

Master thesis topic announcement

Climate Action on peatlands: Building Markets for Paludiculture Biomass in Brandenburg

Supervisors: Dr. Cheng Chen and Dr. Karoline Hemminger, Leibniz Centre for Agricultural Landscape Research (ZALF)

Background and problem:

Drained peatlands are among the major sources of greenhouse gas emissions from land use in Germany. Rewetting peatlands can therefore make an important contribution to climate protection, while also supporting water retention, soil protection, and biodiversity. At the same time, rewetted peatlands need new forms of productive use. Paludiculture, the cultivation and use of biomass from wet and rewetted peatlands, offers one promising pathway. However, land users and regional businesses need new economic perspectives.

This master's thesis is embedded in the WetNetBB project, a consortium involving the Leibniz Institute for Agricultural Engineering and Bioeconomy (ATB), the Brandenburg State Office for the Environment (LfU), the Eberswalde University for Sustainable Development (HNEE), the Helmholtz Centre for Geosciences (GFZ), and ZALF. The project aims to support the implementation of paludiculture across four regions in Brandenburg.

Objectives:

The thesis will analyze which actors are involved, how they cooperate, where gaps exist, and what is needed to develop market-ready regional value chains. The focus can be shaped according to the student's interests, for example around regional bioeconomy, value-chain development and actor cooperation.

Research questions (might be narrowed or adapted according to the research process):

- Which actors are involved in using, processing, and marketing paludiculture biomass?
- What cooperation structures already exist, and where are important gaps?
- What are the main barriers and opportunities for developing regional value chains?
- Which network or governance adjustments could support market-ready product lines?

Data collection and methods:

The empirical work will be based on approximately 10-20 interviews with relevant actors in Brandenburg, including farmers, land managers, processors, biomass companies, researchers, and

other regional stakeholders. The collected data can be analyzed using Social Network Analysis and Value Chain Analysis.

We are looking for a master student with:

- A background in agricultural sciences, social sciences, sustainability science, or a related field
- Interest in climate protection, peatlands, regional bioeconomy or value chains
- Very good German language skills for conducting interviews
- Good English language skills for literature work and academic writing
- Motivation to conduct empirical research with regional stakeholders
- Experience with Social Network Analysis is welcome, but not required

We offer:

- Close supervision by ZALF researchers
- Integration into project on peatland protection and regional value-chain development
- Access to project networks and stakeholders in Brandenburg
- Support in applying Social Network Analysis and Value Chain Analysis
- Funding for necessary travel and research-related expenses
- The possibility to contribute to a peer-reviewed scientific article

Start date: from August/September 2026

If you have any questions, please do not hesitate to contact us: Dr. Cheng Chen, cheng.chen@zalf.de,
Dr. Karoline Hemminger, karoline.hemminger@zalf.de

Literature

Chen, C., Lemke, N., Loft, L., Matzdorf, B. (2024) Transformation of peatland management toward climate targets in Europe. *Ecosystem Health and Sustainability* 10, Article 0239.

Chen, C., Loft, L., Matzdorf, B. (2023) Lost in action: climate friendly use of European peatlands needs coherence and incentive-based policies. *Environmental Science & Policy* 145, 104-115.

Chen, C., Loft, L., Sattler, C., Matzdorf, B. (2023) Developing regional voluntary carbon markets for peatlands: innovation processes and influencing factors. *Climate Policy* 23, 2, 238-253.