



Peatland Rewetting Methodology

EU Carbon Removal and Carbon Farming Regulation

Online Workshop | 9 July 2024

Housekeeping

- The event will be recorded and slides will be shared afterwards.
- Ensure **your display name** is correct (first-name, last-name, country). This can be changed by finding yourself in the Participants window and clicking on More > Rename.
- Attendee **microphones should remain muted** during the main plenary.
- You will be automatically entered into breakouts.
- During the Breakout Sessions, please turn your camera on and unmute yourself. Both icons are at the bottom-left of the screen.
- Have an internet browser window or your smartphone available to participate in the SLIDO Q&A and Polls that we will run during the session.
- If you are participating in a breakout room **please do not leave the ZOOM call during the break. This will affect the Breakout Room allocations.**

Agenda

09.30 – 10.00

Welcome and context setting

Peatland rewetting methodology under the EU CRCF: including presentation of some draft elements, DG CLIMA - Christian Holzleitner

10.00 – 10.45

Presentations of possible approaches on quantification and sustainability

- Perspective of a private project developer (working with GEST based methodologies), aeco - Malte Schneider.
 - Calculating emissions reductions, Galway University - Niall O'Brolcháin.
 - The Biodiversity Framework, UK Peatland Code - Renee Kerkvliet-Hermans.
-

10.45 – 10.55

Views from the audience

10.55 – 11.05

Coffee break

11.05 – 11.55

Breakout groups

11.55 – 12.00

Wrap up

SLIDO

We will be using SLIDO for the Q&A sessions and polls.

To access it, either:

- Scan the QR code using your smartphone
- Or, use the browser on your computer or smartphone, go to slido.com and enter the passcode **#1945249**



Welcome and context setting

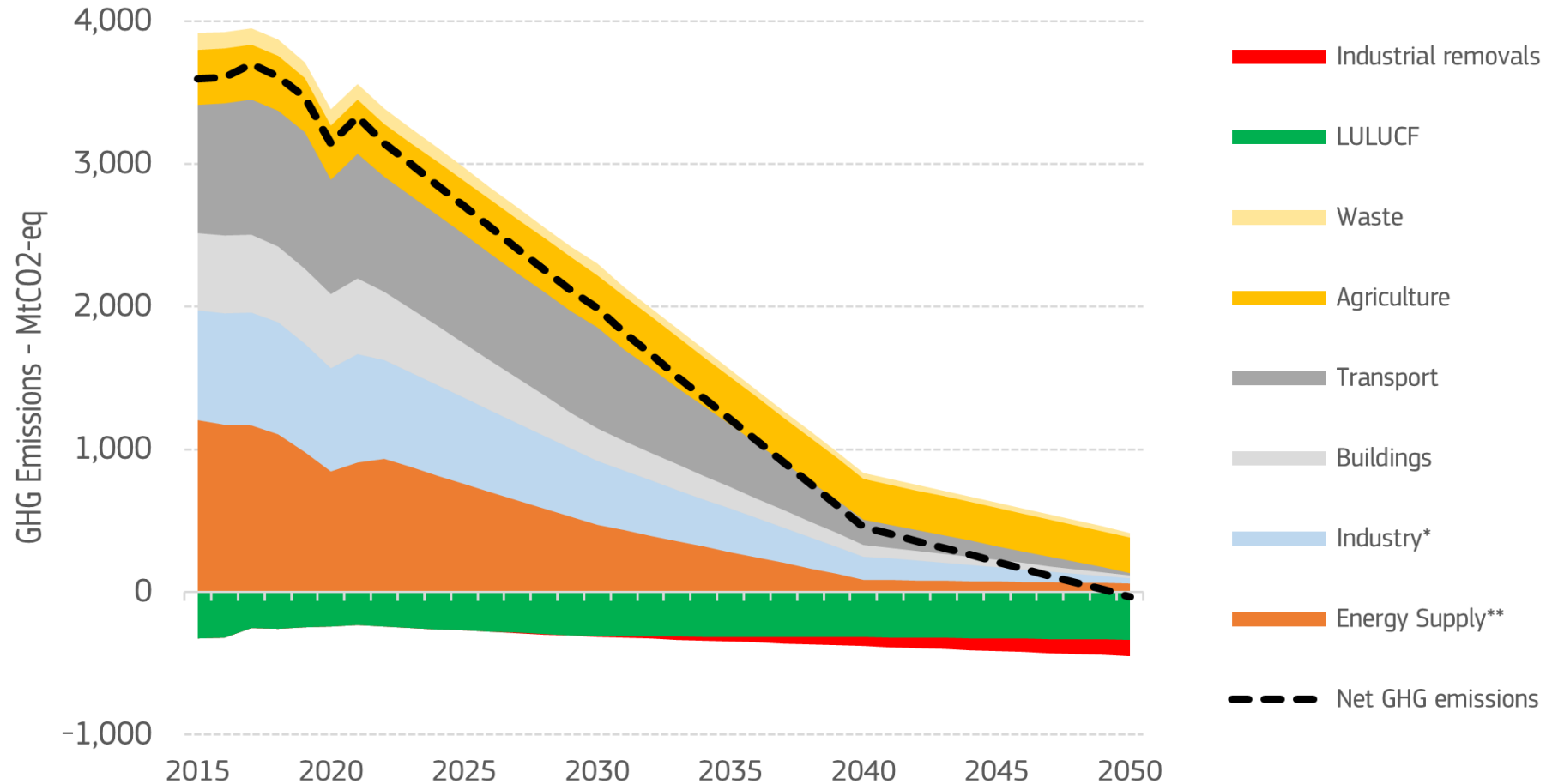
Peatland rewetting methodology under the EU
CRCF: including presentation of some draft
elements

Introductory remarks

Christian Holzleitner, DG CLIMA, European Commission

Pathway to climate neutrality

Historical and projected sectoral greenhouse gas emissions in the period 2015-2050



*Excluding non-BECCS industrial removals

**Including bioenergy with carbon capture and storage (BECCS)

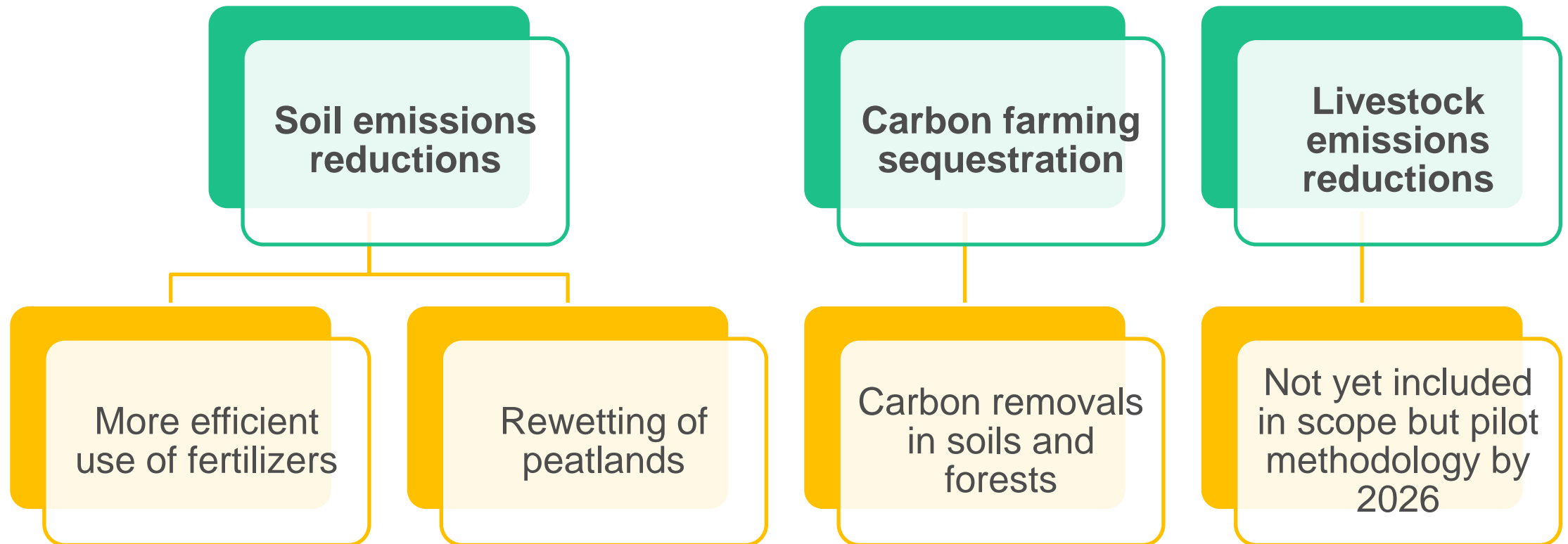
90 percent net emissions reduction in 2040

(compared to 1990)



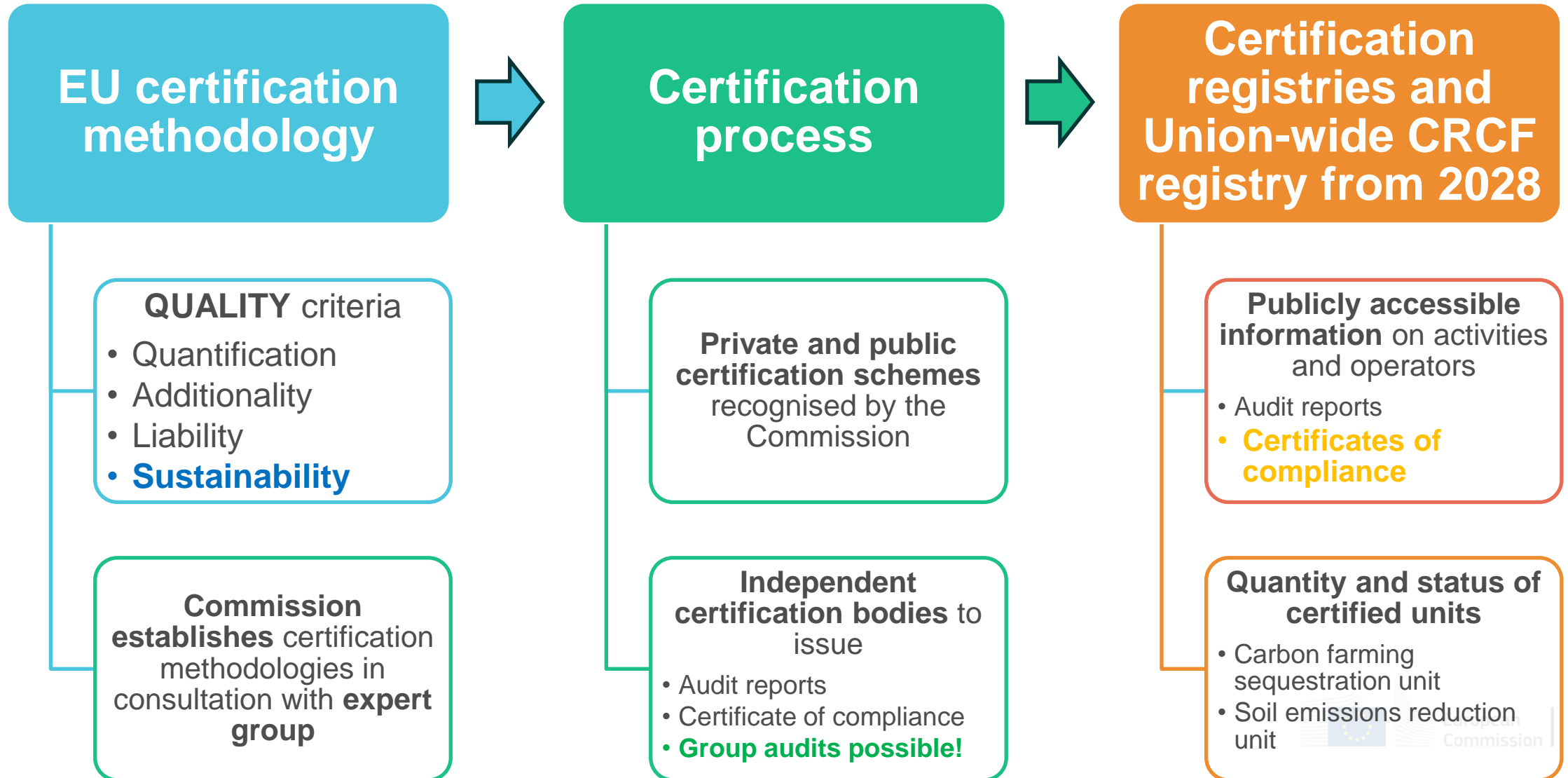
Certification of removals and emissions reductions from transition to sustainable agriculture

Carbon Removal and Carbon Farming Regulation (CRCF Regulation)



How does certification work?

CRCF Regulation



Peatland rewetting in the context of the CRCF: the “WHY”



Drained peatland:
disproportionate source
of emissions in Europe

Only 1% of drained
peatland area
rewetted in Europe

Delivering scientifically
proven **emission
reduction units**
(permanent)

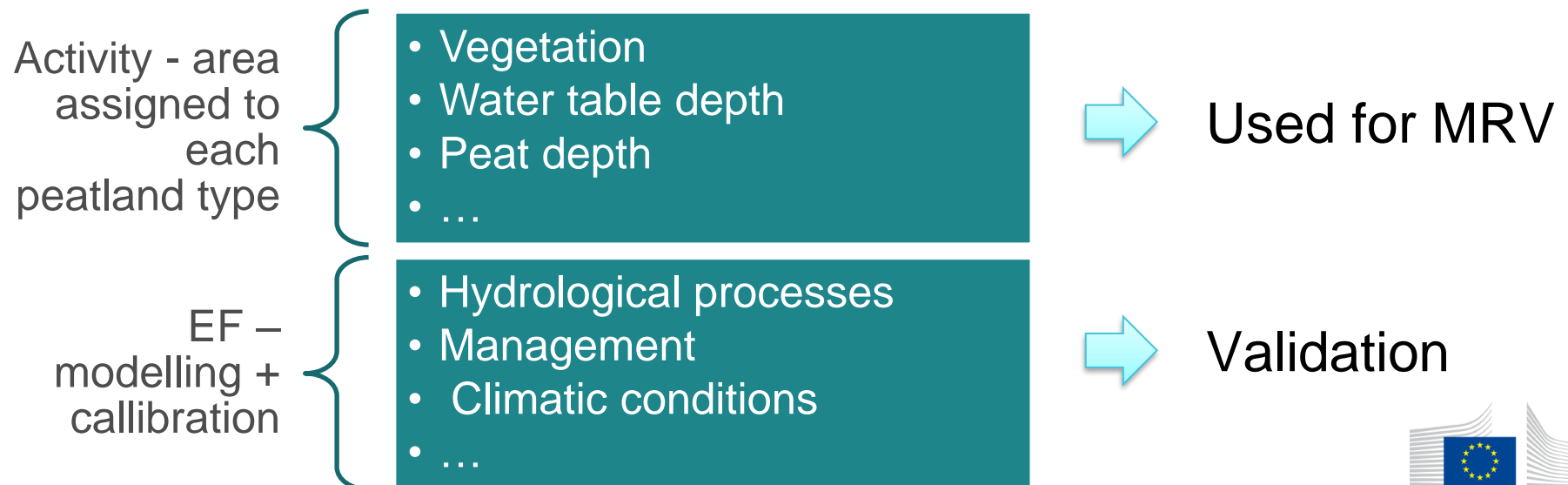
**Big potential for
upscaling** in
Northern/Eastern/Baltic
regions

