



Sustainable Carbon Cycles

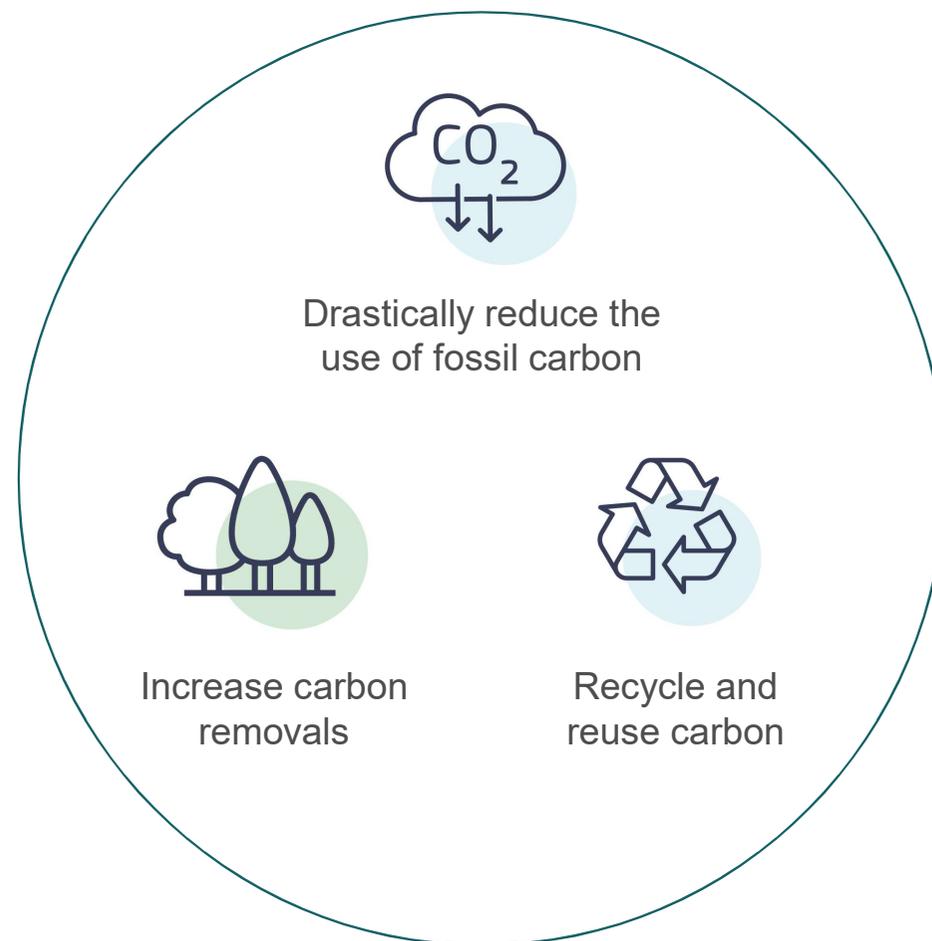
CDG on Environment and Climate Change - 08/04/2022

Sustainable carbon cycles

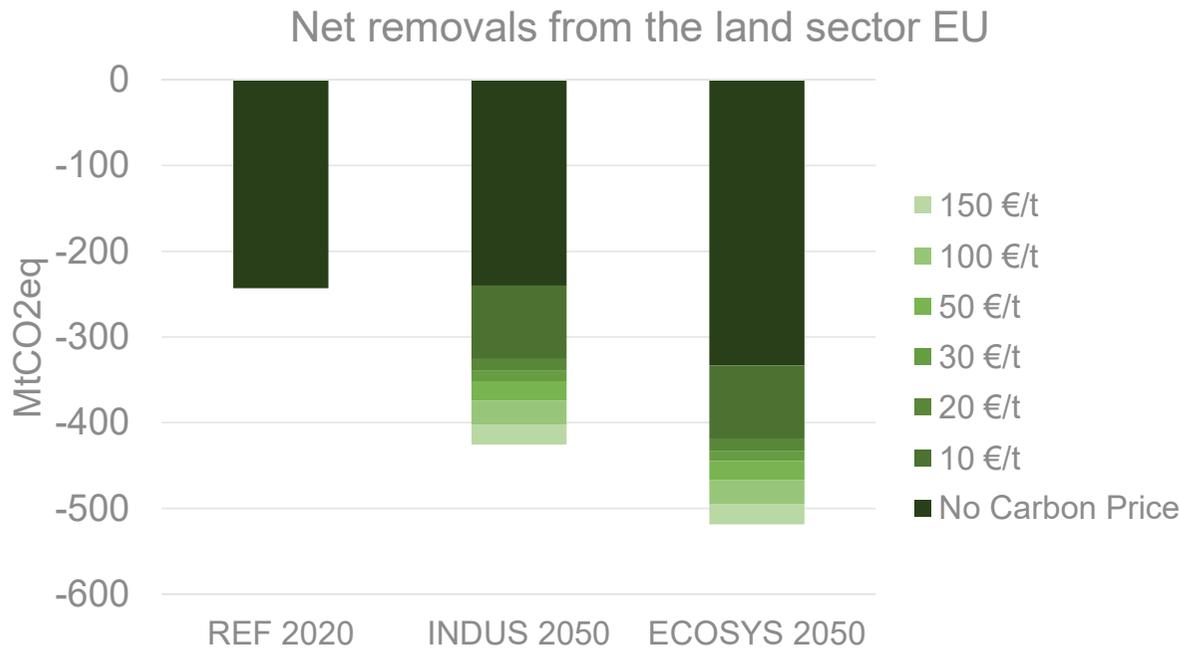
To achieve **climate neutrality** at the latest by 2050 and **negative emissions** thereafter, the EU needs to increase carbon removals and establish **sustainable carbon cycles**.

