PEATLANDS IN THE EU

COMMON AGRICULTURE POLICY (CAP) AFTER 2020

Position Paper - (Version 4.8)

KEY TARGET

To facilitate the new environmental ambitions of the Post-2020 Common Agricultural Policy (CAP) and to create coherence between agricultural and climate policies, CAP must safeguard and stimulate the preservation of carbon-rich soils through protection of peatlands[1].

PRIMARY GOALS

1 Guaranteed eligibility of farmed wet peatlands for CAP payments.

2 Phasing out CAP payments for drained peatlands.

3 Establishment of results-based agricultural payment schemes remunerating ecosystem service provision as low greenhouse gas emissions from peatlands.

PEATLAND UTILISATION: AN INTERPLAY OF AGRICULTURAL AND CLIMATE POLICIES

Peat forming lands are particularly rich in organic matter. Peat accumulates in areas where the decomposition of plants is slowed due to wet conditions, which results in a large store of carbon accumulated over thousands of years. **Fully functional, healthy peatlands are the most space efficient long-term carbon store and sink in our planet's biosphere** (see figures 7 & 8). Peatlands have been drained for agriculture, forestry and peat extraction.

The negative consequences of this use is becoming increasingly obvious (see figures 1 & 2). Drainage allows oxygen to enter the soil, leading to microbial decomposition of the peat and thereby breakdown of the stored carbon leading to emission of substantial amounts of CO_2 and N_2O. Further negative consequences of drainage are a reduction in water quality through the discharge of nutrients to ground and surface water and land subsidence (1-2 cm yearly). This results in increasing drainage costs, higher flooding risks, reduced water quality and - ultimately - loss of productive land.

Figure 1: Drainage-based agriculture such as dairy farming on peatlands is widespread across the EU. It is subsidised by CAP payments but causing huge environmental losses and damage. (Photo: Denmark, by Hans Joosten).

Figure 2: Drained and degraded peatlands emit up to 30 tonnes of CO_2 per hectare per year. (Photo: Ireland, courtesy of Care Peat EU Interreg project)

PEATLANDS AND ORGANIC SOILS IN THE EUROPEAN UNION

Peatlands occur in almost all EU Member States, with a concentration in north-western, Nordic and eastern European countries[2] (see figure 3).

Globally the EU is the second largest emitter of greenhouse gases (GHG) from drained peatlands (220 Mt CO_2eq/year = 15% of total global peatland emissions[3]). This is equivalent to circa 5% of the official EU greenhouse gas emissions total of 4,483 Mt CO_2eq/year in 2017[4]. Peatland emissions are reported by EU countries in the National Inventory Submissions to UNFCCC but not yet accounted[16].

The largest peatland emitters in the EU are Germany, Finland, United Kingdom, Poland, Ireland, Romania, Sweden, Latvia, Lithuania, and the Netherlands. In most of these countries, drained peatlands contribute to more than 25 % of total emissions from agriculture and agricultural land use (see figure 4)

99% of EU peatland emissions are caused by **16 of the 28 EU Member States**.

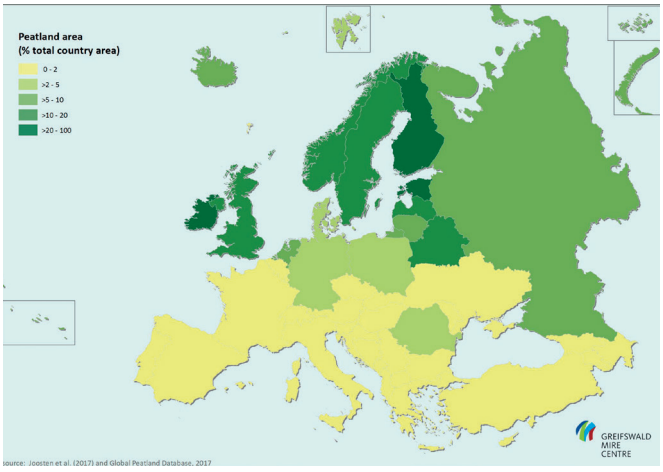

Figure 3: Map showing peatland distribution across Europe indicating proportions of peatlands of the total country area.[5]

