PALUDI CULTURE

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GREIFSWALD MIRE CENTRE

Incentives for paludicultures to achieve the climate target 2030 and 2050

Achim Schäfer, Anke Nordt, Jan Peters & Sabine Wichmann

Project on behalf of the
German Federal Environment Agency
(FKZ 3719 42 509 0)

Umwelt Bundesamt

Background of the project

- German government's Climate Protection Plan 2050: “The net sink in the LULUCF sector is to be "secured with further measures”.
- Large-scale rewetting of peatlands is required

Four work packages

WP 1: Obstacles and potentials of paludiculture

WP 2: Measures to achieve the climate protection targets

WP 3: Analysis of suitable financing instruments

WP 4: Derivation of recommendations

Obstacles

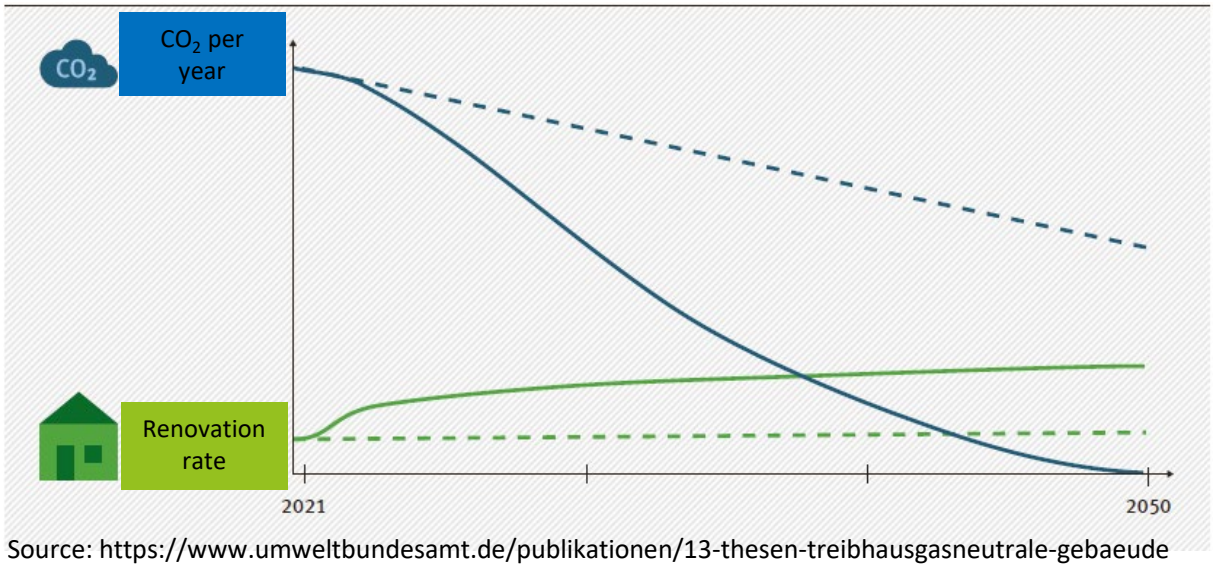
- Agricultural and structural support
- Legal framework
- Operational aspects
- Utilisation of and demand for paludiculture biomass
- Water management and availability
- Reservations of users, owners and residents
- Financing requirements

Direct payments:	350 – 400 Million € per year
Emissions:	45 Million t CO_2-Äq.
Damage costs:	195 $€_{2020}$ per t CO_2-Äq.
	= 8,78 Billion € per year

