

**PALUDI
CULTURE**



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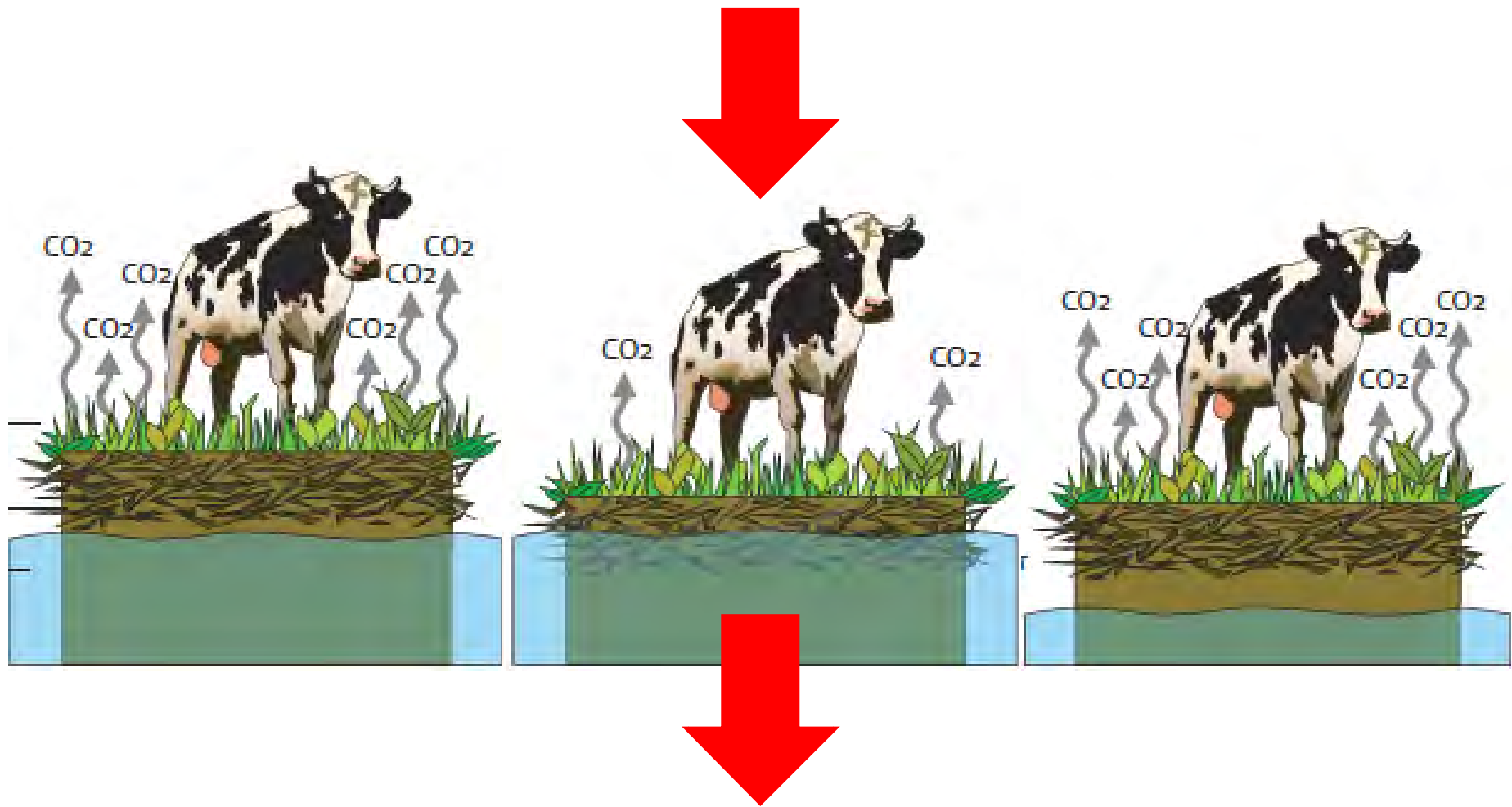


