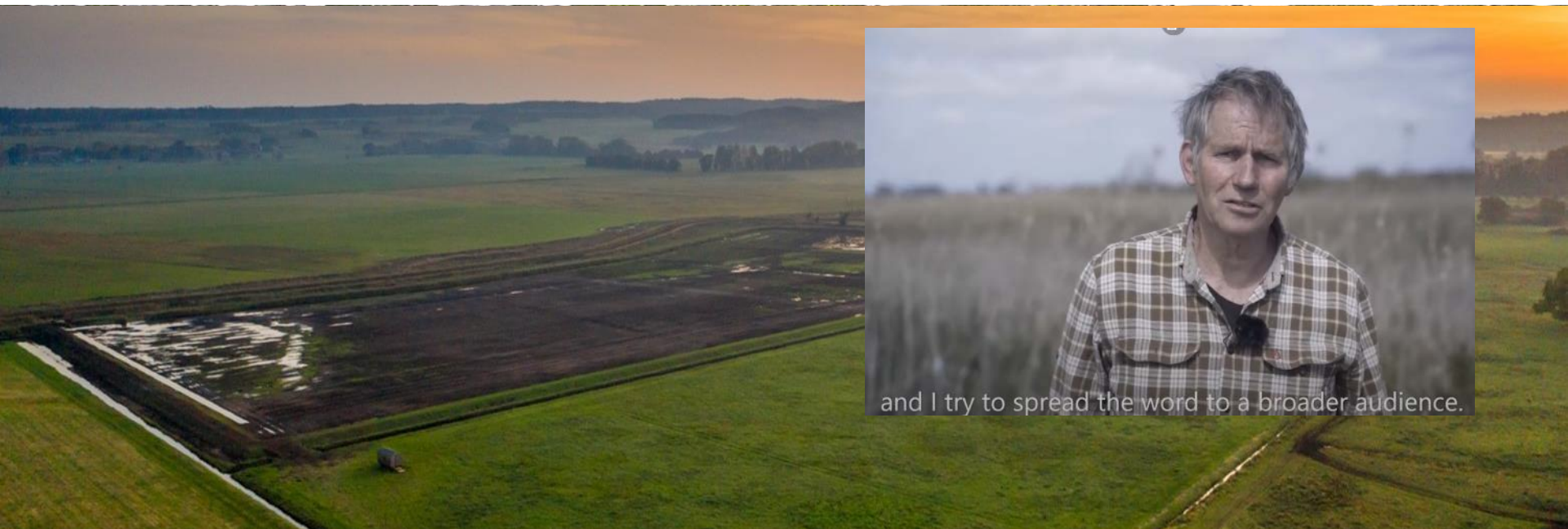




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Paludiculture – extending the land eligibility to innovative approaches

Franziska Tanneberger & Aldert van Weeren





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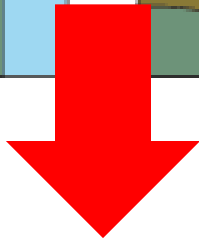

Why do we need an innovative approach for farming on carbon-rich soils?