Clear **sustainability
co-benefits**

If peatlands to be used,
use them wet! ->
Paludiculture

Quantification

- Formula in art. 4 (2) of CRCF - net soil emission reduction benefit, covering CO₂, CH₄ and N₂O
- General approach for estimating gas fluxes based on *activity data* and *emission factor*, for specific **peatland types** previously defined



Sustainability

Mandatory minimum sustainability requirements

- An activity shall not significantly harm the broader **sustainability objectives** – similar to those of the Taxonomy
- Compliance consistent (as appropriate) with the **Do Not Significant Harm technical screening criteria** under the Taxonomy Regulation

Mandatory Biodiversity co-benefits for carbon farming

- Carbon farming needs to deliver biodiversity co-benefits

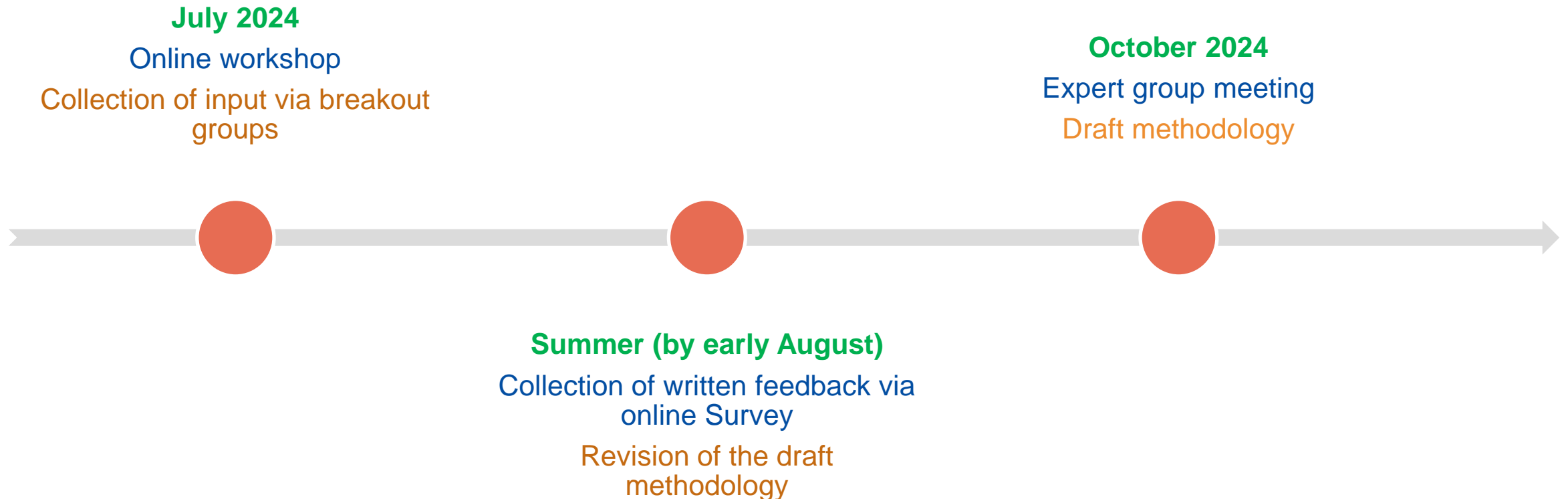
Voluntary co-benefits

- An activity may generate other sustainability co-benefits
- Incentivise the generation of co-benefits



- Policy instrument to operationalise DNSH technical screening criteria
- References in relevant existing legislation (such as NRL)
- Non-exhaustive co-benefit list
- Paludiculture/agriculture

What's next for the peatland methodology?



Useful links



[PEATLAND REWETTING
METHODOLOGY FEEDBACK](#)



[CRCF WEBSITE](#)

Presentations of possible approaches on quantification and sustainability

Perspective of a private project developer (working with GEST based methodologies)

aeco - Malte Schneider

aeco

Perspective of a private peatland restoration project developer

(working with GEST based methodologies)



Our platform provides balanced incentives for all stakeholders.

aeco

We manage the development, implementation and monitoring of water level and renaturation measures in peatlands to generate and market CO₂- and other ecosystem service certificates.

Land Stewards

Long-term additional revenue from climate protection measures - at no cost and with the option of continued cultivation.

Restoration & Conservation Groups

Increase the impact of climate and nature restoration projects through cooperation in development, scalable private sector funding and monitoring.

Corporates

Access to transparent, local, premium grade certificates for unavoidable emissions with quantified and meaningful projects.

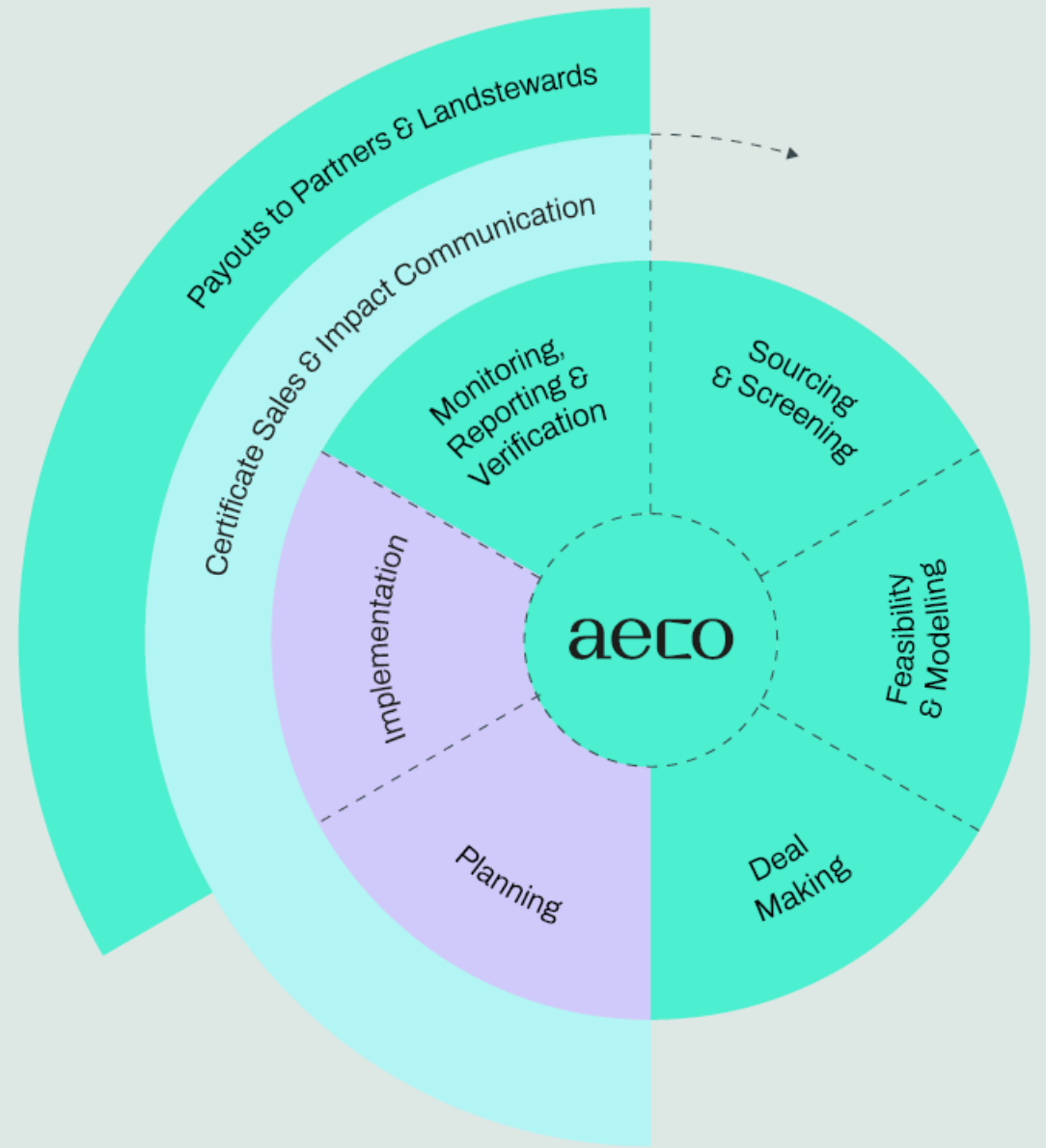
Investors

Generate sustainable returns in a truly green asset class. Get access to third party verified impact data.

Our methods and principles

Digitally supported project development and planning cycle

- Land is at the core of our process, we therefore need to have long-term influence over its management.
- We are developing a structured and standardized, tech-enabled process to allow for scalability
- To reach impact quickly, we are partnering wherever possible, always choosing collaboration over competition
- The people living and working on the land need to be center stage for fairness and effectiveness



We plan to grow our impact in three Phases.

Pilot

2023 – 2025
> 1.000 Hectares
> 10.000 tCO₂e per annum*

Ramp-Up

2026 – 2028
> 10.000 Hectares
> 100.000 tCO₂e per annum*

Scale-Up

2029 -2030 onwards
> 100.000 Hectares
> 1.000.000 tons CO₂e per annum*

* assuming average yearly emission reductions of 10 tCO₂ / ha

GEST basics - a simplified view

(aeco perspective)

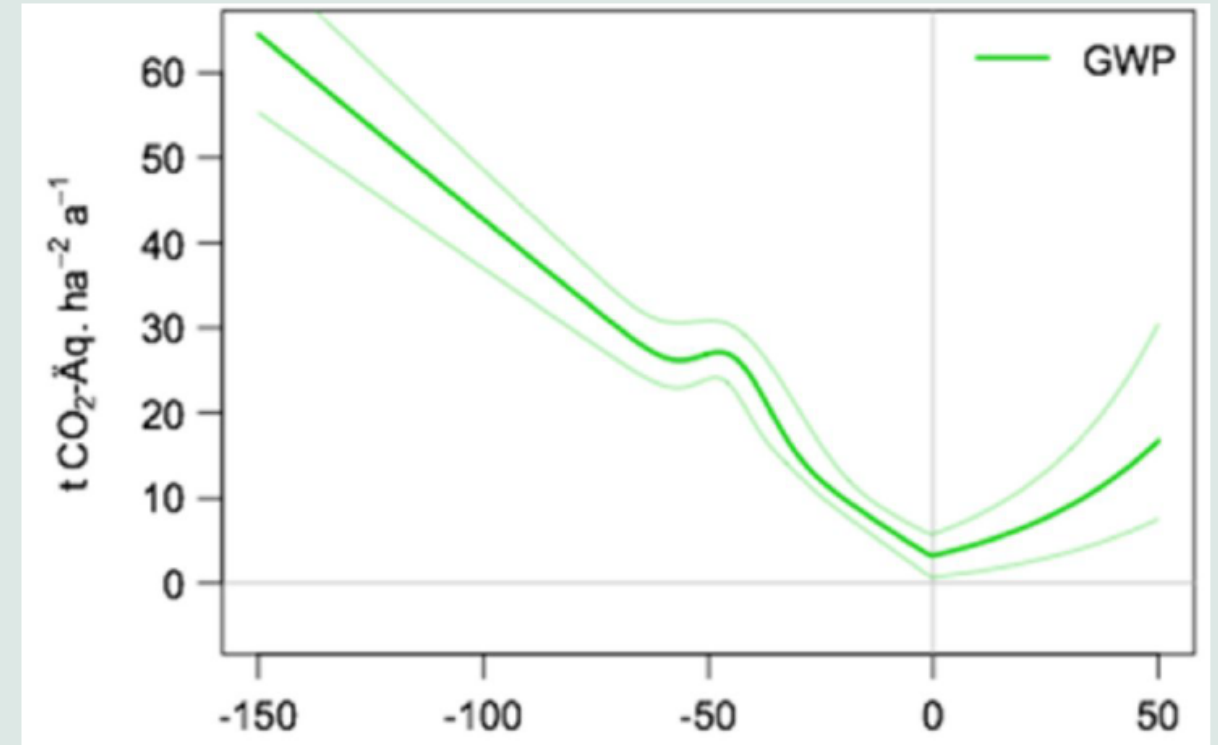
What is the foundation behind GEST?

Origin of GEST:

- direct GHG measurements too costly
- therefore need for proxies

Water level one very good proxy: Review of scientific papers yields a strong relation, which can be represented as an almost linear relation between CO₂ and water level

Couwenberg J, Thiele A, Tanneberger F, Augustin J, Bärtsch S, Dubovik D, Liashchynskaya N, Michaelis D, Minke M, Skuratovich A, Joosten H. 2011. Assessing greenhouse gas emissions from peatlands using vegetation as a proxy. *Hydrobiologia*, 674, 67-89.



Mean annual water level (cm)

Jurasinsky, G.; Günther, A.; Huth, V.; Couwenberg, J. & Glatzel, S. 2016. Greenhouse gas emissions. In: Wichtmann, W. Schröder, C. & Joosten, H. (eds) 2016: Paludiculture - productive use of wet peatlands.

Then why also use vegetation as proxy?

