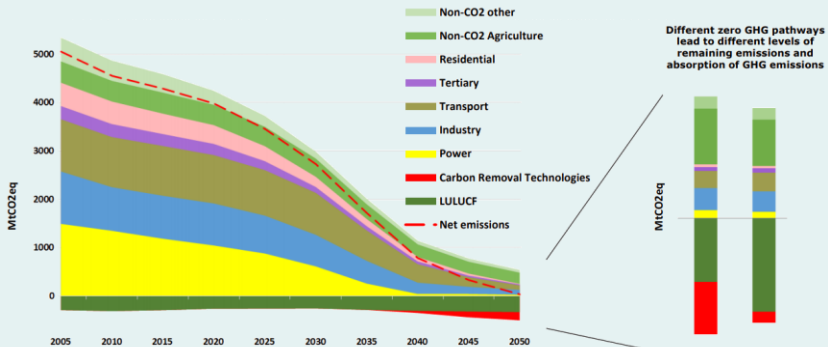


SUPPORTING THE EU COMMISSION WITH DEVELOPING A CARBON REMOVAL CERTIFICATION MECHANISM (CRC-M)

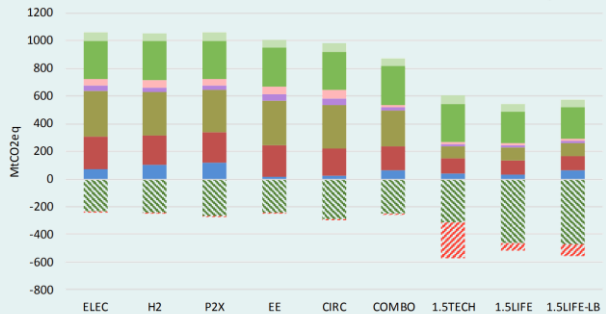
WEBINAR “CERTIFICATION OF CARBON REMOVALS:
THE FIRST STEP TOWARDS AN EU MARKET MECHANISM FOR NEGATIVE EMISSIONS“



BACKGROUND – NET-NEUTRALITY & GREEN DEAL



Different zero GHG pathways lead to different levels of remaining emissions and absorption of GHG emissions



Source: PRIMES-GAINS-GLOBIOM.

