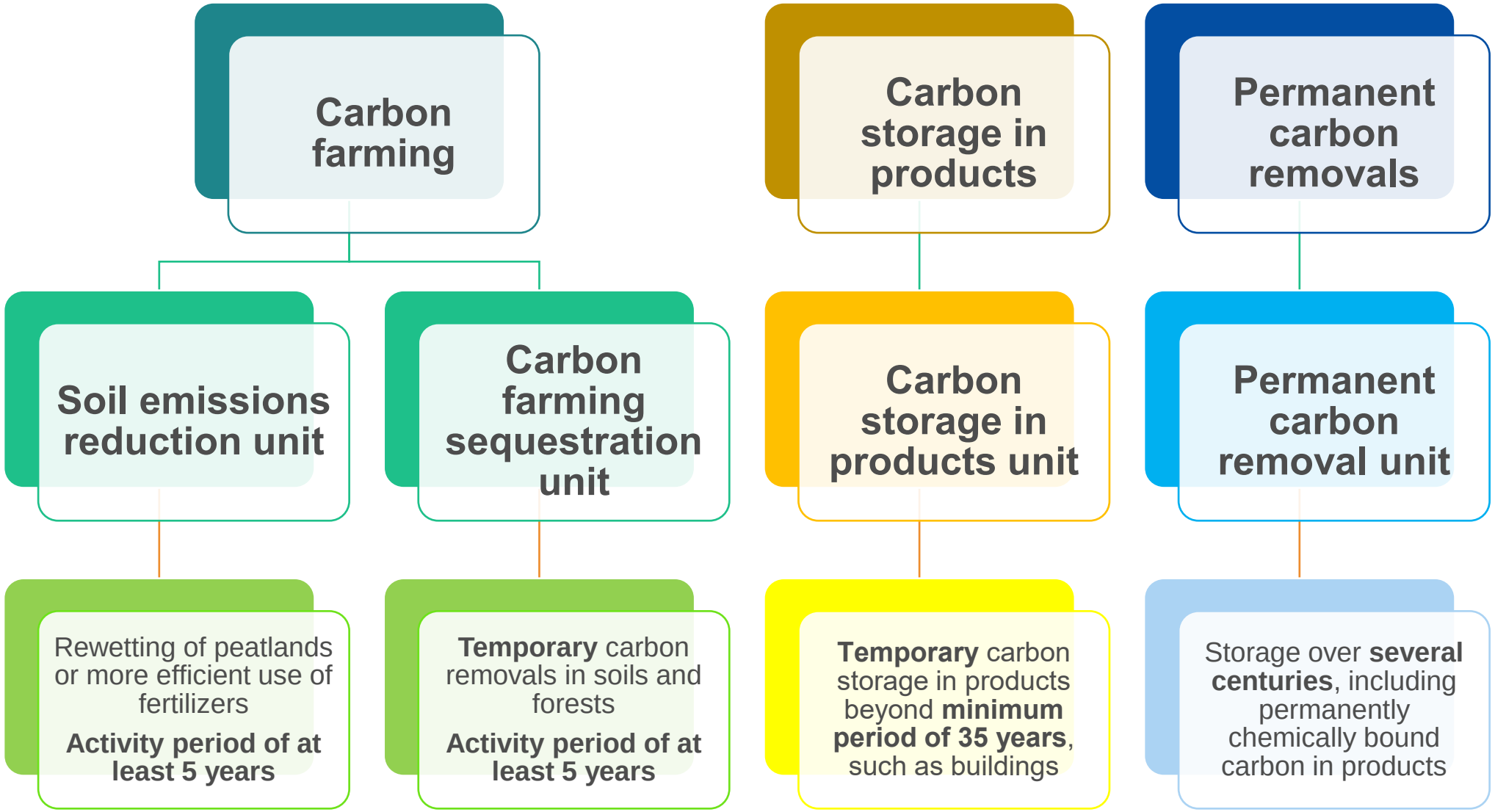
EU Certification Framework for Carbon removals

12 November 2024

Scope of certification

Article 1 and 2 CRCF Regulation



First draft methodologies presented

- BioCCS and DACCS
- Biochar

Approaches to explore in the future

- Mineralisation in products
- Enhanced Rock Weathering
- Ocean Alkalinity Enhancement
- Direct Ocean Capture

Carbon Farming

- Soil management and agroforestry
- Rewetting of peatlands
- Forestry

Carbon Storage in product

- Carbon storage in wooden buildings

European Commission

How does certification work?

CRCF Regulation

EU certification methodology

QUALITY criteria
- Quantification
- Additionality
- Liability
- **Sustainability**

Commission establishes certification methodologies in consultation with **expert group**

Certification process

Private and public certification schemes recognised by the Commission

Independent certification bodies to issue
- Audit reports
- Certificate of compliance
- **Group audits possible!**

Certification registries and Union-wide CRCF registry from 2028

Publicly accessible information on activities and operators
- Audit reports
- **Certificates of compliance**

Quantity and status of certified units
- Permanent carbon removals unit
- Carbon farming sequestration unit
- Soil emissions reduction unit
- Carbon storage in products unit

