

# Economics of Peatlands Conservation, Restoration and Sustainable Management

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Economics of Peatlands Conservation, Restoration and Sustainable Management policy report

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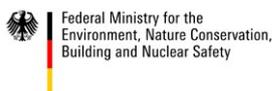
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# Executive Summary

## Peatlands in decline

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Global peatlands are in decline with an estimated 11-15% of these ecosystems having been drained for agriculture, grazing, peat mining and forestry. A further 5-10% are degraded through vegetation removal or alteration (see Tables 1 and 2). Peatland decline has slowed somewhat in temperate and boreal regions, but the loss of tropical peatlands continues at a high rate. If unchecked, the area of peatland converted in tropical regions could increase to around 300,000 square kilometers (km<sup>2</sup>) by 2050 (Leifeld *et al.* 2019). This is almost double today's drained peatland area in the tropics.

## A triple win for people, the climate and biodiversity

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The conservation, sustainable management and restoration of peatlands worldwide provides an important socio-economic and environmental opportunity. Peatlands are particularly vital for combatting the climate crisis. They are one of the largest terrestrial organic carbon stocks globally, storing twice as much carbon as the world's forests (Anisha *et al.* 2020).<sup>1</sup> If undisturbed, peat layers are an effective permanent store of carbon. Peatlands can be part of an effective climate change mitigation strategy, and they could help countries meet Nationally Determined Contributions (NDCs) to global climate action. In addition, parties to the Paris Agreement have acknowledged the importance of promoting gender equality and the empowerment of women when taking actions to address climate change (United Nations Women 2016).

Peatlands also provide a wide range of other important ecological, economic and cultural benefits. They represent a habitat for many unique and threatened species while also supporting water cycles, controlling pollution and sediments, serving as a source of locally harvested products, and existing as an inspiration for art, religion, and other cultural values (see Table 3).<sup>2</sup> Economic assessments confirm that the benefits of these ecosystems are considerable. Investment in peatlands conservation, restoration and sustainable management is a triple win for people, the climate, and biodiversity.

## Undervalued and underinvested

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The principal cause for the mismanagement of global peatlands is that their economic contributions are *undervalued*. Commercial activities and policies that degrade and convert these high-carbon ecosystems often ignore or fail to account adequately for their benefits to society. In addition, global peatland conservation and restoration suffer from chronic *underinvestment*. Current public and private funding directed towards peatlands falls well short of what is needed to save such valuable ecosystems.

Although the economic and environmental benefits of peatlands are often considerable, the cost of restoring degraded or drained peatlands can be high, especially in tropical regions (see Annex 2). To rewet 40% of drained peatlands by 2050, annual global investments in peatland restoration must rise from nearly US\$19 billion annually to US\$31 billion by 2030, to US\$39 billion by 2040, and then in excess of US\$46 billion by 2050 (see Figure 1). Investing in cost-effective tropical peatland conservation and restoration for carbon mitigation would reduce global greenhouse gas emissions by 800 million tonnes per year (equivalent to Germany's emissions), requiring an annual investment of US\$28.3 billion for conservation and US\$11.7 billion more for restoration (see Table 4).

<sup>1</sup> See also Crump (2017), Joosten *et al.* (2012) and (2016), Leifeld and Menichetti (2018), and Page and Baird (2016). The [Global Peatlands Initiative \(GPI\)](#), established in 2016 at the United Nations Climate Change Conference (UNCCC), aims to promote the conservation of the world's peatlands in order to prevent further emission of this carbon into the atmosphere.

<sup>2</sup> See also the various studies cited in Annex 1.

Because these irrecoverable stores of carbon are disappearing quickly, the bill for saving peatlands will only rise further if we fail to invest now. The opportunity cost of delaying action on peatland conservation and restoration as part of a greenhouse gas mitigation strategy could be substantial (Glenk *et al.* 2021).

Some governments have begun to recognize the socio-economic importance of peatlands and are adopting better policies for their conservation, restoration and sustainable management (see Annex 3). But overcoming the current widespread problems of peatland undervaluation and underinvestment requires a range of innovative policy and financing initiatives. These actions should form the basis for a global strategy for promoting peatlands as a nature-based solution.

## Ending the undervaluing of peatlands

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All countries with significant peatland areas should ensure that the values provided by these ecosystems are adequately considered in reference to land use decisions that have the potential to inflict damages, degrade or destroy peatlands. Ending the undervaluing of peatlands requires countries to adopt policies, regulations and other actions that improve conservation, restoration and sustainable management of their peatlands. Such a policy strategy should comprise six key elements:

- Mapping, monitoring and ongoing assessment of peatland areas, including determining the status and condition of intact peatlands.
- Imposing moratoria, regulations, controls and incentives to prevent additional drainage, conversion and damage to remaining intact peatlands.
- Removing subsidies and other forms of financial support to agricultural, forestry, mining and other economic activities that excessively degrade or convert peatlands.<sup>3</sup>
- Using taxes, tradable permits and market-based incentives to further control economic activities, their resource use and resulting pollution that adversely impact peatlands.
- Allocating revenues generated or saved from subsidy removal, market-based instruments and other pricing reforms to free up or generate revenue for investment in improving peatland conservation, restoration and sustainable management. This is particularly important in the aftermath of the COVID-19 pandemic, which has placed significant fiscal burdens on governments worldwide.
- Increasing funding for conservation, restoration and sustainable management of peatlands, especially to rejuvenate substantially drained peatland areas.

