



Soil carbon accumulation and climate neutrality

How to achieve climate neutrality?

Reduce

- ✓ Plan a trajectory to reduce emissions
- ✓ Set targets consistent with a 1.5°C mitigation pathway
- ✓ Implement reductions

Compensate

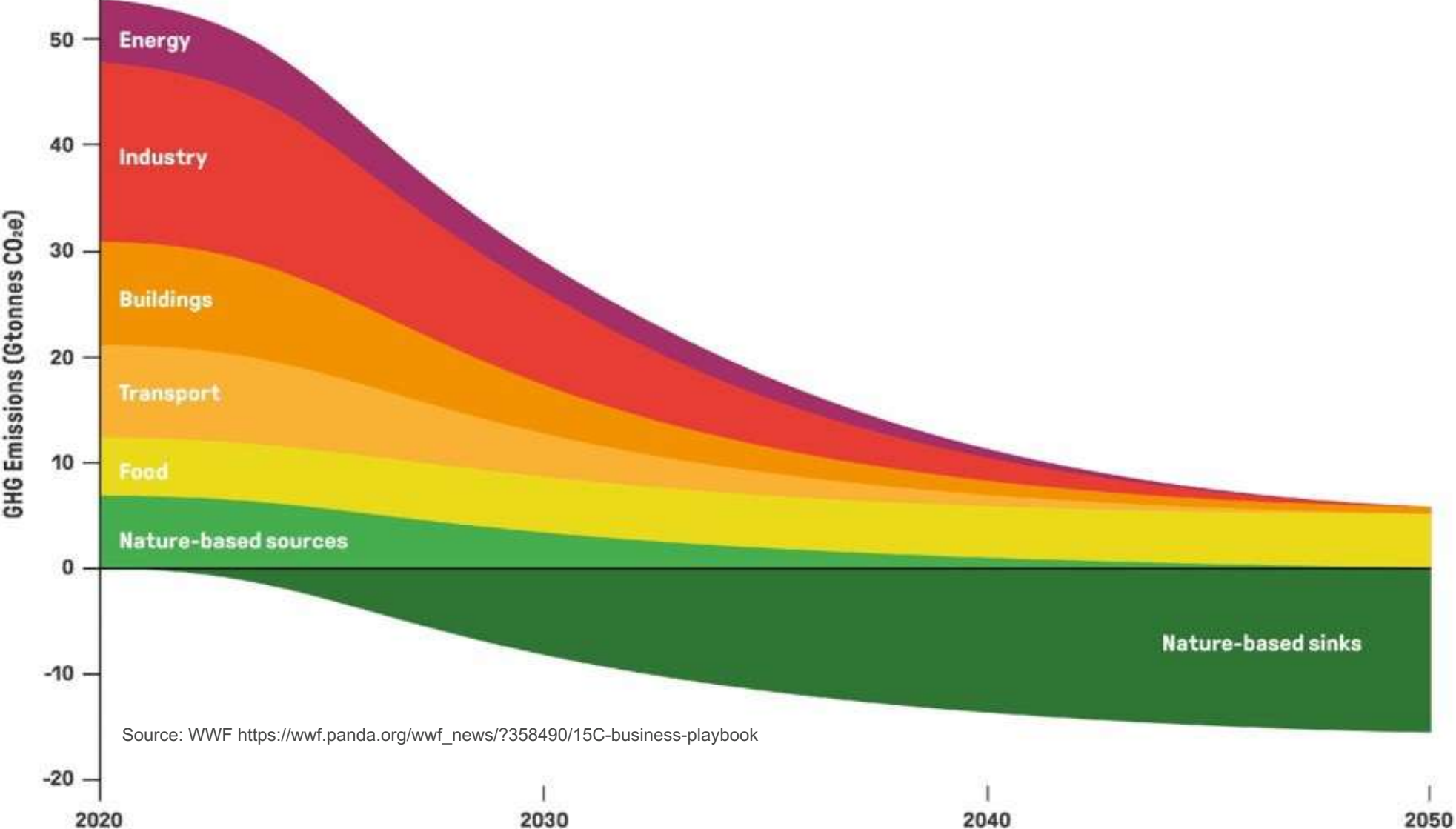
For the unavoidable emissions, become climate neutral by **financing projects** that avoid and remove emissions

