Partners for Innovation

Draft planting of trees certification methodology

EO4MRV meeting
9 October 2025

WAGENINGEN UNIVERSITY & RESEARCH

CLIMATE ACTION

This presentation

- Introduces some relevant elements of the methodology under development
- Based on presentation to the Expert Group of 15 May on draft methodologies on planting of trees
- This is not the place for discussing the CRCF methodology itself

Content

- Scope and eligibility criteria for planting of trees activities
- Quantification
- Sustainability

Scope and eligibility

Planting of trees

No trees for the last 20 years or up to 10% tree cover

Management activities allowed (e.g. thinning); no fertilisers if N is not limiting

Planting on peatlands only as restoration measure, no drainage or irrigation of organic soils

Soil disturbance only for site prep. and planting, only cons. tillage, on GL no tillage

Local and climate smart planting; single species only in very specific cases

After 5 years, planting density in line with local jurisdiction

No clearcuts exceeding **0.3** ha

Activity period: 30 years. Monitoring period: **min** 40 years. Certification period: 5 years

Quantification - scope

Temporary net carbon removal benefit =

$(CR_{baseline} – CR_{activity} – GHG_{associated}) \times (1 – UNC)$

Net soil emission reduction benefit =

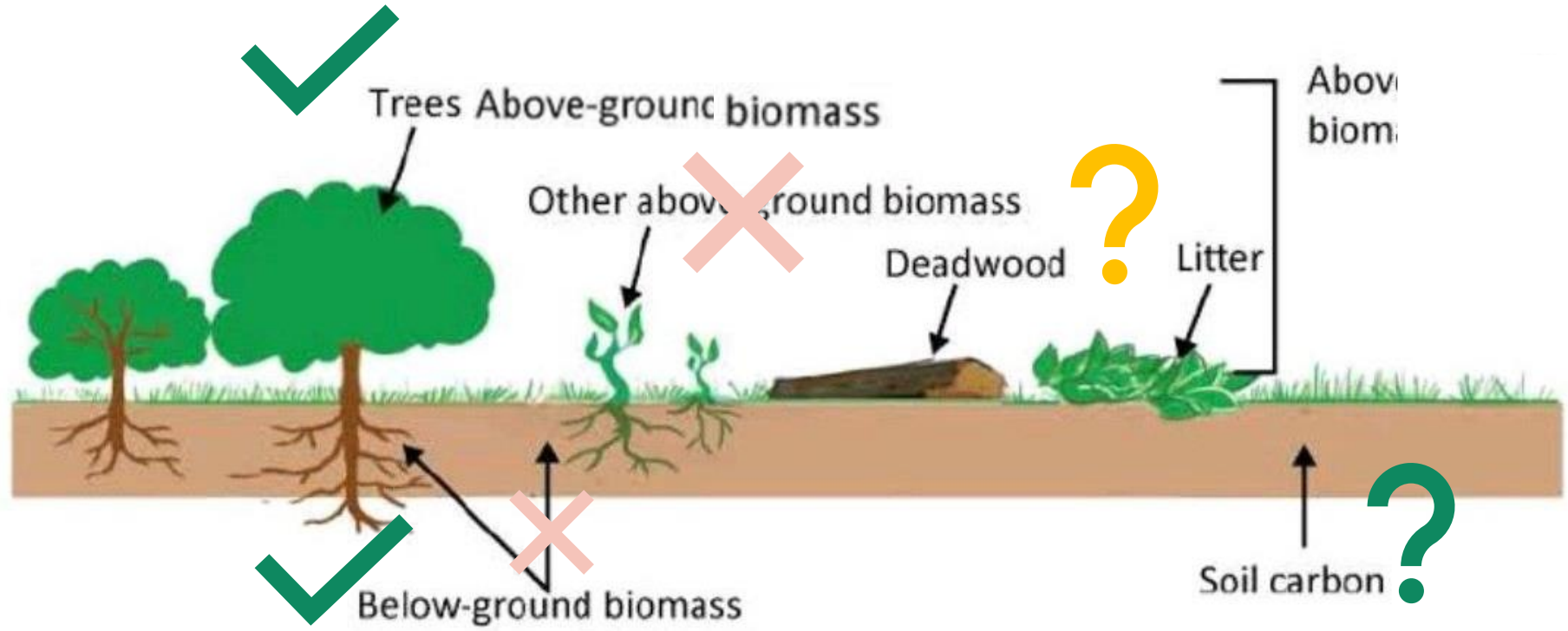
$(LSE_{baseline} – LSE_{activity} + ASE_{baseline} – ASE_{activity} – GHG_{associated}) \times (1 – UNC)$

