



Vorpommern – Ready to rewet?

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Peatlands in Vorpommern

Agriculturally used peatlands cover 72,000 ha (about 10 %) of Vorpommern (North East Germany, both administrative districts Vorpommern-Rügen and Vorpommern-Greifswald). However, the potential for climate protection by rewetting is high. Only 200 ha are already under peat-preserving, 3,500 ha under slightly peat-debilitating conditions. To achieve the Paris climate protection goals, about 2,300 ha agriculturally used peatlands have to be rewetted in Vorpommern each year until 2050.



Fig. 1: Planning for rewetting (left) and Malchin heating plant (right).

Vorpommern Connect

The project Vorpommern Connect aims to improve the urban-rural relationship in order to promote regional development in line with the Sustainable Development Goals. Therefore, the value-added opportunities from permanent grassland paludiculture and the demands of the population on their agricultural environment were investigated.

In order to be able to rewet now, we have focused on practice-ready paludiculture methods. We investigated the question of whether the thermal utilization of permanent grassland paludiculture, as is already taking place in the Malchin heating plant, can be transferred to Vorpommern. A GIS-based spatial analysis and a postal population survey were carried out, as well as discussions and workshops with stakeholders.

Stakeholder participation

The stakeholder participation took place in six meetings 12/2019-12/2020. A focus group with local experts of heat supply, agriculture, climate protection and authorities discussed hurdles, drafted a mission statement and fields of action. These results were reviewed and fleshed out with additional stakeholders from local politics, education and nature conservation in subsequent scenario workshops.

Mission statement: By 2035, 35 % of the agriculturally used peatlands in Vorpommern are to be used for permanent grassland paludiculture for biomass supply for regional utilization in heating networks.

Fields of action, which can be tackled locally:

- networking,
- financing of ecosystem services,
- biomass production together with biomass utilization,
- upscaling,
- empowerment and awareness raising.

These were each backed by at least one project approach. As a next step, model projects are to be selected from the results and put into practice.

Spatial Analysis

To estimate the potentially available thermal energy from peatlands for different prospective heating plant sites, we based our analysis on a 2x2 km raster, the road infrastructure of Vorpommern and all peatlands currently under agricultural use. We used the number of 18 MWh ha⁻¹a⁻¹ for the average thermal energy from peatland biomass, after Dahms et al. 2017.

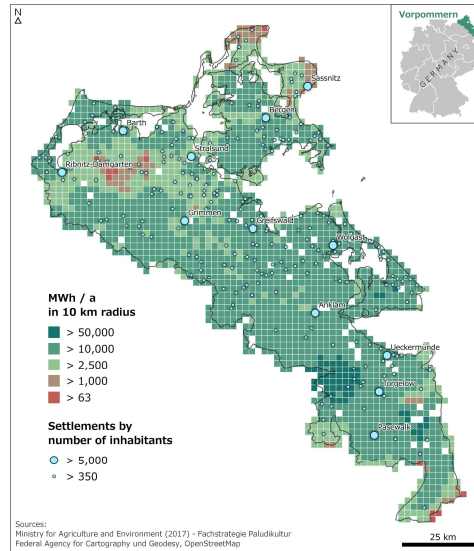


Fig. 1: Potential for thermal energy from permanent grassland paludiculture biomass within a 10 km radius.

Subsequently, each raster cell represents the potential thermal energy within 10 km travelled along major and minor roads in all directions. Additionally, we show settlements over 350 and over 5,000 inhabitants as possible sites for smaller and bigger heating plants, respectively.

Conclusion

Of the agriculturally used peatlands, 2,300 ha a⁻¹ must be rewetted as of now in order to counteract climate change locally and decisively. Permanent grassland paludiculture methods and their thermal utilization are ready for practice. Their large-scale implementation could be started immediately, despite the need for research on higher water levels.

In spite of the low transport worthiness of biomass, sufficient agriculturally used peatlands within a 10 km radius of almost everywhere allow for an abundance of potential sites for heating plants from at least 2,500 MWh a⁻¹.

The population has the demand to resolutely counteract climate change. However, the knowledge of the connection between climate and peatlands is less pronounced. At the same time, there is a desire among the population for contact with/experience of peatlands. A broad awareness and understanding is relevant for a broad acceptance of rewetting measures. Awareness raising, e.g. through places

Population Survey

For the population survey, a stratified random sampling was used. Included were adults (minimum age 18) with their main residence in Vorpommern. The survey was sent to ~12,500 addressees and took place from August 29th to October 20th 2019.

The population survey had a response rate of about 17 %. Concerning to the attribute 'sex', the sample fulfills representativity. Regarding the 'age', there is an overrepresentation of the older population. The survey was both about the population's view on value chains of regional agricultural products, on value chains of energy resources of paludiculture and on the general well-being within the agricultural environment of Vorpommern.

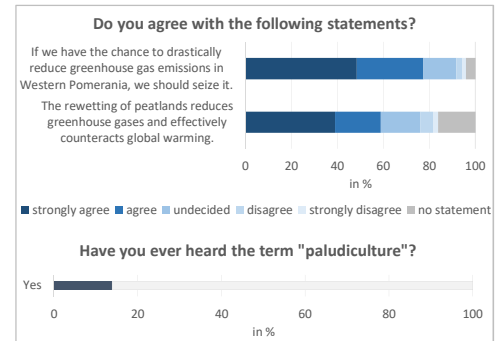


Fig. 1: Questions and responses from the population survey. Source: Own graph based on VoCo-population-survey and Maruschke et al. 2020.

77 % of the population agree, that opportunities to drastically reduce greenhouse gas emissions should be taken. The connection between rewetting and GHG-reduction is known by 59 %. However, only 14 % have heard of paludiculture and only 33 % would pay a surcharge of at least 10 % for sustainably and regionally produced heat. About 50 % would like to visit a near-natural peatland.

of learning and experience, is therefore an important field of action.

A mission statement for thermal utilization was developed with stakeholder participation. It still leaves room for other uses. With 35 % of the agriculturally used peatlands in Vorpommern, around 14 % of its population could potentially be provided with heat (Destatis 2018). However, there are no signs of a decisive push for rewetting in Vorpommern. There are hurdles at different levels. The joint promotion of all fields of action is locally indispensable for Vorpommern to get ready for large-scale rewetting.

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