Paludiculture

Potential in North East Germany

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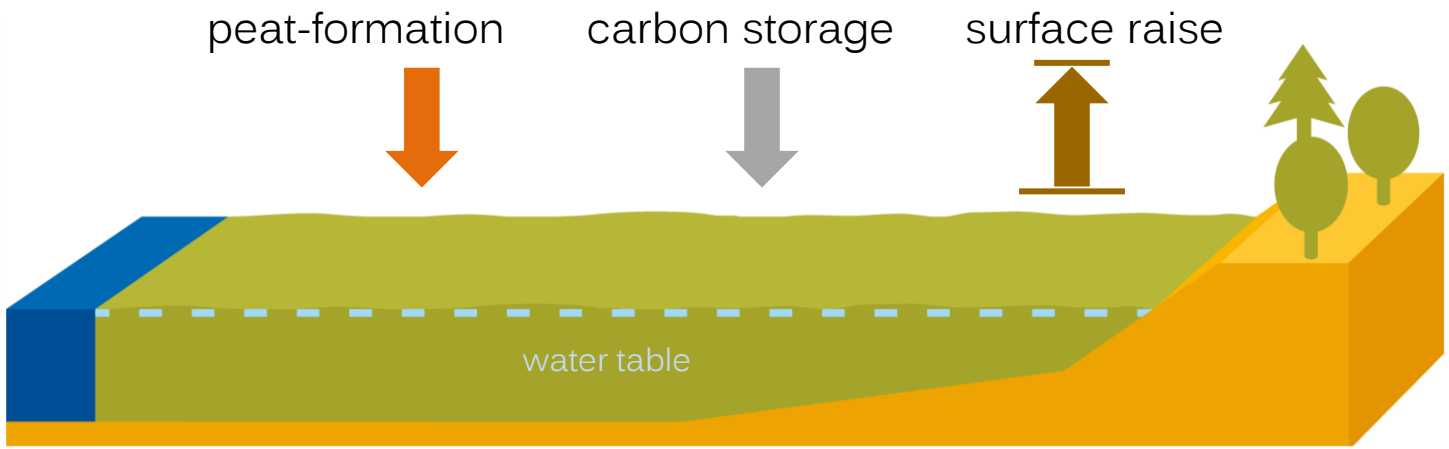
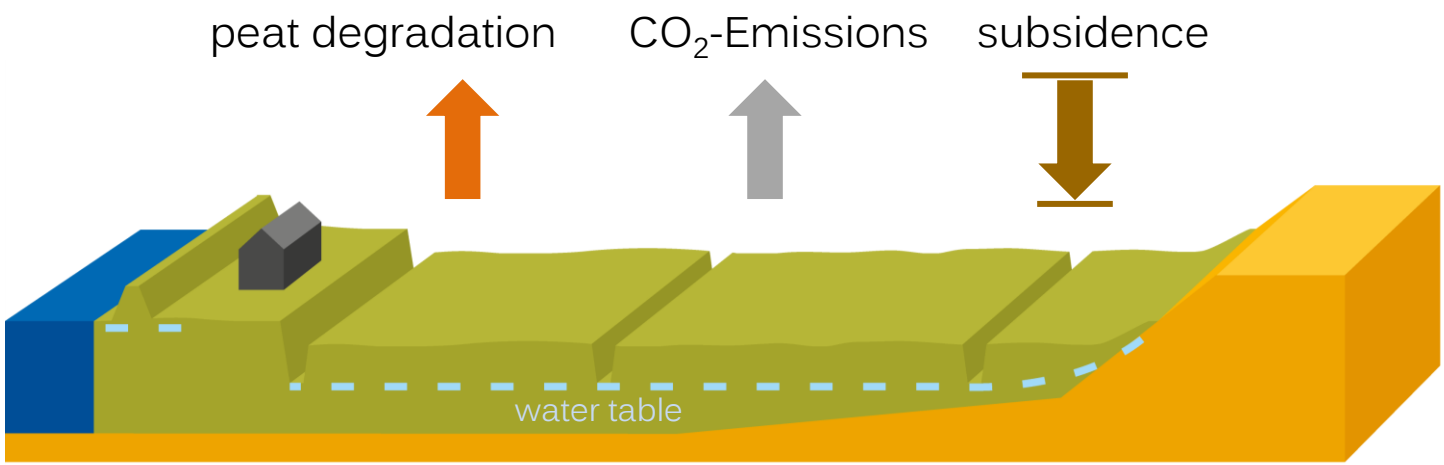
Natural versus drained peatland