Neutralize

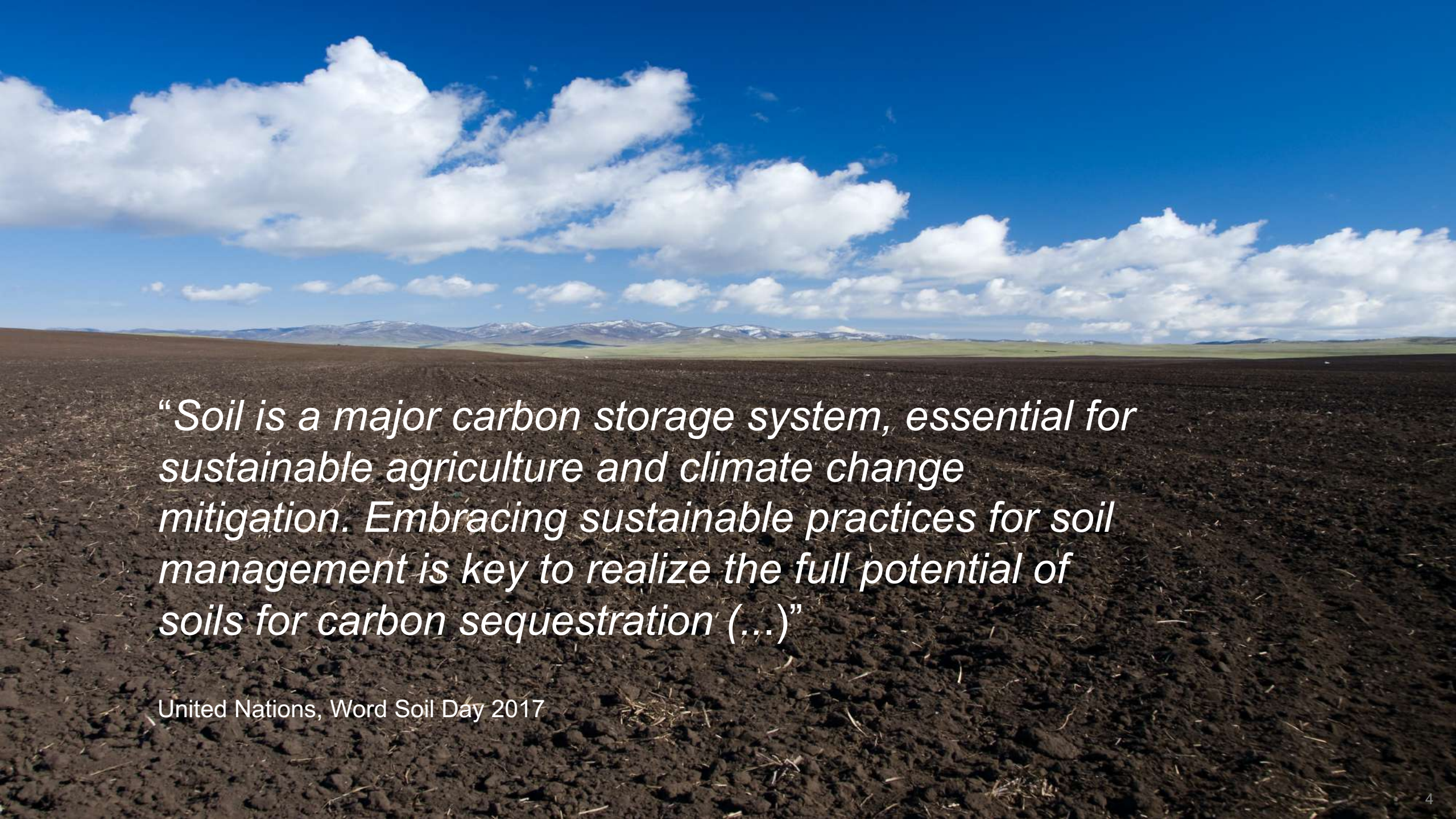
Eradicate unavoidable residual emissions with carbon removals to achieve net zero



Neutralization via nature-based sinks has been identified as key to reach net-zero by 2050



Source: WWF https://www.panda.org/wwf_news/?358490/15C-business-playbook



“Soil is a major carbon storage system, essential for sustainable agriculture and climate change mitigation. Embracing sustainable practices for soil management is key to realize the full potential of soils for carbon sequestration (...).”

United Nations, World Soil Day 2017

REDII methodology recognizes the impact of agricultural management and accounts for **soil carbon accumulation** (e_{sca}) as GHG savings

$$E = e_{ec} + e_l + e_p + e_{td} + e_u - e_{sca} - e_{ccs} - e_{ccr}$$

Emissions savings from **soil carbon accumulation** via improved agricultural management



Shift to reduced or zero tillage



Improved crop rotations cover crops, crop residues management



Improved fertilizer or manure management



Use of soil improver

Waiting for the final EU Implementing Act

Controversial points:

- e_{sca} as actual value
- IPCC approach not allowed
- Field measurements required
- Soil carbon modelling ?
- Recognized improved management practices are limited

Framework for soil carbon sequestration as carbon removal

European Commission



- **Carbon farming** → the Communication on Sustainable Carbon Cycles, aims at upscaling carbon farming business model to reward land managers focusing on carbon sequestration
- **LULUCF Regulation** → sets an overall EU target for carbon removals by natural sinks, equivalent to 310 million tonnes of CO₂ emissions by 2030.
- **EU Certification of carbon removals (EU)** addressing nature-based and technology-based carbon removals
- **Common Agricultural Policy**
- **New EU soil strategy**