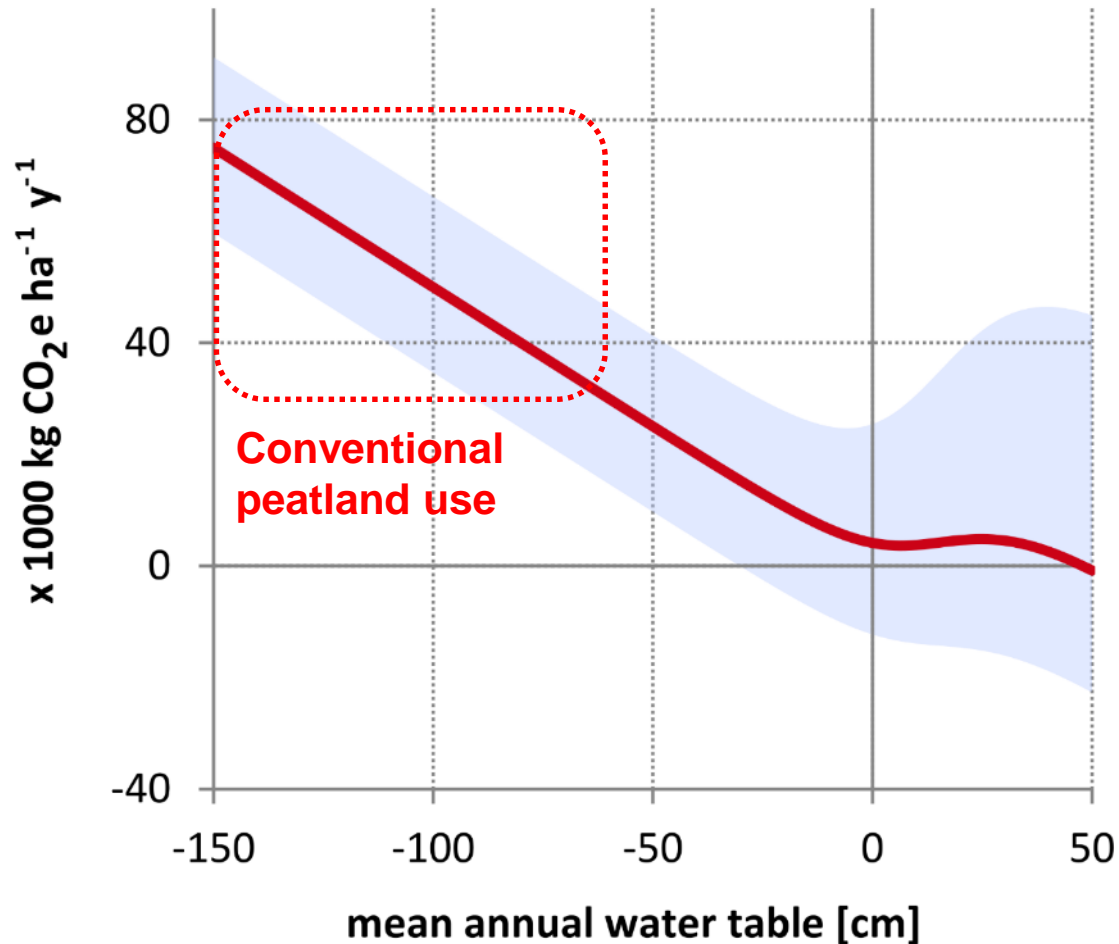
**Such land use on peat
soils causes 29 t
CO₂e/ha/yr...**



**... or even 37 t
CO₂e/ha/yr (IPCC
emission factors)**



The deeper the drainage, the higher the emissions...





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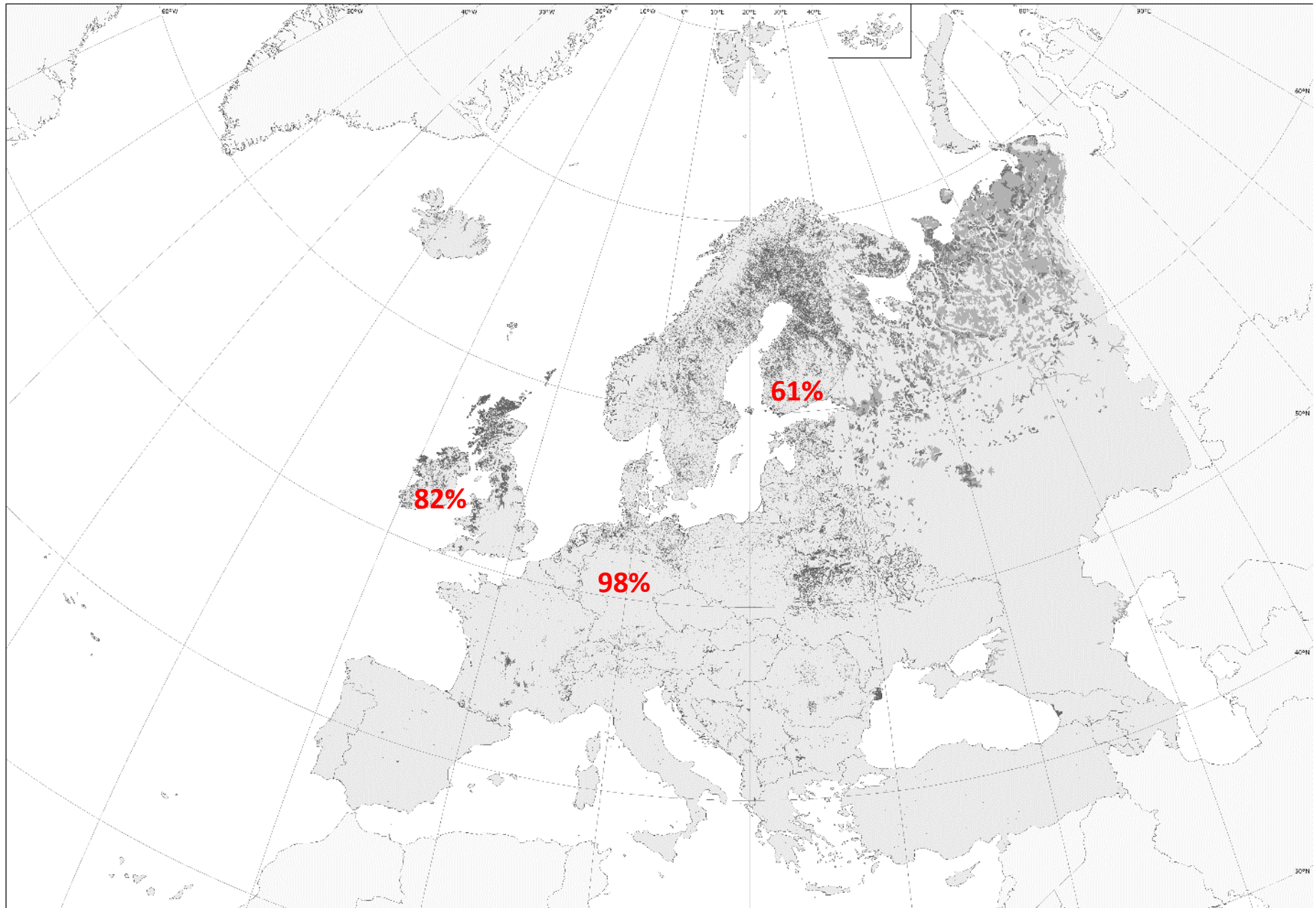
Is it a problem at European scale?

