

Policy Brief: Peatland Strategies in Europe

Why and how to develop national strategies for peatlands

Main messages

- Wet peatlands offer attractive nature-based solutions for various environmental challenges, including climate change mitigation, water regulation and biodiversity conservation. Yet, they are largely threatened or degraded in many European countries.
- National peatland strategies serve as a basis to identify peatland related objectives and coherent peatland management instruments and measures across sectors. They can have a strong impact to prevent further peatland degradation, increase sustainable use and coordinate peatland restoration.
- The strategies recognize the cross-cutting effect of sustainable peatland management to reach national commitments to EU regulations and international agreements, such as the Paris Agreement, the Water Framework Directive and the Convention on Biodiversity.
- For a comprehensive strategy, all relevant peatland types and management practices (agriculture, forestry, peat extraction, recreation and tourism, climate change mitigation and nature conservation, water management etc.) should be considered.
- Strategies should be clear in their objectives and communicated transparently to the public.
- For their implementation, they need reasonable instruments and reliable funding schemes with a long-term perspective.
- To prove success and identify necessary adjustments, a monitoring and reporting scheme should accompany the strategies and their implementation measures.

Keywords: Peatlands, Europe, policy, strategy, conservation, restoration, sustainable land use management, climate change

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1. The importance of peatlands: Context, challenges and opportunities

Peatlands¹ are wide spread across Europe with a concentration in Northern, Central, and Eastern Europe (Ireland, United Kingdom, the Netherlands, Germany, Poland, Belarus, Ukraine, Nordic and Baltic countries).² Their importance is increasingly acknowledged, yet many peatlands are threatened by drainage and destructive use³. Climate change is expected to further aggravate peatland degradation. Over centuries, peatlands have been drained for agriculture, forestry and

¹ Peatlands are defined as areas with peat soils. Peat accumulates when soil is permanently waterlogged and dead plant remains do not completely decompose. It contains a large proportion of organic carbon.

² Joosten, H., Tanneberger, F. & Moen, A. (eds.) (2017): Mires and peatlands of Europe - Status, distribution and conservation. Schweizerbart. Stuttgart.

³ United Nations Environment Programme (UNEP) (Ed.). (2017). Smoke on water: Countering global threats from peatland loss and degradation. UNEP GRIDA, Global Peatlands Initiative.

peat extraction and the majority of natural peatlands especially in Western Europe are already lost. For example, only 5% of near-natural peatlands remain in Germany.



Fig. 1: Agriculture on drained peat (J. Peters)

Current peatland management practices are often unable to retain the important ecosystem services that peatlands provide, and negative consequences are more and more recognized. Drainage allows oxygen to enter the soil, leading to microbial decomposition of the peat and thereby to emissions of substantial amounts of greenhouse gases such as CO₂ and N₂O. Furthermore, nutrients are mobilised and discharged to ground- and surface water, specific peatland biodiversity is under threat and soil subsidence (1-2 cm yearly) results in increasing drainage costs, higher flooding risks and – ultimately – to loss of productive land.

Wet peatlands, on the contrary, provide valuable ecosystem services as they host unique biodiversity, can serve as a buffer during floods, retain water in the landscape, filter out nutrients and improve water quality, and store large amounts of carbon in their peat layers. Peatlands, if restored and sustainably managed, can therefore play a crucial role in reaching national and international environmental policy goals. National peatland strategies that are based on conservation and sustainable management principles would strongly support countries to achieve these goals including contributing to achieving the Sustainable Development Goals.

A number of European governments and actors have developed or are in the process of developing national peatland strategies in order to:

- Provide a basis for **coherent peatland management** and respective **policy making**;
- Give **recognition to peatlands**: Highlight their important functions and services, their use, current threats, and new challenges in the public and political sphere (e.g. related to land use changes connected to scaled-up peatland conservation and restoration);
- Provide an **overarching framework** to address and bridge gaps in current approaches and to set clear guidelines for planning and implementation on sub-national level;
- Launch a **debate on the cross-sectoral importance** of peatlands, bring stakeholders together and address conflicts of interest.

In order to reach these goals, national peatland strategies should incorporate the following core elements and contents as well as consider potential success factors in their development processes.