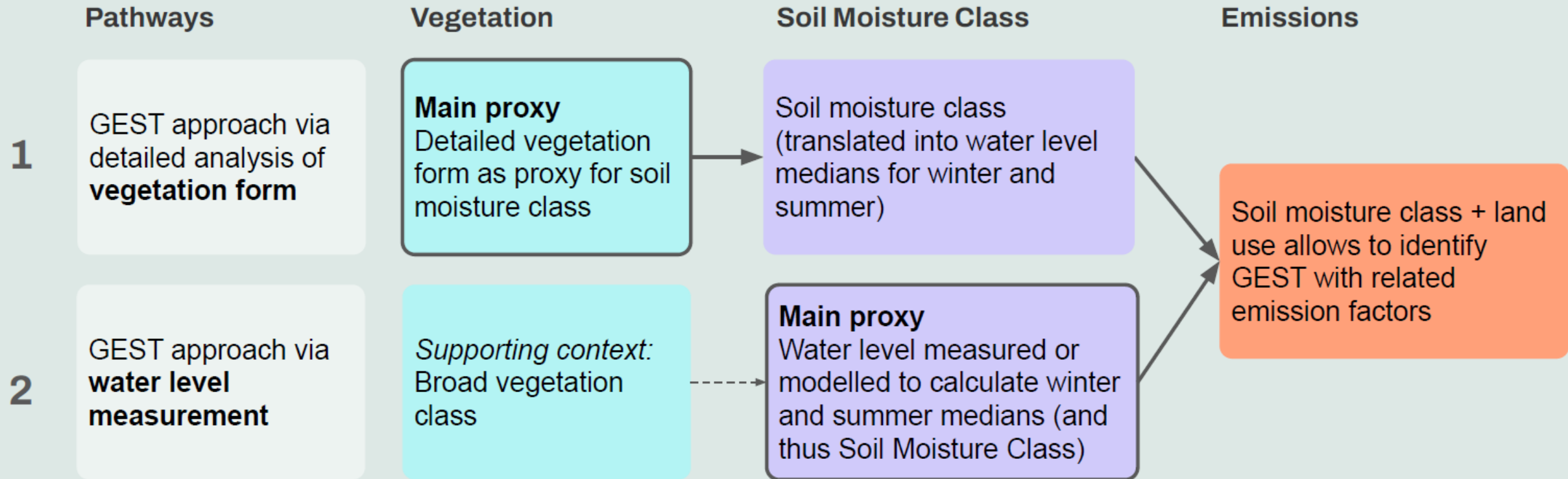
- **Water level measurements often not existing** (baseline) or assumed costly (project scenario)
- **Vegetation good proxy for soil moisture class:** The availability of different species groups predicts long-term average water levels (soil moisture class)
- **Soil Moisture Classes** are characterized by summer and winter median water levels
- **Land use type** is an important additional criterion (e.g. grassland)

Greenhouse Gas Emission Site Types (GESTs) represent these conditions. For example:

GEST	Soil moisture class	Median water level below surface		GEST	Emission Factor
		Winter	Summer		
Dry to moderately moist grassland	2+	0,35- 0,7 m	0,35- 0,7 m	G1	25 tons/ha
Moist grassland	3+/2+	0,15 - 0,35 m	0,35 - 0,7 m	G2	19,5 tons/ha

- 42 GEST have been described up to now
- More granular than IPCC emission factors
- GEST for wooded and sites with shrubs are unfortunately not available, limiting the scope of currently eligible sites

Two different pathways for using GEST



Aeco position: We use option 1 for baseline and option 2 for project scenario emissions

How to do baseline assessment based on GEST

(aeco perspective)

How we use GESTs - Baseline quantification

Step 1: Definition of eligible project area

- Peat distribution & minimum peat depth



How we use GESTs - Baseline quantification

Step 1: Definition of eligible project area

- Peat distribution & minimum peat depth

Step 2: Vegetation mapping

- Assessing vegetation along transects
- Translating into soil moisture classes
- Projecting findings onto the entire site



How we use GESTs - Baseline quantification

Step 1: Definition of eligible project area

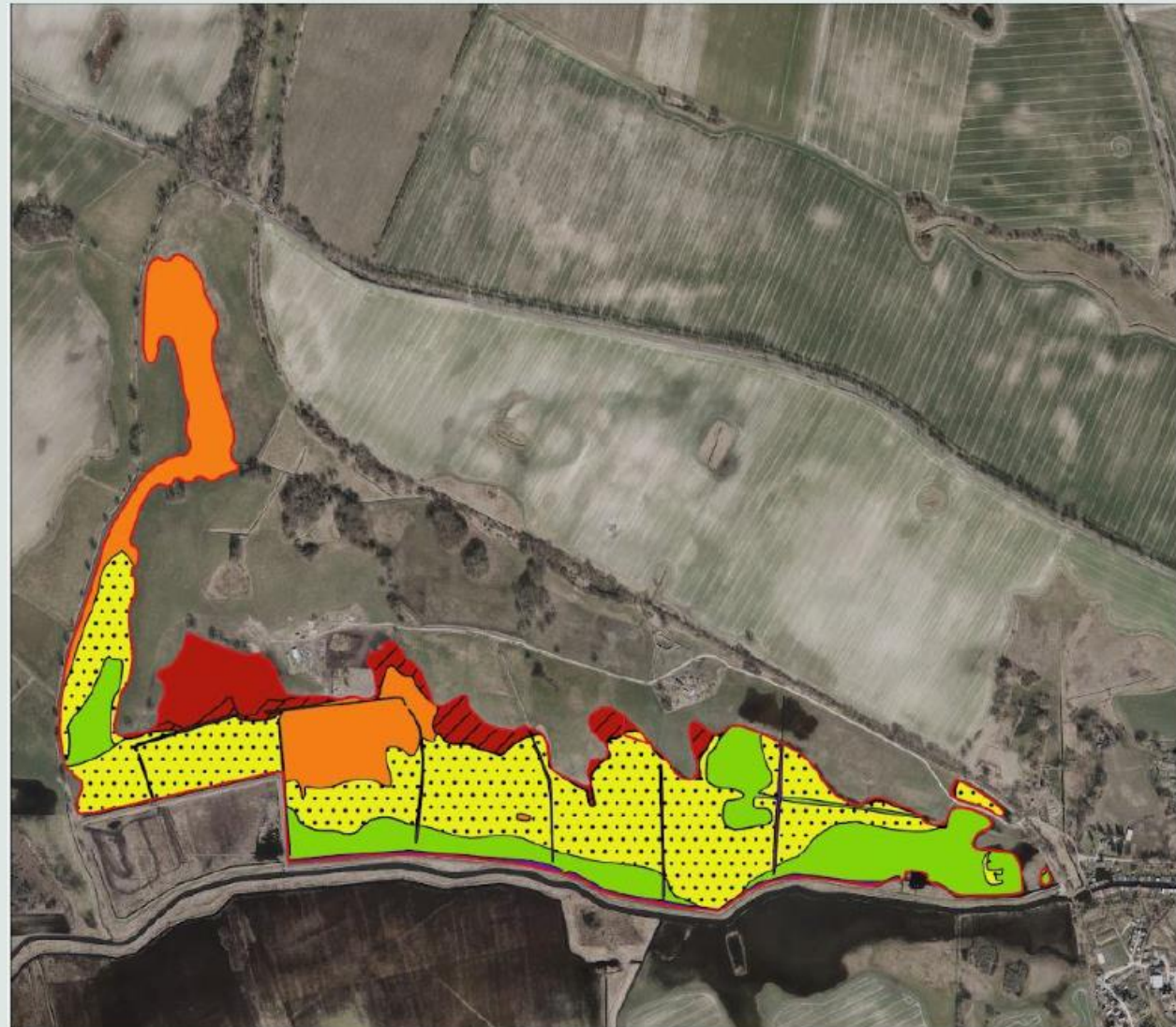
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Step 3: Translate into GESTs

- By adding land use as criterion
- and mapping onto the site



aeco

aeco GmbH
Amtsgericht München B: HRB 283204
Managing Directors:
Maximilian Loessel, Dr. Malte Schneider

GEST
Baselineszenario

Legende

- Projektfläche
- G1
- G1w
- G2
- G3s
- G4
- S13

100 200 300 400 m

Maßstab: 1: 20.000

Datengrundlage:
GeoBasis-DE/M-V 2024

How we use GESTs - Baseline quantification

Step 1: Definition of eligible project area

- Peat distribution & minimum peat depth

Step 2: Vegetation mapping

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Step 3: Translate into GESTs

- By adding land use as criterion
- and mapping onto the site

Step 4: Storing all data

- in a transparent way, allowing for later examination/modification of baseline

Summary: Lots of manual / expert work, ample room for innovation, digitization, increase in objectivity



aeco

aeco GmbH
Amtsgericht München B: HRB 283204
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GEST
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How to do project scenario assessment based on GEST

(aeco perspective)

How we use GESTs - Project Scenario quantification

Step 1: Installing remote-read-out water loggers
(based on our own developments to lower cost)



How we use GESTs - Project Scenario quantification

Step 1: Installing remote-read out water loggers
(based on our own developments to lower cost)

**Step 2: Calibrating a statistical model to project
water level on entire site**



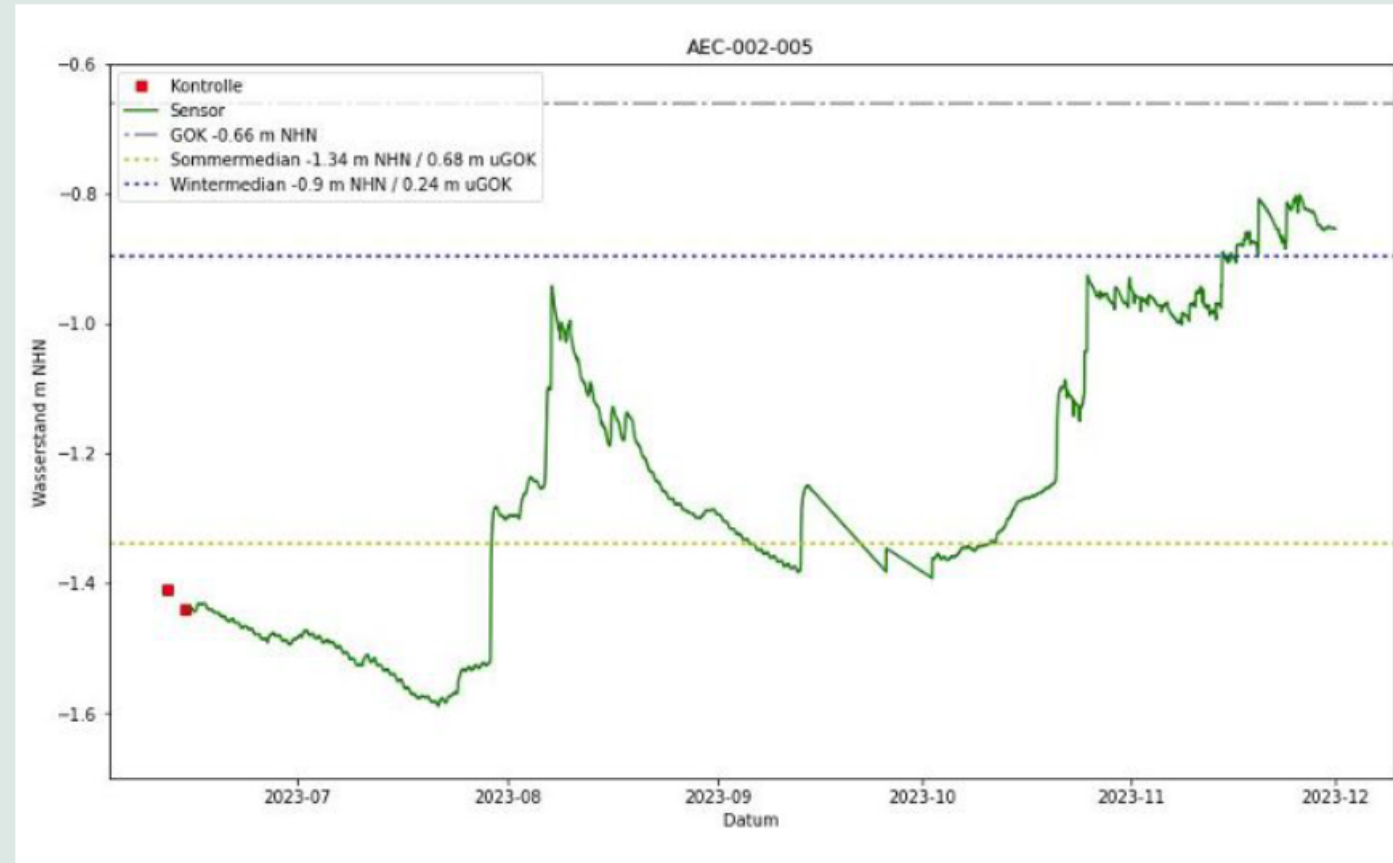
How we use GESTs - Project Scenario quantification

Step 1: Installing remote-read out water loggers (based on our own developments to lower cost)

Step 2: Calibrating a statistical model to project water level

Step 3: Yearly monitoring of

- Water levels (statistical interpolation between loggers)
- Simple monitoring of land use



How we use GESTs - Project Scenario quantification

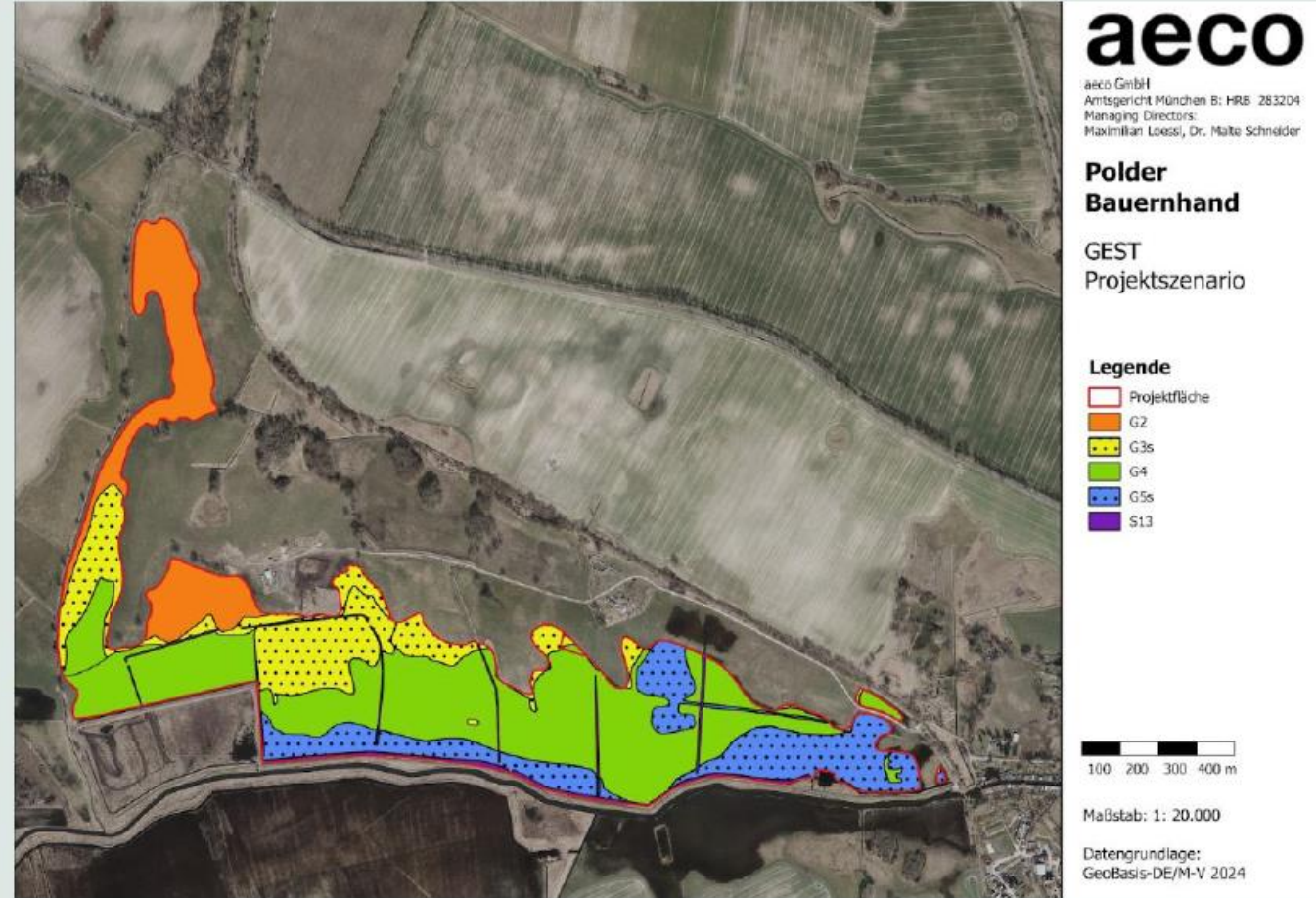
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Step 4: Categorization into GEST



How we use GESTs - Project Scenario quantification

Step 1: Installing remote-read out water loggers (based on our own developments to lower cost)

Step 2: Calibrating a statistical model to project water level

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- Simple monitoring of land use

Step 4: Categorization into GEST

Step 5: Calculate emission reductions compared to baseline

Step 6: Verification and issuance

Summary: Lots of manual / expert work, ample room for innovation, digitization, increase in objectivity

GEST name	baseline-scenario				project-scenario			
	GEST	soil moisture class	Emission Factor	area in m2	GEST	soil moisture class	emission factor	area in m2
Dry to moderately moist grassland	G1	2+	25	40347	G1	2+	25	0
Grassland very dry in summer, (very) moist in winter	G1v	2~	46	44650	G1v	2~	46	0
Moist grassland	G2	3+/2+	19,5	143421	G2	3+/2+	19,5	119271
Moist to very moist grassland with shunts (Juncus)	G3s	3~	15	371622	G3s	3~	15	145546
Very moist grassland	G4	4~	5	163961	G4	4~	5	353427
Wet grassland with shunts (Juncus)	G5s	5+/4+	-1	0	G5s	5+/4+	-1	145757
Ditches	S13	6+	51	20982	S13	6+	51	20982
Total area in m2				784983				784983
Yearly emissions/ha	16,97				9,17			
Yearly emission reduction/ha					7,8			
Total yearly emission reductions					612,3			

Takeaways for EU CRCF discussions on peatlands

(aeco perspective)

What's needed for a peatland restoration industry

The private sector can do a lot...