Mire = growing peatland



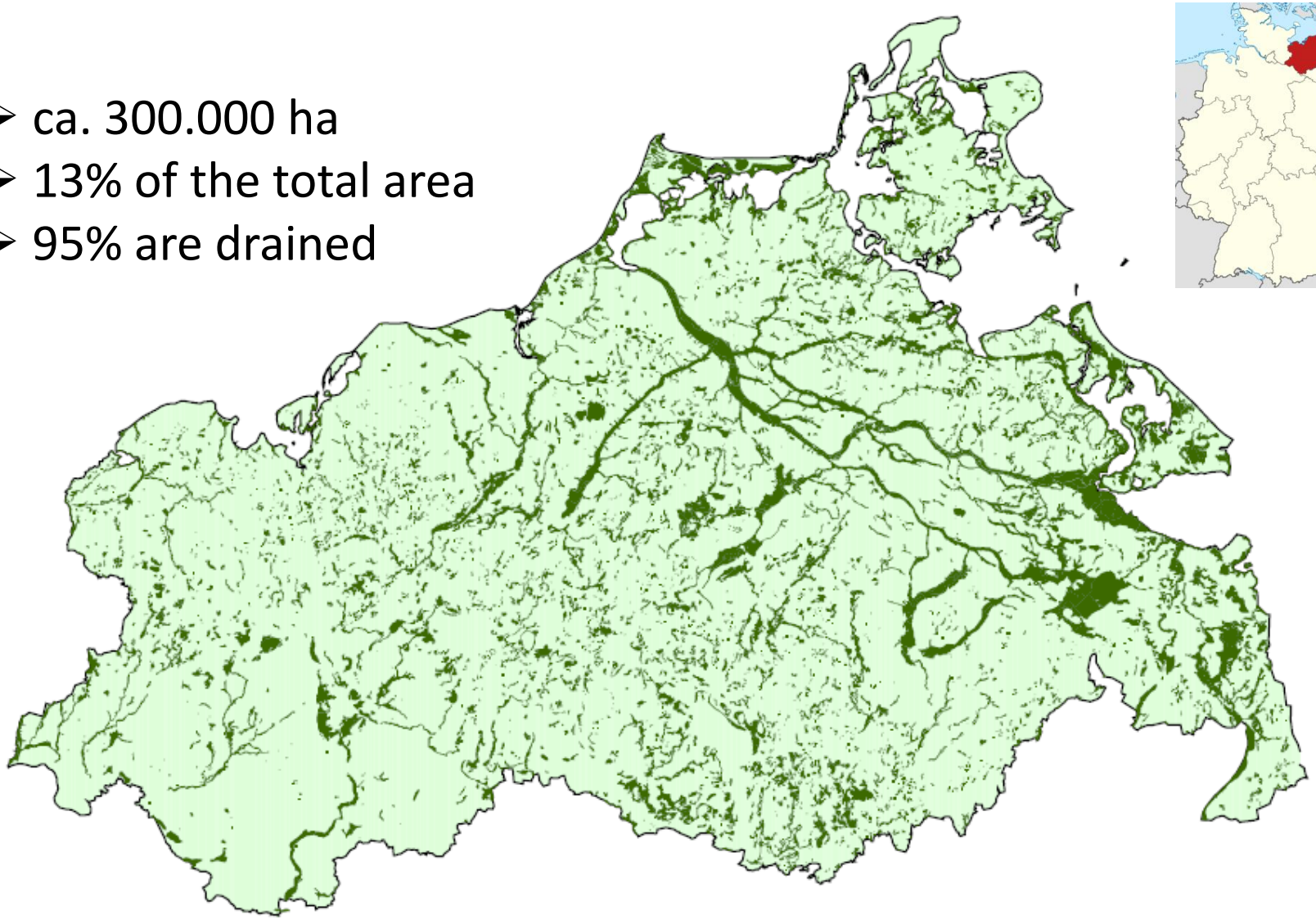
Drained peatland



Nabu 2012

Peatlands of Mecklenburg-Western Pomerania

- ca. 300.000 ha
- 13% of the total area