Yes - **organic soils** occur in all European countries



Tanneberger et al. (2017)

In many countries, the majority of the peat soil is drained



% drained of total organic soil area

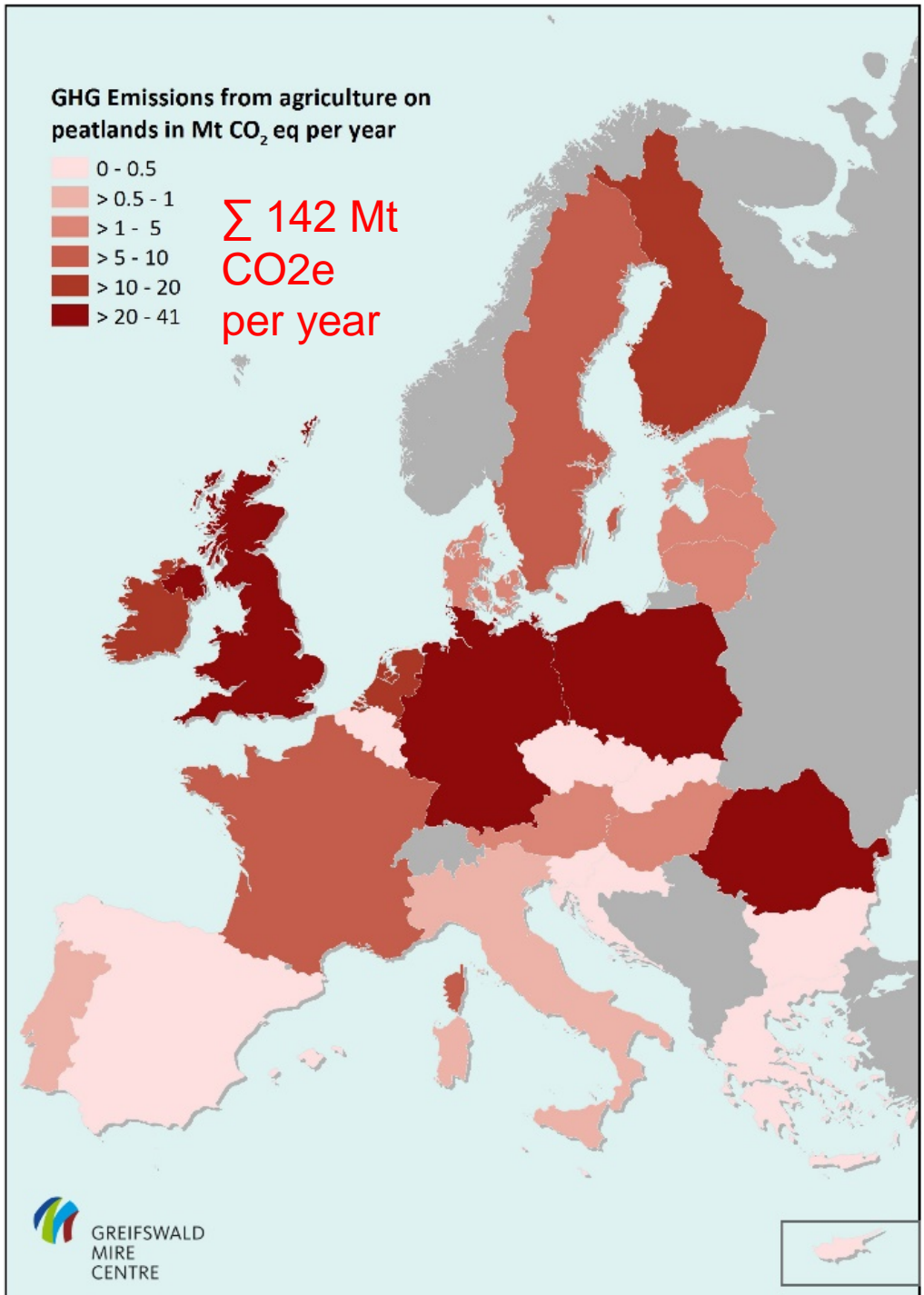
Tanneberger et al. (2017)

