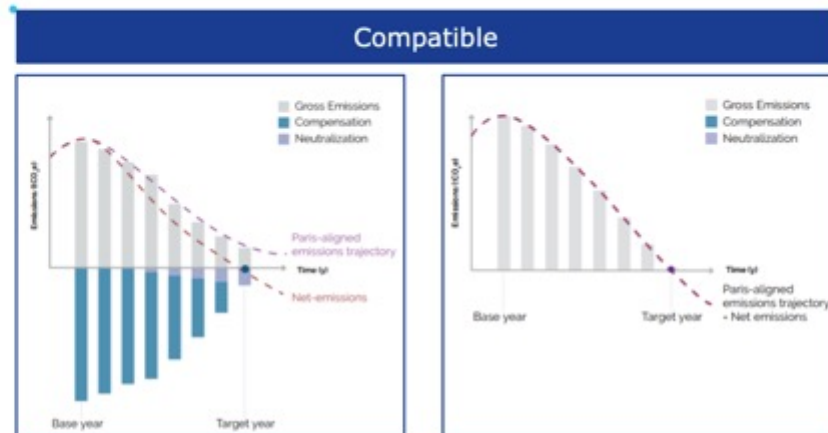




Carbon offsetting and soil carbon accumulation

Net Zero targets refer to the balance of GHG emissions and removals

- Emissions are reduced in line with a **1.5°C mitigation pathway** as set by the Paris agreement
- Remaining emissions are neutralised by carbon removals or compensated
- **Compensation (or offsetting)** represents an immediate instrument to achieve the Paris goals – compensation, however, cannot entirely replace the necessary emissions reduction

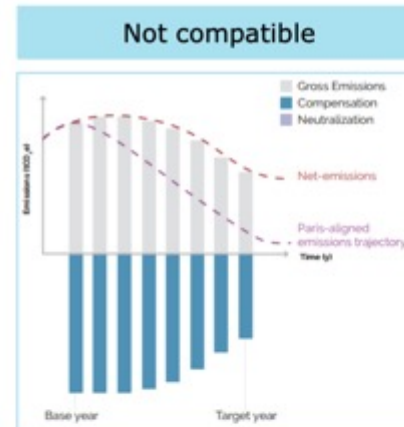


"Climate positive":

- Full compensation immediately
- Ambitious reduction
- Step-by-step neutralization

"Emission-free":

- Full reduction to 0
- No compensation or neutralization in the meantime



"Compensation instead of reduction":

- No ambitious reduction
- Full compensation or crediting "avoided emissions"