- 95% are drained

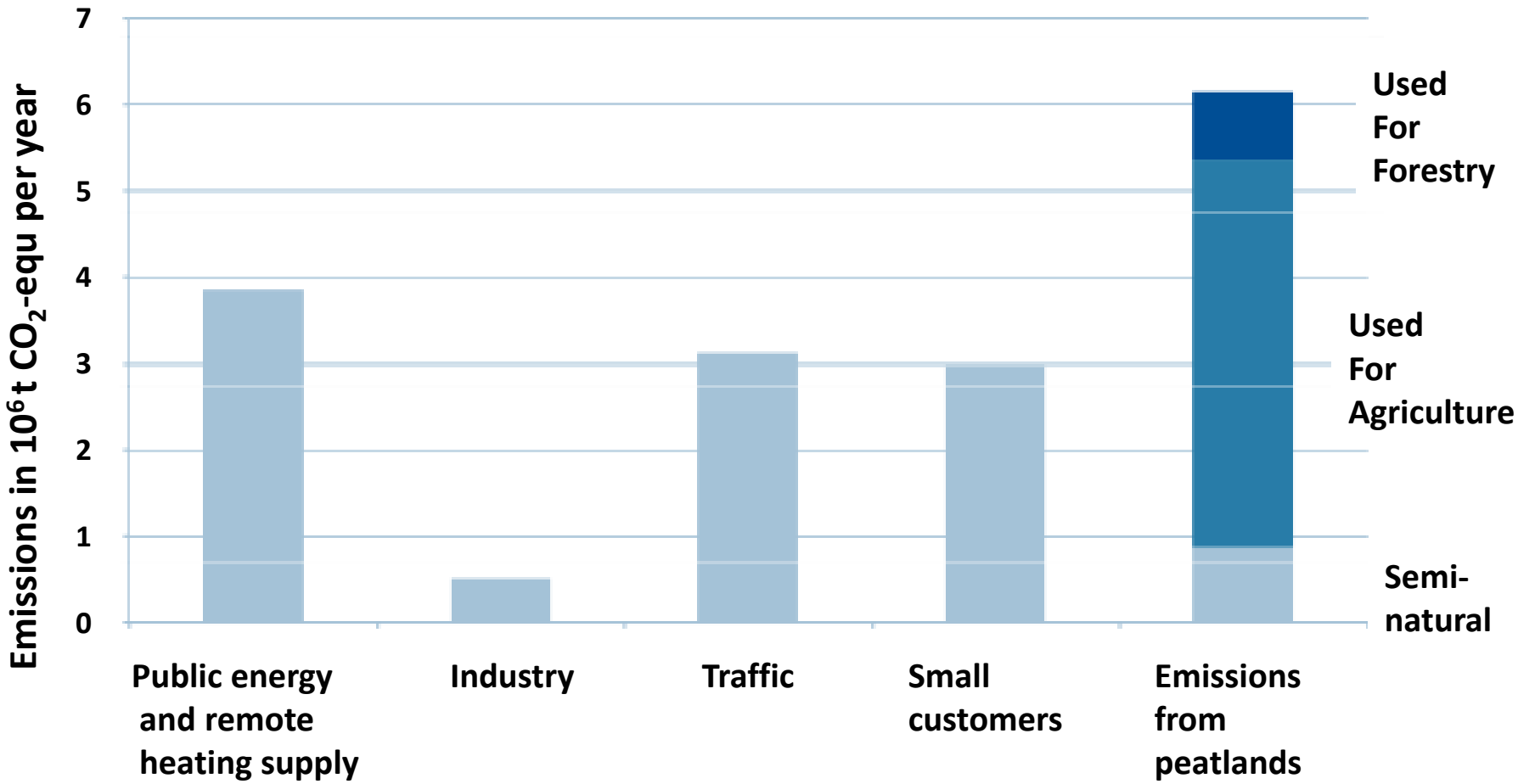


Peatland Drainage

- peat degradation
  - subsidence
    - increase of drainage costs
      - management problems