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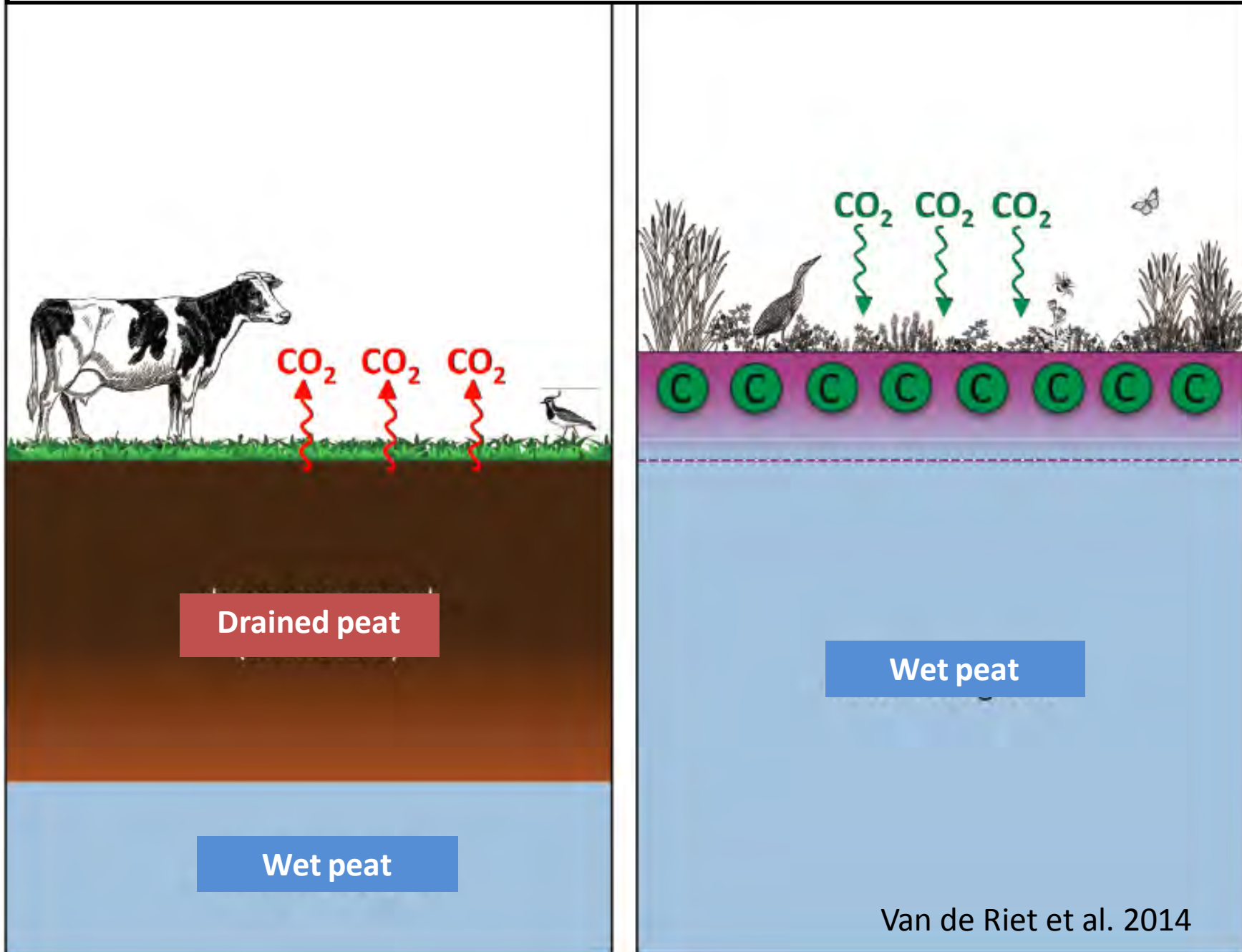
Paludiculture projects in Europe

Franziska Tanneberger, Christian Schröder &
Wendelin Wichtmann

Conventional agriculture on peatland:
the peat mineralises and shrinks
→ subsidence + ,increasing' water levels