Climate neutrality
=
achieving Net-Zero emission



Science-based
pathways aligned with
UN climate targets

**"How much do we
have to reduce?"**

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

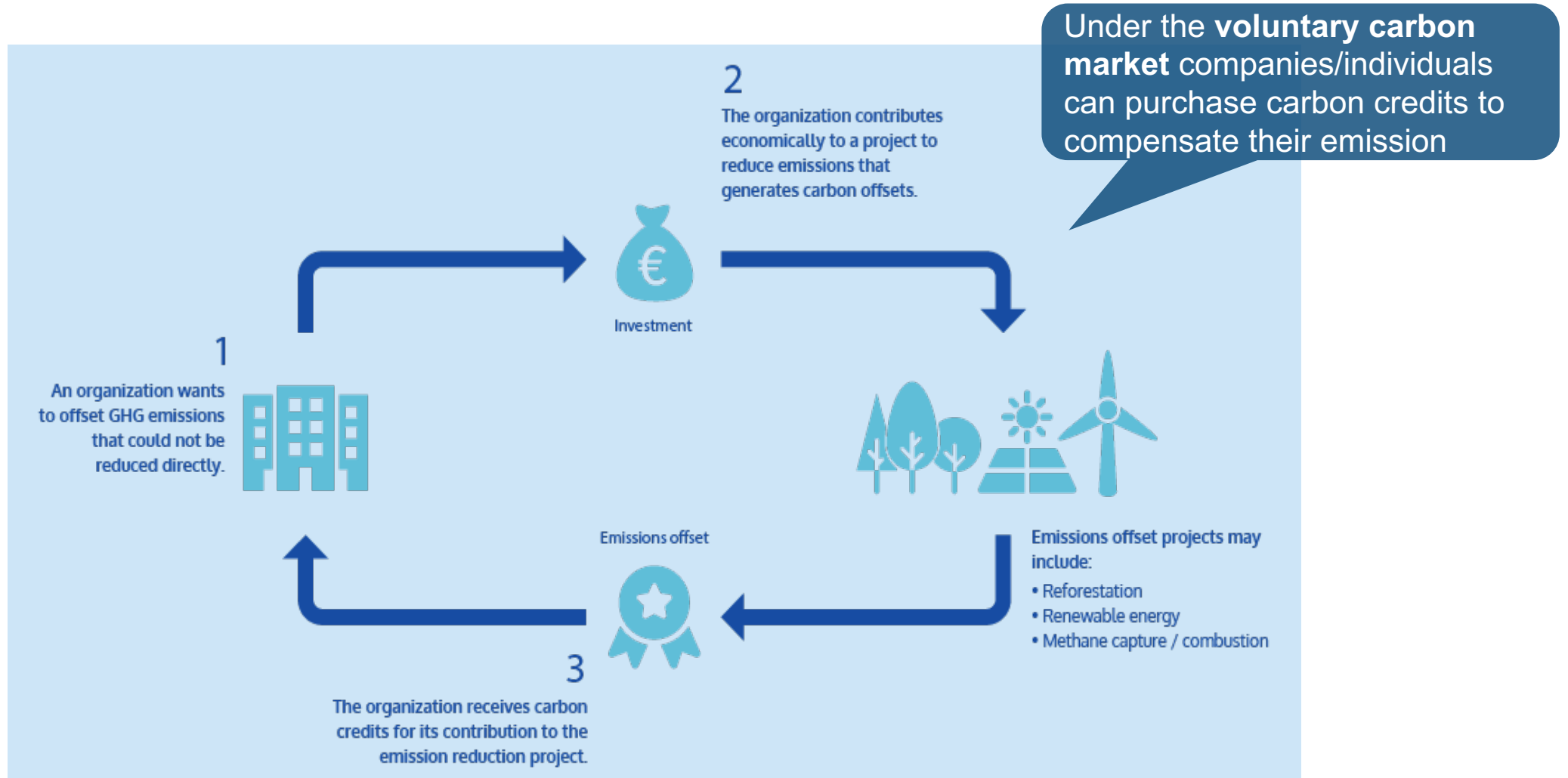
For the unavoidable emissions, become climate neutral by **financing projects** that further avoid and remove emissions

Neutralize

Eventually eradicate unavoidable residual emissions with carbon removals to achieve net zero



Carbon offsetting is a **policy instrument** to enhance sustainability through GHG emission reduction



1 carbon credit = 1 ton of avoided CO2 eq emissions

In order to generate carbon credits a projects should meet specific requirements

Additionality

Additionality means that it can be ensured that the emissions reduction project **would not have occurred without the financing** from carbon offsetting.

Permanence

Permanence ensures that the **risk of reversal is minimized** and that, should any reversal occur, a mechanism (e.g.. 20% risk buffer pool) is in place that guarantees the reductions or removals will be replaced

Carbon offsetting project

Avoidance of double counting

An emissions reduction should be able to be tracked to ensure that it **has not been already sold**, or cannot be sold in the future, more than once.