- CR = Carbon Removals: woody biomass and – optional - soil organic carbon
- LSE = LULUCF Soil Emissions: soil organic carbon
- ASE = Agricultural Soil Emissions: direct and indirect soil N_2O emissions

- Carbon stock changes (CR, LSE) shall be quantified for each stratum of land / parcel where the carbon farming activity is implemented
- Soil N_2O emission reductions (ASE) shall be quantified for the entire area under the operational control of the farmer

Quantification - scope

LULUCF carbon pools; above- and below-ground biomass, litter, deadwood and soil organic carbon



? : Optional, as carbon removals or emission reductions

? : Optional, as sustainability co-benefit

Quantification - scope

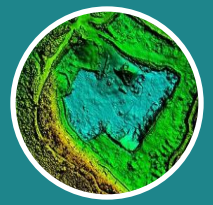
$$Temporary\ net\ carbon\ removal\ benefit = CR_{baseline} - CR_{total} - GHG_{associated} > 0,$$

Direct and indirect GHG emission sources

GHG source	GHG	Included	Accounted as	
			If decrease	If increase
Agricultural soils	N_2O	Yes, where applicable	Sustainability co-benefit	GHG associated emissions
Liming	CO_2	Yes, where applicable	Sustainability co-benefit	GHG associated emissions
Energy use	CO_2	Yes, if applicable	Sustainability co-benefit	GHG associated emissions

Where the activity takes place on cropland, no increase in GHG associated are expected (section 2.5)

Quantification – three approaches



Modelling

On-Ground Measurements

Remote Sensing

Combine

- Forest Growth Models
- Soil models

- Soil: see Agri methodologies
- Representative sample and sample size dependent on accepted uncertainty.
- Typical diameter and/or height measures on trees multiplied by regionally calibrated allometric and biomass expansion factors (BECF).
- If no T3 factors available (e.g. from NID) activity specific equations from field sampling and/or literature (duly justified)

- Satellite
- LiDAR
- Other?

Quantification – some flexibility allowed

- The methodology for quantification does not give strict rules on how to measure, model or apply remote sensing, but provides minimum requirements for each approach and a requirement for assessing uncertainty.

- The use of the uncertainty deduction factor allows more flexibility in level of sampling efforts

  - Sampling effort affects the level of uncertainty with the level of uncertainty typically decreasing if sampling and modelling efforts increase.

Quantification – baselines

- Planting of trees – biomass
  - Activity specific baseline
    - Zero for the quantification of the carbon removal benefit for newly planted trees
    - If sparse trees were present (<10%) the baseline shall be based on counterfactual change in carbon stocks that would occur if the previous land management were still in place
- Soil carbon removals and soil emission reductions
  - Approach 1 (model): activity specific baseline
  - Approach 2 (measure-remeasure): zero baseline, soil emission reductions will be zero

Sustainability – minimum requirements

Based on the Do No Significant Harm (DNSH) criteria set out in the Climate Taxonomy delegated regulation

Mitigation

- Covered by eligibility requirements (Section 1.1)

Adaptation

- Covered by obligation to carry out ex-ante risk assessment (Section 4.1) and to mitigate the risks, if needed. Use of climate adapted tree species.

Sustainable use and protection of water

- Evaluation identifying and addressing environmental degradation risks related to water quality and stress. Riparian buffer zones to be maintained

Circular economy

- NA

Pollution prevention

- Prevention and mechanisms foreseen. Use of pesticides and fertlisers shall be reduced.

Protection and restoration of biodiversity and ecosystems

- No negative effects in relation to Natura 2000 sites, no conversion of biodiversity-sensitive habitats or of set aside area
- No detrimental effects to recovery/maintenance of populations under birds and habitat directives
- No conversion into less biodiverse ecosystems
- Maintenance of diverse stand structures and mature stands and deadwood
- Protection of existing buffer zones and ecological corridors
- Prevent introduction of invasive alien species, exclusion of non-native species with limited exceptions

Sustainability – mandatory co-benefits for biodiversity & ecosystems

Activity has been demonstrated in peer reviewed scientific literature to have beneficial impacts

Activity includes at least one of the measures listed in the typology of measures consistent with art 3(3) in of the Nature Restoration Regulation (NRR)

Activity qualitatively demonstrated effective to improve the good conditions for habitats under the Habitats and Birds directive or as indicated in the EU wide mapping of ecosystem conditions.