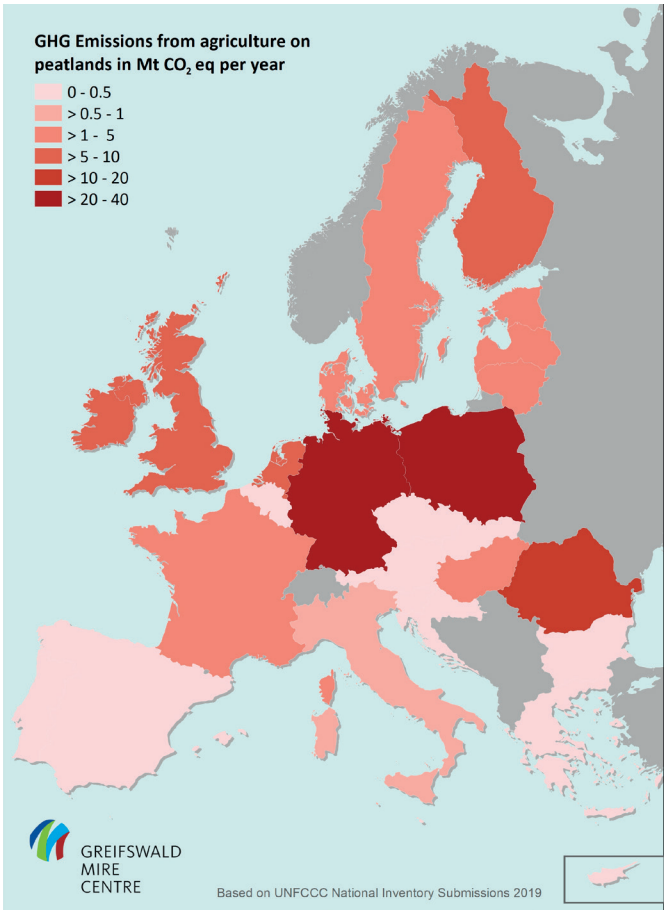

Figure 4: Map showing total greenhouse gas emissions from agriculture on peatlands in the EU Member States [6]

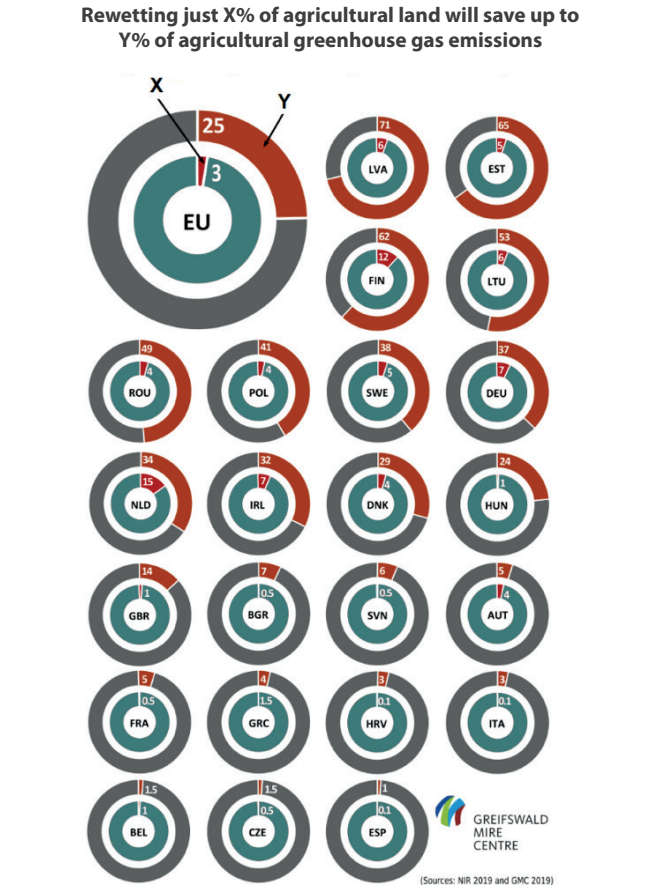

Figure 5: Percentage of agricultural land that needs to be rewetted (inner circle: EU-3%) in order to reduce agricultural greenhouse gas emissions (outer circle: EU-25%) [6]

THE SOLUTION

These emissions can be significantly reduced by raising water levels near to the surface (e.g. by drain blocking, stop pumping in polders), which reduces emissions and protects the remaining peat carbon store. Afforestation on drained peatlands is an inappropriate mitigation measure and can result in increased carbon emissions.

In the long term, a complete cessation of peatland drainage and reversal of the effects of existing drainage is unavoidable if we want to reach the core goal of the Paris Agreement - zero net emissions by 2050. The EU and all its Member States have unanimously affirmed this goal.

