

CARBON CYCLES

Shapping a win-win business model for both farmers and the planet

October 21, 2022





No doubt we urgently need to move forward and trigger climate action.



Now

Build a model that will allow us to achieve the ambitious objectives of Europe.

2030

A reduction in total net emissions of -55% compared to 1990 levels. A rate of nearly -140 Mt CO₂ eq/year.

2035

Climate neutrality for the Land Use, Forestry and Agriculture sector

Today the agricultural sector emits 424 Mt CO₂ eq/year, while the land use sector compensates for only half of its emissions (net LULUCF balance: -226 Mt CO₂ eq). Achieving a neutral balance in the next ten years is a major challenge.

2050

EU climate neutrality

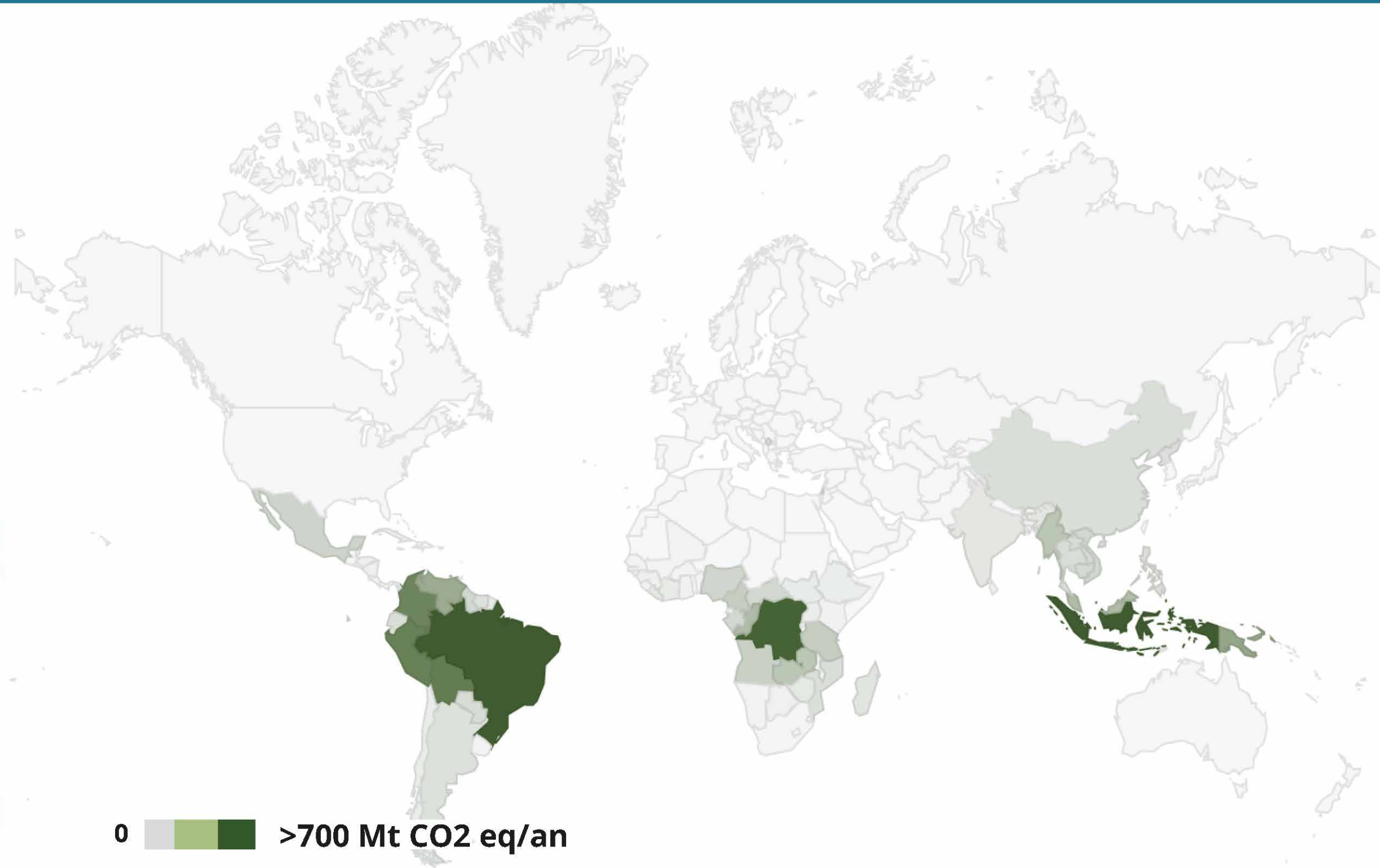
A rate of nearly -110 Mt CO₂ eq/year between 2030 and 2050.