They are drained for agriculture, forestry or peat extraction

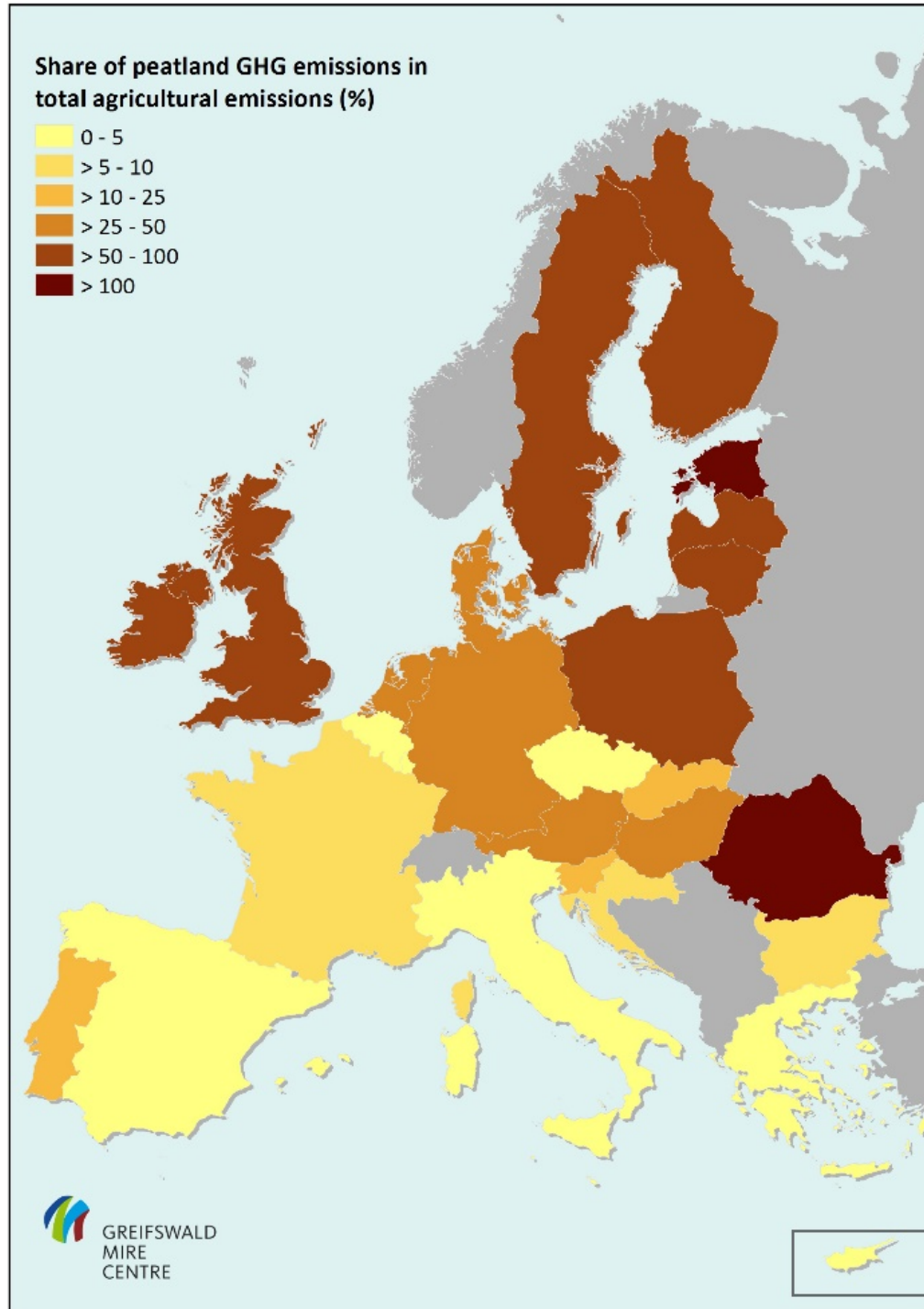


Peatland
emissions are
substantial...