25tons $CO_{2\ eq} ha^{-1} a^{-1}$

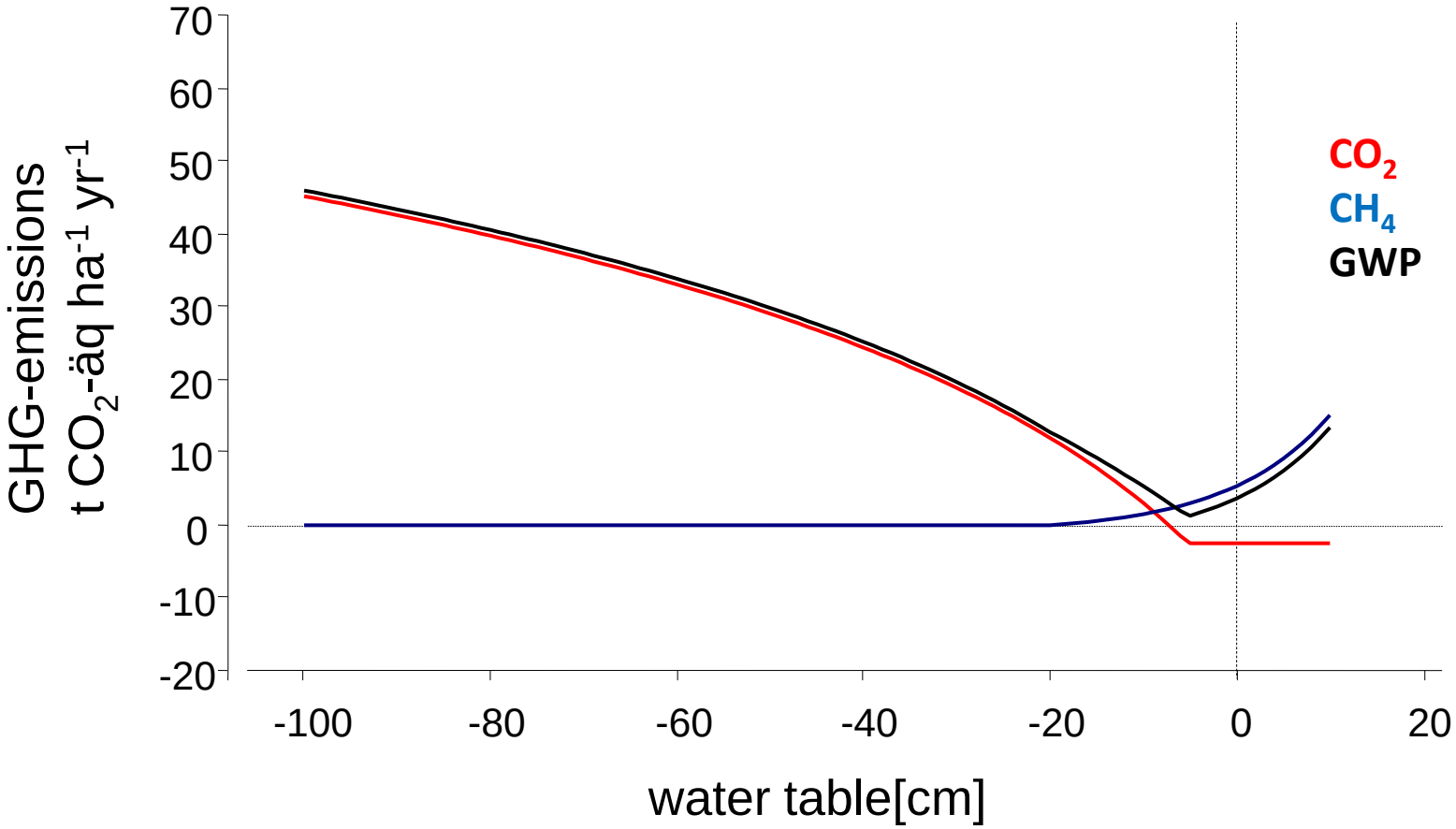
Annual CO_2 emissions in Mecklenburg-Western Pomerania



