GREIFSWALD MIRE CENTRE

Briefing Paper on the role of peatlands in the new European Union's Common Agriculture Policy (CAP)

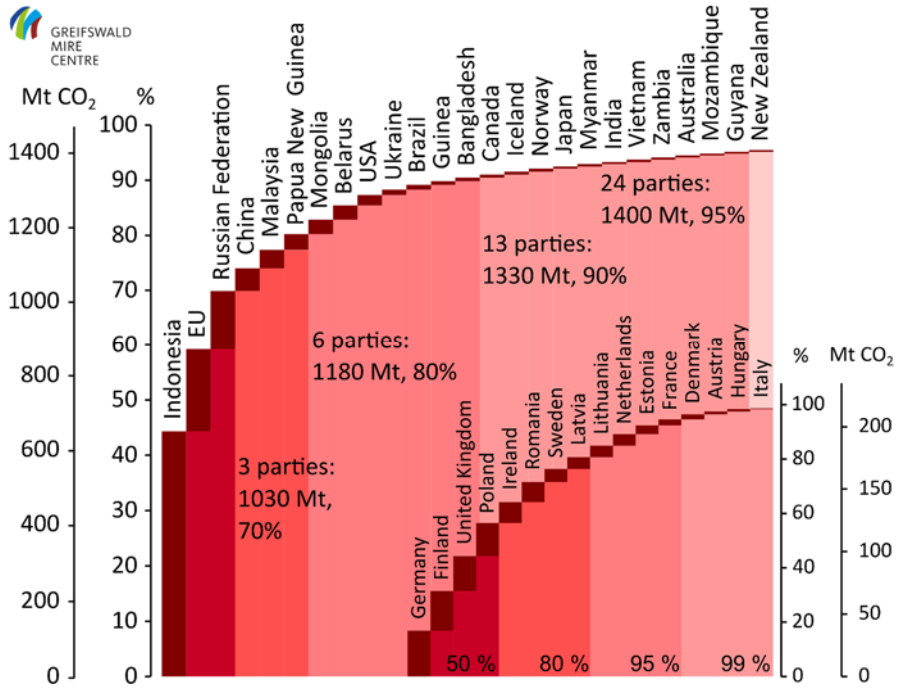
Compiled by the Greifswald Mire Centre, Updated November 2019

Peatland utilisation: An interplay of agricultural and climate policies

Peatlands are lands with a peat layer at the surface. Peat accumulates when soil is permanently waterlogged and died-off plant remains do not completely decompose. It contains a large proportion of organic carbon. Over centuries, peatlands have been drained for agriculture, forestry and peat extraction. The negative consequences of this use become more and more obvious. Drainage allows oxygen to enter the soil, leading to microbial decomposition of the peat and thereby emission of substantial amounts of CO_2 and N_2O. Further negative consequences of drainage are mobilisation and discharge of nutrients to ground- and surface water, and soil subsidence (1-2 cm yearly) which results in increasing drainage costs, higher flooding risks and - ultimately - to loss of productive land.