- Standardize and digitize processes
- Use tech to increase effectiveness
- Incentive models for land stewards
- Financial engineering to frontload investment
- Provide data based on implemented projects (to research)

...but needs science / data

- Agreement on used scientific models
- Agreement on measurement techniques in establishing EFs (as well as for proxies)
- Provision of empirical data / EFs for many geographical / land use cases

...and policy / market framework

- Continuous funding for practical scientific research to improve science
- Arbiter of data and how it can be used
- Ensuring real-world compatibility (pragmatic view on uncertainties in still nascent market, leakage, link to CAP...)

Most important: Let's all get started!

aeco

Let's get our hands dirty
by restoring our
peatlands.

By the way: we are hiring !

Contact: m.schneider@aeco.earth

Get in touch

aeco GmbH
Pestalozzistr 6
80469 Munich
Germany

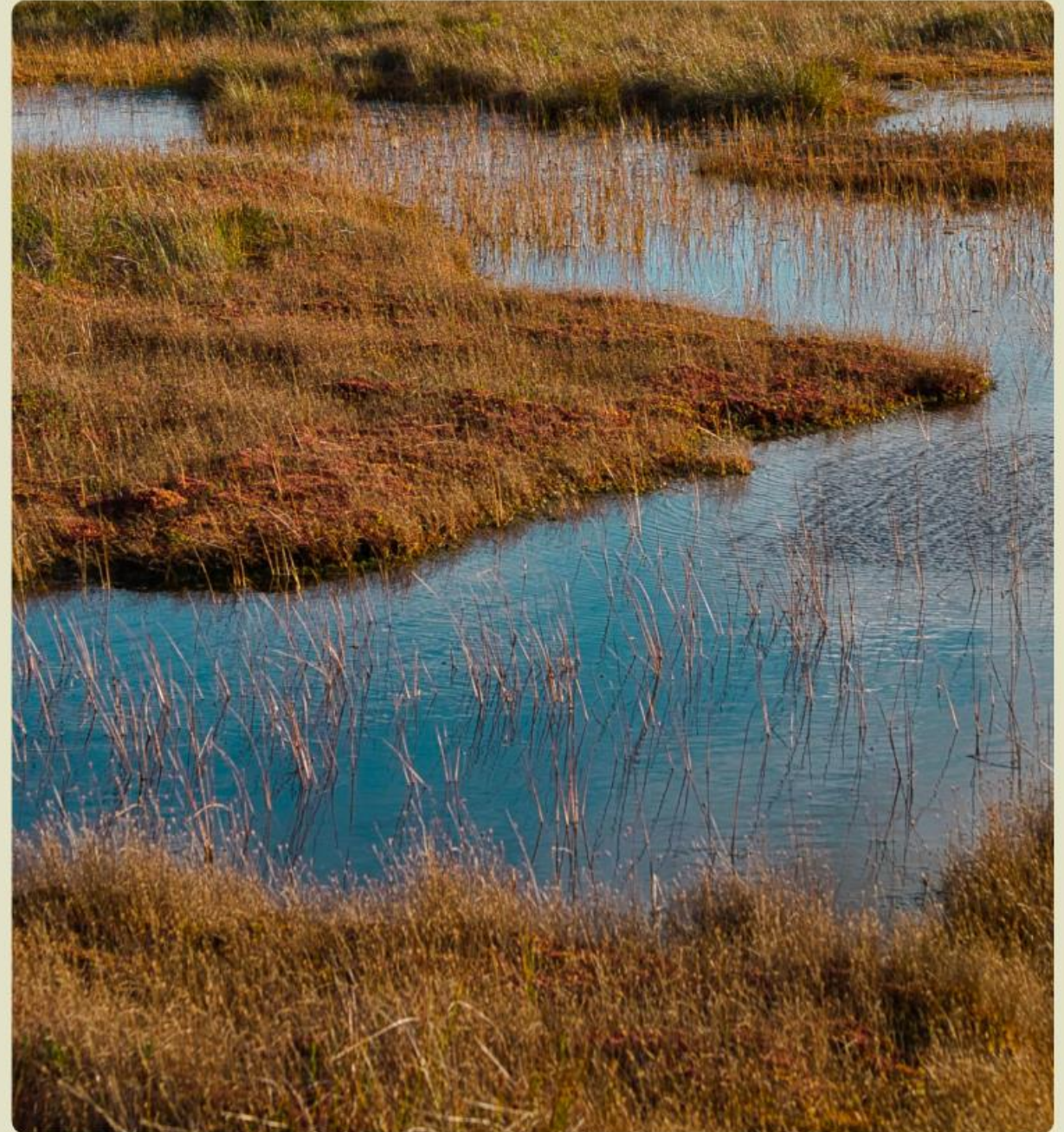
Managing Directors
Dr. Malte Schneider &
Maximilian Loessl

www.aeco.earth

Certified



corporation
PENDING



Presentations of possible approaches on quantification and sustainability

Calculating emissions reductions

Galway University - Niall O'Brolcháin



A Peatland Policy Portal for Europe

Presentation to CINEA, ELMEN EEIG and DG Climate

Presented by Niall Ó Brolcháin
July 2024



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GAILLIMHÉ
UNIVERSITY
OF GALWAY



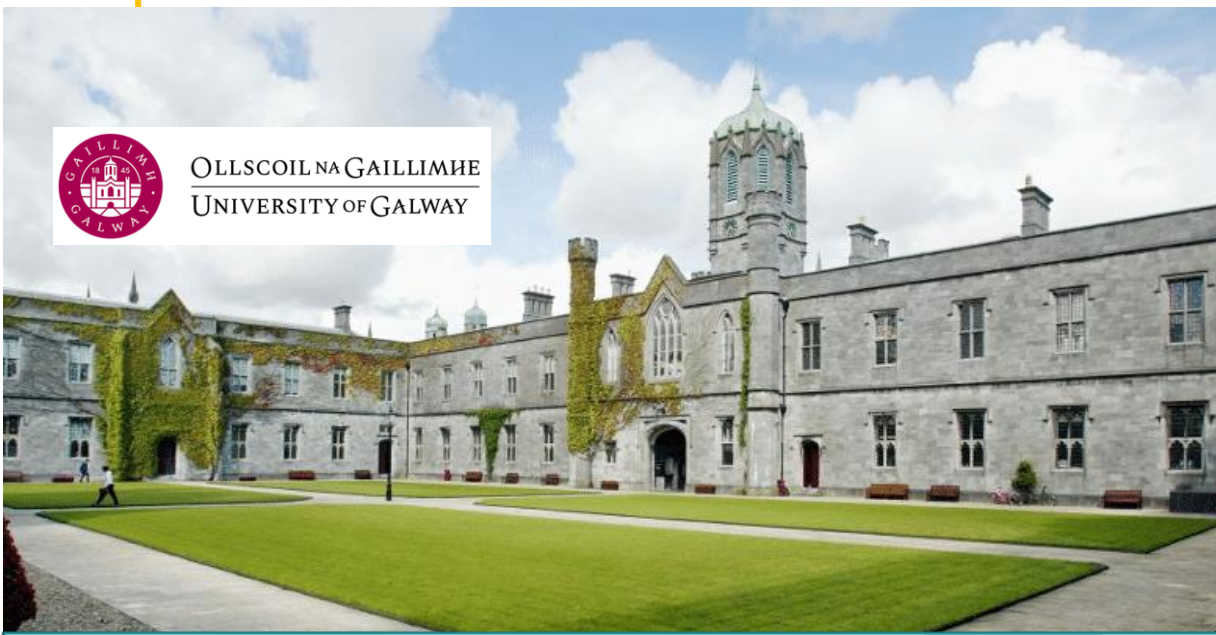


Former Mayor of Galway City and Irish Senator
Spokesperson for Energy and Natural Resources



Houses of the
Oireachtas
Tithe an Oireachtais





 OLLSCOIL NA GAILLIMHE
UNIVERSITY OF GALWAY



ASPECT Unit Leader, Researcher and Lecturer in University of Galway



Problem

Drained Peatlands
emit up to 5% of
Global GHG
emissions



There is no Planet B



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Gaillimhe
UNIVERSITY
OF GALWAY



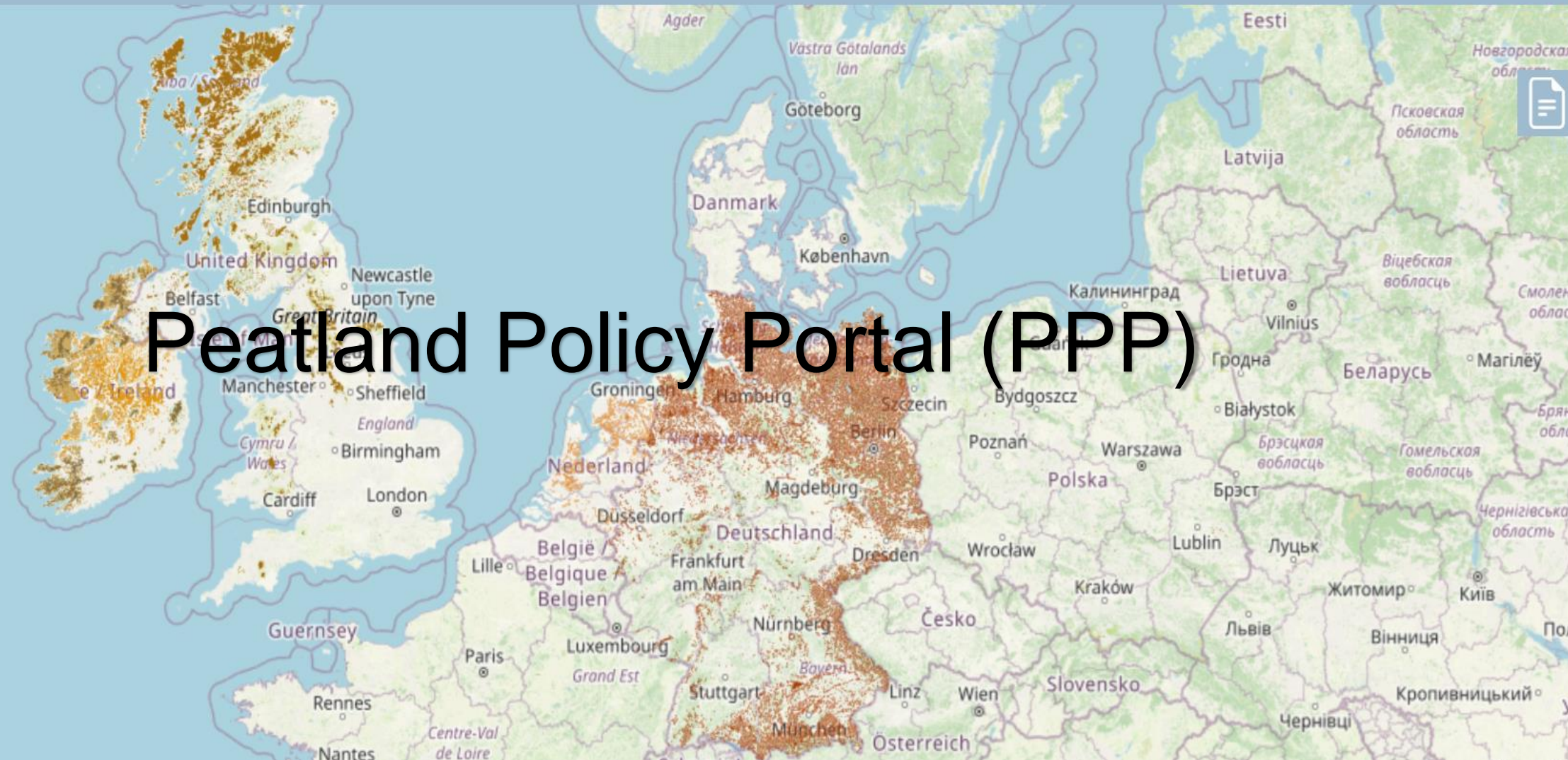
Solution

Restore and Rewet the 15% of Peatlands that are Damaged and Drained



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GAILLIMHE
UNIVERSITY
OF GALWAY





Peatland Policy Portal (PPP)

Overview

Vision

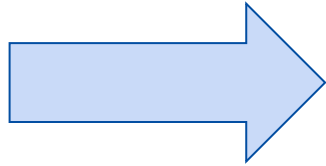
A public toolkit for the conservation of peatlands and management of agriculture over peat soils and peatlands, which showcases and analyses peatlands, projects and policies from local to global levels.