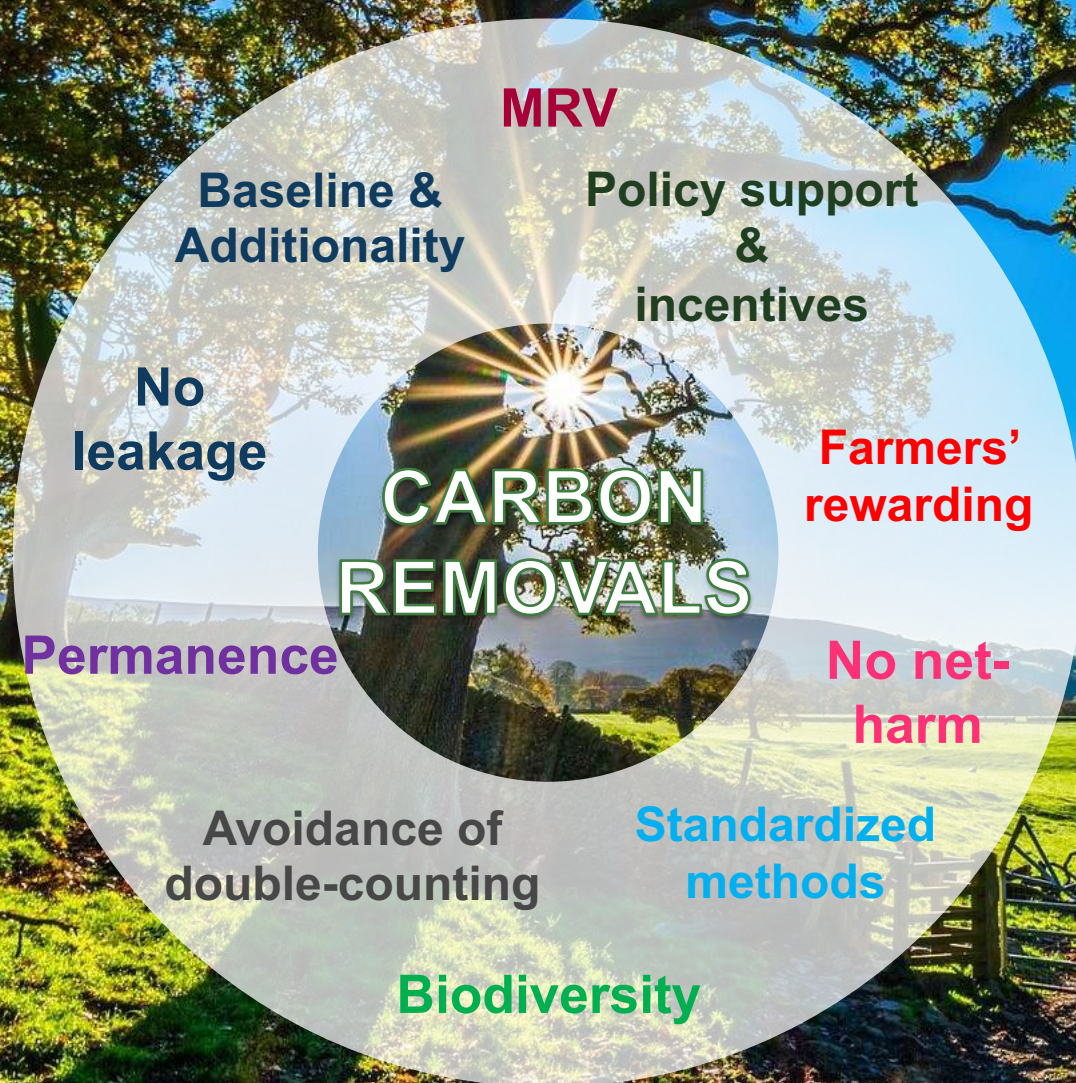
Global framework



- **The Energy Act of 2020** promotes a carbon removal, research program on **carbon sequestration** (USA)
- **The Growing Climate Solutions Act (2021)**, aims at rewarding farmers for soil carbon sequestration (USA)
- **Governmental funds** established to support soil carbon sequestration practices (USA) and peatland restoration (UK)
- Promotion of biochar as main strategy to climate change mitigation capable to sustainably increase food production and **to sequester carbon in soil** (Norway)
- Several **initiatives** on the use of biochar for the generation of carbon credits for the voluntary carbon market

Examples

Requirements for carbon removals to efficiently contribute to climate neutrality and to support the journey to net-zero



- The future of the carbon market is based on carbon removals and high-quality carbon credits
- The Taskforce on Scaling Voluntary Market stated that the market will progressively move towards carbon removal projects, which will be predominant

Meo Carbon Solutions offers to interested stakeholders high-quality carbon compensation focusing on co-benefits



- High-quality carbon credits and carbon removals from **soil carbon accumulation**
- **Focus on** environmental (e.g. ecosystem services and biodiversity protection) and social co-benefits
- Transparent transactions
- **Certification of reliable** carbon offsetting projects and carbon credits

Coming soon...

Confidential



Many thanks for your attention!

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