**WE NEED
A BUSINESS PLAN
TO GET THERE**

WHILE KEEPING FOOD PRODUCTION IN EUROPE AND FIGHT DEFORESTATION

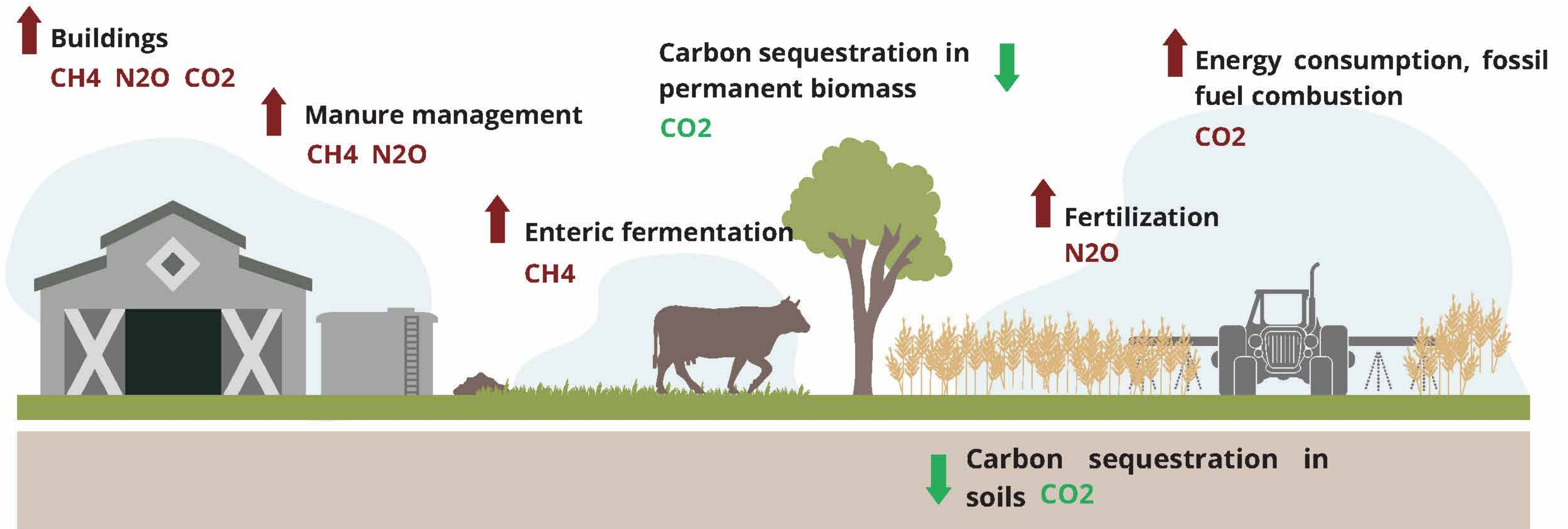


FORÊT TROPICALE
(stocks t C/ha)



The EU provides a land-based mitigation potential of **0.52 Gt CO₂eq/year**, which is less than 4% of the total global mitigation potential. By comparison, Brazil alone represents three times the European mitigation potential (1.6 Gt CO₂eq/year), a potential mainly covered by mitigation linked to the reduction of deforestation in the country. Worldwide, **15 countries account for 62% of the total global mitigation potential**. Most of these countries have, however, low feasibility potential (due to low levels of development).