Total
emissions
from drained
peatlands in
the EU:
220 Mt CO₂e
per year = 5%
of EU GHG
emissions



... in many countries > 50% of the total agricultural emissions!



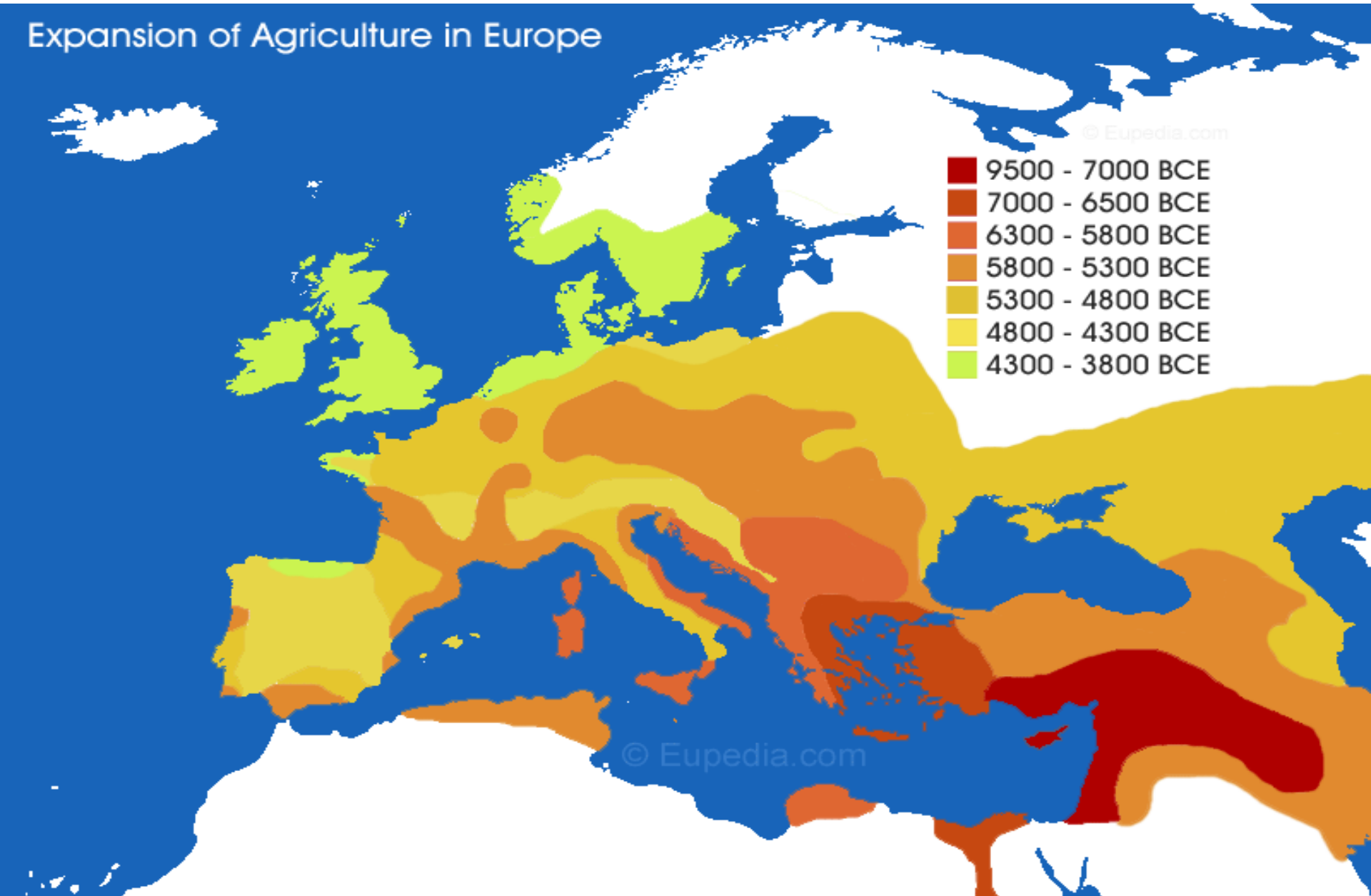


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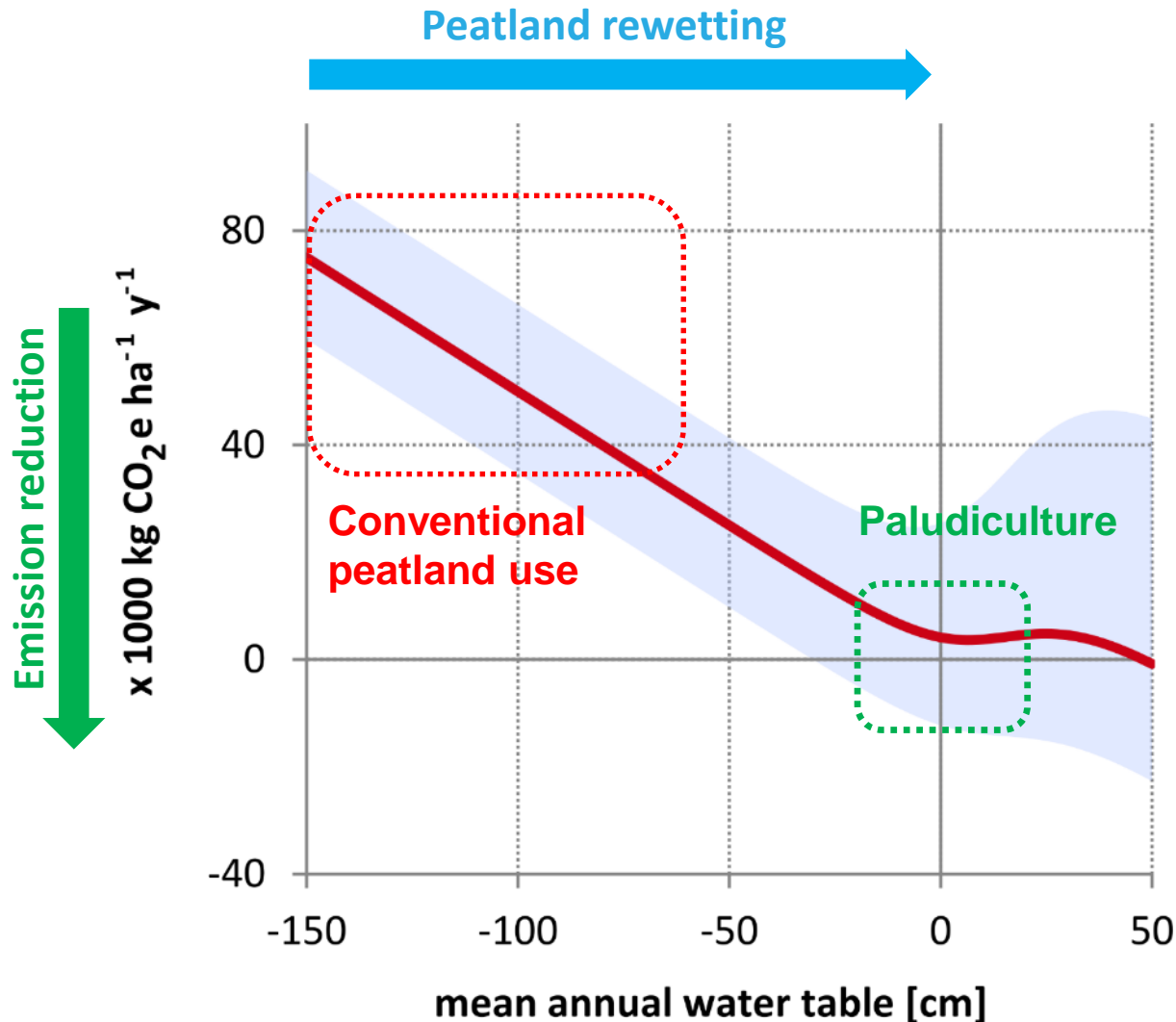
How is it possible that this problem has been overlooked for so long?

Our agriculture had a semi desert as a cradle → Paradigm over millenia:
Productive land must be dry...

Expansion of Agriculture in Europe



What we also know: Peatland rewetting stops subsidence + emissions...