Users

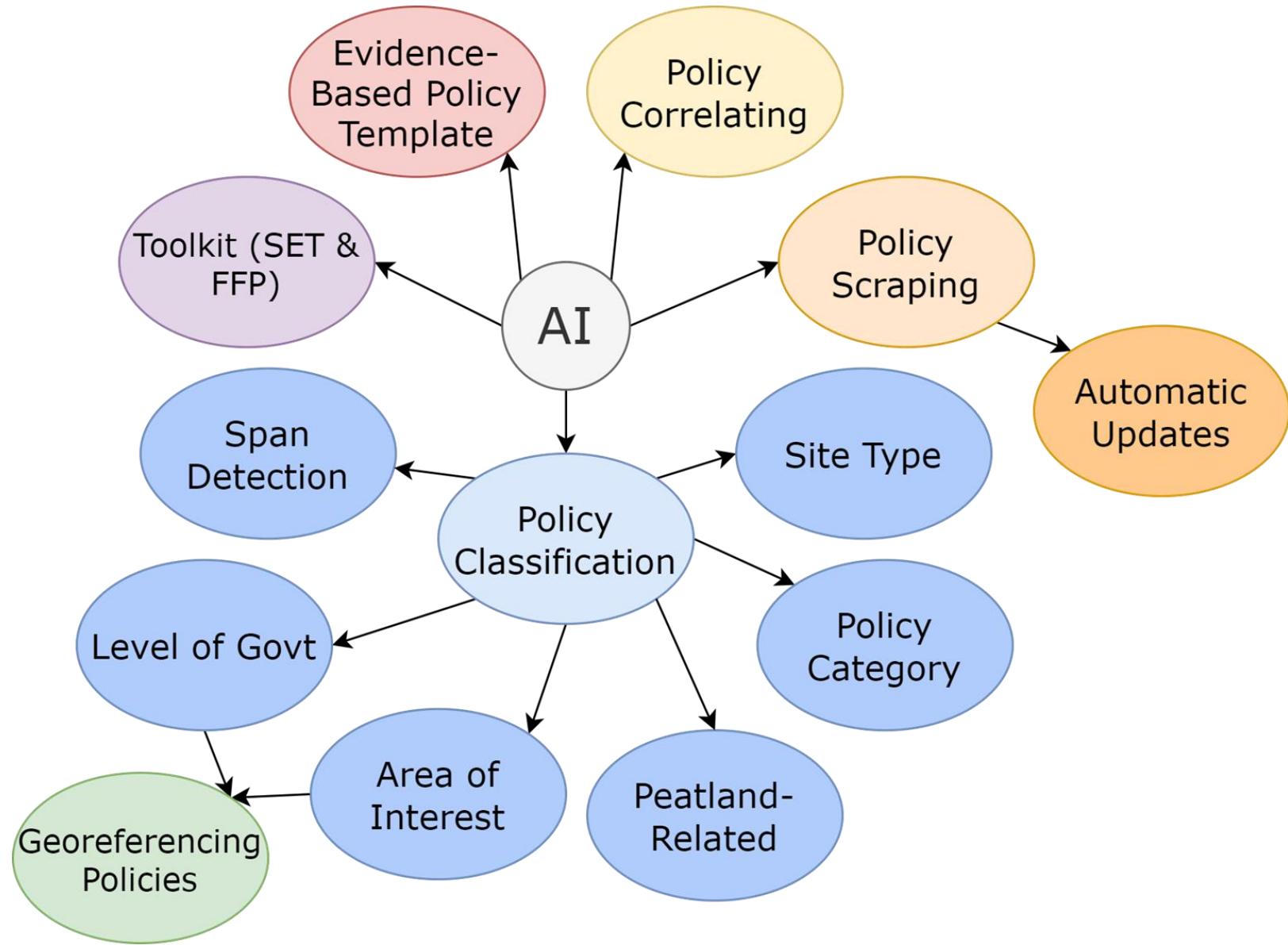
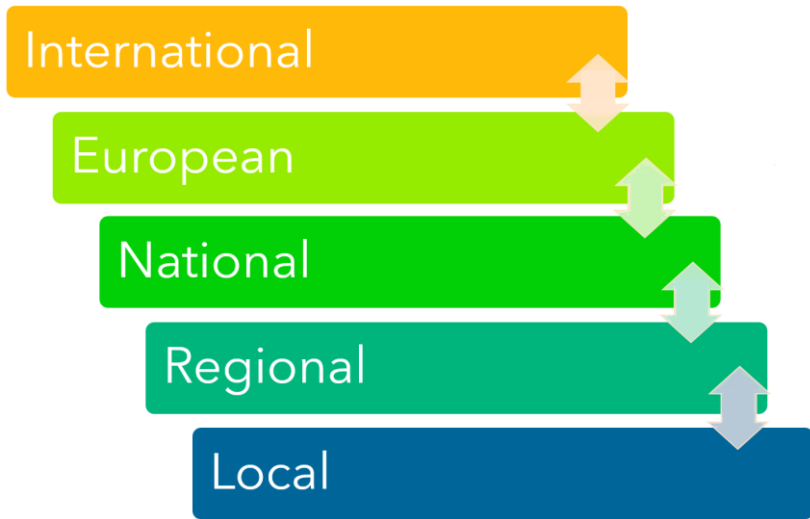
The portal includes a diverse collection of tools enabling use by multiple categories of user, including but not limited to decision-makers, policy-makers, landowners/managers, and ecologists.



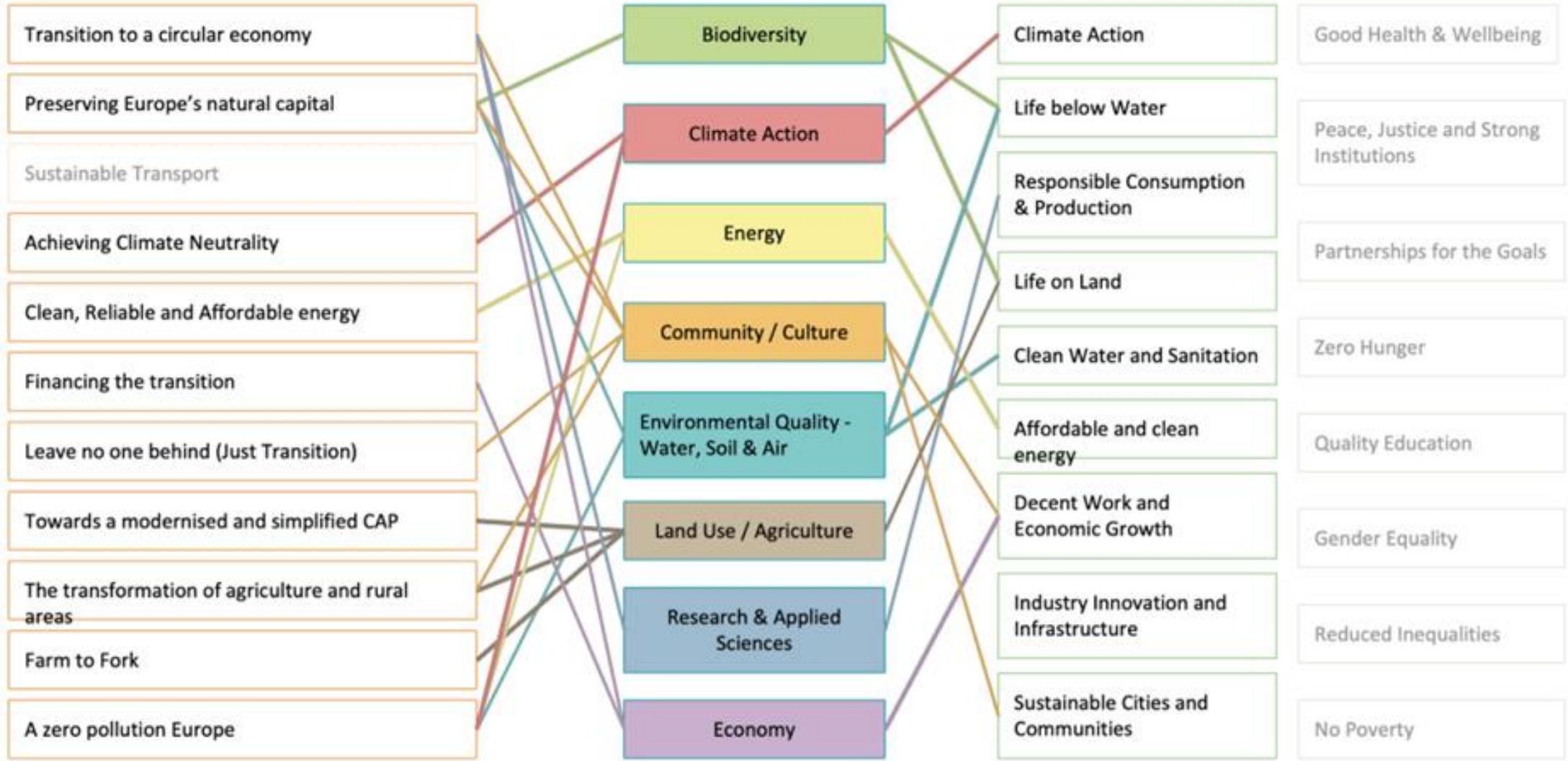
Peatland Policy Portal Development Path



Governance Levels



Classifying and Mapping Peatland Policies at all governance levels



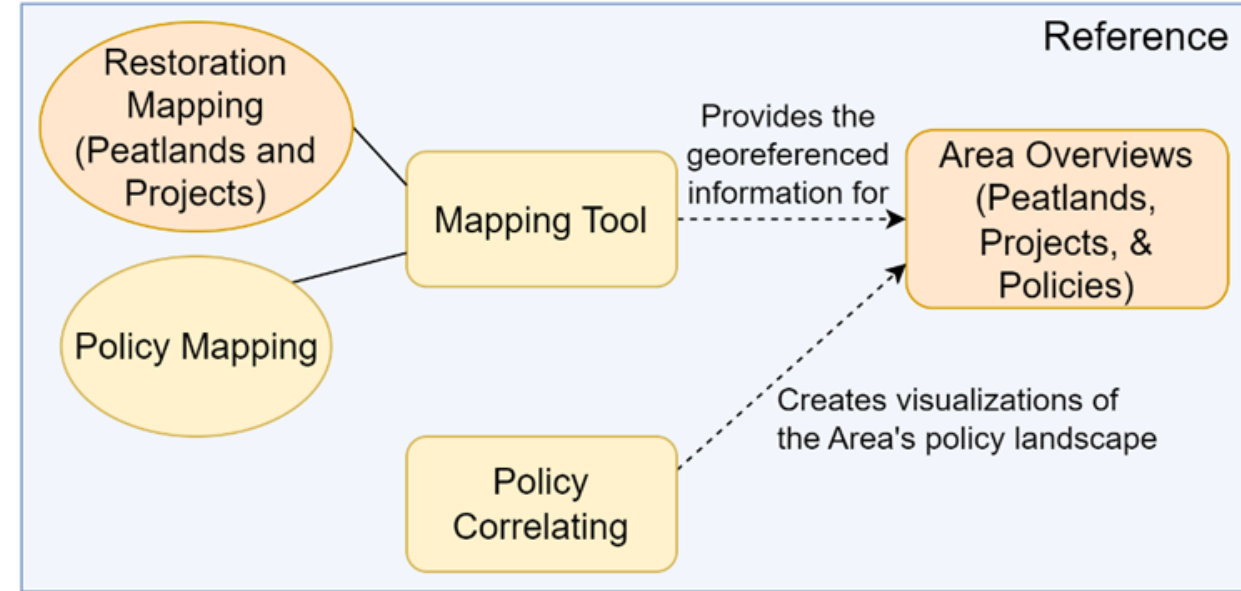
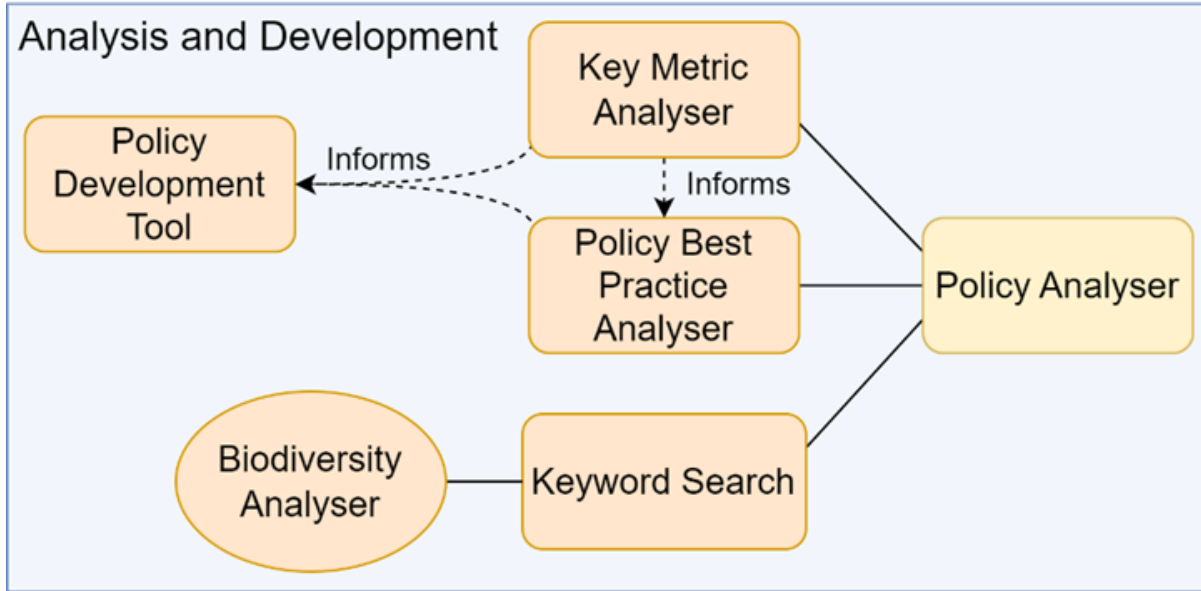
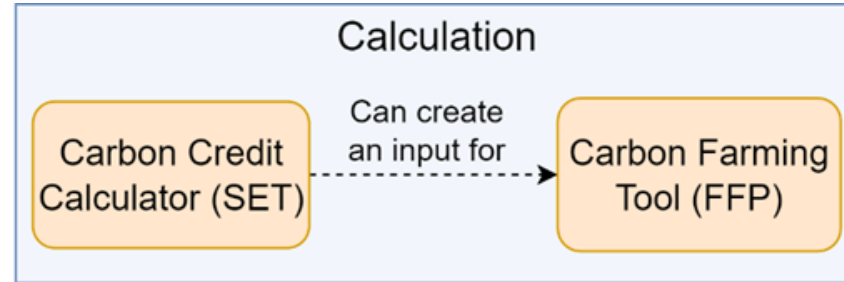
EU Green Deal

Sustainable Development Goals

PEATLAND POLICY PORTAL LAYOUT

Legend

- From Initial Portal Specifications
- Added Features



Peatland Policy Portal

Mapping Tool

- Functionality
- Project country data

We Need

- *More Peatland maps (SHP)*
- *More Policy data*

The screenshot displays the Peatland TOOLKIT web application. At the top, the logo for ASPECT (Advancing capabilities to measure and regenerate wetlands) is visible alongside a search bar and a language selector set to EN. The main navigation bar includes 'SITES & POLICIES' and 'USE THE TOOLS'. The central map shows peatland distribution across Ireland and parts of the UK, with a legend on the right listing categories like Biodiversity, Climate Action, Energy, Economy, Land Use, Culture, Research, and Env. Quality. A 'SITE TYPES' sidebar on the left allows filtering by region (International, Ireland, Poland) and specific site types (CORINE, Project Sites, Raised Bog, LL Atlantic Bog, HL Montane Bog). A 'Policy Information' panel on the right provides details for selected policies, such as the 'County Monaghan Wetland Action Plan' (Level: County, Classification: Land Use) and 'The Water Framework Directive (WFD 2000/60/EC)' (Level: European, Classification: Environmental Quality). A tooltip over the map indicates 'Site Type: Raised Bog'.