A UNIQUE & HIGHLY DIVERSE CARBON CYCLE WITH EMISSION & SEQUESTRATION INTERCONNECTED



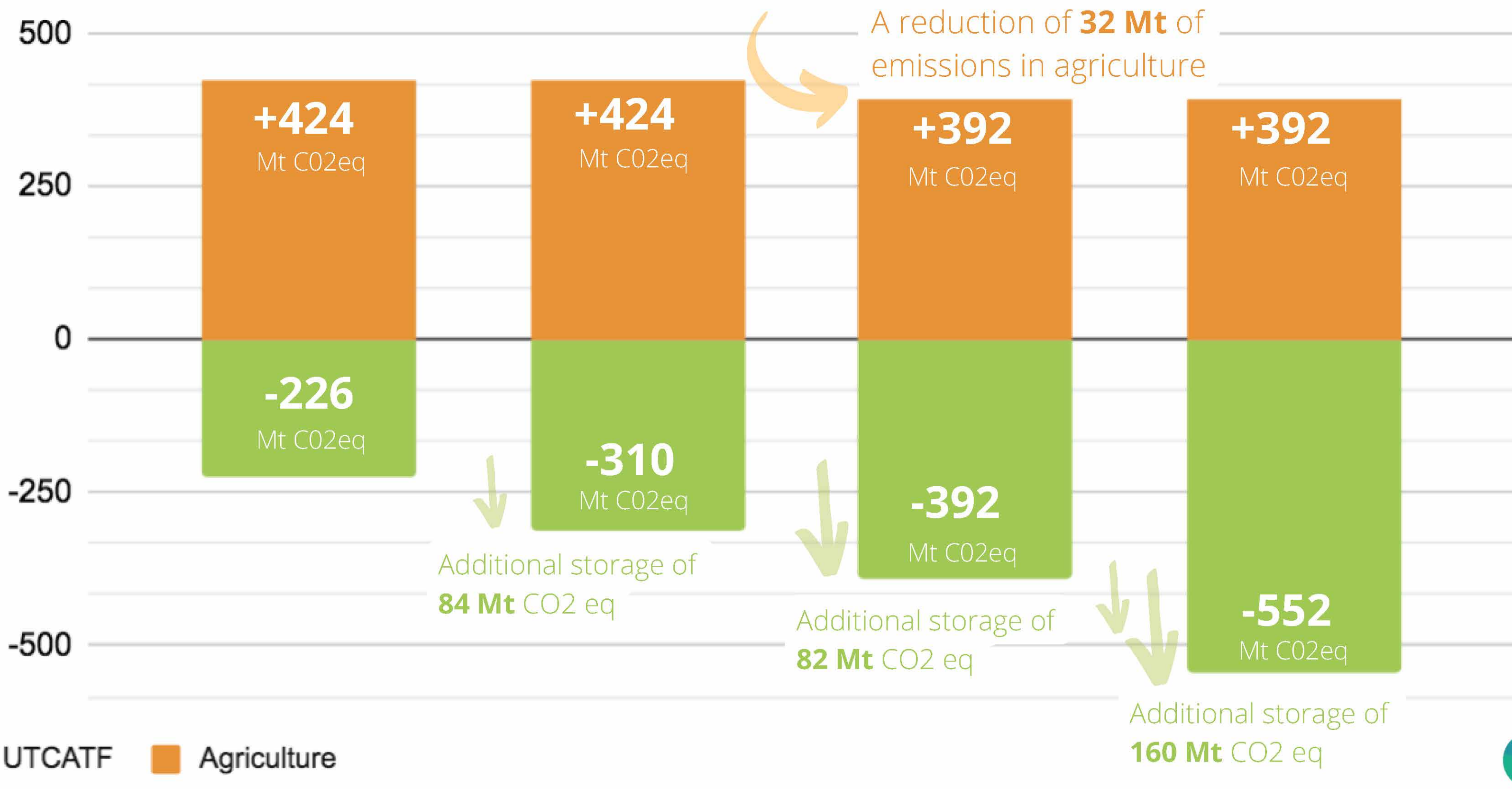
Agriculture contributes to the emission of 3 greenhouse gases:
1) nitrous oxide N_2O , 2) methane CH_4 and 3) carbon dioxide CO_2 .

Now

2030 target

2035 target

2050 Potential



Net Balance

UTCATF Mt CO2eq

198

114

0

-160

The European Union needs a strategy to support the implementation and deployment of carbon reduction and storage solutions to meet its climate ambitions.

A system of incentives that would reward land managers, especially farmers, for mitigating emissions through the adoption of **Carbon Farming** practices is being developed.

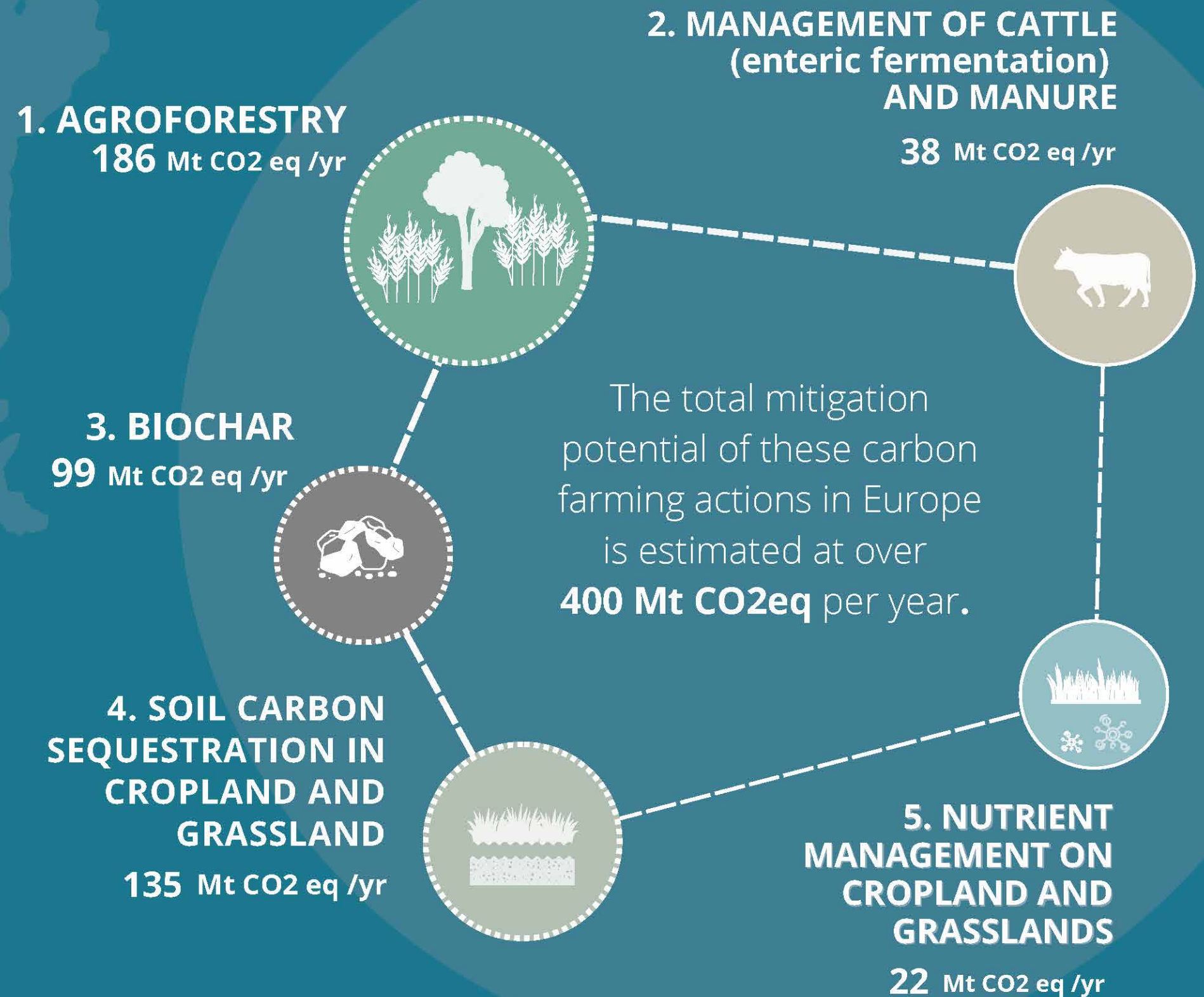
Carbon farming" includes agricultural practices that allow:

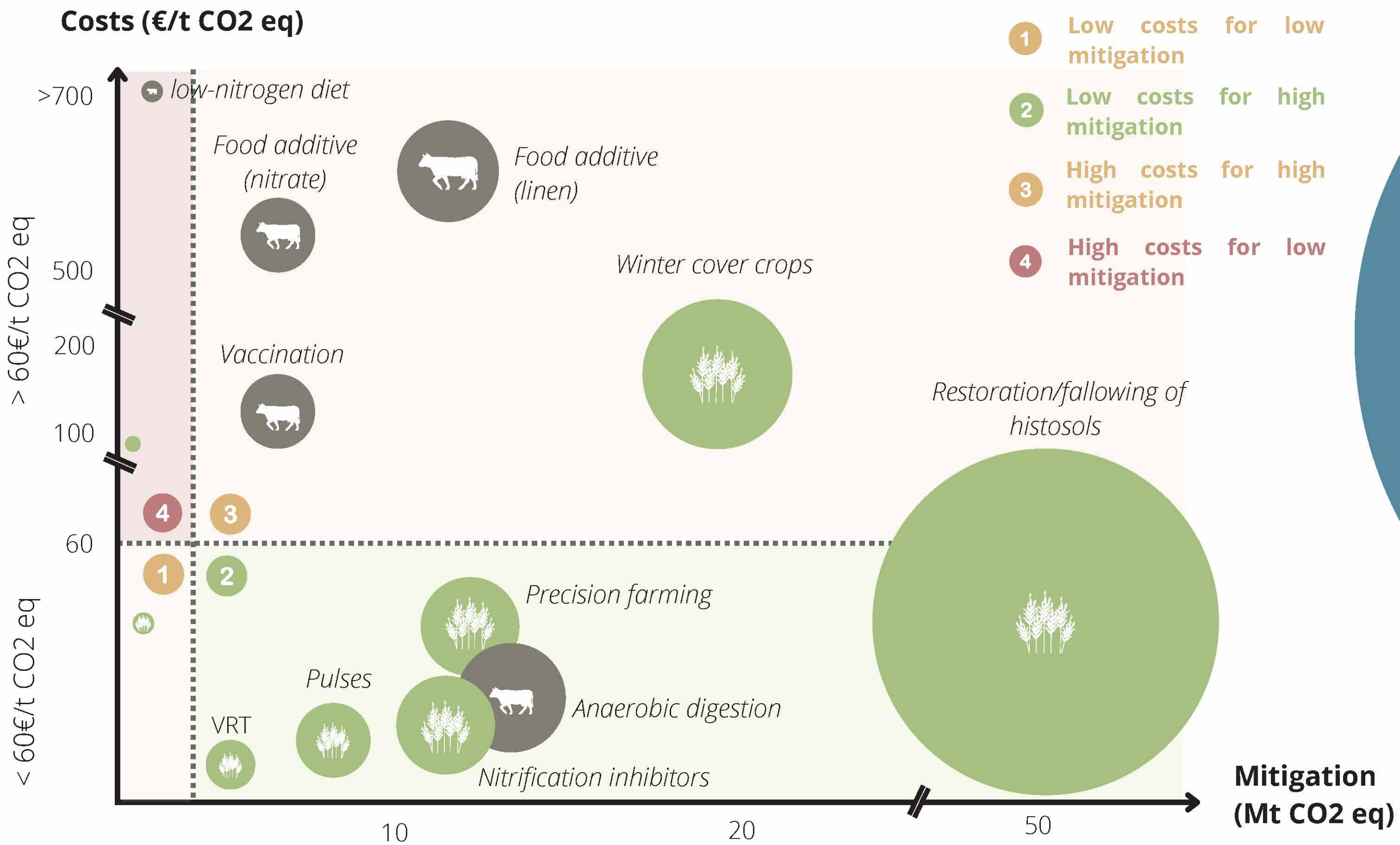
1. **Carbon removal/sequestration** (carbon capture and storage in soil and biomass);
2. **To avoid** future emissions of CO₂ and other GHGs (prevention of loss of already stored carbon);
3. **To reduce** existing CO₂ and other GHG emissions.