Source: Clean planet for all, 2018

Green Deal – CRC-M to close gaps

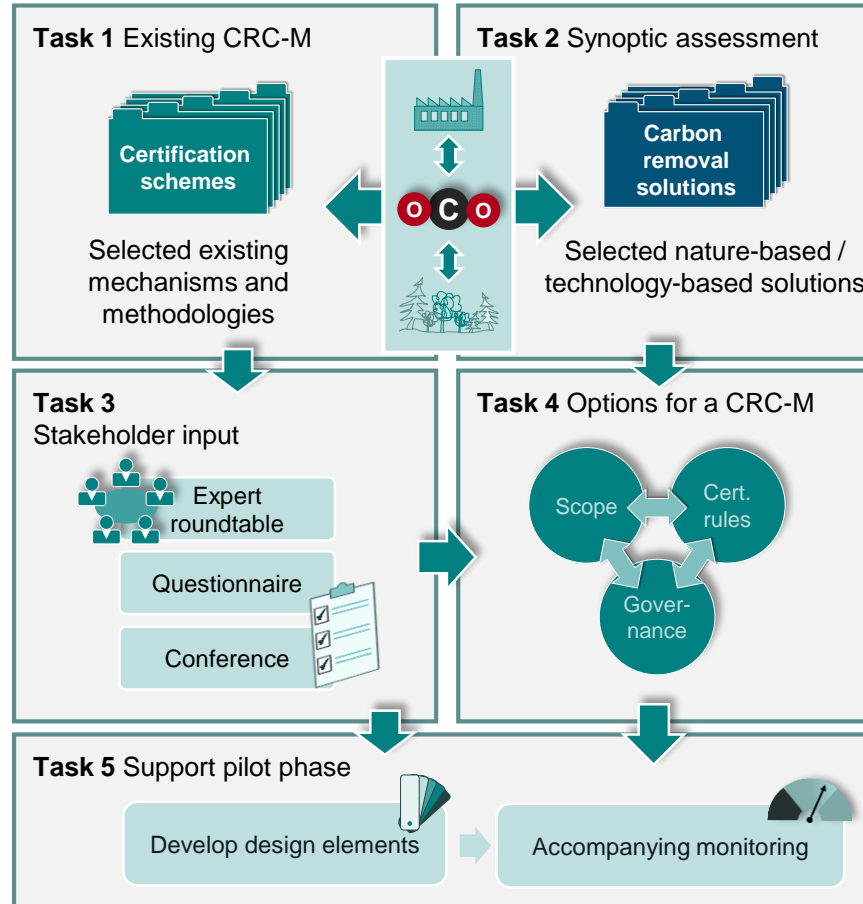
Circular Economy Action Plan

- “To incentivise the uptake of carbon removal and increased circularity of carbon, in full respect of the biodiversity objectives, the Commission will explore the development of a **regulatory framework for certification of carbon removals** based on robust and transparent carbon accounting to monitor and verify the authenticity of carbon removals.”

Farm-to-Fork Strategy

- “**farming practices that remove CO₂ from the atmosphere** contribute to the climate neutrality objective and **should be rewarded**, either via the common agricultural policy (CAP) or other public or private initiatives (carbon market).”
- “**Robust certification rules for carbon removals in agriculture and forestry** are the first step to enable payments to farmers and foresters for the carbon sequestration they provide.”

PROJECT STRUCTURE



TYPES OF CO₂ SOURCES AND STORAGE SPHERES

14 solutions

		CO ₂ source:		
		ATMOSPHERIC CARBON	BIOGENIC CARBON*	FOSSIL CARBON
CO ₂ storage sphere:				
GEOSPHERE	<ul style="list-style-type: none"> • Direct Air Capture and Carbon Storage** • Terrestrial Enhanced Weathering 	<ul style="list-style-type: none"> • Bio-Energy with Carbon Capture and Storage** 	<ul style="list-style-type: none"> • Carbon Capture and Storage* 	
BIOSPHERE	<ul style="list-style-type: none"> • Afforestation • Agro-forestry • Blue Carbon • Soil Carbon Management (Peatland Rewetting) • Sustainable Forest Management 	<ul style="list-style-type: none"> • Biochar 		
TECHNOSPHERE	<ul style="list-style-type: none"> • Direct Air Capture and Carbon Utilisation 	<ul style="list-style-type: none"> • Bio-Energy with Carbon Capture and Utilisation • Biomass in buildings 	<ul style="list-style-type: none"> • Carbon Capture and Utilisation 	

Note: * incl. Biogenic Waste-to-Energy **covers geological storage (in depleted oil & gas fields or saline aquifer) and in-situ carbon mineralisation

Nature-Based Solutions (NBS)

Technology-Based Solutions (TBS)

TASK 1 – EXISTING CRC MECHANISMS

What	A set of rules, requirements, and procedures to measure, verify, and reward carbon removals.
Aims	<ol style="list-style-type: none"> 1. Ensure consistent, high quality removals 2. Facilitate uptake and implementation



Certification mechanism consist of:	
Governance	<ul style="list-style-type: none"> Methodology approval Registries Transparency and conflict management
Scope, objective, eligibility	<ul style="list-style-type: none"> Solutions covered Eligible participants (type, geographic)
MRV: Measurement, monitoring, reporting and verification	<ul style="list-style-type: none"> Quantification methods Additionality (including baselines) Treatment of uncertainty Reporting and verification procedures ...
Sustainability requirements	<ul style="list-style-type: none"> +/- externalities (e.g. biodiversity, water) Leakage
Permanence	<ul style="list-style-type: none"> Managing impermanence risks
Incentives, market design	<ul style="list-style-type: none"> Form of reward Crediting period/timing
...	