1 € Direct payments = 25 € Damage costs

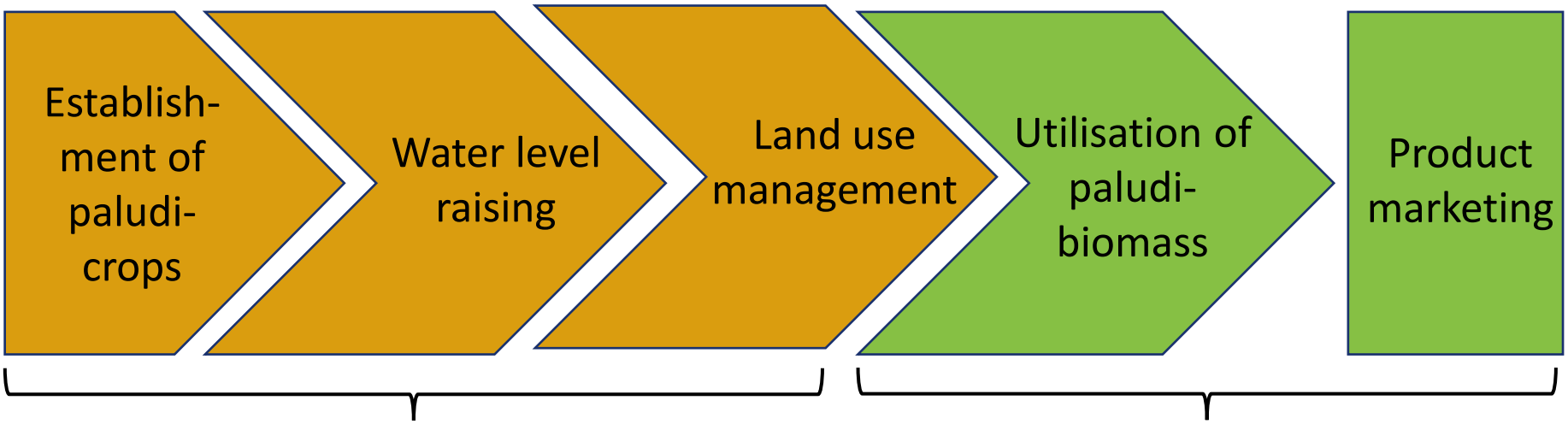
Potential of Paludiculture

- Insulation material from paludi-biomass
- Additional contribution to climate protection
- Very large potentials in the new construction and renovation of buildings



Source: https://www.umweltbundesamt.de/publikationen/13-thesen-treibhausgasneutrale-gebaeude

Incentives



Sources: www.moorwissen.de

Choice of suitable instruments

Conformity criteria

- Target conformity
- Inconsistency
- Uniformity
- Legal and system conformity

Optimality criteria

- Effectiveness
- Cost efficiency
- Biodiversity aspects
- Social aspects
- Administrability
- Political enforceability
- Chances of implementation



Sources: www.victorinox.com

Identify of three suitable instruments

Conformity criteria

Optimality criteria

- Climate protection premium
- Investment and innovation promotion
- Instruments to shape the 2nd pillar of the CAP

Sources: www.victorinox.com

Thank you for your attention

Paludiculture will help to convert our economy to be greener and more efficient!

https://medium.com/@shishirkumar23/good-decisions-bad-decisions-experience-5c9a621ee900

schaefer@duene-greifswald.de

Incentives for paludicultures to achieve the climate target 2030 and 2050

My talk is about incentives for paludiculture and its contribution to achieving the climate goals in Germany. Together with my colleagues at the Greifswald Mire Centre we are working on a project for the Federal Environment Agency which is still ongoing. Our task is to develop appropriate proposals for the design of incentive-based instruments for the rewetting of peatlands and the conversion to paludiculture in Germany.

Background of the project

According to the German government's Climate Protection Plan 2050, the land use sector is to remain a net sink for greenhouse gases until 2030. Since the current projection report indicates that the target will not be achieved, more ambitious measures are required in Germany.

Large-scale rewetting of peatlands is required to maintain the LULUCF sector as net carbon sink.

Four work packages

The project consists of four work packages that build on one another. We have already completed the first three work packages that I would like to report here briefly. The fourth work package will be completed by autumn this year.