 Carbon sequestration actions

 Emissions Reduction Actions

TECHNICAL MITIGATION POTENTIAL :



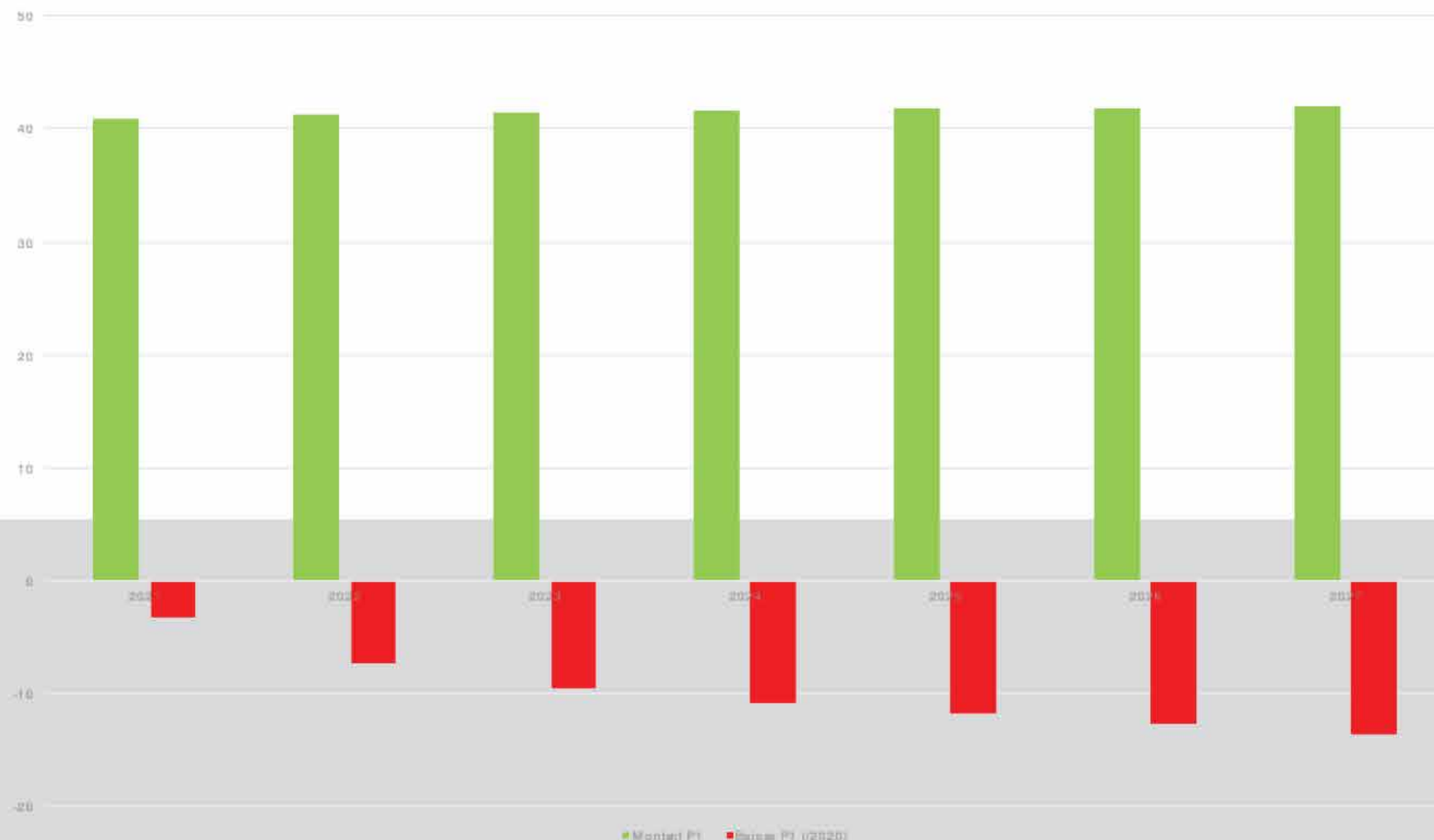


Only a part of the technical potential for mitigating emissions is really likely to be realized, taking into account the costs, and other socio-economic obstacles that follow the implementation of these actions.

Individual costs of technological mitigation measures for the agricultural sector in the EU. Source: JRC "Economic evaluation of GHG mitigation policy options for EU agriculture" - 2020.