Peatland rewetting stops subsidence + emissions



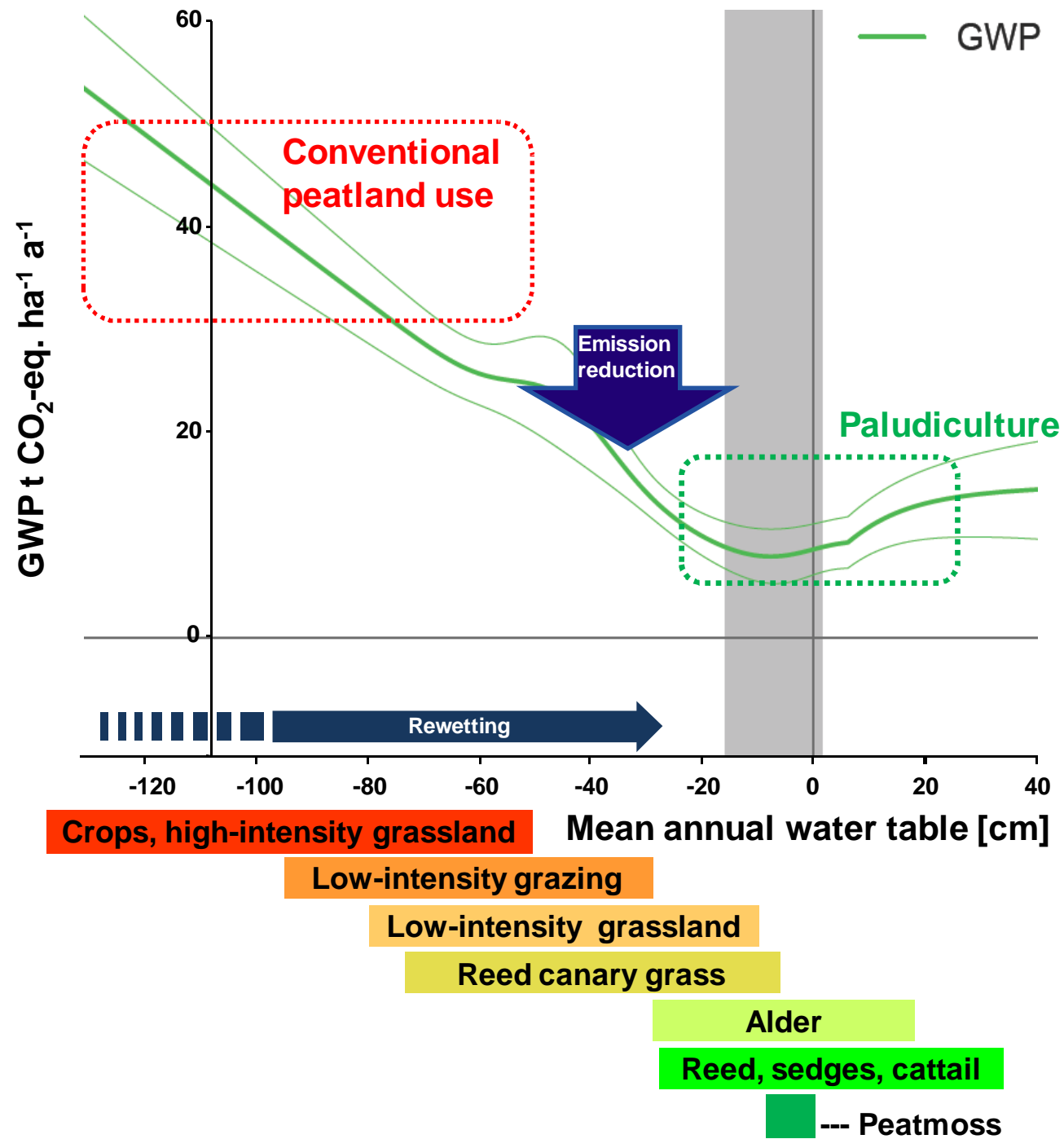
Paludiculture - the wet alternative to drainage-based use of degraded peatlands

„palus“ – lat. for swamp

... the use of wet peatlands which combines the **production function** with the provision of essential **ecosystem services** of mires...

What can be achieved?

- preservation of peat → safeguard the production function
- reduction of greenhouse gas emissions → climate protection
- minimisation of nutrient run-off → water protection
- optional: mire biodiversity, new peat formation





Reed canary grass (*Phalaris arundinacea*)
→ energy (combustion, biogas)



Common Reed (*Phragmites australis*)
→ construction materials and energy



Sedges (*Carex* spp.)

→ energy (combustion, biogas), fodder, litter



Cattail (*Typha* spp.)

→ construction materials, fodder, energy (biogas)



Black Alder (*Alnus glutinosa*)