Obstacles

The current obstacles to the implementation of wet peatland use include practical challenges of conversion, operational aspects on a farm level, the utilisation of paludiculture biomass and the development of markets, and especially the existing agricultural policy and legal framework conditions. Some of these obstacles can be reduced with the help of incentive-based instruments. Many other obstacles (e.g. reservation of residents) cannot be removed by this. Large-scale implementation of paludiculture is only possible if the various paludiculture methods are advantageous from both a business and an economic perspective.

However, paludiculture is currently not yet implemented on a large scale. The main obstacles are the ongoing promotion of conventional drainage-based peatland use and the absence of economic incentives for converting to paludiculture as well as the lack of demand for paludi-products. There are no clear signals that this will change in the future. Furthermore, it became clear that legislative concretisation is required for the regulatory instruments. Without the adaptation of legal framework conditions and complementary instruments, neither existing nor new funding instruments can develop their effectiveness.

We have calculated that direct payments on organic soils in Germany amount up to 400 million euros per year. This subsidy promotes unsustainable land use which emits 45 million tonnes of CO_2 and thus causes climate damage costs of nearly 9 billion euros per year. This is no small matter. The non-economic dimension can be summed up with a simple figure: Every euro of direct payment causes an economic loss of 25 euros!

Potential of Paludiculture

We all know that paludiculture is a climate-friendly land use. Our conference shows the diverse spectrum and possible applications of paludiculture. But we also must keep an eye on the positive climate impacts of paludiculture products.

The quantitative extent of CO_2-reduction through the substitution of fossil raw materials by the material utilisation of paludiculture biomass has not yet been researched.

Buildings in Germany are responsible for 30 % of all greenhouse gas emissions and building insulation is still predominantly produced with insulation materials that require a great deal of energy from fossil raw materials. The demand potentials for the construction of new buildings and the renovation of existing buildings are extremely high. One of the most important future climate policy challenges in the building sector is the refurbishment of buildings and the reduction of energy consumption of insulation materials in all life phases, from cradle to cradle.

Incentives

The investments for conversion to paludiculture start with the establishment of the plants and the rewetting and management of the land. It is important to note that these are long-term investments and the economic risks of converting and managing the land are difficult to assess. Incentive instruments need sufficient funding and planning security for the conversion to paludiculture, from cradle to cradle.

The next step is the further processing of the Paludi biomass and the application and marketing of the products. In the end, the whole thing should pay off, and I am firmly convinced that the investment will be worthwhile if we look at the huge potential demand for insulation materials.

Insulation boards made from renewable raw materials are currently still more expensive than insulation based on fossil raw materials. However, the cost advantage will shrink in the future due to rising prices of fossil raw materials and cost reductions for renewable raw materials that are to be expected because of economies of scale in production.

The development of insulation material from paludi-biomass with new marketable and competitive products is the strongest incentive and would motivate farmers in their role as producers of goods in demand to switch to paludiculture. The first small steps have already been taken. Product development and demand must continue to progress. For this purpose, it seems sensible to invest in the development of suitable utilisation processes.

Choice of suitable instruments

We selected the most appropriate instruments based on the criteria of scientific policy advice. These criteria provide a more comprehensive framework for a qualitative assessment of suitable instruments. The criteria can also be used to identify questions that are relevant for the further analysis and design of incentive-based instruments in the fourth work package. Nevertheless, it became clear that they will not be able to provide conclusive answers to all questions that arise during the implementation of the instruments. When selecting and prioritising the instruments, it should be noted that a quantitative assessment of the impact of the individual instruments cannot be made or their contribution to the achievement of the objectives cannot be assigned when several instruments are combined.

Identify of suitable instruments

Based on the criteria, we have selected the following three suitable instruments for further work in WP 4 which will be finished in autumn this year.

The bottom line of my talk was that we must invest private and public money in a sustainable economy with appropriate economic instruments. Then paludiculture will help to convert our economy to be greener and more efficient!

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