NEW FINANCIAL RESSOURCES NEEDED TO INVEST IN THE TRANSITION

Impact of inflation on the economic value of direct aid 2021-2027



€ **85 billion**

missing to
maintain the
value of CAP

-32%

MULTIPLE SOURCES OF FUNDING

Neither the private sector nor the public authorities alone can afford to finance all the carbon farming actions needed to achieve the EU's climate goals.

It is necessary to allow multi-funding for the low-carbon transition of farms. The complementarity of private and public funding is an important lever to mobilize.

PUBLIC FUNDING

CAP - payments for land management practices

Inexpensive to administer.
Few MRV requirements.
Low risk for farmers.

PRIVATE FUNDING

Sector bonuses -

Agri-food companies pay farmers in their supply chain (to obtain price bonuses, for marketing reasons, to achieve climate goals, etc...)

Voluntary carbon market -

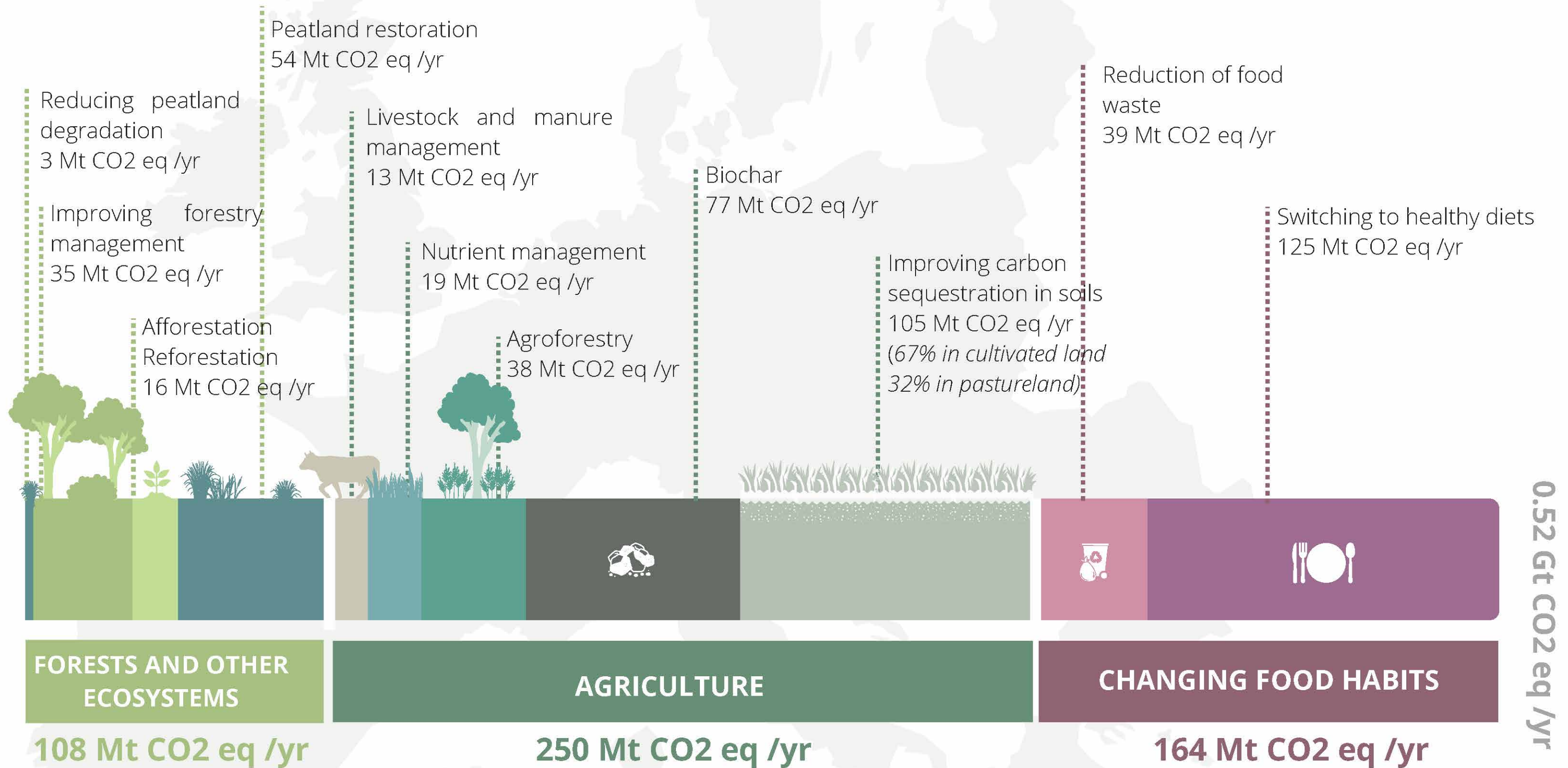
Exchange-based

Farmers trade offset credits with buyers.
Price is determined by the market and increases uncertainty.

Intermediated

A central intermediary pays farmers, they guarantee a fixed price and reduce the completeness of farmers' participation.