→ construction materials, furniture, energy



Peatmosses (*Sphagnum palustre*, *S. papillosum*)
→ growing media

Cultivation of mire plants



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Afforestation with Alder



Planting of Common Reed



Sphagnum farming



Cultivation of Cattail

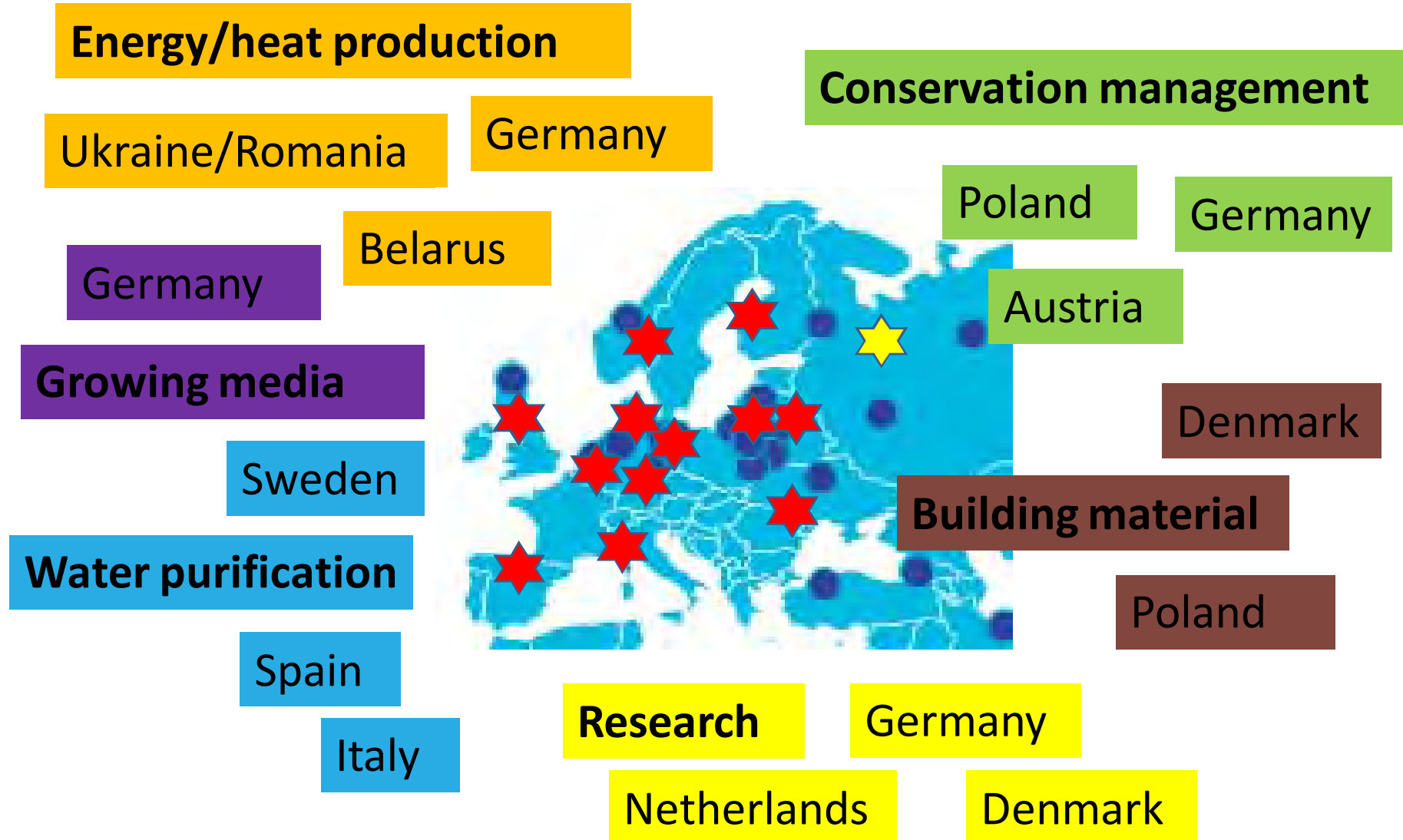


Common Reed plantation

Pilot activities and best practice examples



Pilot activities and best practice examples



→ often multi-functional use understood and pursued

Germany

Biomass heating plant Malchin

- Fen biomass for local heat supply
- Rewetted, mown sites with high biodiversity value
- Will be visited on Wednesday! 😊