2. Core contents of peatland strategies

National peatland strategies should be guided by clear and sufficient goals, substantiated by the purpose of the strategy (why?), its objectives (what?), appropriate outcomes, milestones, instruments, transparent responsibilities (how?), actors involved (who?), and a timeframe for accomplishing major objectives and outcomes (when?). This basic framework provides the structure needed for transparency towards society and to generate commitment for implementation.



Fig. 2: Palsa peatland in Finland (S. Krüger)

In a strategy, specific ecological, social and political conditions need to be taken into account. However, as national strategies can also act as a framework for sub-national programmes or action plans, they need to leave enough flexibility for the adaptation of approaches to the sub-national level. Strategies may also address transboundary issues as administrative units and national borders are often not reflecting peatlands' full catchment areas.

More specifically a national peatland strategy should include, make reference to and/or address:



Fig. 3: Sloping mire in Norway (J. Peters)

1. A country's **peatland inventory**, which ideally should provide data about the type, spatial extent and thickness of peatlands, their state and conditions, ecosystem services and climate relevance, current management and uses, as well as threats (including projected climate change effects) and protection efforts.
2. Clear and tangible targets and objectives for **conservation, restoration and sustainable management** of peatlands that contribute to a country's overarching strategies in relation to climate action, biodiversity conservation, improvement of water quality etc.
3. **Relevant sectors**, including agriculture, forestry and peat extraction, peatland tourism and recreation, climate mitigation, nature conservation etc.
4. **Water management** of peatlands at the catchment scale (integrated watershed management) taking into account their importance for flood risk management, drinking water provision and water quality regulation (e.g. in the context of the European Water Framework Directive).
5. A **"toolbox" for implementation**, suggesting **measures** and guidelines for their implementation, best practice examples and available **funding** programmes.
6. **Standards for monitoring and reporting** to evaluate measures and communicate success, pursuing links with required national reports (e.g. on greenhouse gas emissions⁴).
7. A **communication concept**, to raise awareness for peatland issues and gain further support from stakeholders, decision-makers and the public.
8. **Cultural values** connected to peatlands and the interest of indigenous peoples and local communities (as far as applicable), including an analysis of trade-offs of divergent interests.

3. Key elements and success factors of strategy development and implementation

Based on the experience of strategy development and implementation in different countries, key elements and factors for a successful process of delivering a national strategy for peatlands can be described, as listed below. Some aspects refer to an ideal starting situation, which should be strived for. However, a lack of these elements should not prevent countries to start a strategy development process. In the following, we list the success factors structured in the following key categories (1) *Base data and conceptualisation*, (2) *Embedding strategies into the existing policy framework*, (3) *Participation and outreach*, (4) *Implementation and funding*.

⁴ Greenhouse gas emission reporting to the UNFCCC and accounting required under Regulation (EU) 2018/841 for EU Member States by 2021 for all land uses (emissions from remaining wetlands by 2026).

(1) Base data and conceptualisation

The first step of developing a peatland strategy is a thorough investigation of their current state and management, in order to find out which issues must be addressed most urgently.



Fig. 4: Data collection (J. Peters)

- Prepare or improve an inventory of spatial extent, thickness and state of peatlands, compile and improve necessary baseline data (a complete map is not needed at the start – act on what is known);
- Conduct a macro-economic assessment of costs and benefits of peatland management types and a micro-level assessment to understand the impact of peatland use on the stakeholder level (environmental / social);
- Evaluate the economic feasibility of alternative peat and peatland use, as well as social, environmental and economic safeguards for affected stakeholders;

- Consider all relevant peatland use types (agriculture incl. paludiculture⁵, forestry, peat extraction, conservation, tourism and recreation, drinking water extraction etc.), involving especially water management bodies as overarching planning entities at catchment level;
- Evaluate regional/local climate change scenarios for their potential implications for peatland conservation, restoration and management
- Plan beyond single legislative periods, generate long-term funds and monitoring schemes to achieve a long-term approach.

(2) Embedding peatland strategies into the existing policy framework

National peatland strategies should be linked to existing national, regional and international policies, taking into account their objectives and instruments in different sectors. Synergies should be pursued.