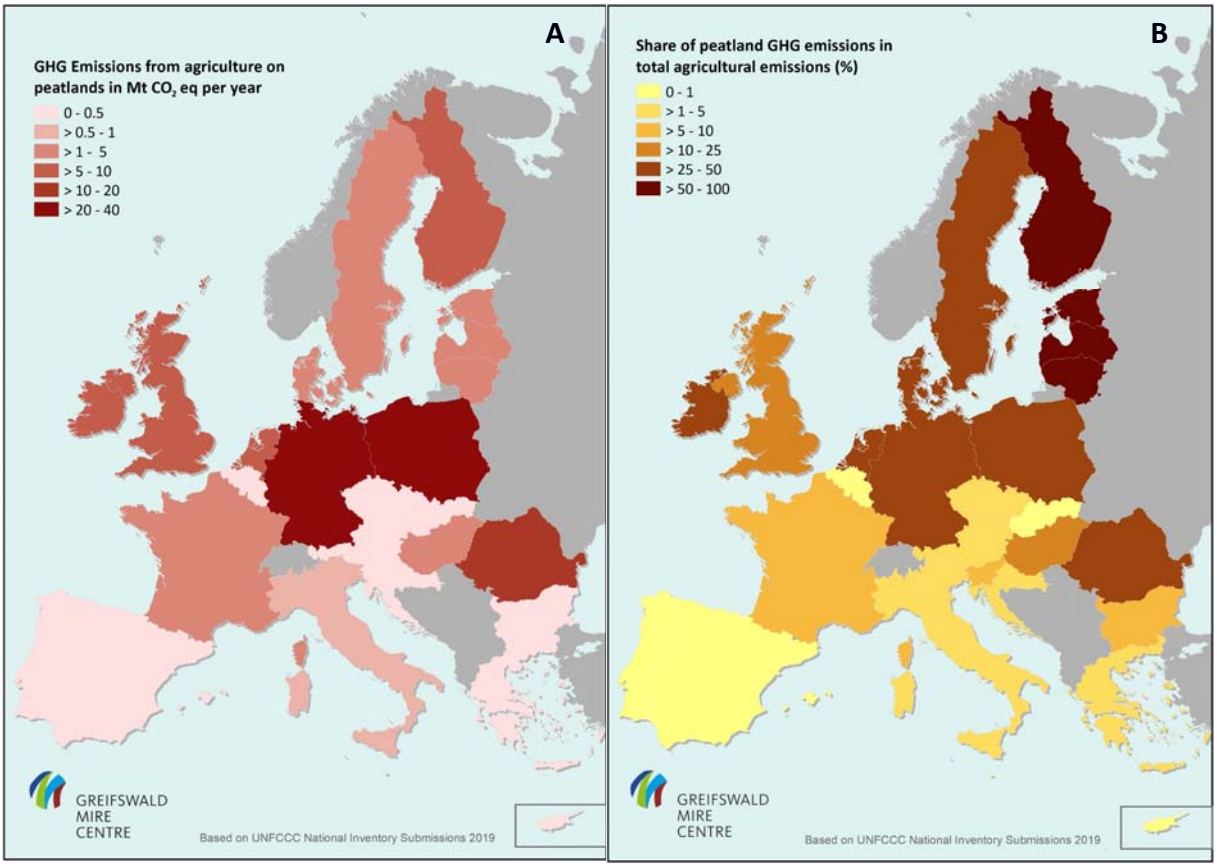
Peatlands and organic soils in the European Union:

- The **EU is globally the second largest emitter** of greenhouse gases from drained peatlands (220 Mt CO_2/year = 15 % of total global peatland CO_2 emissions).
- **Germany is the largest emitter in the EU**, followed by Finland, United Kingdom, Poland, Ireland, Romania, Sweden, Latvia, Lithuania, and the Netherlands.
- **99 % of the EU emissions** are caused by **16 out of 28 EU member states.**



Key countries with respect to emissions from drained organic soils. The graph shows the amount of CO_2 emissions in a cumulative way in Mt CO_2 per year and as percentage of the total emissions from degrading peatlands. Emissions are shown for the 25 Parties to the UNFCCC responsible for 95% of the emissions. The inset depicts the relative contributions of the 16 key EU countries. All values based on GMC's Global Peatland Database (GPD) and IPCC 2013 default values.

These problems can largely be solved by rewetting. In the long term, a complete cessation of peatland drainage is unavoidable if we want to reach the core goal of the Paris Agreement - zero net CO_2 emissions by 2050. The EU and all its Member States have unanimously affirmed this goal. However, rewetting makes conventional land use impossible. If we want to continue productive land use on rewetted peatlands, a paradigm shift is required involving new concepts, crops and techniques as well as adjustments of the current agricultural policy framework. Appropriate climate policy measures, especially in the frame of the Common Agricultural Policy (CAP), must enable the land use sector to minimize its emissions. The European Commission (2017) has declared environmental protection and the fight against climate change as the greatest challenges of the future CAP. This paper demonstrates how wisely adjusted peatland management can contribute to low-emission goals and further benefits for farmers, the economy, society and the environment.