Role of CRCF Regulation in voluntary and regulated carbon markets

Corporate claims and sustainable finance

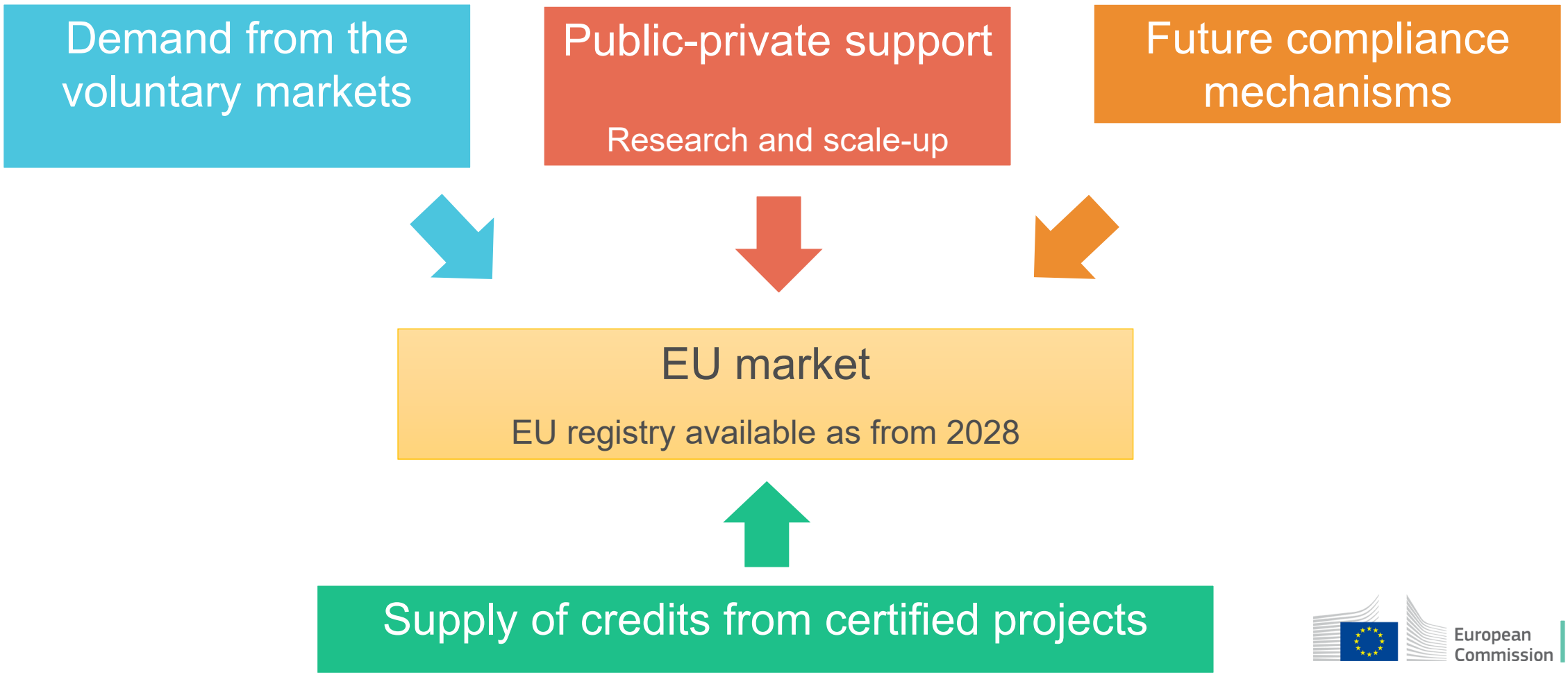
- **Corporate Sustainability Reporting Directive**
  - Sustainable Reporting Standards on Climate for non-financial reporting
- **Green Claims**
  - Commission proposal from March 2023 in co-decision

Post-2030 EU climate policy

- **EU ETS review in 2026**
  - Commission to assess the inclusion of permanent removals in EU ETS
- **Review of LULUCF and Effort-Sharing Regulation in 2026**

European Commission

Financing of permanent removals in the EU



European Commission

Financing Permanent Carbon Removals

Ongoing Horizon Europe call for negative emissions

- 15 million EUR available for DACCS and BECCS for CO2 removal/negative emissions

Workshop on EU funding for research and scale-up

- What are the funding options under EU programs – such as Horizon, Innovation Fund, LIFE and European Innovation Council?
- How to match public funding and private risk capital?
- January 2025 in Brussels (TBC)

Workshop on public-private purchasing program

- Blueprint for an EU purchasing program
- Testing the interest with public or private buyers
- Q2 2025 in Brussels (TBC)

European Commission

Next steps towards certification

December 2024	Publication of CRCF in Official Journal	CRCF Regulation (linguist lawyer version): CO_TA (europa.eu)
2025	Proposal of delegated acts on certification methodologies	Permanent removals Carbon farming Carbon storage in long-lasting buildings
	Proposal of implementing act on verification and registries	
2026	Start of certification	EC recognition of certification schemes
		First issuance of certified units
2028	Start of EU registry	

European Commission

Enhanced Rock Weathering - 2025

Review existing methodologies

Identification key issues for certification

Workshop on ERW quantification

European Commission

More information:

- DG CLIMA website on Carbon Removals and Carbon Farming
- CRCF Regulation (linguist lawyer version): CO_TA (europa.eu)
- FAQ: a8abe1c4-a3c6-4c94-be0e-4b76f7fd0308_en (europa.eu)
- EU carbon removals newsletter