However, healthy peatlands are not consistent with conventional agricultural land use. If we want to continue productive land use on 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 land use (sectors Agriculture and LULUCF) to minimize peatland emissions. The European Commission (2017) has declared environmental protection and the fight against climate change as the greatest challenge of the future CAP. This policy brief demonstrates how wisely adjusted peatland management can achieve low-emission goals with further benefits for farmers, the economy, society and the environment.

PALUDICULTURE AS A LOW-EMISSION LAND USE ALTERNATIVE FOR PEATLANDS

Paludiculture is defined as productive land use of wet peatlands that stops subsidence and minimises emissions[7].

In contrast to drainage-based agriculture, paludiculture cultivates crops that are adapted to high water levels, such as reed, cattail, black alder and peat mosses. It can have a higher value both financially and ecologically. Using a variety of established techniques, the products of paludiculture can be processed to use as insulation and construction materials, growing media and bio-refinery products as well as for livestock fodder and for fuel. Innovative products, including, cosmetics, medicinal and food products, are under development.

Large-scale implementation of paludiculture, however, requires agricultural policies to set explicit incentives that ensure that it becomes advantageous for landowners to rewet drained agricultural peatlands and subsequently to maintain them as wetlands (see figure 5).

Implementation of carbon farming[8] on peatlands by introducing specific payments for keeping carbon in the ground. This could be granted via public payment or appropriate credit schemes[9] for farmers who wish to avail of carbon credits through the voluntary carbon market at regional and national levels. These schemes can be supported and recognised by the CAP and governments in the Member States.

Facilitating results based agricultural payments schemes (RBAPS)[10] specifically for peatlands to ensure that wet peatlands can be maintained to a high standard. Landowners should not lose out by actively maintaining wet peatlands, so that greenhouse gases are reduced or peatlands can act as net carbon sinks. A time and cost-effective monitoring system of GHG emissions on parcel level across different land uses and management regimes has to be developed and implemented to allow for sound MRV (measuring, reporting, and verification).

Figure 6: Paludiculture includes planting of cattail for insulation material, harvesting of sedges for energy production, grazing with water buffaloes for food, sphagnum farming for horticultural substrate and many other types of 'wet' agriculture or forestry. (All pictures: GMC).

RECOMMENDATIONS

The CAP framework is generally suitable for realising an EU-wide realignment of peatland maintenance and supplying (co-)funding for reaching the stated goals. Additional support may come from the European Regional Development Fund (ERDF) (cf. funding directives in Bavaria[11] and Lower Saxony[12], Brandenburg[13], Germany). A combination of the following actions can pave the way towards low-emission peatland utilisation [14]:

- **Guaranteeing eligibility of farmed wet peatlands for 1st and 2nd CAP pillar payments**;
- **Phasing-out CAP funding for drained peatlands** (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;
- **Remunerating ecosystem services with results-based agricultural payment schemes** to set attractive incentives for reducing GHG emissions and for supplying other ecosystem services (e.g. nutrient retention, water quality and flood regulation);
- **Implementing national peatland carbon credit schemes** in the 16 EU Member States with significant peatland emissions, to facilitate carbon retention and carbon capture;
- **Establishing long-term programmes** (15-20 years)[15] to ensure planning security and permanence of positive climate and environmental effects;
- **Applying and refining existing instruments** (e.g. EAFRD, ERDF) to provide incentives for all implementation steps, including site preparation, establishment of suitable crops and techniques, raising the water level, selection and breeding, management and harvest with adapted agricultural equipment, processing and marketing;
- **Promoting knowledge transfer**, financial and infrastructural support, consultation and establishment of demonstration farms;
- **Exchanging on experience between peatland-rich regions** in Europe to develop regionally customised solutions, including participation and acceptance of all stakeholders, output orientation and cost-efficiency.

Figure 7: Fully functional, healthy peatlands are the most space efficient long-term carbon store and sink in our planet's biosphere.

PALUDICULTURE AND CARBON FARMING AS WIN-WIN-OPTIONS

Paludiculture and carbon farming, supported by existing and adapted agricultural policy measures, will provide win-win-options for various sectors of society (see figure 6):

- 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 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 with comparatively low costs, support of wide-ranging ecosystem services.