Dual opportunity for the **agricultural sector**:

- New business around carbon **sequestration** in soils and vegetation
- New value chains offering long-term carbon **storage** in bio-based products



Net removals from the land sector



Source: GLOBIOM and CAPRI modelling

Enhancing the EU natural sink (soil, biomass, wood products) is key to climate neutrality

In 2019, the EU **Land Use, Land Use Change and Forestry (LULUCF)** sector removed **249 MtCO₂eq**

By 2050, **carbon farming practices** have the potential to remove almost **200 additional MtCO₂**

ECOSYS scenario

Priority: enhancement of carbon removals through the restoration of ecosystems

Climate-friendly lifestyle, low-carbon diets that free land for the regeneration of natural ecosystems

INDUS scenario

Priority: large scale deployments of industrial solutions to capture, recycle and store CO₂.



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**COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN
PARLIAMENT AND THE COUNCIL**

Sustainable Carbon Cycles

{SWD(2021) 450 final} - {SWD(2021) 451 final}

Published 15 December 2021:

**Communication
Sustainable Carbon Cycles**

**Staff Working Document #1
Technical assessment for 2050
Climate Neutrality**

**Staff Working Document #2
Carbon Farming**

Carbon farming



A **green business model** rewarding land managers for improved land management practices, resulting in carbon sequestration in ecosystems and reducing the release of carbon to the atmosphere.

Benefits of carbon farming:



Increased carbon removals



Additional income for land managers



More biodiversity and nature



Increased climate resilience of farm and forest land

Carbon farming - examples



Afforestation and reforestation
according to ecological principles



Targeted conversion of **cropland to fallow**, or of set-aside areas to **permanent grassland**



Use of **conservation tillage, catch crops, cover crops** and increasing **landscape features**



Agroforestry
and other forms of mixed farming



Restoration, rewetting and conservation of **peatlands and wetlands**



Blue carbon: coastal wetlands, regenerative aquaculture, marine permaculture

Summary table

Mitigation action	Mitigation per land unit	Benefits over 10 years	Benefits over 50+ years	Emission Reduction / Enhanced Removal
Afforestation/ Reforestation	XXX	X	XXX	Removal
Forest Management	X	XX	XX	Removal
Agroforestry	X	X	XX	Reduction and Removal
Mineral soils under agriculture land	X	X(X)	X	Reduction and Removal
Organic soils including peatland	XXX	XXX	XX	Reduction and Removal

Upscaling carbon farming

Barriers to carbon farming initiatives:

Financial burden (cost of management practices, uncertainty about revenues)

Uncertainty or lack of public trust in the **reliability** of voluntary carbon markets

Concerns around **environmental integrity, additionality** or **permanence**

Unavailability, complexity or high costs of **monitoring, reporting and verification systems**

Insufficiently tailored **training and advisory services**



Technical Guidance Handbook:
“Setting up and implementing result-based
carbon farming mechanisms in the EU”
<https://europa.eu/!VW49yw>

CAP Plans are built on the objectives

Under the CAP Strategic Plans (2023-2027, Regulation 2021/2115), interventions are programmed by 10 Specific Objectives

Coming CAP (2023-2027)

- (a) to foster a smart, competitive, resilient and diversified agricultural sector ensuring long-term food security; 6.12.2021 EN Official Journal of the European Union L 435/27
- **(b) to support and strengthen environmental protection, including biodiversity, and climate action and to contribute to achieving the environmental and climate-related objectives of the Union, including its commitments under the Paris Agreement;**
- (c) to strengthen the socio-economic fabric of rural areas.



SO4: to contribute to **climate change** mitigation and adaptation, including by reducing greenhouse gas emissions and enhancing carbon sequestration, as well as to promote sustainable energy;

- *Minimum 25% of Direct Payments to be dedicated to eco-schemes*
- *Minimum 35% of the EAFRD should be dedicated to environmental and climate objectives*
- *Reinforced links with key pieces of legislation related to climate goals*
- *Impact and Result indicator (e.g. R.14 Share of agricultural area that receives support to reduce emissions or store carbon in soils and biomass)*

Other: R.17 Afforested land, R.19 Improving and protecting soils. R.34 Preserving landscape features.