A) Greenhouse gas emissions from agriculture on peatlands in the EU Member States[1] and B) their share in the total agricultural emissions[2]

Paludiculture as low-emission land use alternative for peatlands

In contrast to drainage-based agriculture, paludiculture[3] cultivates crops that are adapted to high water tables, such as reed, cattail and peat mosses. Using a variety of established techniques, the biomass can be processed to insulation and construction materials, growing media and bio-refinery products as well as to fodder and fuel. Innovative products, including medicinal and food products, are

[1] Data compiled by the Greifswald Mire Centre based on National Inventory Reports 2019.
[2] Data on total agricultural emissions as reported in the National Inventory Reports 2019 (Sectors Agriculture, LULUCF - Cropland and Grassland); data on peatland emissions, see A.
[3] Paludiculture is defined as productive land use of wet peatlands that stops subsidence and minimizes emissions (Wichtmann et al. 2016).

under development. Large-scale implementation, however, requires agricultural policies to set explicit incentives.

Peatlands (and paludiculture) in the current CAP

Within the first and second pillar of CAP, financial support is provided for drainage-based peatland use without any restrictions. In this way, public money supports land use that causes high societal costs and counteracts European and national goals with respect to climate change mitigation (National Determined Contributions, Climate Action Plans), water protection (Water Framework Directive) and biodiversity conservation (EU Biodiversity Strategy, Natura 2000). In Germany, drained peatland agriculture annually causes € 7.4 billion worth of climate damage (UBA 2019) and receives € 410 million of subsidies in the form of CAP direct payments. This damage is hitherto accepted and encouraged, although in many cases the agricultural productivity of drained peatlands is so low that cultivation is economically viable only because of the high public payments.

In contrast, the present CAP discriminates against paludicultures, because many species suitable for cultivation on wet or rewetted peatlands (reed, cattail, peat mosses etc.) are currently not eligible for payments within the first pillar of the CAP (Kölsch et al. 2016). Furthermore, Greening requirements for the preservation of permanent grassland hinder the establishment of paludiculture crops on currently deep drained grasslands on peat (Czybulka & Kölsch 2016).

Future incentives for low-emission peatland use

It is high time for a comprehensive low-emission peatland management strategy. A strategy that guides peatland farmers and peatland-rich regions towards an economically, ecologically and socially sustainable future. Similar to large-scale drainage and reclamation of peatlands in the past, clear political targets and effective economic incentives are needed to bring about the necessary paradigm shift. Implementation will require regional flexibility and creativity in order to develop custom-made solutions and transition scenarios jointly with all stakeholders.

According to the Commission's proposals (EU Commission 2017, 2018) this means that the future CAP will set **specific targets for emission reduction in agriculture** and that peatland-rich Member States obtain flexibility to reach the desired outcomes by **incorporating peatlands and paludiculture into their national CAP strategies**. In order to preserve the disproportional high peatland carbon store, the Commission proposes a system of **conditionality**, including a standard for good agricultural and ecological conditions called **'Appropriate protection of wetland and peatland' (GAEC 2)**. The protection of carbon-rich soils can only be achieved by installing high water levels and should explicitly include all currently drained organic soils (c. 150,000 km^2), not only organic soils within the Nature 2000 network. Member States therefore need ambitious national regulations to **define good practice guidelines** for the management of peatlands. They can specifically support sustainable land use alternatives on peatlands with **environmental and climate programmes within both CAP pillars**. As the European Commission and EU auditing bodies demand (cf. European Court of Auditors 2016), support has to be linked to specific results, meaning verified emission reductions. Therefore, a **GHG emission audit and effective monitoring** have to be established. Establishing paludiculture will lower mitigation costs compared to rewetting without continued productive use. Sufficient **funds have to be earmarked** to finance climate programmes.