MULTIPLE SOURCES OF FUNDING



Cost-effective economic mitigation potential by EU terrestrial policy area. Source: Roé & al. Terrestrial measures to mitigate climate change: Potential and feasibility by country - 2021.

KEY PRINCIPLES FOR A CONSISTENT APPROACH OF CARBON CYCLES

FOOD SECURITY & LEAKAGE EFFECTS

Climate change has no borders. If carbon mitigation measures in Europe lead to an increase in emissions in the rest of the world, the real impact of Europe's climate actions will not be perceived.

REDUCTION AND STORAGE

Assessing only carbon sequestration resulting from Carbon Farming actions can lead to serious calculation errors. A results-based model that is robust at the climate and environmental levels must not separate reduction from sequestration.

NO DOUBLE COUNTING

Carbon mitigation is additional if each carbon unit generated is counted only once.

ADDITIONALITY

Only mitigation by carbon agriculture that goes beyond the legislative status quo will have a robust impact on the climate.

IMPERMANENCE

Some changes, whether intentional or not, can lead to risks of inversions and losses of captured carbon.

IMPACTS AND CO-BENEFITS

Carbon agriculture programs must be able to support the full social, environmental and socio-economic objectives of the European Green Deal.

NOW

1ST POLITICAL PHASE:

Create good conditions and facilitate the initiation of a climate-robust Carbon Farming

Allow Reduction AND sequestration

Allow Multiple source of fundings

Allow Impermanence

Allow simple and administratively light methodologies

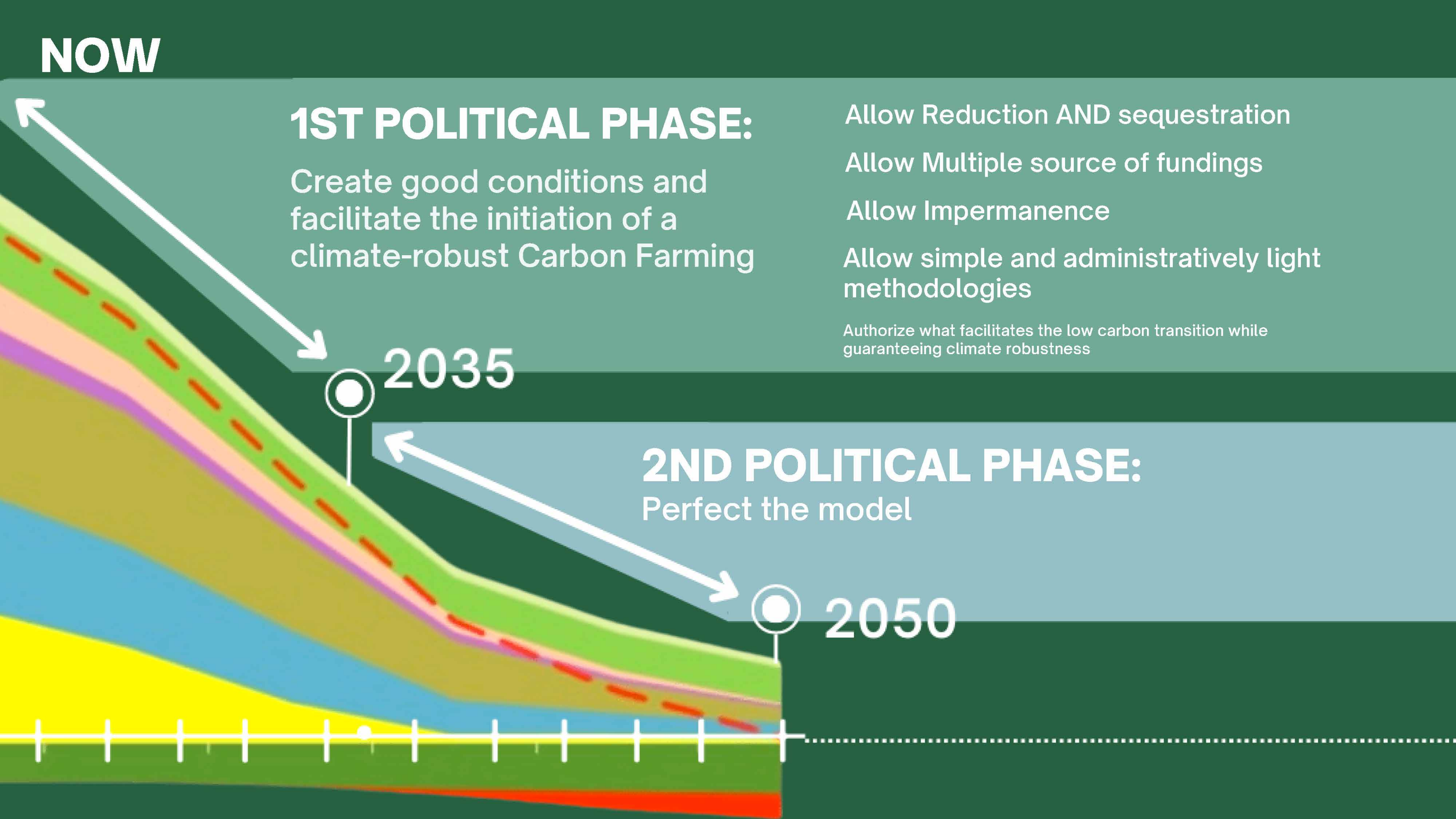
Authorize what facilitates the low carbon transition while guaranteeing climate robustness