MLUV 2009

Agricultural used peatlands show highest emissions

Estimation of GHG-Emissions from peatlands



Rewetting of peatlands

Loss of agricultural land

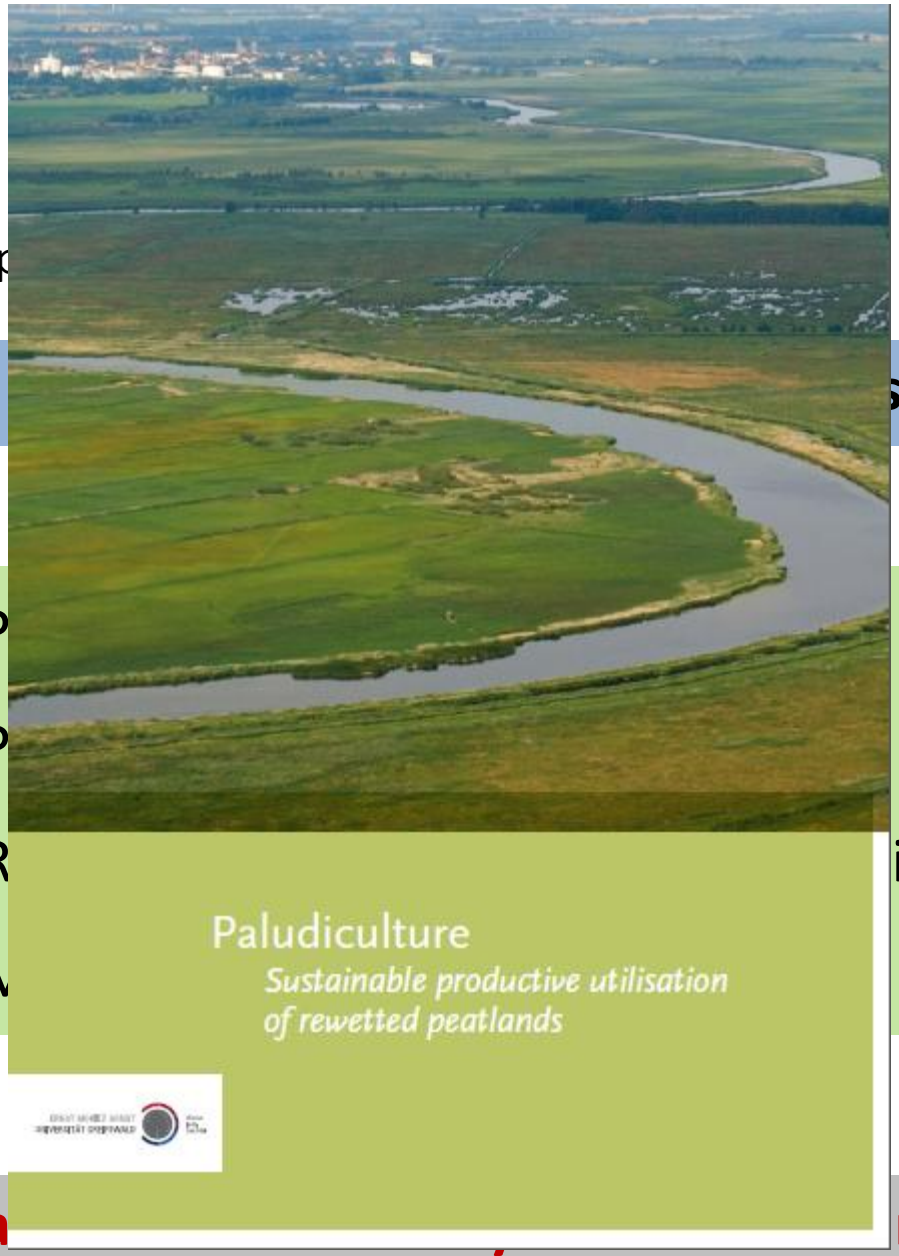
Use wet peatlands !