- Integrate sustainable peatland management into other sectoral policies where possible and phase out contradictory subsidies that incentivise peatland degradation;
- Guarantee continuity and design clear jurisdiction by a formal support programme / governmental umbrella body;
- Apply common standard frameworks for monitoring and reporting following established schemes, e.g. national inventories to UNFCCC, ecological and chemical status under EU Water Framework Directive etc.;
- Link to overarching international agreements like the UNEA4⁶ resolution on Conservation and Sustainable Management of peatlands, Ramsar and IUCN peatland resolutions⁷ as well as the CBD Aichi targets and other decisions within Multilateral Environmental Agreements (such as National Determined Contributions (NDCs) for UNFCCC or the Post-2020 Framework for Biodiversity).

⁵ Paludiculture is defined as productive land use of wet peatlands that stops subsidence and minimizes emissions (Wichtmann, W., Schröder, C. & Joosten, H. (eds.) (2016): Paludiculture – productive use of wet peatlands. Climate protection – biodiversity – regional economic benefits. Schweizerbart, Stuttgart, 272 p.)

⁶ United Nations Environment Assembly of the United Nations Environment Programme, 4th session: <https://web.unep.org/environmentassembly/official-documents-unea-4>

⁷ Peatland-related resolutions of the Meeting of the Conference of the Contracting Parties to the Ramsar Convention on Wetlands (e.g. Resolutions VIII.17, XII.11, XIII.11, XIII.12, XIII.13) and peatland-related resolutions of the IUCN World Conservation Congress (e.g. WCC 2016 Resolution 043)

(3) Participation and outreach

A successful strategy looking at all sectors should involve all relevant stakeholders. Thus, participation, accompanied by communication and awareness raising, is crucial.

- Ensure participation of all concerned governmental and non-governmental bodies and comply with formal procedures;
- Involve relevant stakeholders (land users, land owners, water management, nature conservation, climate mitigation, tourism and wider public) - do not focus on limited sectors;
- Reconcile different interests and obligations during the development process to identify trade-offs and win-wins, considering short and long term impacts;
- Generate strong political and societal will, accompanied by targeted advocacy and public relations to demonstrate successful examples through relevant networks;
- Work with and coach trusted multipliers on different levels, especially on community level, who promote peatland protection and restoration and stay with the topic for a long time ("champions" / trusted neutral moderators / "ambassadors");
- Build interest and awareness in the public as well as towards decision makers (targeted communication campaign, monitor and communicate success, signed memorandum among key stakeholders)



Fig. 5: Agricultural use of a peatland for hay production (J. Peters)

(4) Implementation and Funding

National peatland strategies should build a tangible guiding framework for implementation and consider available resources and funds.

- Start with a larger mix of instruments including the use of existing ones with proven efficacy, review them in 5-10 years cycles and consolidate measures;
- Develop instruments to ensure land availability for implementation, which requires a clear understanding of land ownership and users in local and sub-national context;
- Focus on areas where you assume the best possibility to set up success stories, show successful examples and pilot projects;
- Develop standards and guidelines for monitoring of milestones and outcome achievement to evaluate the strategy and its implementation;
- Designate organisations in charge of implementation and supply them with sufficient staff and means;
- Provide sufficient finances to implement and incentivise the expected change, including long term guaranties:
 - o Delivered through effective funding mechanisms avoiding high transaction costs,
 - o Cessation of contradictory financial incentives,
 - o Continuity of funds enables trust-building and lasting success;
- Highlight costs for non-action (e.g. current and future environmental harm) and build in peatlands natural capital accounting to inform investments;
- Prioritise funding based on peatland inventory (e.g. hotspots of emission or degradation).

4. Conclusions and ways forward

The picture on peatland policies in Europe remains heterogenic: While countries such as Ireland and the UK are already implementing their national strategies, others are still in the process of developing them or have not yet considered starting to prepare one (see annex for three examples). Further **exchange between responsible ministries, agencies and involved experts** from different countries is recommended to **share lessons learned** and to improve the individual national processes.

Within the European Union, **peatland-related sectoral EU policies** and regulations can be supplemented by national strategies. Vice versa, such national strategies support the strong recognition of soils and peatlands in drafting relevant EU policy documents, e.g. the 8th Environment Action Programme (EAP). To integrate peatland conservation and sustainable management into European legislation, all Member States can make an effort to contribute via the European Council, besides working on their national strategies. In future, a common **EU Peatland Strategy** could be drafted equivalent to the EU Forest Strategy, but the added value needs to be identified and substantiated for this effort.