TASK 2 – INDICATIVE RESULTS REMOVAL SOLUTIONS

Solution maturity:

NBS generally more mature than TBS, TBS cover large range of readiness levels

Removal potential:

Lack of estimates at EU level: globally, larger removal potential for NBS in the near future (especially afforestation), uncertain potential of TBS but potentially higher long-term removal potential

Costs:

Generally NBS < TBS now, although TBS costs expected to decrease with deployment at scale

Permanence / reversibility risk:

NBS have impermanence risk that must be managed (different potential solutions already exist), end-of-life of CCU applications influence removal duration, TBS permanence risks are likely lower

Practical challenges:

NBS: mainly land competition; TBS: energy/material/infrastructure (and land, in particular where biomass is involved) demand influencing feasible locations, legal & product regulation aspects, and public acceptance

Robust MRV:

Different coverage of carbon removal solutions in existing MRV rules at national (e.g. IPCC GL), installation/project-level (e.g. EU ETS, voluntary carbon market standards) and other guidelines (e.g. RED II). Existing MRV: NBS > TBS. Robust MRV: NBS < TBS

TASK 2 – INDICATIVE RESULTS REMOVAL SOLUTIONS

Co-benefits potential:	Mainly for NBS: water/soil quality, biodiversity. CCU/CCS can reuse existing infrastructure and CCU fosters carbon recycling
Negative externalities / leakage risks:	Risks of direct and indirect land use change, biodiversity loss for NBS, and land-related TBS; high energy demand for several TBS (e.g. DACCS, CCU), potential negative impact on ecosystems & human health (e.g. for TEW)
Time perspective and rate:	One-off vs. annual rate of removals; immediate removals vs. removals delivered over time
Actors involved and project scales:	Different actor profiles and project scales across/within solutions, from pilot scale installations to large-scale installations, thousands of landowners for NBS

No single solution stands out: all have their specific advantages, disadvantages and challenges

TASK 3 – STAKEHOLDER INPUT

Main aims:

- Communicate and validate the project (interim) results
- Give stakeholders the opportunity to express views and share experience on a potential CRC-M

Group discussions



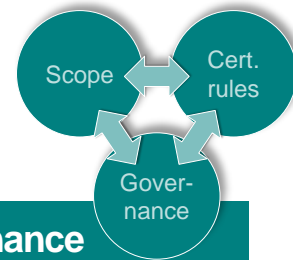
Survey/ Questionnaire



Conference (tentative)



TASK 4/5 – DEVELOP & ASSESS OPTIONS



Scope

- Under what design conditions could different solutions be accommodated?
- What are the implications of certifying short-retention CCU applications? Or fossil CO₂?
- What are the implications for EU climate policies/instruments (coherence)?
- ...?

Certification rules

- Can different mechanism designs accommodate variable levels of MRV / environmental integrity? What implications might arise for existing policies (e.g. national GHG inventories)?
- What are acceptable approaches to fostering permanence and managing liability for carbon reversals?
- What might be the admin costs/burden (project developers)?
- ...?

Governance

- How should a CRC-M be organised (regulating body, registry,...)?
- How should standards, procedures, methodologies etc. be managed?
- How can admin costs be minimised?
- How can a pilot phase help ramping up removals?
- How could a CRC-M evolve to integrate new needs and solutions for carbon removals?
- ...?

Develop options



Develop
assessment
criteria



Develop
assessment
methodology



Assess options

EXPECTED RESULTS

- Overview of existing carbon removal certification mechanisms and solutions as well as their main characteristics to inform designing a CRC-M
- Communication to and input from relevant experts and wider stakeholders
- Set of design options for an EU CRC-M, assessed for their advantages and disadvantages (environmental integrity, effectiveness, efficiency, coherence with existing climate policies,...)
- Results expected for Q1/2022

CONTACT & INFORMATION

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Certification of carbon removals: the first step towards an EU market mechanism for negative emissions
Webinar • 27.04.2021