How to apply best practice of wet peatland use for common practice?
Learning from existing approaches in Germany

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Climate protection approaches through peatland protection

1. Climate protection on peatlands
   - Rewetting
     - Subsurface Irrigation
     - Sand cover cultivation

2. Framework conditions
   - Agricultural policy
   - Energy policy
   - Nature conservation policy
   - Strategies

3. Economic incentives
   - Income
   - Municipalities
   - Disseminators
   - Final users

4. Society
   - CAP-Pillows
   - GAK
   - Major projects
   - State programs
   - KSP 2050
   - State targets
   - Carbon (Credits)
   - Biomass
   - Sponsoring
   - Procurement
   - Campaigns
   - Information center
Utilisation paths

Paludiculture

Wet meadows

Crop cultivation

Photo: M. Wenzel

Photo: www.lensescape.org

Photo: C. Schröder

Photo: C. Fritz

Photo: A. Schäfer

Photo: C. Schröder
Best practice

• Proved practice or model procedures
  = specific approach is generally accepted as most appropriate alternative
• Benchmarks for empirical defined, best achieved approach
• Always in comparison with similar types of management

• *Best practice* → stimulation for others
Best practice in wet peatland use I

- Why are we engaged with best practice examples?
  - Knowledge transfer for different stakeholders
  - Constraints and obstacles → focus areas of (future) work
  - Enhancing methods and improvement of techniques → R&D need
Best practice in wet peatland use II

Assessment of

- GHG reduction potential
- Delivery of further ecosystem services (water and nutrient retention)
- Nature conservation value (Biodiversity)
- Transferability (site potential, acceptance, knowledge, markets, time frame)
- Economic feasibility
- Current legal and political framework conditions
Expert judgement

• Knowledge of or insight into a particular field
• Gain overview & test assessment method for best practice
Example I: Biomass heating plant Malchin

- Fuel: 1.200 t Hay (6.500 bales, 300 ha), optional wood chips
- Supply 4.000 MWh of heat
- District heating: 540 households, kindergarten, school, office building
- Basic and average load (peak load: natural gas)
- Mitigation of 1.000 t CO₂ emission per year
- Productions costs 5 ct/kWh
Example I: Biomass heating plant Malchin

- Sustain peatland use after (conservation based) rewetting
- Change value chain, as cattle breeding with changing vegetation composition not longer possible
- Heat delivery with similar prices to fossil fuels possible
- On site practical knowledge transfer

Current constraints:
- biomass summer harvest with existing machinery in wet summers
- Demographic change in rural areas (changing heat demand)
- low added value
### Example I: Biomass heating plant Malchin

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<tr>
<td>GHG reduction potential</td>
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<td>Further Ecosystem Services</td>
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<td>Legal framework conditions</td>
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![Photo: www.lensescape.org](https://www.lensescape.org)
Example II: Sphagnum farming Hankhausen

- 14 ha sphagnum farming on former bog grassland
- Site established 2011
- First harvest and site extension 2016
- Research driven
- Close cooperation with peat company MOORKULTUR RAMSLOH

Photo: T. Dahms/ S. Busse
Example II: Sphagnum farming Hankhausen

- High investment costs
- No seeding material available
- Substitute for white peat in growing media → not economically feasible yet
- Sale of sphagnum for special substrates and seeding material for bog restoration → already feasible
- Currently depends on (public) financial support
- Long term business perspective
Example II: Sphagnum farming Hankhausen

- GHG reduction potential: 5
- Biodiversity: 5
- Further Ecosystem Services: 6
- Transferability: 3
- Profitability: 2-5
- Legal framework conditions: 1
Example III: Typha cultivation for material use

- Suitable properties for insulation & building material (leaf design, mould resistance)
- Typhatechnik and other companies with market-ready products
- Harvest machinery available/adaptable
- Experiments with other utilisation (i.e. seeds)
Example III: Typha cultivation for material use

Constraints

• Site availability! (legal framework)
• Knowledge on cultivation
Example III: Typha cultivation for material use

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Conclusion I

• Best practice ≠ best possible practice
• Best practice = best possible practice under given situation
• Existing best practice rely on engaged stakeholders, windows of opportunities & sometimes on missing alternatives
• Best practice examples are needed for knowledge transfer and to improve approaches, as they deliver (long term) experiences
Conclusion II

• Individual solutions
• transferability challenging

→ transfer of experience on how to integrate key stakeholders & how to develop and implement individual local solutions

ECONOMIC LEVEL

→ Use existing best practice examples for policy makers to adapt legal frameworks

POLITICAL LEVEL

→ Peatland use should not be according to existing rules and frameworks if they support negative effects but should aim to minimize negative impact

SOCIATLAL LEVEL

Best practice examples in wet peatland use are necessary to widen the range of common thinking and to let us differentiate of what would be best in which situation
Climate protection on peatlands

Rewetting

Framework conditions
- Agricultural policy
- Energy policy
- Nature conservation policy
- Strategies

Climate protection on peatlands

Economic incentives
- Income
- Municipalities
- Disseminators
- Final users

Society
- Paludiculture crops
- Payment for ES
- Paludiculture priority sites
- Integrating biomass utilisation
- National wet peatland plan

Carbon (Credits)
- Biomass
- Sponsoring
- Procurement
- Campaigns
- Information center

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Thank you for listening!