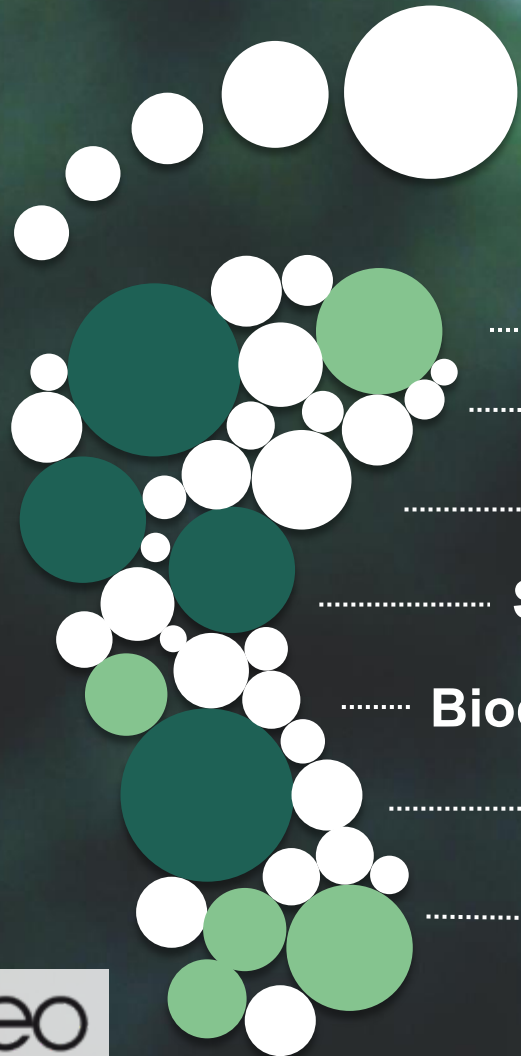
Verifiability

The emissions reductions have been **quantified and verified** by an independent third party



Development of GHG offsetting options ...

... to compensate for unavoidable carbon emissions in supply chains



Afforestation/ Reforestation

Prevent deforestation

Agroforestry

Soil health

Biodiversity enhancement

Wastewater treatment

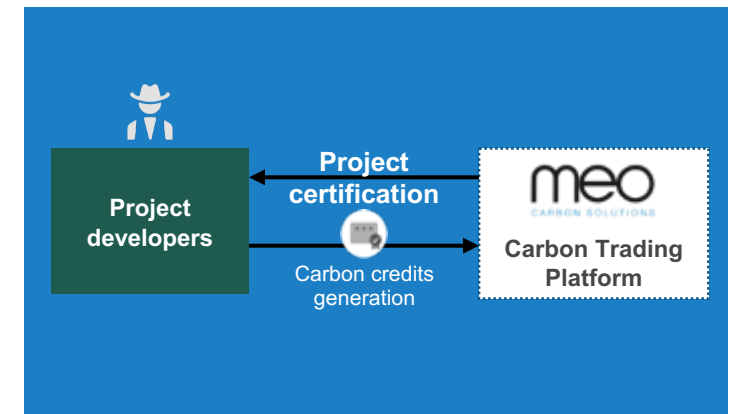
Improve livelihood of rural communities



Meo Carbon Solutions provides support to interested stakeholders to compensate their own GHG emissions