Belarus

Wetland Energy project / Lida peat factory

- Replacement of peat by briquettes and pellets from paludiculture



Ukraine/Romania

Poltava Oblast and Danube Delta

- Production of pellets from Common Reed
- Production of thatch



Germany

Sphagnum farming in Hankhausen

- 2011 Establishing of 4 ha
- 2016 Harvest + extension to 13 ha



Poland

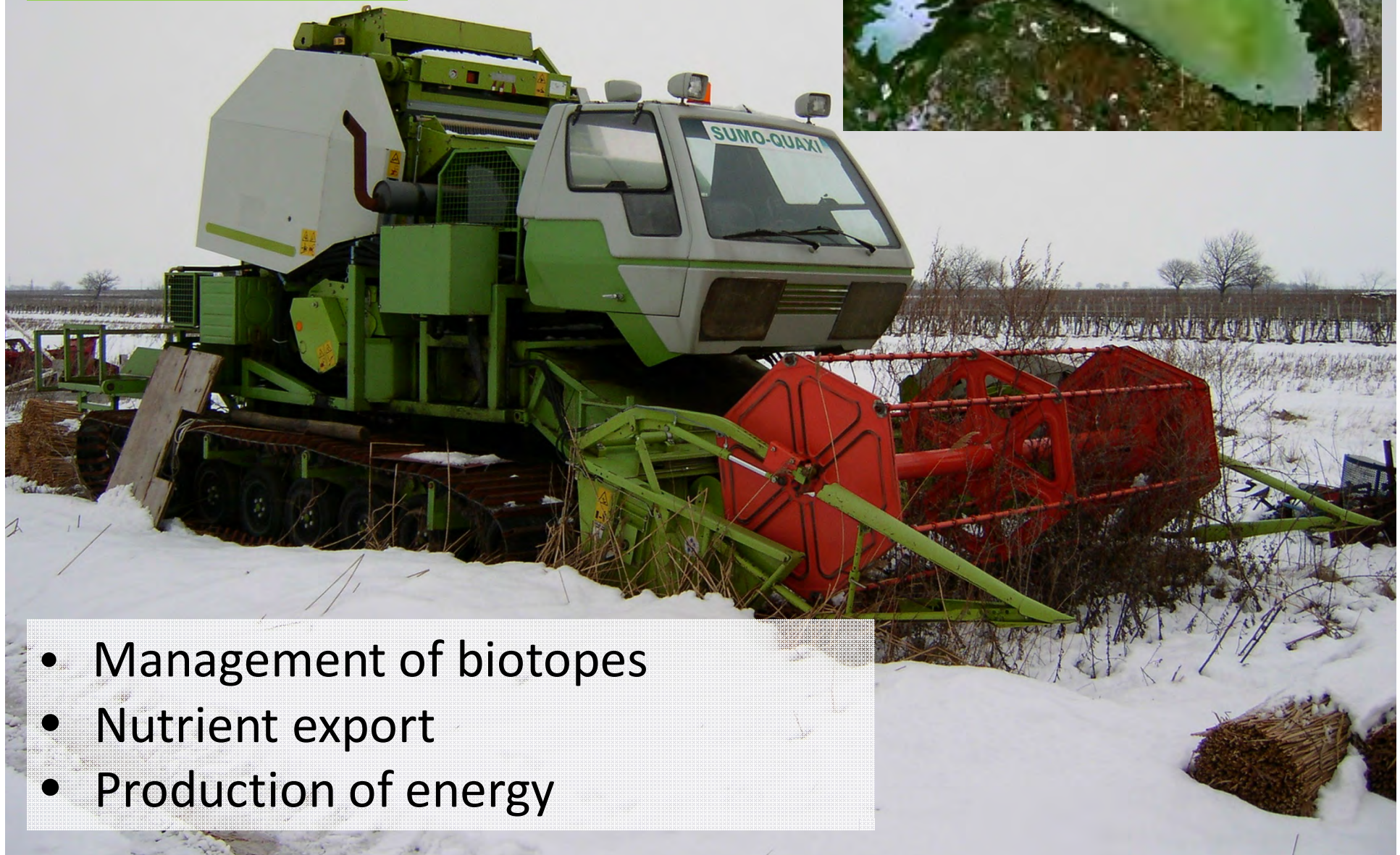
Biebrza and Chełm marshes

- Protection of Aquatic Warbler habitats on large areas
- Development of new machinery and agri-environmental programmes



Austria

Lake Neusiedel



- Management of biotopes
- Nutrient export
- Production of energy

Germany

Water Buffalo grazing in various wetlands

- Habitat management
- Beef production (usually direct marketing)