ALIGNING PEATLAND POLICIES

NATIONAL LEVEL

Land-use

Biodiversity

Land-use

Land-use

Community and Culture

Enviro quality

National Peatlands Strategy

National Parks & Wildlife Service, Department of Housing, Local Government and Heritage
2015-2025

"The purpose behind the Strategy is to set down clear principles which will guide Government policy in relation to all Irish peatlands."

National Biodiversity Action Plan

National Parks & Wildlife Service, Department of Housing, Local Government and Heritage
2023-2030

"Actions centre around the implementation of the Biodiversity Climate Change Adaptation Plan with a particular focus on peatlands rehabilitation and restoration."

CAP Strategic Plan

Department of Agriculture, Food and the Marine
2023-2027

"Obj4.N2: Improve the protection and management of existing carbon stores, including grasslands and peatlands"

Ireland's Forest Strategy

Department of Agriculture, Food and the Marine
2023-2030

"Providing science led solutions that use an ecological approach to rehabilitating and restoring some of our sensitive landscapes and peatland sites that are currently forested"

Heritage Ireland

Department of Housing, Local Government and Heritage
2022-2030

"Action 111: Prioritise the restoration of raised and blanket bog Special Areas of Conservation and Natural Heritage Areas and restore other protected habitats and species"

River Basin Management Plan

Department of Housing, Planning and Local Government
2018-2021

Actions mainly focused on raised bogs - see full entry below

Climate

Land-use

Economy

Land-use
Economy

Climate Action Plan 2024

Department of the Environment, Climate and Communications
2024

"Action JM/24/4 - Support the restoration and rehabilitation of degraded peatlands"

National Planning Framework

Department of Housing, Local Government and Heritage
2020-2040

"The government will support...protection and enhancement of carbon pools such as forests, peatlands, and permanent grasslands."

National Development Plan

Department of Public Expenditure and Reform
2021-2030

"Strategic Investment Priorities, Natural Heritage and Biodiversity: implementation of the National Biodiversity Action Plan 2017-2021, including Peatlands Restoration and Conservation"

Our Rural Future

Department of Rural and Community Development
2021-2025

"Invest in rehabilitating our peatlands to contribute to reduced carbon emissions, carbon sequestration and enhanced biodiversity"

Land-use

Land-use

Biodiversity
Climate

Food Vision 2030

Department of Agriculture, Food and the Marine
2021-2030

"Goal 2, Action 9: Carry out restoration management of grazed peatland habitats (through, for example, European Innovation Partnerships)."

Ag-Climatise

Department of Agriculture, Food and the Marine
2020-2030

"Action 15: Reduce the management intensity of at least 40,000ha of peat based agricultural soils to reduce CO2 loss"

Biodiversity Climate Change Sectoral Adaptation Plan

Department of Culture, Heritage and the Gaeltacht
2019 - 2024

"These will include ongoing peatland restoration...."

REGIONAL LEVEL 1

Economy
Land-use

Regional Spatial and Economic Strategy

Northern and Western Regional Assembly
2020-2032

RPO 5.22: To protect and conserve our designated peatlands and bogs for reasons of biodiversity, ecosystem services, carbon sinks, areas of habitat importance, amenity and landscape value

LOCAL LEVEL

Economy
Land-use

Economy

Biodiversity

Leitrim County Development Plan

Leitrim County Council
2023-2029

"Peat Pol 1: To conserve peatlands and protect peatland landscapes within the county."

Local Economic and Community Plan

Leitrim County Council
2023-2029

"Goal 2.11: Continue the County Leitrim Wetland Study to ensure that these habitats containing rich biodiversity interest are recognised, recommendations agreed for their future conservation and to raise awareness of their importance and appropriate management."

County Leitrim Biodiversity Action Plan

Leitrim County Council
2022-2027

"Action 1G: Undertake a wetland survey of the County and identify possible restoration sites."

Economy
Land-use

Climate

Cavan County Development Plan

Cavan County Council
2022-2028

"CC 10: Support collaboration between local authorities and relevant stakeholders regarding integrated peatland management and support for rehabilitation and/or re-wetting of suitable peatland habitats, in particular the Geopark and Cullcagh Carbon sequestration potential."

Cavan Climate Action Plan

Cavan County Council
2024-2029

"EG10: Support opportunities to support peatland restoration, rehabilitation and maintenance while achieving climate targets through the implementation of the climate actions within the plan."

Present: Manual Alignment
Future: Alignment using AI

Peatlands Policy Portal

SET Tool

- Calculates GHG Emissions for Peatlands
- Developed by the EU Interreg NWE Carbon Connects project

SITE EMISSIONS TOOL

This tool helps calculate the greenhouse gas emissions of managed wetland areas and how much emission reduction is eligible for claiming carbon credits.

Disclaimer: this tool is still under development and can only produce an approximate or estimated value.

* denotes required field.

Site Name	Test Site
Total area in ha. *	5
<i>i</i> Coordinates	[-56, 100]
Elevation (m)	30
<i>i</i> Peat type *	Woody ▾
Peat thickness (cm)	50
Year rewetting started	2023

▾ Groundwater and Vegetation

▾ Fertiliser Use

▾ Land Management Activity

Peatland Policy Portal

FFP Tool

- Calculates the Profitability of a Carbon Farm
- Developed by the EU Interreg NWE Care Peat project

FEASIBILITY & PRICING TOOL FOR CARBON FARMING






This tool estimates the financial feasibility of peatland restoration projects and the expected profit from different sale prices of carbon credits.
Disclaimer: This tool is still under development and the results calculated are not a guarantee.

Start year	2023	Selling price of a carbon credit (€)	561
Project duration (years)	50	Cost of generating each credit (€)	298.34
Avg. credits/ha/annum	20	Credits generated by restoration	1000
Hectares of potential restoration	1	Profitable?	YES
Investment / Financial inputs (€)	74700	Profit per carbon credit (€)	0.16
Interest on finance included	<input checked="" type="checkbox"/>	Profit per hectare per year (€)	3.21
Registry costs included	<input checked="" type="checkbox"/>	Profit across project duration (€)	161

Additional values used in the tool [View complete results](#) [Export results and assumptions](#)

[MORE INPUTS](#) [DETAILED RESULTS](#) [DOWNLOAD CSV](#)

This tool was developed by Konstantinos Tzoulas, Christopher Field, and Niall Ó Brolcháin.



SITE EMISSION TOOL (SET)

- Estimates CO₂, N₂O and CH₄ emissions from peat soils, using Greenhouse Gas Emissions Site Types-database (GEST)
- Calculates GHG fluxes per year & per hectare
- Compares two scenarios: Base/not-rewetted & rewetted scenarios
- *We need to standardize proxy GHG calculations across Europe*
- *We need accurate measurements from all Site Types across Europe*

TOWARDS A CARBON CREDIT & BLUE CREDIT SCHEME FOR PEATLANDS

WHITE PAPER



PHOTO BY CHRISTOE VAN ACKERÉ, NATUURPUNT (INTERREG CARE-PEAT)

Authors: Carbon Connects

Valentina Sechl, Jasper van Belle, Christian Fritz, Amey Tilak, Jeroen Geurts, Nina Roehrig, Peter Nailon, Kate Cartmell-Done, Weier Liu, Toine Smits, Maarten De Boever

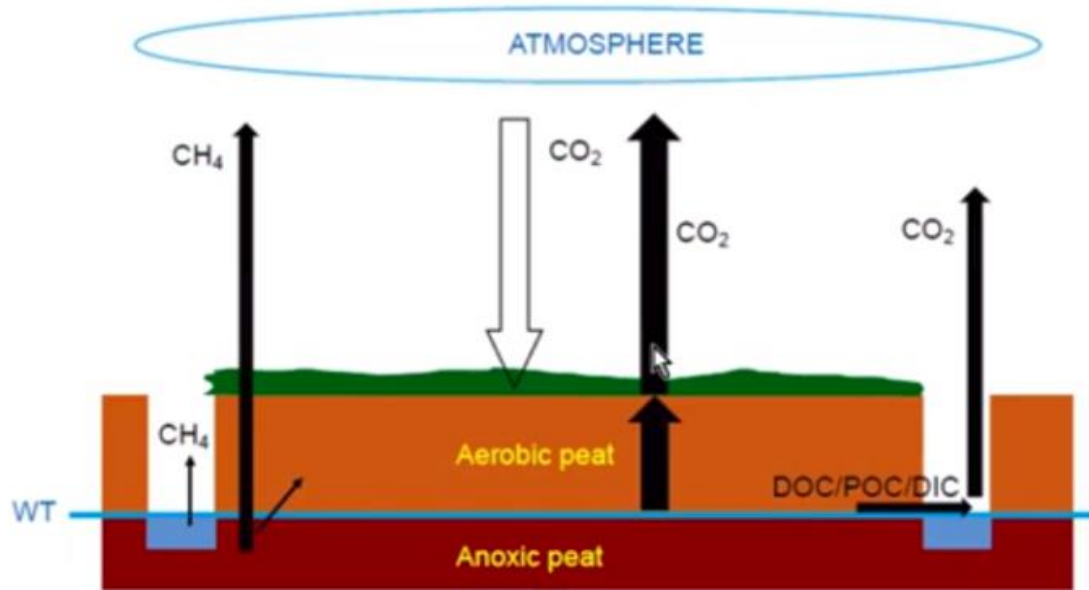
Authors: Care Peat

Niall Ó Broicháin, Terry Morley, Chris Field, Jo Kennedy, Sarah Johnson, Simon Caporn, Carolina Halevy, Jim Ryan, Maurice Eakin, Fernando Fernandez, Clifton Bain, Christine Domegan, Shane McGuinness, Mark McCorry, Patrick Crushell

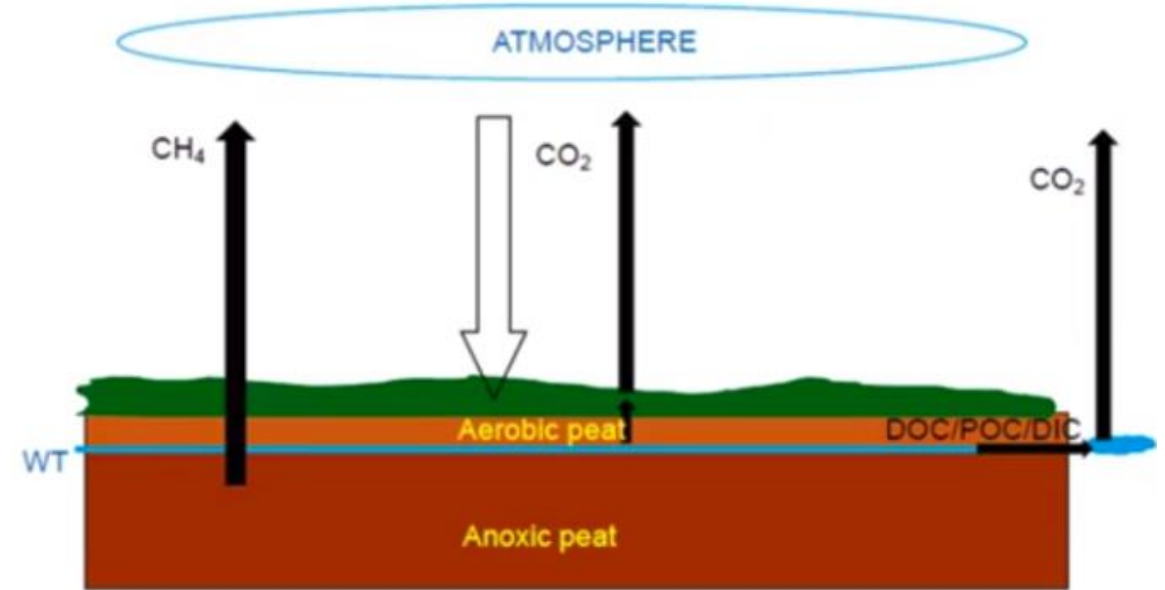
Interreg
North-West Europe
Carbon Connects

Interreg
North-West Europe
Care-Peat

Site Emissions Tool:

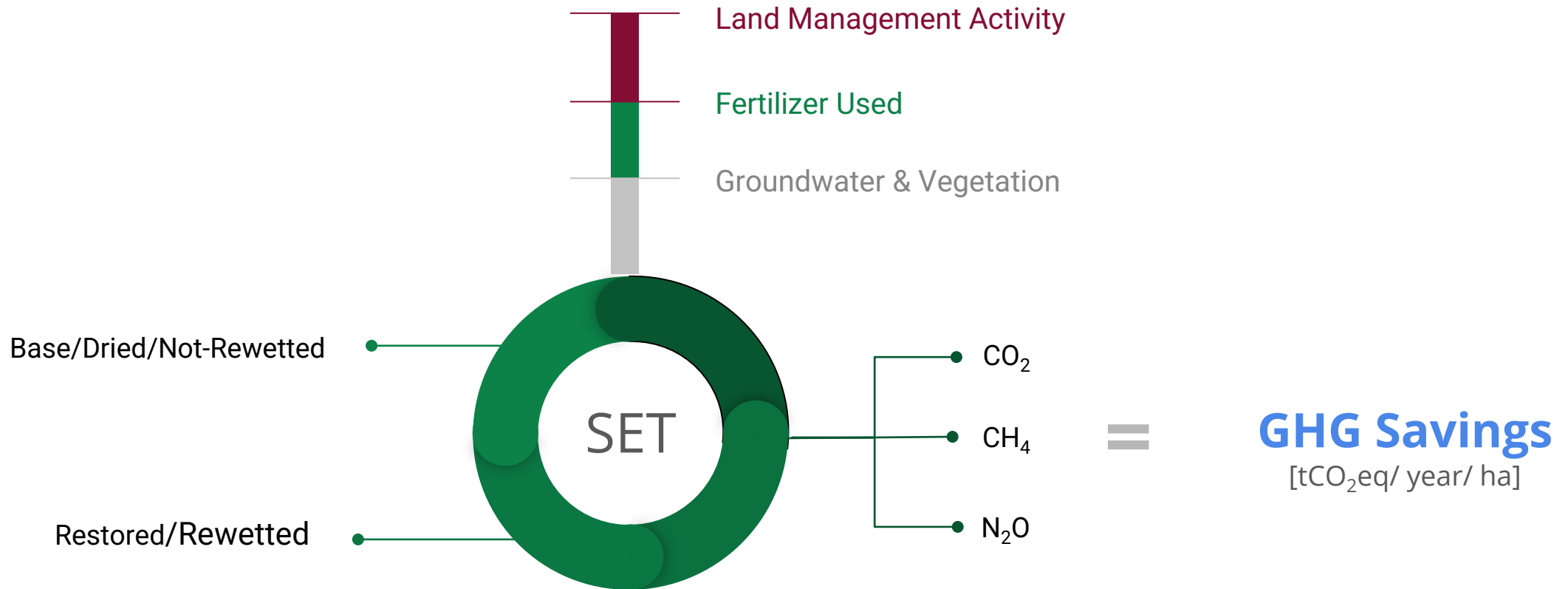


Not-Rewetted/Base



Rewetted/Restored

SET TOOL: WORKING

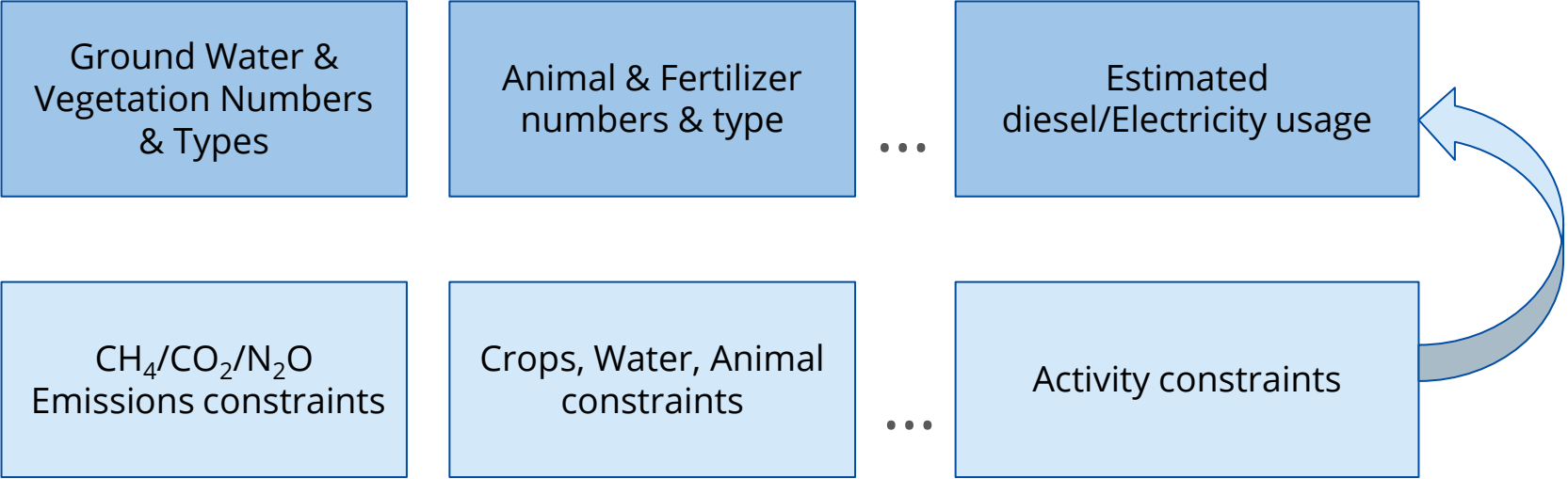


SET TOOL: DECISION OPTIMISATION STEPS [Example]

Goal

GWP Potential (tCO₂eq/year/ha)
Base/Not-rewetted site = **-12**, Restored/rewetted site = **+1.5**

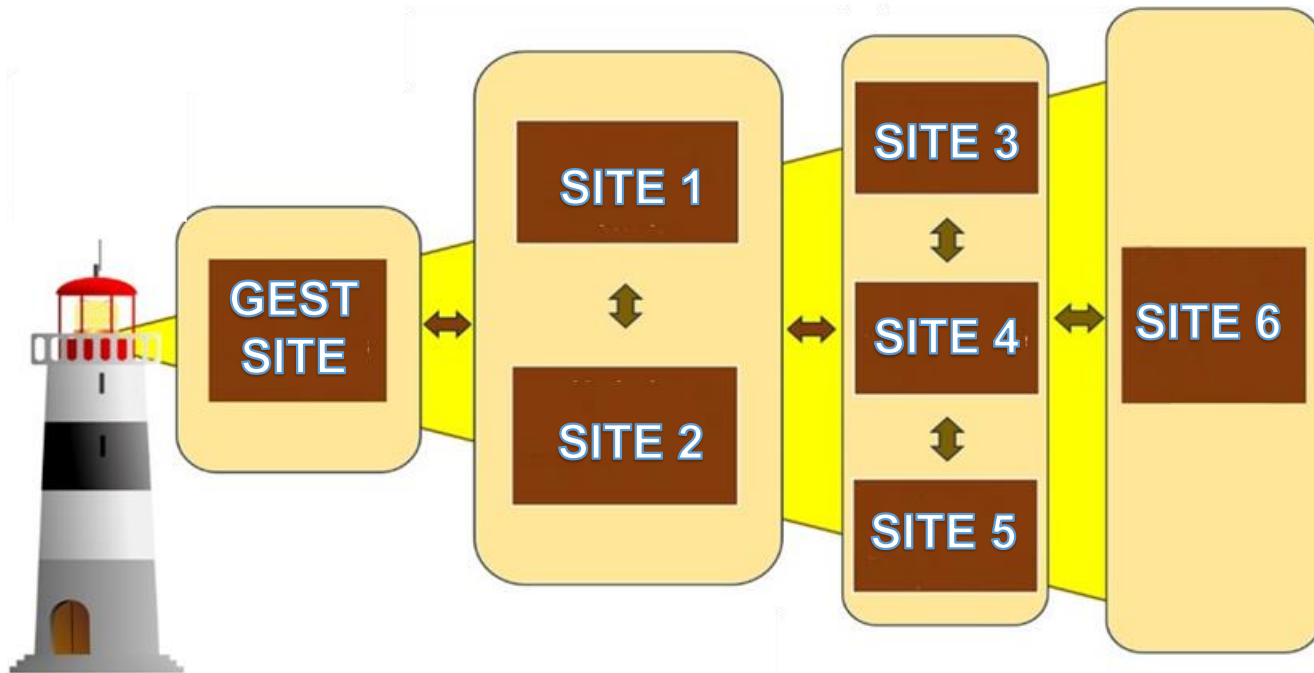
Variables



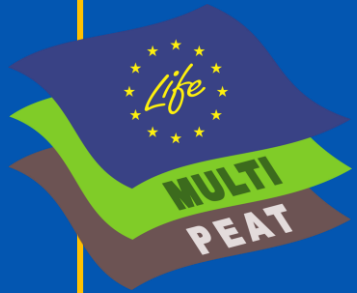
Constraints

POTENTIAL OF GHG EMISSIONS SITE TYPES METHODOLOGY

GEST sites must include GHG measurements
Proxy sites require variable data



- Examples of variable data:
1. Median groundwater levels
 2. Vegetation classes
 3. Fertilizers used
 4. Crop use
 5. Temperature
 6. Rainfall



Thank You



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GAILLIMHÉ
UNIVERSITY
OF GALWAY



Presentations of possible approaches on quantification and sustainability

The Biodiversity Framework

UK Peatland Code - Renee Kerkvliet-Hermans

PC/WCC Biodiversity Framework

Updates on methods and crediting
framework – subject to change



Made possible with
**Heritage
Fund**

Dr Renée Kerkvliet-Hermans
Peatland Code Manager
IUCN UK Peatland Programme

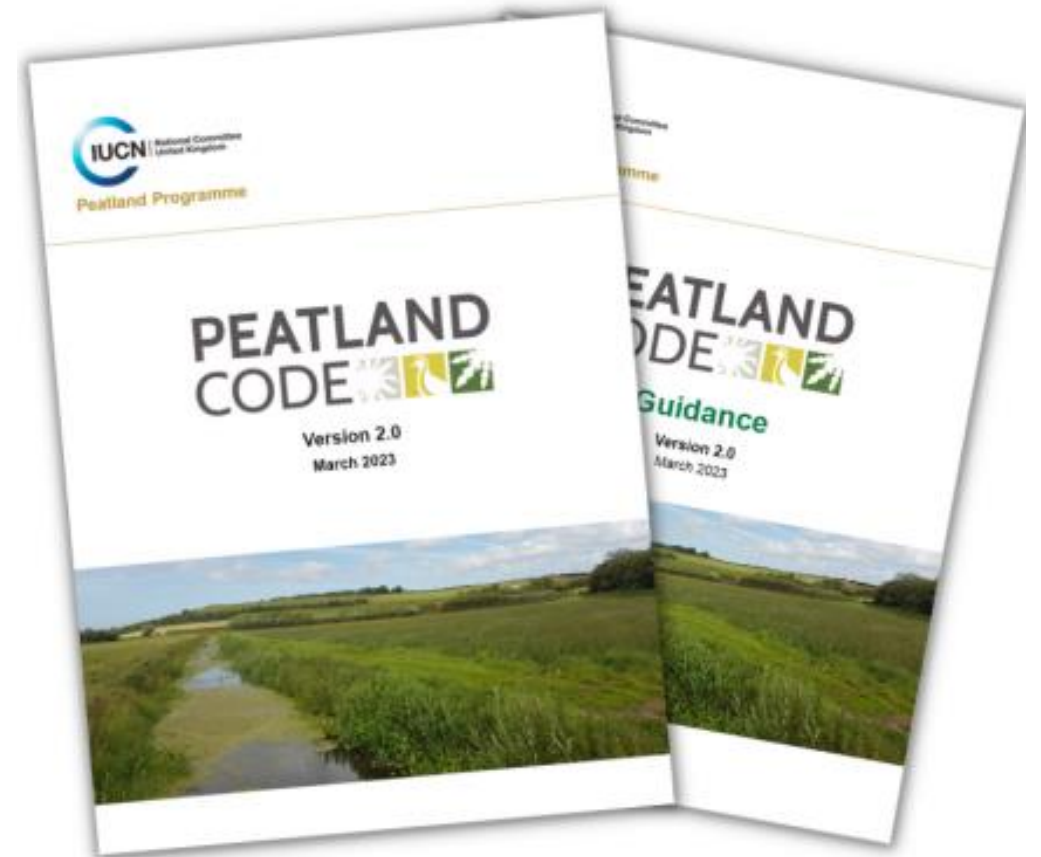


What is the Peatland Code?

Only UK govt-backed, **domestic** voluntary carbon market standard for peatland restoration

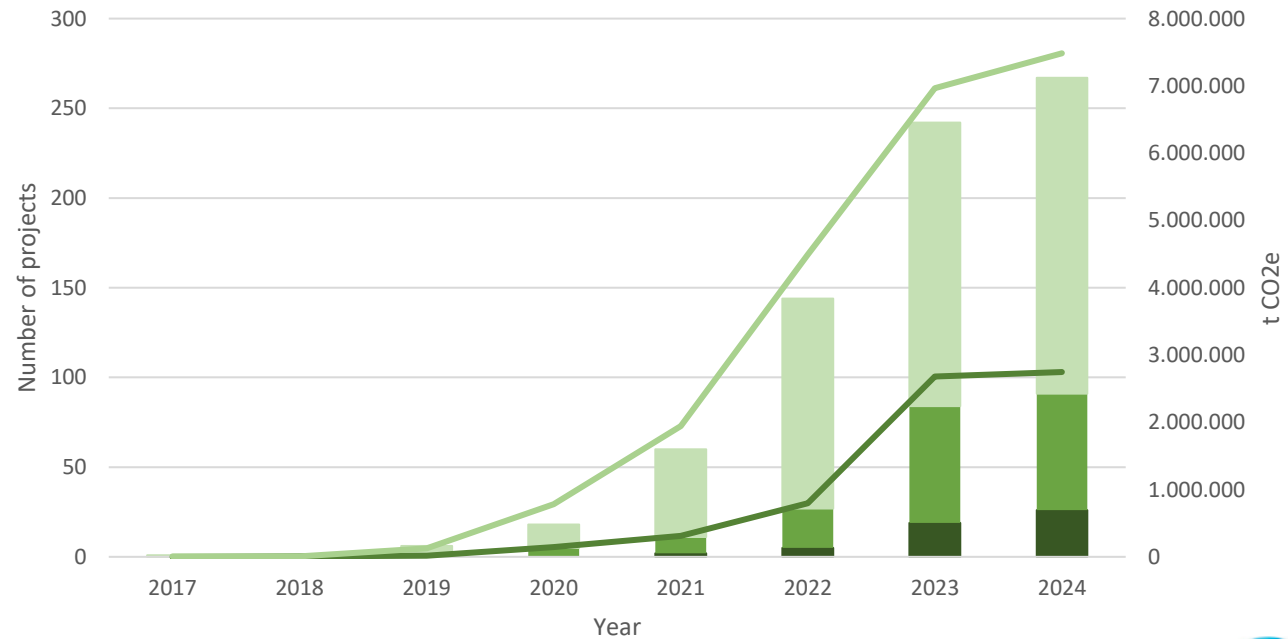
- help companies to become carbon neutral/negative
- helps the UK to meet national GHG targets
- PC: restoration and/or rewetting

PC purpose is to underpin market trust and confidence



Growth over time

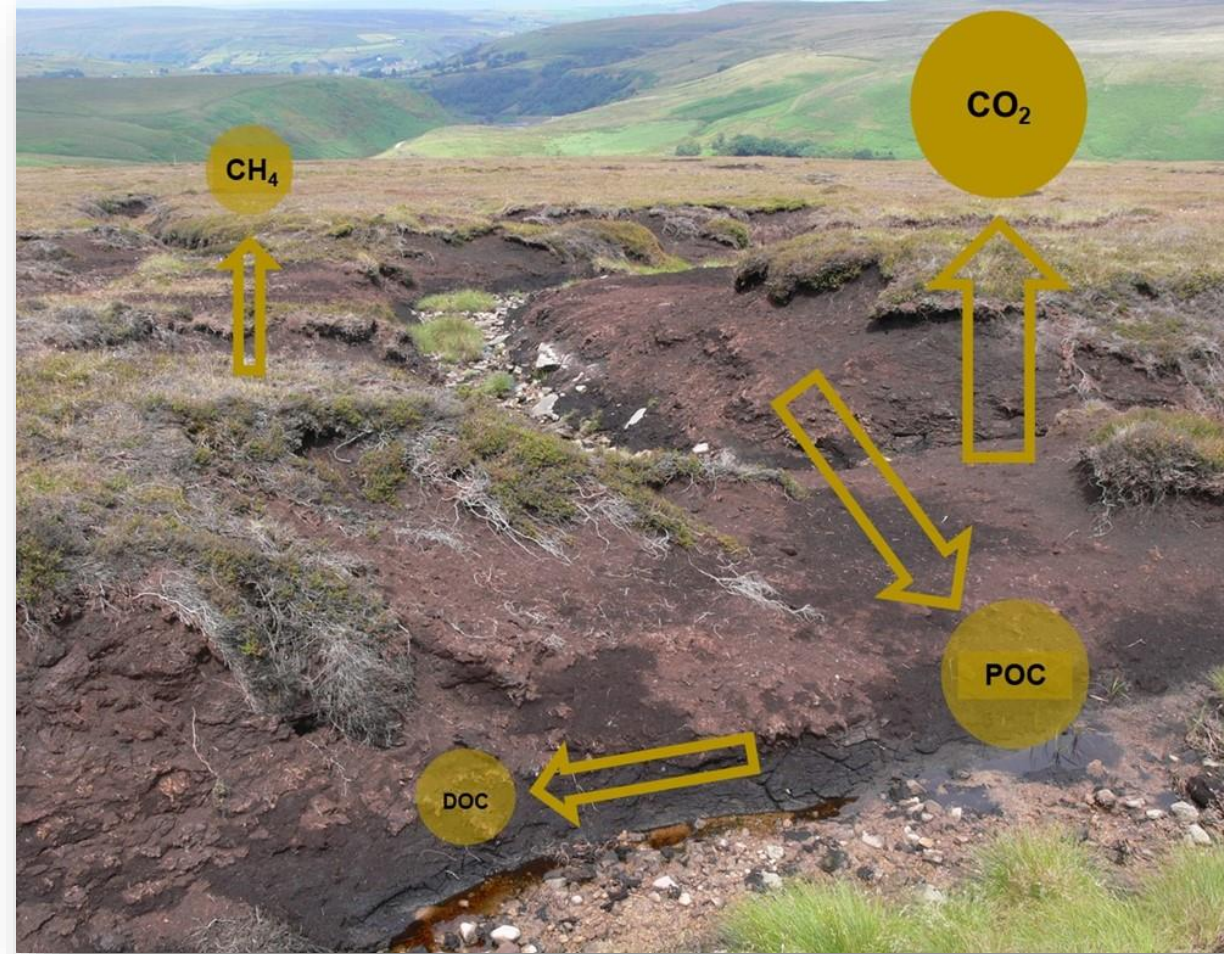
- 267 Projects registered
- 91 validated
- 34,300 ha of peatland restoration
- 7.4 Million tCO₂e expected emission reductions over lifetime off all projects