2035

2ND POLITICAL PHASE:

Perfect the model

2050



THE EUROPEAN MODEL MUST BE ATTRACTIVE TO CREATE A GLOBAL DYNAMIC

FOOD HABITS - 1.8 Gt CO₂ eq/yr

(of which EU 6%)

Healthy diets - 1.4 Gt CO₂ eq /yr

Reduction of food waste - 0.4 Gt CO₂eq /yr

AGRICULTURE - 5.3 Gt CO₂ eq/yr

(of which EU 5%)

Improvement of COS pastures -
0.9 Gt CO₂ eq /yr

Improvement of COS cropland -
0.9 Gt CO₂ eq /yr

Biochar - 1.8 Gt CO₂ eq /yr

Agroforestry - 1.1 Gt CO₂ eq /yr

Nutrient management - 0.2 Gt CO₂ eq /yr

Livestock and manure management - 0.2 Gt CO₂ eq /yr

FORESTS AND OTHER ECOSYSTEMS - 6.6 Gt CO₂eq/yr

(of which EU 2,5%)

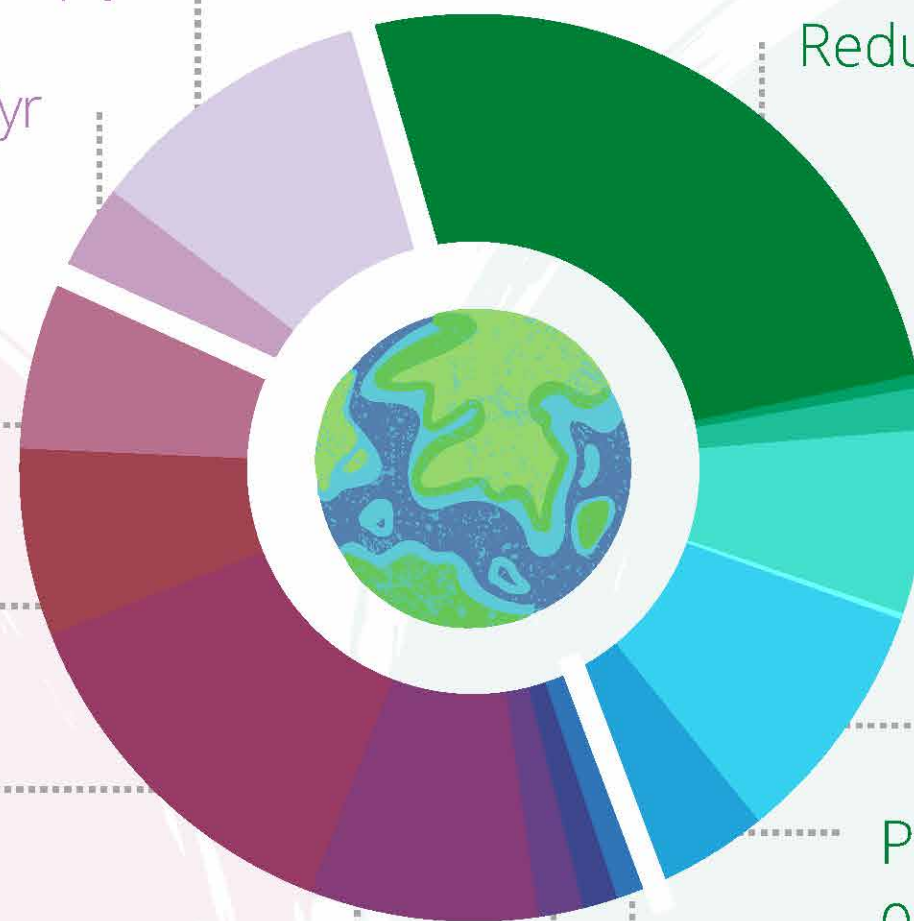
Reduce deforestation - 3,5 Gt CO₂ eq /an

Reduce peatland degradation -
0.2 Gt CO₂ eq /yr

Improving forest management -
0.9 Gt CO₂ eq /yr

Afforestation and reforestation -
1.2 Gt CO₂ eq /yr

Peatland restoration -
0.6 Gt CO₂ eq /yr



An aerial photograph of a rural landscape. In the foreground, there are fields with rows of olive trees and some bare soil. The middle ground shows a valley with scattered buildings and more vegetation. In the background, a range of mountains stretches across the horizon under a clear blue sky. A large, semi-transparent teal rectangle is overlaid in the center of the image, containing the text 'THANK YOU' in white, bold, sans-serif capital letters.

THANK YOU