... and also wet peatlands can be farmed

*Paludiculture is the **productive** use of **wet peatlands**.*

„palus“ → Latin for swamp

„culture“ → agriculture or forestry

Paludiculture types



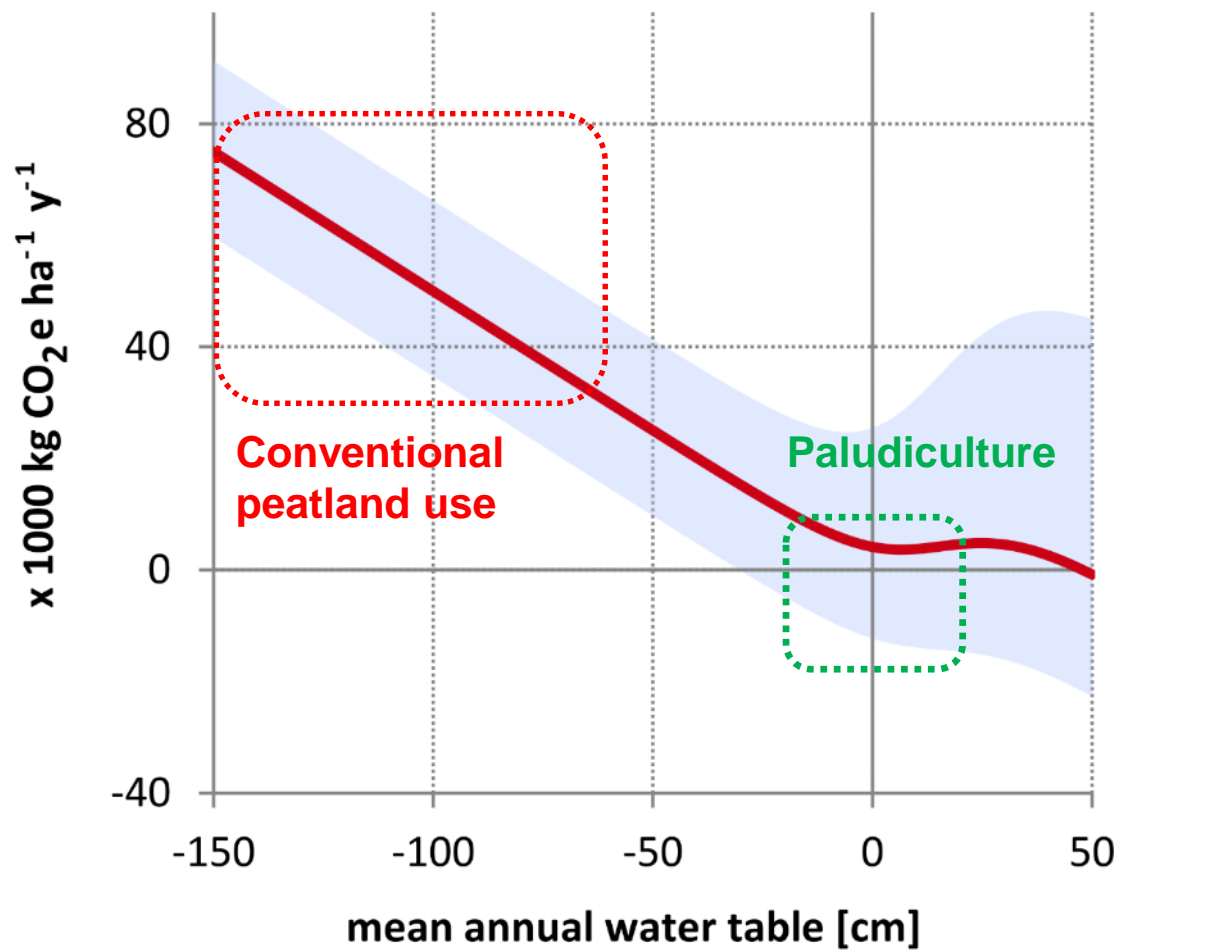
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Wet meadows/ pastures



Cropping paludicultures





- Sedges
- Water buffalo
- Alder
- Reed
- Cattail
- Peatmoss



Sedges – wet meadows
→ for energy (combustion, biogas), fodder



Water buffalo – wet pastures
→ for food, landscape conservation




Common Reed, productivity up to 25 t DM/ha/yr
→ for building material (import rate thatch in EU: 80%!), energy



Cattail

→ for building material, insulation, fodder

Additional ecosystem services

- 
- A photograph of a wetland landscape. In the foreground, there are tall, green and yellowish grasses growing in a shallow, water-saturated area. A path or channel of water runs through the grass. In the background, a calm body of water stretches across the horizon, with a line of trees on the far shore under a cloudy sky.
- reduced nutrient run-off = better water quality
 - increased landscape cooling
 - increased flood protection
 - increased groundwater storage
 - often increased biodiversity



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**What should be changed in the
next funding period?**

Conventional agriculture on organic soils

e.g. Deep drained, nutrient rich grassland

29 t CO₂e ha⁻¹ yr⁻¹ (IPCC 2014)

Currently fully eligible for CAP payments



Phase it out & support farmers
in transition to carbon
farming/paludiculture (advice!)