Activity aligns with the recommendations from the EU guidelines for biodiversity friendly afforestation, reforestation and tree planting

Integrates eligibility requirements

Simplified approach, activities monitored via monitoring report and verified through audits

Facilitates implementation of and ensures coherence with NRR

Sustainability – voluntary co-benefits

No EU-wide applicable methodologies

Operators can use their own methodologies.
Subject to audits, co-benefits can be included in the certificate of compliance

Examples of possible co-benefits

- Climate mitigation: carbon removals from deadwood, litter and dead organic matter, emission reductions from machinery
- Pollution prevention: limitation of waste generation, reduction of air, soil, or water pollution
- Biodiversity: quantified improvement in deadwood, of forest connectivity, of tree species diversity (NRR indicators)

Timeline

2024

- Entry into force of CRCF Regulation - EU - 2024/3012 - EN - EUR-Lex

2025

- Proposal of first certification methodologies
- Adoption of **rules for certification** schemes, registries, and verification by independent third parties

2026

- Adoption of the **first set of carbon farming certification methodologies**
- Recognition of **certification schemes** and (possibly) **first issuance of certified units**
- **Work on the next certification methodologies**, including Sustainable Forest Management and Carbon Storage in Buildings, Livestock
- **CRCF review** (possible inclusion of livestock emission reductions)

2028

- **Start of EU registry**

European Commission

Thank you

For questions or more information:

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Quantification - uncertainty

$$\text{Temporary net carbon removal benefit} = \left(CR_{baseline} - CR_{activity} - GHG_{associated}\right) \times (1 - UNC)$$

For model based approaches

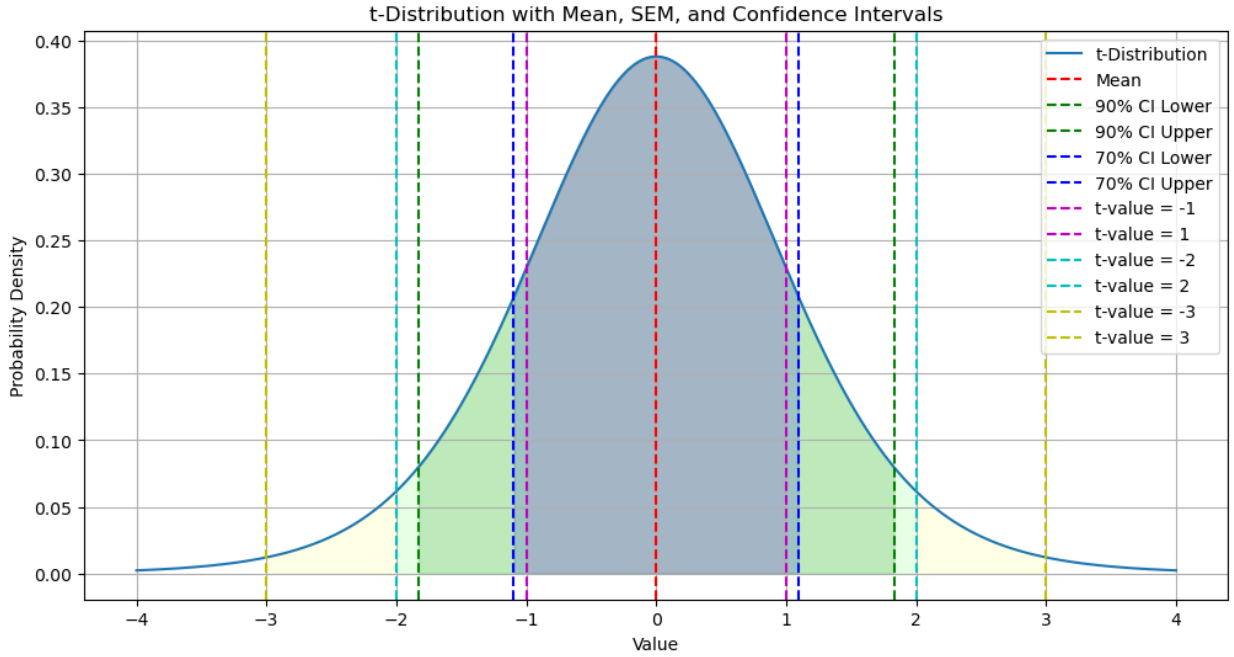
$$UNC = \left(\frac{SD_{\Delta x}}{\Delta x}\right) \times t_{ci}$$

For ground based measurements

$$UNC = \left(\frac{SE_{\Delta x}}{\Delta x}\right) \times t_{ci}$$

Methodology proposes to use:

- Uncertainty at 70% confidence interval for soils
- Uncertainty at 90% confidence interval for biomass



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Quantification – uncertainty?

Temporary net carbon removal benefit = $(CR_{baseline} - CR_{activity} - GHG_{associated}) \times (1 - UNC)$