The CAP framework is in general suitable for realising an EU-wide realignment of peatland agriculture and supplying (co-)funding for reaching the climate goals. Additional support may come from the

European Regional Development Fund (ERDF) (cf. funding directives in Bavaria[4]nLower Saxony[5], and Brandenburg[6], Germany) and national instruments and funds.

A combination of the following actions can pave the way towards low-emission peatland utilisation (Wichmann 2018):

- **Phasing-out CAP funding for drainage-based peatland utilisation** (direct payments, agri-environment-climate schemes, investment promotion for drainage systems etc.) in order to create coherence between agricultural and climate policies and to underline the necessary paradigm shift for reaching the climate change mitigation goals under international law;
- Guaranteed **eligibility of paludicultures for CAP payments in pillar I and pillar II**
- **Remuneration of ecosystem services**: Providing attractive incentives for reducing GHG emissions and for supplying other ecosystem services (e.g. nutrient retention, biodiversity conservation);
- **Establishment of long-term programmes** (15-20 years) to ensure planning security and permanence of positive climate and environmental effects;
- **Application and refinement of existing instruments** (e.g. EAFRD, ERDF) to provide incentives for all implementation steps, including site preparation, establishment of suitable crops and techniques, selection and breeding, raising the water level, management and harvest with adapted agricultural equipment, processing and marketing;
- **Promotion of knowledge transfer**, consultation and establishment of demonstration farms;
- **Support for land consolidation and co-operation** for implementation of long-term (2050) transition to zero-CO_2-emission farming on the landscape scale;
- **Exchange of experience between peatland-rich regions** in Europe to develop regionally customised solutions, including participation and acceptance of all stakeholders, output orientation and cost-efficiency.

Paludiculture as win-win-option

Paludiculture, supported by existing and adapted agricultural policy measures, will provide win-win-options for various sectors of society:

- Agriculture: New income opportunities on marginal organic soils, soil protection, better social image, climate adaptation (reduction of risks of crop failures after heavy rains, floods or droughts);
- Society: Securing and creating employment in rural areas, regional recreation and tourism, identity, reduction of economic collateral damage (e.g. for buildings, infrastructure) caused by drainage;
- Economy: Substitution of fossil resources (energy sources, mineral oil-based construction material, peat in horticulture) by renewable biomass materials from wet peatlands, bio-economy, sustainable food and fodder production;
- Environment: Climate, water and biodiversity protection at comparatively low costs, support of wide-ranging ecosystem services.

[4] http://www.stmuv.bayern.de/themen/naturschutz/foerderung/efre.htm

[5] Klimaschutz durch Moorentwicklung https://www.klimaschutz-niedersachsen.de/_Resources/Persistent/da7070a86b48a9853a1a5126d3cb77cf250d8add/Richtlinie%20Klimaschutz%20durch%20Moorentwicklung.pdf

[6] Moorschutzrichtlinie ProMoor https://lfu.brandenburg.de/cms/detail.php/bb1.c.427149.de

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Compiled by the Greifswald Mire Centre

The Greifswald Mire Centre is a cooperation between the University of Greifswald, Michael Succow Foundation and DUENE e.V. Over 50 peatland experts of various disciplines are working at the interface between science, policy and practice. We analyse the climate effect of peatlands, study and advise on peatland rewetting and paludiculture, and develop innovative instruments and methodologies for climate action on peatlands.

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Agriculture on rewetted peatlands includes harvesting of sedges for energy production, harvesting of reed for thatch, planting of cattail for insulation material, and also grazing with water buffaloes for food and sphagnum farming for horticultural substrate. (All pictures: GMC).