Reg. 2115/2021 – art. 5

Upscaling carbon farming

Public funding opportunities :

Common Agricultural Policy

- Good Agricultural and Environmental Conditions obligations (Basic conditionality for Direct Payments):
 - preserving carbon stock (GAEC 1 - Maintenance of permanent grassland)
 - protection of carbon-rich soils (GAEC 2 - Protection of wetland and peatland)
 - maintenance of soil organic matter (GAEC 3 - Ban on burning arable stubble)
 - others
- Support to carbon farming practices through eco-schemes or rural development measures (e.g. Commission [list of potential agricultural practices](#))
 - larger flexibility in designing their support schemes
- EIP-AGRI and new Agricultural Knowledge Information System, supports cooperation and testing of new approaches
- Advisory services, knowledge exchange, training, collective and cooperation approaches and innovation actions,
- Limitations: land eligible to CAP, timeframe, administrative burdens for a robust MRV for carbon cre

Upscaling carbon farming

Public funding opportunities:

LIFE Programme

- Pilot projects (e.g. three new projects on better monitoring tools)

Cohesion Policy

- Investments into e.g. restoration and conservation of peatland (also Just Transition Fund)
- Cooperation across regions (INTERREG)

State Aid

- Aid for agri-environmental-climate commitments, investments, advisory services, R&D, cooperation
- Result-based carbon farming schemes, incentive payments for forest ecosystem services

Carbon farming

Challenges

By 2028:

- Access to verified emission and removal data for all land managers

By 2030:

- Contribute to reaching LULUCF target of 310 Mt CO₂eq net removals



Next step:

A regulatory framework for the certification of carbon removals

Call for Evidence* (Q1 2022)

Conference (31 January 2022)

Legislative proposal (Q4 2022)

Set **robust requirements** for transparent measurement, monitoring, reporting and verification of the carbon removed from the atmosphere

Ensure a high level of **environmental integrity** and biodiversity protection

Enhance the **uptake** of market-based carbon removal solutions, give prospects to carbon farming and industrial projects that **invest** in carbon removals

Establish an effective **governance framework** for effective, cost-efficient and transparent implementation

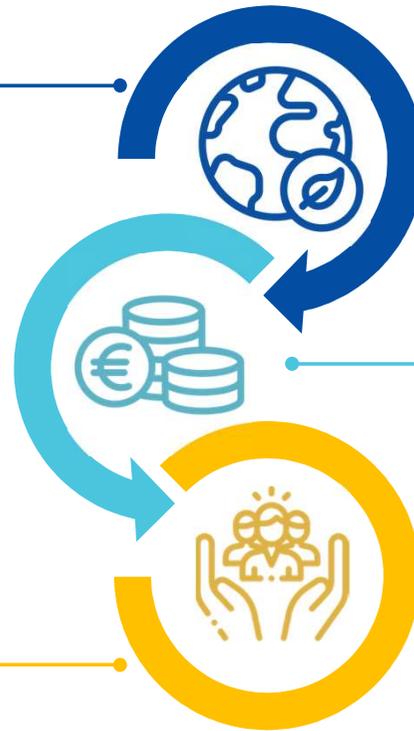
Involve **stakeholders** (Call for evidence, conference, expert group)

* Inception Impact Assessment open for feedback; Open Public Consultation until 2nd May.

Certification of Carbon Removals

Scope

- Source of CO2
- Type of storage
- Maturity, scalability
- Impact on existing policies?



Governance

- Common rules across EU
- Which role for EU? Member States? Private actors?
- Limiting administrative burden
- Step wise approach

Certification and MRV

- Boundaries of the system, robustness
- Permanence, liability
- Additionality, link with inventories
- Differentiation
- Social and environmental safeguards and cobenefits

Links

- Call for Evidence on Carbon Removal Certification [Certification of carbon removals – EU rules \(europa.eu\)](#)
- Watch the recording of the Conference on Sustainable Carbon Cycles, 31 January 2021 [Sustainable Carbon Cycles Conference - About \(b2match.io\)](#)
- Our [webpage](#) and our [press release](#) on the Sustainable Carbon Cycles communication
- Our webpage on [Carbon Farming \(europa.eu\)](#)
- Commission list of potential eco-schemes <https://europa.eu/!yb74nC>
- Study on Carbon Farming: <https://data.europa.eu/doi/10.2834/594818>
- Study on Wood in construction: <https://dx.doi.org/10.2834/421958>
- Legislative proposal on a new Regulation for Land use, forestry, and agriculture [Delivering the European Green Deal | Climate Action \(europa.eu\)](#)

Thank you



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Slide “Sustainable bioeconomy – examples”: picture BECCS, source: <https://www.stockholmexergi.se>; picture timber in construction, source: <https://www.build-in-wood.eu> ; picture fiber crops, source: <http://news.europeanflax.com/>