PRINCIPLES

- Landowners within the EU to be encouraged to maintain and re-establish high water levels in peatlands to maximise carbon storage and minimise greenhouse gas emissions. No landowner in the EU should be economically or socially disadvantaged by maintaining or developing wet peatlands or rewetting peatlands.
- Deliberate degradation of the long-term carbon storage capacity of peatlands should always be penalised and should never result in increased payments from the EU.

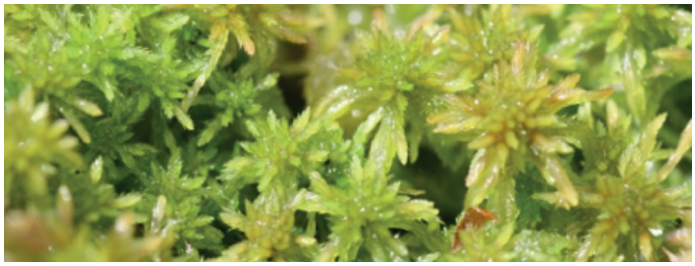

Figure 8: Sphagnum moss is the dominant vegetation of most peatlands.

CONTACT DETAILS:

Greifswald Mire Centre
Ellernholzstr. 1/3
D-17489 Greifswald, Germany
www.greifswaldmoor.de
info@greifswaldmoor.de
@greifswaldmoor

National University of Ireland, Galway
Data Science Institute
Galway, Ireland
www.nuigalway.ie
niall.obrolchain@insight-centre.org
@nuigalway @DSIatNUIG

Wetlands International European Association
Rue de Trèves 59-61
B-1040 Brussels, Belgium
www.wetlands.org/europe
post@wetlands.org

REFERENCES

[1] EU Budget: The CAP after 2020 https://ec.europa.eu/commission/sites/beta-political/files/budget-may2018-modernising-cap_en.pdf
[2] Tanneberger et al. (2017) The Peatland Map of Europe http://mires-and-peat.net/media/map19/map_19_22.pdf
[3] Joosten (2009) The Global Peatland CO_2 Picture https://unfccc.int/sites/default/files/draftpeatlandco2report.pdf
[4] Eurostat Greenhouse gas emission statistics https://ec.europa.eu/eurostat/statistics-explained/pdfscache/1180.pdf
[5] Joosten et al. (Hg.) (2017): Mires and peatlands of Europe. Status, distribution and conservation. Stuttgart: Schweizerbart.
[6] Data compiled by Greifswald Mire Centre based on National Inventory Reports 2019. (Sectors Agriculture, LULUCF - Cropland and Grassland)
[7] Wichtmann et al. (2016) Paludiculture-productive use of wet peatlands. https://www.schweizerbart.de/publications/detail/isbn/9783510652839
[8] EC Carbon Farming Schemes in Europe – Roundtable https://www.ecologic.eu/sites/files/presentation/2019/cf_roundtable_background_04102019_final.pdf
[9] MoorFutures – how regional carbon credits from peatland rewetting can help nature conservation in protected areas https://www.iucn.org/content/moorfutures-%E2%80%93-how-regional-carbon-credits-peatland-rewetting-can-help-nature-conservation
[10] Results-based Payments for Biodiversity Guidance Handbook https://ec.europa.eu/environment/nature/rbaps/handbook/docs/rbaps-handbook.pdf
[11] http://www.stmuv.bayern.de/themen/naturschutz/foerderung/efre.htm
[12] Klimaschutz durch Moorentwicklung https://www.klimaschutz-niedersachsen.de/_Resources/Persistent/da7070a86b48a9853a1a5126d3cb77cf-250d8add/Richtlinie%20Klimaschutz%20durch%20Moorentwicklung.pdf
[13] Moorschutzrichtlinie ProMoor https://lfu.brandenburg.de/cms/detail.php/bb1.c.427149.de
[14] Wichmann (2018) Economic incentives for climate smart agriculture on peatlands in the EU. https://greifswaldmoor.de/files/dokumente/GMC%20Schriften/Report_Economic%20incentives_Cinderella_GMC%20Proceedings_web.pdf
[15] Integrated Carbon Observation System (ICOS) https://www.icos-ri.eu
[16] Reporting GHG emissions from organic soils in the EU https://greifswaldmoor.de/files/dokumente/GMC%20Schriften/18-02_Barthelmes_GMC.pdf

SUPPORTED BY:

* This publication was produced with the assistance of the Life Programme of the European Union, although the views expressed can in no way be taken to be the views of the donor.