Spain

Constructed wetlands near Valencia

- Wastewater treatment
- Habitat creation and maintenance

MedWet
The Mediterranean
Wetlands Initiative

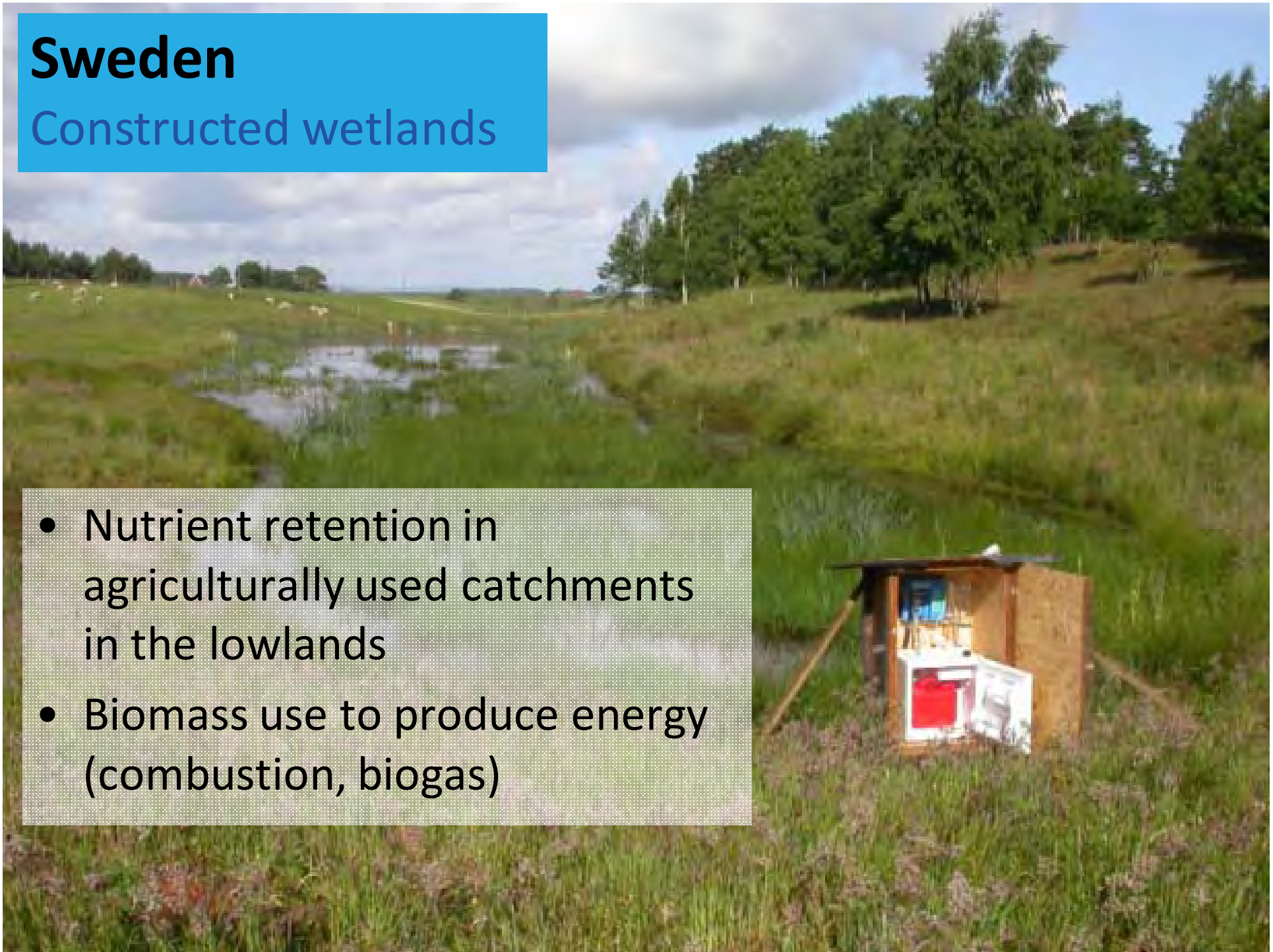


**Wetlands for a sustainable
Mediterranean region**

Sweden

Constructed wetlands

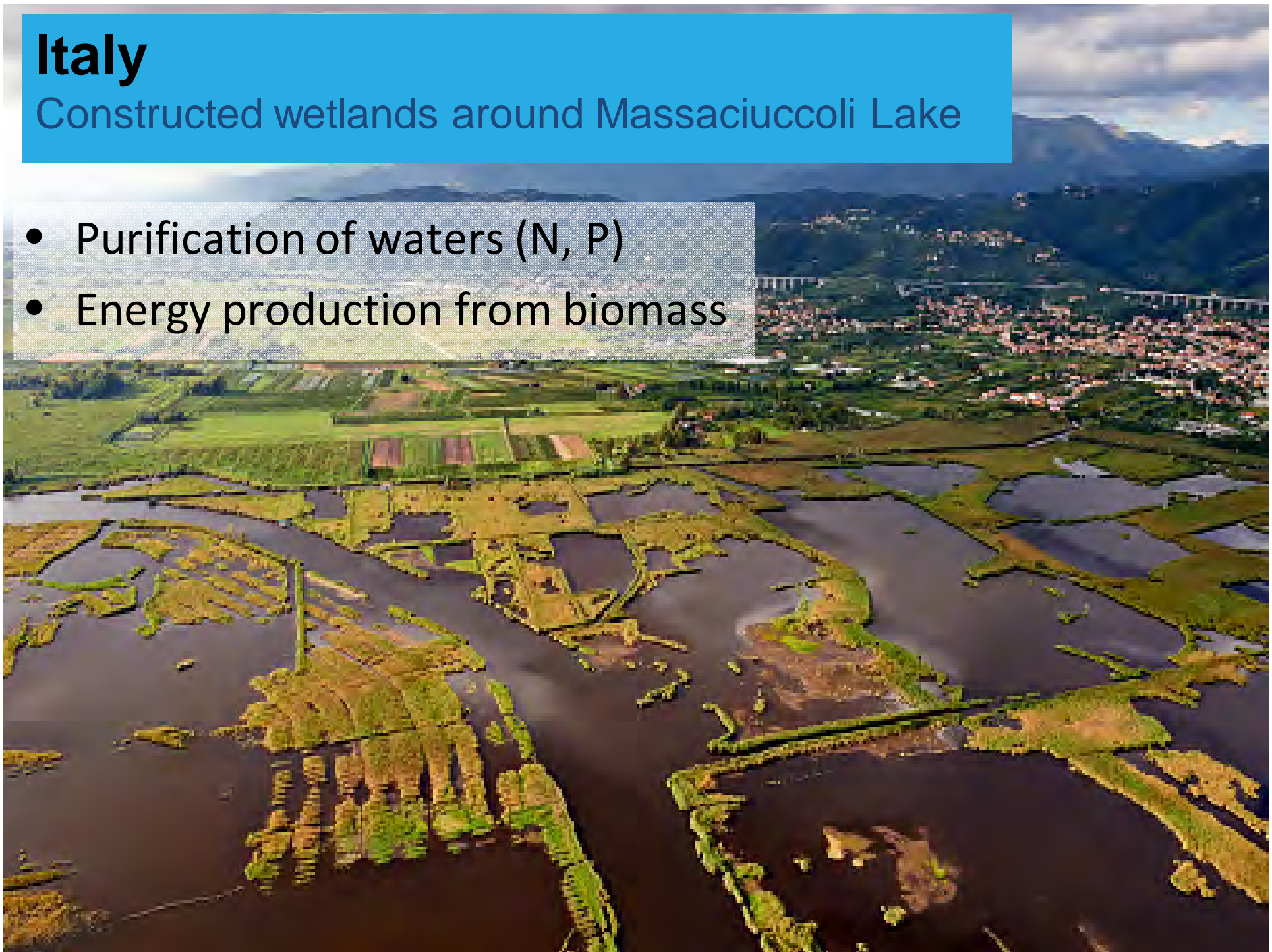
- Nutrient retention in agriculturally used catchments in the lowlands
- Biomass use to produce energy (combustion, biogas)



Italy

Constructed wetlands around Massaciuccoli Lake

- Purification of waters (N, P)
- Energy production from biomass



Poland

Rozwarowo Marshes

- Production of thatch (well-established market chains)
- High biodiversity values



Germany

Danube valley

- Production of insulation plates from *Typha*
- High market demand for raw material



Netherlands

University of Nijmegen

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- Research on how to reduce CH₄ and P emissions after rewetting (e.g. salinity pulses)
- Research on suitable paludiculture plants for NL



Denmark

University of Aarhus

- Database of *Phragmites* genotypes
- Testing cultivation of paludiculture plants in DK

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cinderella



Germany

University of Greifswald/Greifswald Mire Centre



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Global Peatland Database (GPD)