Paludiculture

„palus“ – lat.: swamp

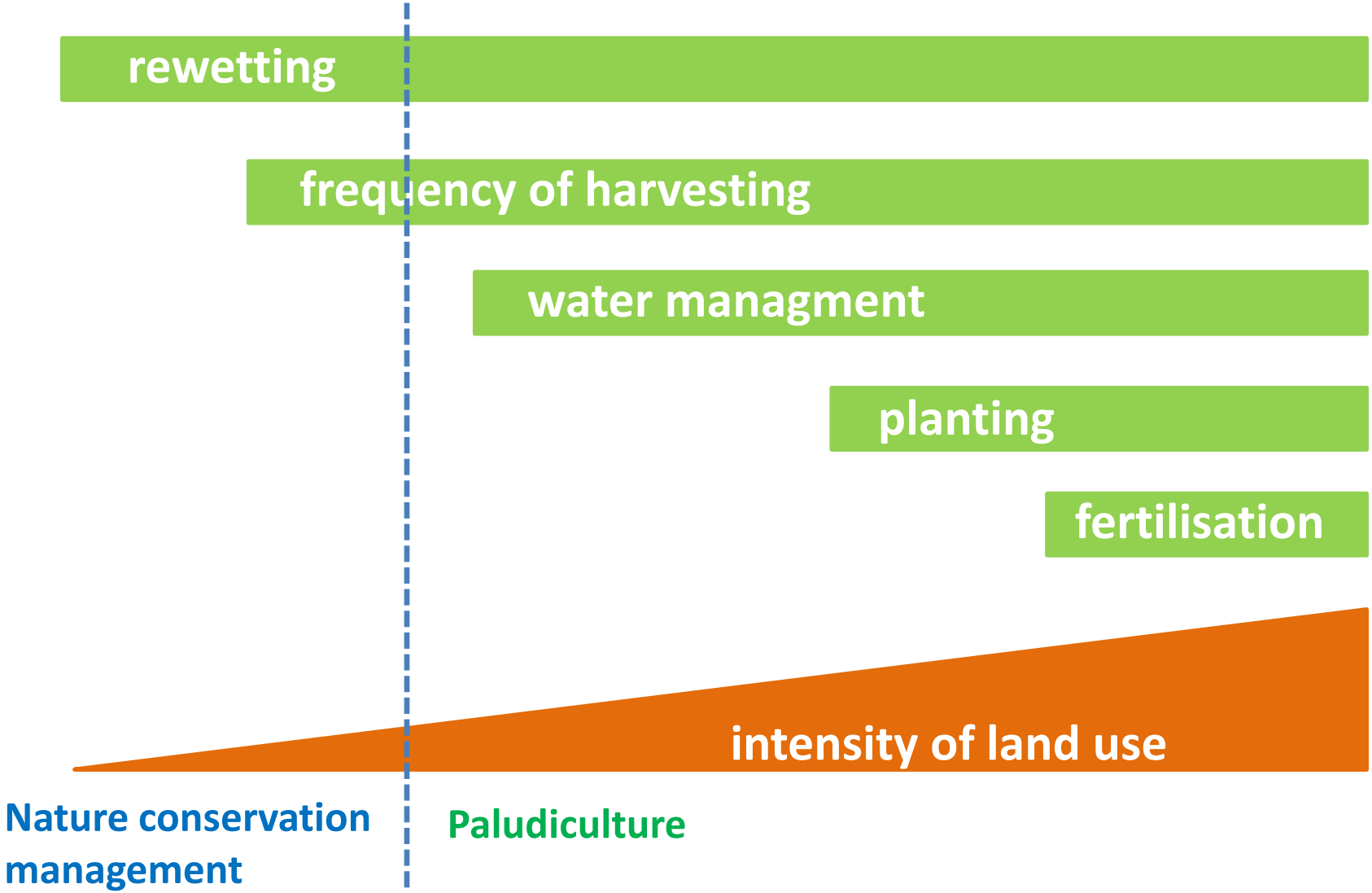
s

- P
- P
- R ions
- M

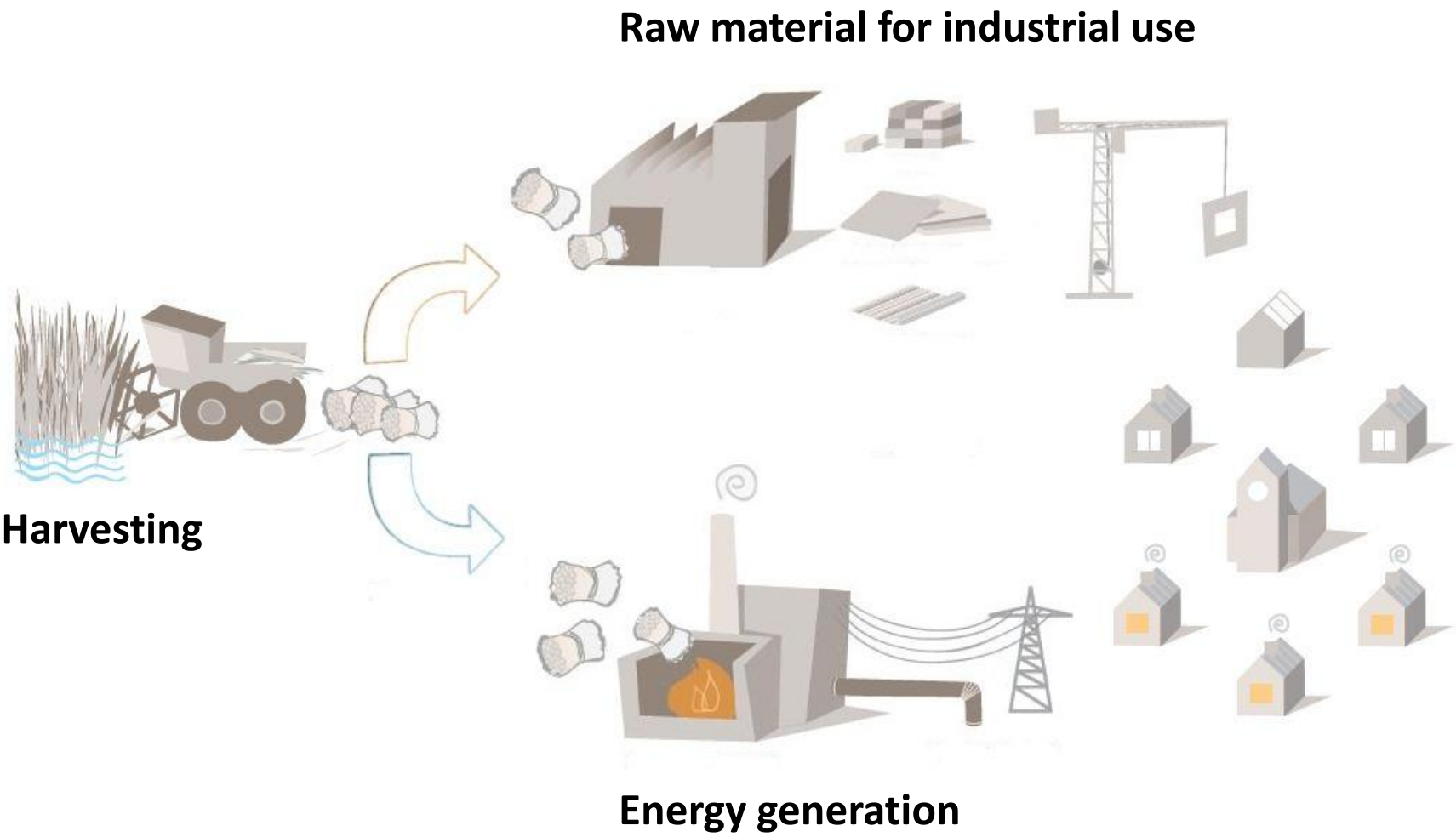


Peatla nd use

Nature conservation vs. paludiculture



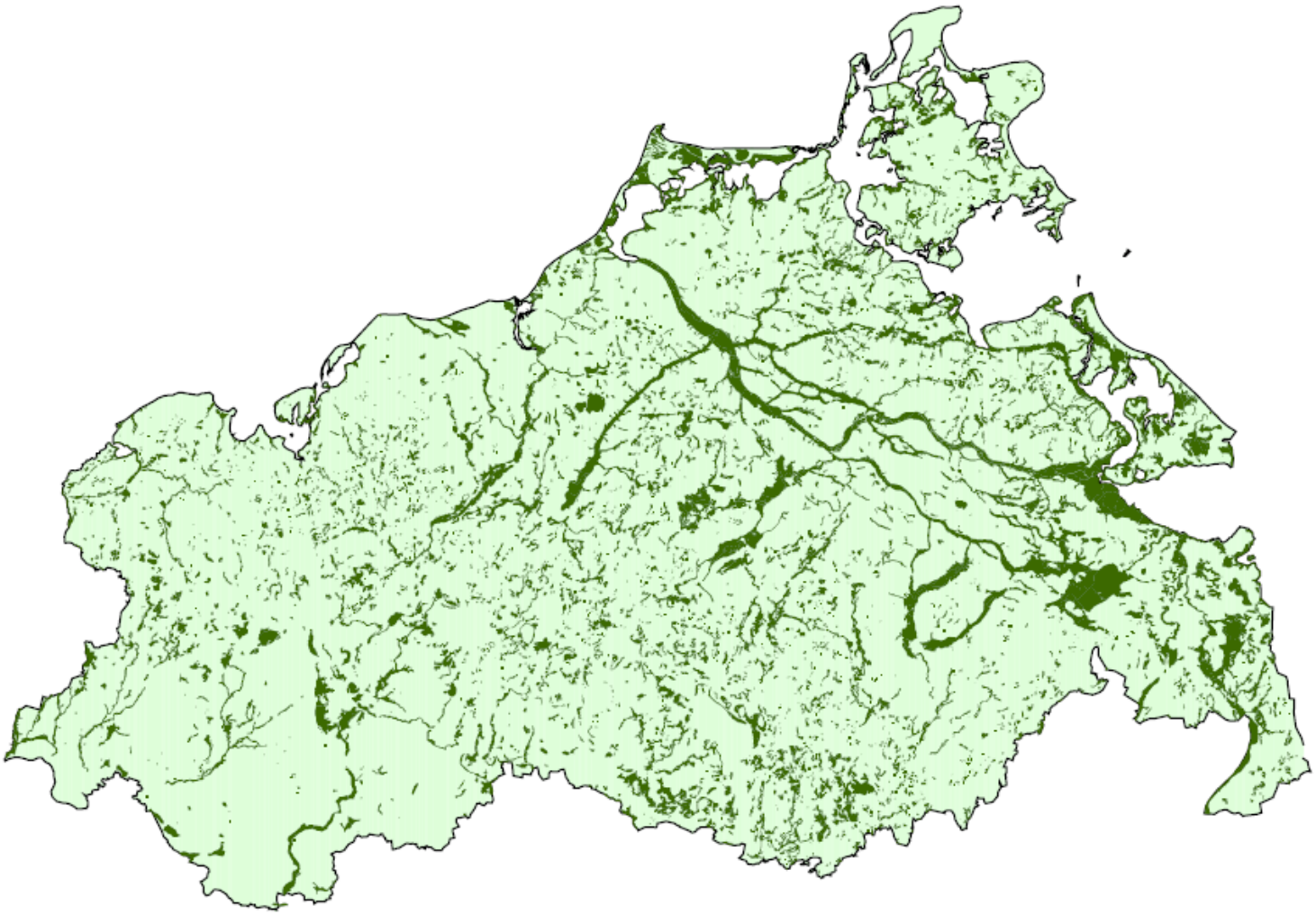
Use of Biomass



Paludibiomass as a raw material

Paludibiomass as a biofuel

Paludiculture
Potential for Mecklenburg-Western Pomerania



Paludiculture
Potential for Mecklenburg-Western Pomerania

GIS-analysis for Greifswald

- 30 km radius
- 37.000 ha (16%) peatlands
- expert guess: 7.000 ha for paludiculture
- 56.000 t biomass (8 t ha^{-1})

→ 19% suitable for paludiculture

Dahms 2010

Paludiculture - Potential for Mecklenburg-Western Pomerania

Reduction of GHG emissions

300.000 ha peatlands

→57.000 ha paludiculture

19%

Rewetting

25t CO_2 eq $ha^{-1}a^{-1}$

→ 10t CO_2 eq $ha^{-1}a^{-1}$

→ 855.000 t CO_2 eq a^{-1}

Substitution of fossil fuel

456.000t biomasse (8 t ha^{-1})

→ 188.000t fuel oil

→ 570.000 t CO_2 eq a^{-1}

Reduction of ~ 1.4 Mio t a CO_2 eq a^{-1}

Conclusion

- Sustainable „wet“ peatland agriculture is needed
- Utilisation of biomass from wet peatland is possible
- Paludiculture on fen peat can provide large amount of biomass for different purposes
- Paludiculture can reduce green house gas emissions from peatland


www.paludiculture.com