## Ending the underfunding of peatlands

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Global peatland protection and restoration suffers from chronic *underinvestment*. The current public and private funding of peatlands falls well short of what is needed to save these valuable ecosystems. If they are to be part of a global strategy of nature-based solutions to prevent climate change, biodiversity loss and other environmental threats, then much more needs to be done to invest in peatlands, especially in tropical regions.

<sup>3</sup> OECD (2020a) estimates that public and private spending on nature protection and conservation over 2015-2017 averaged US\$78 to US\$91 billion. In comparison, environmentally harmful agricultural subsidies averaged US\$112 billion per year over 2017-2019 just in OECD countries, and in 77 countries, fossil fuel subsidies were US\$478 billion in 2019 (OECD 2020b). These estimates suggest that public subsidies to agriculture and fossil fuels that are environmentally harmful are more than five times the amount spent globally by the public and private sector on nature conservation and protection. Additional subsidies to the forestry sector and for water use further exacerbate excessive peatland conversion. Governments also provide environmentally beneficial subsidies to nature, but over 2012-2016 they averaged less than US\$1 billion per year (OECD 2019).

In order to transform global peatlands from a net source of greenhouse gas emissions to a net sink, as much as 40% of drained peatlands will need to be rewetted by 2050. To achieve this goal, annual investments in peatland restoration worldwide must more than double within the next two decades, from current levels of just under US\$19 billion annually to over US\$46 billion by 2050 (See Figure 1). Funding support is especially urgent for eight countries that could potentially account for 97% of the carbon mitigation from tropical peatland investment - Indonesia, Malaysia, Papua New Guinea, Uganda, Brazil, Democratic Republic of Congo, Peru and Republic of Congo (see Table 4).

Averting the worldwide crisis of peatland mismanagement requires much more investment in these ecosystems than current levels. Given the urgency of addressing global peatland loss, a key challenge is broadening the sources and scale of financing for the conservation and sustainable management of peatlands worldwide.

First, wealthy countries that contain peatlands should unequivocally adopt policies, regulations and other actions that are needed to improve protection, restoration and sustainable management of their peatlands. Wealthy countries should not only increase the amount of their own private and public spending on peatlands but also assist poorer countries in doing so. The latter could be done through more bilateral and multilateral aid while also encouraging more innovative public and private financing mechanisms.

Second, many low- and middle-income countries, especially those with significant tropical peatlands, need technical and financial assistance to undertake some of these policies, especially the restoration of degraded peatlands. Countries seeking support from the international community for peatlands as a nature-based solution should demonstrate their “sustainable peatlands readiness” by devising national strategies of policy actions for conservation, restoration and sustainable management of peatlands and by establishing accurate and transparent monitoring, reporting and verification of results-based actions under their national strategies. The international community should provide adequate financial and technical support to those low- and middle-income countries that adopt policies and actions for improved peatland conservation, restoration and sustainable management.

This additional assistance can be provided by a consortium of donors, including public-private partnerships, and should be conditional on verifiable policies and actions by recipient countries that have developed long-term policy and management plans for peatlands. Such an approach has been adopted within the REDD+ framework, where potential recipient countries must demonstrate their “REDD readiness” by first creating a national strategy or action plan for reducing emissions from deforestation and forest degradation and guaranteeing accurate and transparent monitoring, reporting and verification of results-based actions.

Third, in a post-COVID world of limited financial resources, there is a need to develop new sources of private and public funding for protection of peatlands globally. There are many possible options, including biodiversity offsets, payments for ecosystems services, voluntary carbon markets, REDD+, debt-for-nature swaps and green bonds. In addition, the agricultural, forestry, mining, food and beverage, and other global industries must invest in product certification and in making their supply chains “peatland friendly” by ensuring that they result in no additional loss of peatlands. These industries should also support and invest in these valuable ecosystems.

## A global strategy for peatlands

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Peatland conservation, restoration and sustainable management should be a central consideration within the global effort to invest in nature-based solutions and avert climate change, biodiversity loss and other environmental threats. This requires a global strategy for peatlands that motivates collective action by all countries and stakeholders that will end the underpricing and underfunding of these important ecosystems worldwide. Investment in peatlands is a triple win for people, the climate, and biodiversity.



# Main Report

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