



# Rewetting drained peat soils for climate neutrality of the EU

Large-scale rewetting activities mitigate GHG emissions and support climate neutrality

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## Rewetting strengthens the carbon sink

Successful mitigation of GHG emissions from drained peatlands is crucial for achieving EU climate targets by 2050, like climate neutrality and strengthening the LULUCF net carbon sink by 310Mt CO<sub>2</sub>. Reducing and adapting utilization of peatlands will also increase sustainability in production of many commodities. This urges policies that abolish harmful subsidies and create incentives for protective actions on peat soils.

Rewetting is the only way to end the peat loss and emissions of drained peat soils. The Nature Restoration Regulation (NRR) of the EU requires ca. 17% of agricultural peatland area to be rewetted by 2050 [2]. This can be an important step towards more sustainable food production.

Implementing the NRR target of rewetting would reduce 10% of the GHGs of cultivated peat soils. Implementation of the NRR is a crucial first step in the path to climate neutrality but much higher impact is possible by scaling up.

Benefits from rewetting are not limited to climate change mitigation. Rewetting creates biodiversity and opportunities for recreation and reduces nutrient pollution and risks of flooding and fire.

Paludiculture (crop production in rewetted fields) could ease the transition by enabling farm income from rewetted land. However, functional paludiculture value chains require new approaches in primary production, machinery, and support via agricultural and industrial policies.

### What is rewetting?

In rewetting, water flow out from a drained area is restricted. The ground water level rises and enables restoring the wetland functions of the ecosystem. Emissions of carbon dioxide (CO<sub>2</sub>) and nitrous oxide (N<sub>2</sub>O) decrease and the increase in methane (CH<sub>4</sub>) emissions is usually moderate.

The effects of rewetting were calculated assuming an instant change from the current reported average emissions of each land use type to emissions corresponding to the default emissions of rewetted peatlands [3].



## Rewetting of drained peatlands supports EU's climate neutrality efforts.

### Success in GHG mitigation calls for improved reporting and incentives for peatland rewetting

To improve the quality of emission reporting the member states should:

- Use up-to-date spatial data products and modern methods like remote sensing to improve area estimates of drained peatlands.
- Include all required gases and emission categories in their reports.
- Use up-to-date emission factors.

To maximise the benefits from land use management of peatlands, EU member states should:

- Ban drainage of peatlands or deepening the existing drains.
- Ensure sufficient funding for rewetting activities on top of the requirements of the Nature Restoration Regulation
- Create incentives for industrial use of paludiculture biomass.

### References

[1] van Giersbergen et al. 2025. Identifying hotspots of greenhouse gas emissions from drained peatlands in the European Union. Nature Communications.

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[2] EU Nature Restoration Regulation. [https://environment.ec.europa.eu/topics/nature-and-biodiversity/nature-restoration-regulation\\_en](https://environment.ec.europa.eu/topics/nature-and-biodiversity/nature-restoration-regulation_en)

[3] IPCC 2014. <https://www.ipcc.ch/publication/2013-supplement-to-the-2006-ipcc-guidelines-for-national-greenhouse-gas-inventories-wetlands/>



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