Paludiculture

e.g. Rewetted, nutrient rich reed

0-7 t CO₂e ha⁻¹ yr⁻¹

Currently not eligible for CAP payments



Make it eligible and phase it in

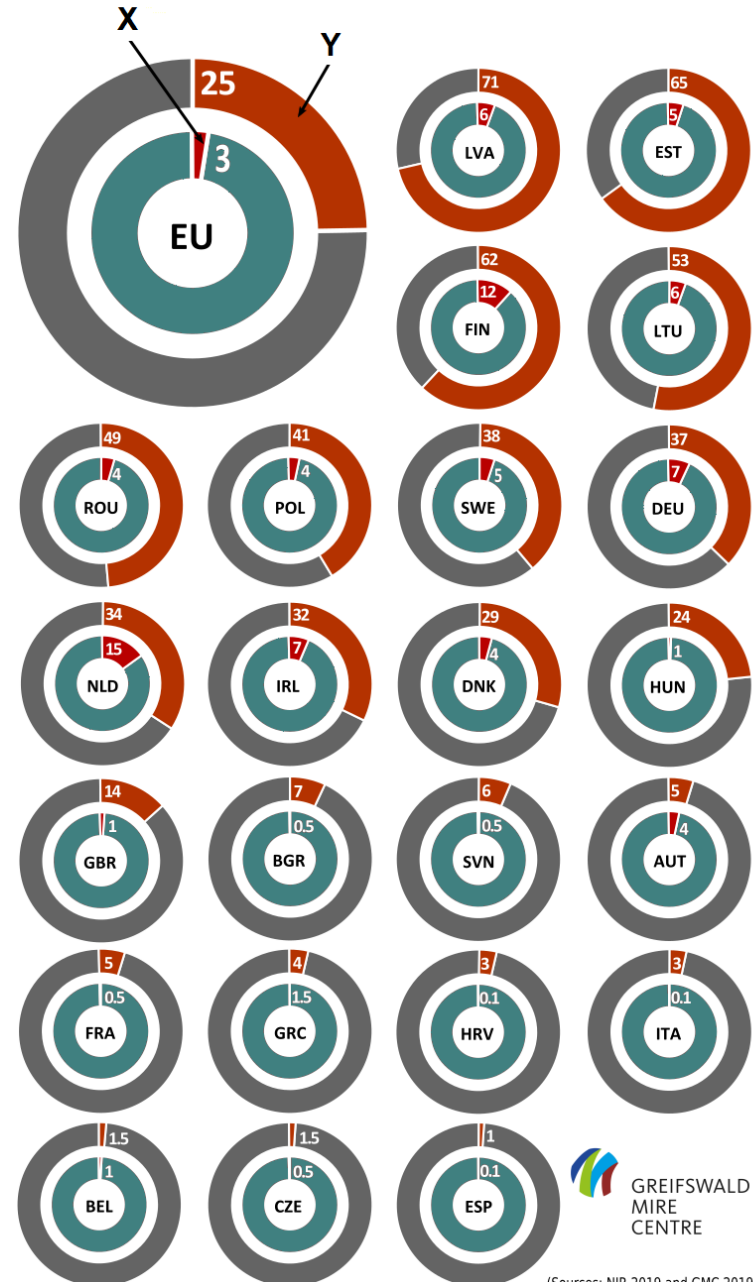
→ No net budget increase



This will allow the agriculture sector to enable the **disproportionally high climate protection potential** of agriculturally used peat soils

- and individual farmers to adopt an innovative farming practice and to be „**part of the solution**“

Rewetting just x% of agricultural land will reduce agricultural GHG emissions by up to Y%





Thank your for your attention!

Webinar on peatlands in CAP:

https://www.youtube.com/playlist?list=PL_wfoErl3pcqsuktxbetGo61Sb-FLoS2F

Position paper on peatlands in CAP:

https://www.greifswaldmoor.de/files/dokumente/Infopapiere_Briefings/202003_CAP%20Policy%20Brief%20Peatlands%20in%20the%20new%20EU%20Version%204.8.pdf



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Hans Joosten, Franziska Tanneberger, Asbjørn Moen (eds.)

Mires and peatlands of Europe

Status, distribution and conservation



Schweizerbart
Science Publishers

Franziska Tanneberger & Wendelin Wichtmann (eds.)

Carbon credits from peatland rewetting

Climate – biodiversity – land use



Schweizerbart
Science Publishers

Wendelin Wichtmann, Christian Schröder, Hans Joosten (eds.)

Paludiculture – productive use of wet peatlands

Climate protection – biodiversity – regional economic benefits



Schweizerbart
Science Publishers

Peatlands - guidance for climate change mitigation through conservation, rehabilitation and sustainable use



Second edition

5

MITIGATION OF CLIMATE CHANGE IN AGRICULTURE SERIES



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WETLANDS
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IUCN National Committee
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Peatland Programme

Global Peatland Restoration demonstrating success



Ecological Reviews

Peatland Restoration and Ecosystem Services

Science, Policy and Practice



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Hans Joosten, Rob Stoneman

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