Greenhouse gas fluxes

Intact peatland

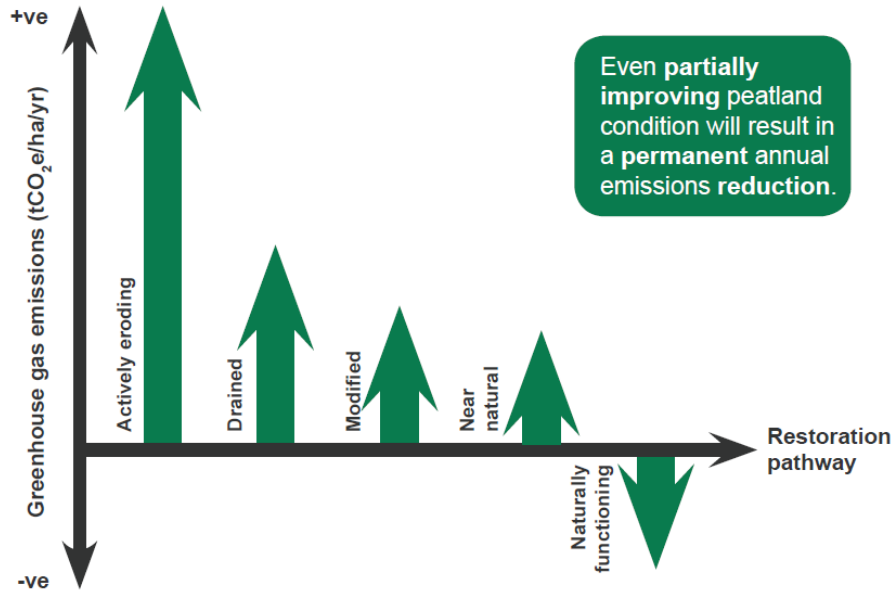
Degraded peatland





Bogs

Condition categories with Emission Factors
Linked to UK GHG inventory



Fens

Effective water table depth and vegetation type used in
emission calculator

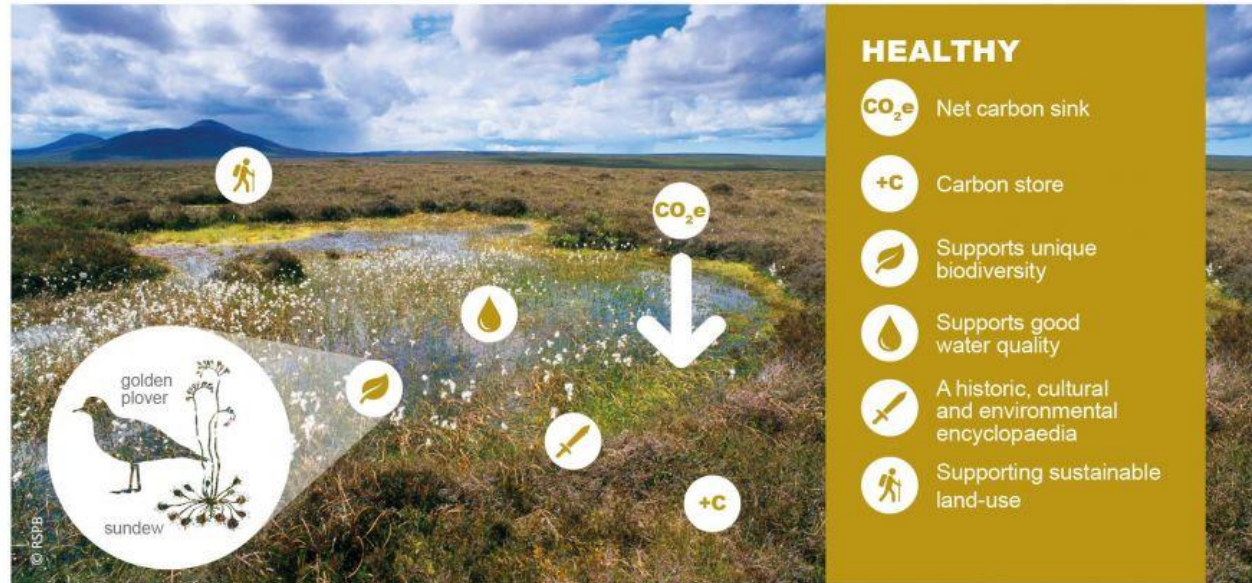
Restoration or only rewetting

Linked to UK GHG inventory



Many more ecosystem services

ECOSYSTEM SERVICES IN A HEALTHY PEATLAND



A photograph of a healthy peatland landscape featuring a pond, mountains, and various plants. Overlaid icons include a person walking, a water drop, a leaf, a sword, and a person walking. A circular inset shows a golden plover and a sundew. A large white arrow points downwards from a CO₂e icon to a +C icon.

HEALTHY

- CO₂e Net carbon sink
- +C Carbon store
- Supports unique biodiversity
- Supports good water quality
- A historic, cultural and environmental encyclopaedia
- Supporting sustainable land-use

IMPACT ON ECOSYSTEM SERVICES IN A DAMAGED PEATLAND



A photograph of a damaged peatland landscape showing a dry stream bed, eroded soil, and sparse vegetation. Overlaid icons include a person walking, a leaf, a sword, a water drop, and a person walking. A circular inset shows a golden plover and a sundew. A large white arrow points upwards from a CO₂e icon to a -C icon.

DAMAGED

- CO₂e Net carbon source
- DOC Dissolved organic carbon
- POC Particulate organic carbon
- C Carbon source depleted
- Loss of biodiversity
- Loss of historic archive
- Coloured, peaty water
- Farming and recreation compromised



Key Components

PC biodiversity units

Operation Wallacea Approach

Aligns with regionally and globally accepted, open-source frameworks for biodiversity crediting

Explicit definition of unit

Structural/Process Metrics

How biodiversity is facilitated by the habitat/restoration activities

Taxonomic Metrics

Explicit measurements of biodiversity outcomes from restoration

Performance Standards

Ensuring protection/enhancement of ecosystem services without diluting the biodiversity “unit”

Structural/Process Metrics

Existing metrics/methods

- Utilisation of habitat condition/function metrics
 - UK Specific when possible
 - Have reference standard values

Scaled values of 0-100

- Calculated/developed based on existing datasets
- Allows for % improvements to be calculated

Baseline values inform habitat state

- Can be used to estimate uplift potential
- Standardised scales can be helpful for comparison of restoration activities
- Creates a more informed baselining process

Peatlands in good condition



Peatlands in intermediate condition



Peatlands in bad condition



Journey of Peatland Recovery
(Source: Julia Martin-Ortega)



Taxonomic Metrics

Utilises the framework within OpWall for unit valuation

Conservation values/priorities contextualised to the UK

Data hierarchy for conservation values of taxa

Eg: UK Biodiversity Action Plan → JNCC
→ RSPB → IUCN

Guidance for taxa selection

Ensure that the metrics are selected to show the most relevant indicator species to improved overall ecosystem health

Flexible decision-making criteria for specific sites

Performance Standards

Part of the project registration process

Safeguard to ensure that other ecosystem services are not damaged at the cost of carbon/biodiversity

Avoids unintended consequences beyond scope of credits

Does not muddy or dilute the meaning of a “biodiversity unit” by including other ES in the unit valuation

Compatible with expanding nature market

Other ES won't be double-counted if new credits or units arise in the market

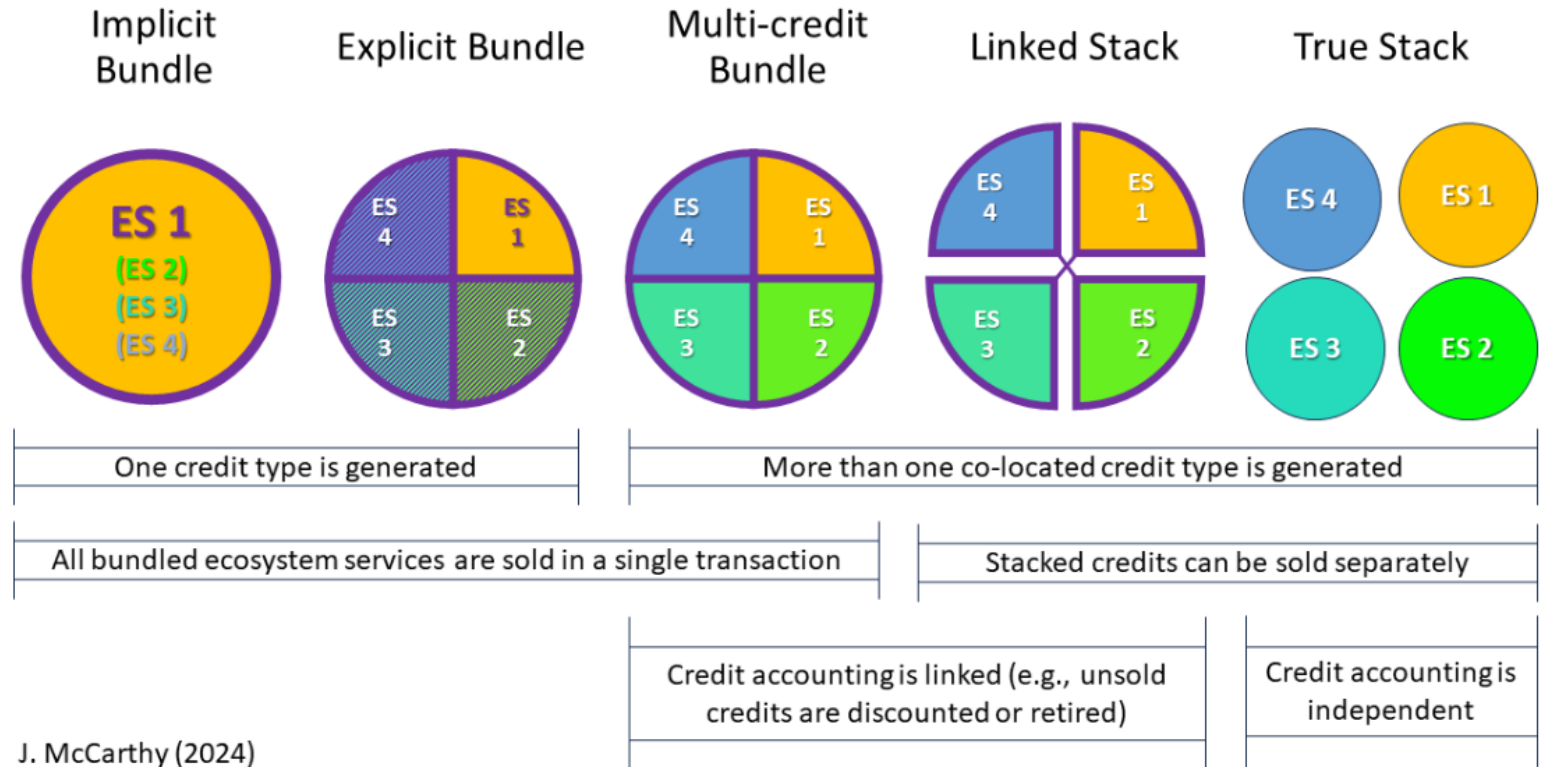


Bundling vs stacking

Market research:

Landowners seem to prefer stacked, buyers seem to prefer bundled

Leaning towards bundled to start with → less risky



Third party independent validation and verification

Key in carbon markets. Currently working with three organisations. Now piloting how they can validate and verify biodiversity credits



Baseline surveys are currently being done by specialist biodiversity company rePLANET, other companies are available and projects can choose how they plan on collecting data



Difference between C and biodiversity markets

- Carbon is single metric market
- Biodiversity is multi metric market and needs to be more flexible.
- Not reinventing the wheel. Taking from C market what works and implement in biodiversity market



Current Progress

Piloting at 4 sites (two woodland, two peatland)

Working with Soil Association to develop third party independent verification process for diverse types of biodiversity data

Beginning to draft standards for public consultation

Working to align with other biodiversity monitoring and environmental disclosure frameworks where possible

Get in Touch



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[IUCN-uk-peatlandprogramme.org](https://www.iucn-uk-peatlandprogramme.org)



peatlandcode@iucn.org.uk

Views from the audience

Views from the audience

What is the most important consideration for the development of an EU methodology for peatland rewetting?

To access Slido, either:

- Scan the QR code using your smartphone
- Or, use the browser on your computer or smartphone, go to [slido.com](https://www.slido.com) and enter the passcode **#1945249**



Thank you and next steps

Feedback via online survey

https://ec.europa.eu/eusurvey/runner/peatlands_feedback

https://climate.ec.europa.eu/eu-action/carbon-removals-and-carbon-farming_en

Coffee break (10 min)

Breakout groups

Quantification of peatland rewetting activities

1. What common requirements need to be considered for establishing peatland types and their emission factors, considering existing methods?
2. How can possible future developments in the quantification of peatland rewetting (e.g. new peatland type) be best integrated into the approach?
3. What role should on-site measurements and remote sensing play, and how could they be integrated in the quantification approach?

Sustainability

1. In addition to organic carbon stocks, what other indicators could be identified in existing legislation to prove the generation of co-benefits for biodiversity, also considering regional specificities?
2. What specific rules are appropriate or necessary in the case of paludiculture/agricultural use?
3. Which policy instruments can be used to operationalise the DNSH technical screening criteria?
4. Which management practices could be considered to generate co-benefits for climate change mitigation and adaptation; sustainable use and protection of water and marine resources; circular economy; and pollution prevention and control (non-exhaustive list)?

Wrap up

Lucia Causey-Hugecova
DG CLIMA

Thank you!