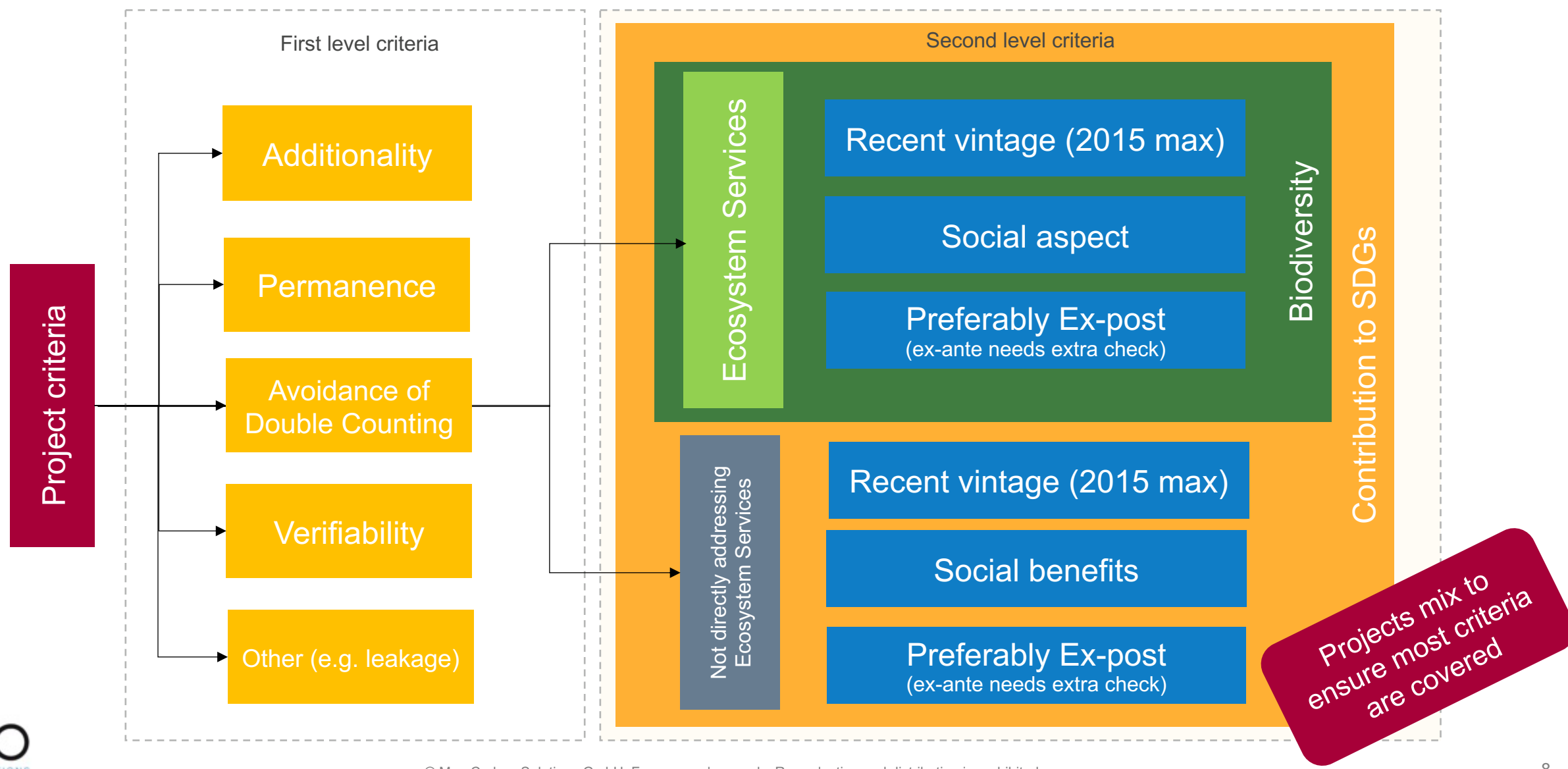


- Ensuring **high-quality carbon credits**, addressing social and environmental co-benefits (e.g. ecosystem services), besides GHG emission reduction (→ *Ad-hoc specific criteria*)
- **Buying** high-quality carbon credits directly from project developers
- **Selling** high-quality carbon credits
- **Certifying** carbon offsetting projects



Confidential

Meo Carbon Solutions applies specific criteria to ensure the provision of high-quality carbon credits and carbon offsetting projects



First **carbon neutral** smart phone from the German company 4G



GHG Emission Reduction

- ✓ Green electricity for assembling
- ✓ Locally recycled material
- ✓ Long term use, easy repairs, end-of-life recycling

Carbon compensation

- ✓ Supported and supplied by Meo Carbon Solutions
- ✓ Purchase of high-quality carbon credits
- ✓ Certified REDD+ project



-CO₂

Offset



https://www.wuv.de/tech/deutschlands_erstes_co2_neutrales_smartphone



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 further avoid and remove emissions

Neutralize

Eventually eradicate unavoidable residual emissions with carbon removals to achieve net zero



“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 Annex V provides the GHG calculation formula where **soil carbon accumulation** (e_{sca}) is accounted as GHG savings

$$E = e_{ec} + e_l + e_p + e_{td} + e_u - e_{sca} - e_{CCS} - e_{CCR}$$

- E - Total GHG emissions from supply and use of the fuel (in g CO_{2eq}/MJ)
- e_{ec} - GHG emissions from the extraction or cultivation of raw materials
- e_l - Annualized (over 20 years) GHG emissions from carbon stock change due to land use change
- e_p - GHG emissions from processing
- e_{td} - GHG emissions from transport and distribution
- e_u - GHG emissions from the fuel in use (shall be taken to be zero)
- e_{sca} - GHG emissions savings from soil carbon accumulation via improved agricultural management
- e_{CCS} - GHG emissions savings from carbon capture and geological storage
- e_{CCR} - GHG emissions savings from carbon capture and replacement

Source: Renewable Energy Directive recast (REDII) (2018/2001/EU)

ISCC is developing a **Guidance Document for the Calculation and Verification of Emission Savings from Soil Carbon Accumulation**



Main issues tackled in the upcoming ISCC Guidance

- Extended general provisions
- **Recommendations** to calculate e_{sca} as **actual** values at farm/field level
- Detailed recommendations on **how to conduct field measurements** on representative soil sample, to determine carbon accumulation in soil
- **Homogeneous soil and climate** unit approach
- Requirements for the **use of field measurements combined with soil modelling (still to be confirmed)**
- Guidelines for forwarding and verifying e_{sca} values

Coming soon...



Many thanks for your attention!

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