→ Availability of drained peat soils

Database of Paludiculture Plants

→ Guidance on cultivation and use

Department of Landscape Economics

→ Profitability of paludicultures

<http://www.paludiculture.uni-greifswald.de/en/>

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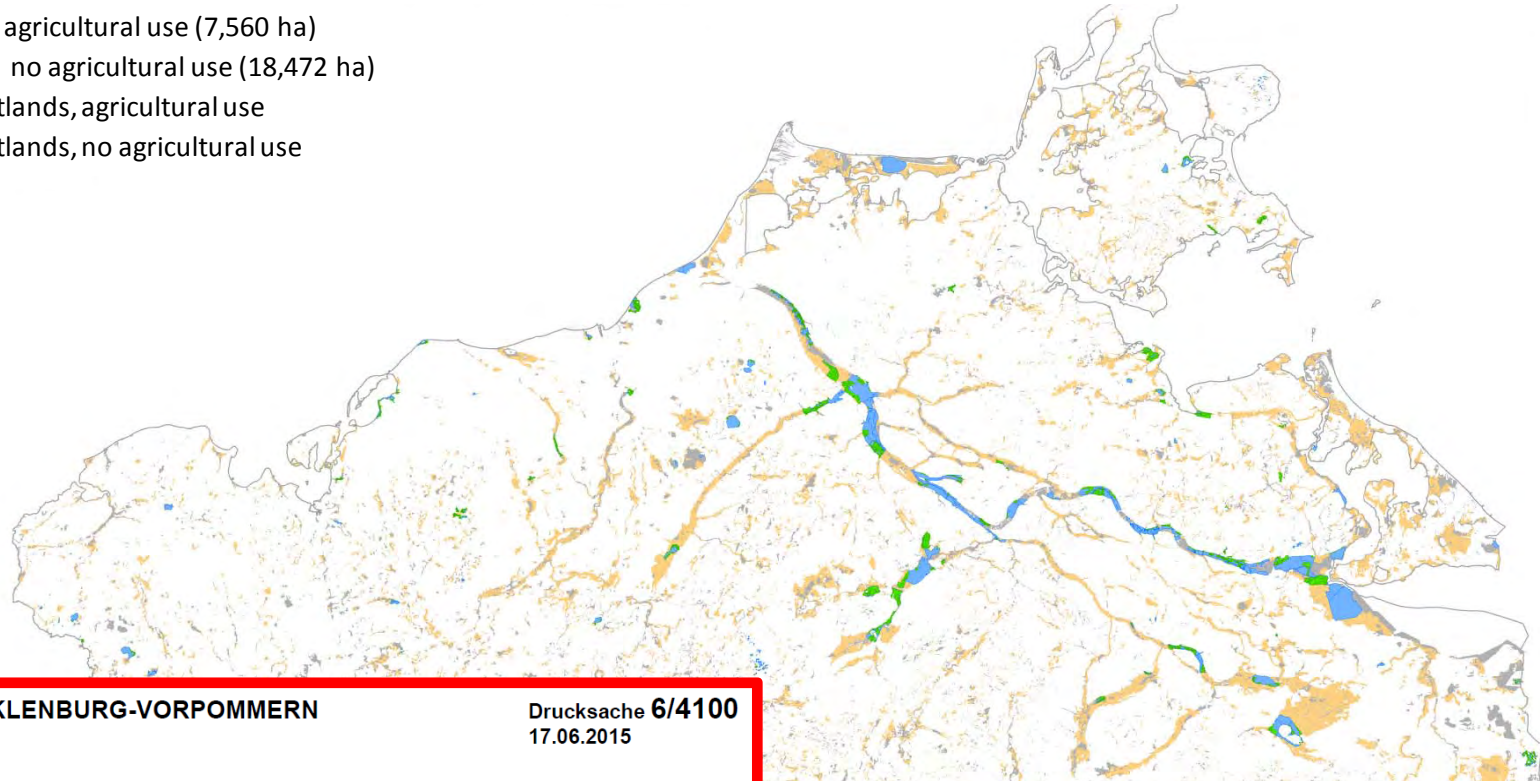


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NE-Germany - right where you are at the moment...

Already rewetted peatlands in Mecklenburg-Vorpommern (9% of the total peatland area)

- Rewetted, agricultural use (7,560 ha)
- Rewetted, no agricultural use (18,472 ha)
- Other peatlands, agricultural use
- Other peatlands, no agricultural use



LANDTAG MECKLENBURG-VORPOMMERN
6. Wahlperiode

Drucksache 6/4100
17.06.2015

ANTRAG

der Fraktionen der SPD und CDU

Nutzung von Paludikulturen befördern

2015: All political parties of MV (NE-Germany) call for paludiculture

2016: Regional Strategy for the implementation of paludiculture under preparation

50 km

Conclusions



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- We do not walk alone 😊
- Bottlenecks for implementation are getting more clear (and may be better tackled)
- Still less than 1% of the total area of degraded peatland in Europe (285,100 km²) rewetted
- On the already rewetted peatland area (c. 1,945 km²) paludiculture is implemented on a tiny fraction only...

What is needed for the successful implementation of paludiculture?



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- Product and market development for biomass
- Accounting for GHG emissions from land use
- Adaptation of legislation
- Equal opportunities compared to other agricultural crops
- Further improvement of production chains
- Implementation and communication of farm-scale demonstration pilots

RRR 2017 conference

<http://www.paludiculture.uni-greifswald.de/en/projekte/rrr2017/>



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RRR 2017 2nd International conference on the utilisation of wetland plants
Renewable resources from wet and rewetted peatlands

Safe the date: 26.-28.09.2017

Start

2nd International conference on the utilization of wetland plants

RRR2017

Renewable resources from wet and rewetted peatlands

The use of wetland biomass is reflected by global research activities. With this conference we want to bring together the various actors from research, governance and practice that deal with the utilization of wetland plants. The main objective of the conference is building networks, detecting research demands and in particular exchanging experience and information. Therefore this conference not only addresses scientists but also engineers and companies. The conference is a followup of the RRR2013 conference.

The Conference will take place from September the 26th through the afternoon of September 28th 2017.



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Get the latest news!

Send an email to info@rrr2017.com

Conference Chair