Without adapted **climate-friendly peatland management**, which will stop peat oxidation and degradation, most EU member states will not be able to meet their manifold environmental targets, above all climate action commitments under existing EU law following the Paris Agreement. Only **long-term strategic planning** can set clear objectives for a **transformative pathway** ahead, which needs to take stakeholders seriously on board. Affected decisions on land use and investments need trustworthy guarantees for structural changes instead of sudden structural disruptions. The later will probably occur if the necessary action is not taken now, but instead deferred to the future. In addition to **appropriate mechanisms** and **sufficient funding**, building up **awareness and capacities** to deal with the change are crucial for **public acceptance** and **successful implementation** of each strategy.

Background: The policy brief presents outcomes of the international workshop “European Peatland Strategies” held in Bonn, 28 – 29 October 2019, hosted by the German Agency for Nature Conservation (BfN), Michael Succow Foundation and the Ramsar Convention Secretariat.

The workshop was attended by 30 government representatives, experts and stakeholders from the public sector and civil society from 11 EU Member States, other European countries and beyond in order to exchange knowledge and experiences on existing and planned national peatland strategies. The focus was to identify core elements of national peatland strategies that foster best practices of peatland management, considering aspects of conservation, restoration and sustainable use. Furthermore, needs and possibilities of integrating strategic peatland conservation at the European level have been discussed, including an overview of current practices and existing regulations. We would like to thank all participants of the workshop for their valuable input in the fruitful discussions, which are reflected in this policy brief.

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Fig. 6: Peatland with observation platform for visitors in Estonia (J. Peters)

Case study 1: The UK Peatland Strategy

Peatlands in the UK

In the UK, three broad peatland types exist: blanket bog, raised bog and fen. They cover around 2.6 million hectares, which is almost 10% of the total UK land area. Their largest share lies in Scotland, where 1.8 million hectares of rainwater-fed blanket bogs cover 23% of the country. The majority of UK peatlands has been historically drained or unsustainably managed, leaving 80% in a damaged and deteriorating state.

Development of the peatland strategy

The UK Peatland Strategy was developed by the ICUN UK Peatland Programme with participation of the UK and country governments, environmental NGOs and other stakeholders. It was published in 2018 as an overarching framework to co-ordinate peatland action in England, Scotland, Wales and Northern Ireland.

The strategy contains six strategic goals, addressing peatland conservation, restoration, adaptive and sustainable management, co-ordinated policies and public communication. Each goal is strengthened by clear objectives, numeric outcomes and milestones with a pre-defined time scale. The overall aim is to have two million hectares of peatland in good condition, under restoration or being sustainably managed by 2040.

Towards implementation

The concrete implementation of the UK Peatland Strategy will be guided by country-level action plans, most of which are still under development. Scotland, however, already has an ambitious National Peatland Plan in place since 2014. Since 2012, the Scottish “Peatland Action” programme has funded peatland restoration projects on 19 000 hectares. Project officers all over the country work closely together with locals and land owners, offering support and advice. In addition, the Sustainable Rural Development Programme’s Agri-Environment Climate Scheme (AECS) provides financial support for sustainable management of moorlands, lowland bogs and fens, among others.

Lessons learned from the UK example

The UK peatland strategy can serve as an example for other national peatland strategies. It covers a wide spectrum of relevant topics, setting clear guidelines, while leaving some flexibility for country-level action plans to address regional conditions effectively.

Next steps on the UK-level will be to develop a monitoring and reporting framework for the strategy and standardize data collection. Meaningful and common indicators are essential to monitor success.

Strengths of the UK peatland strategy are its clearly defined objectives, outcomes and milestones. Getting consensus on these numbers was a challenging task in the strategy development process, yet the result is a strong, tangible commitment.

From the Scottish example, extensive long-term funding schemes, working together with land owners and the availability of local advisors can be identified as important success factors for peatland restoration.



Fig. 7: Cover of the UK Strategy (IUCN UK Peatland Programme 2018)

Case study 2: Strategy for Sustainable Use of Peat Resources in Latvia

Peatlands in Latvia

Over 10% of the Latvian territory is covered by peatlands, one third of which are still in a natural state. Drained peatlands make up about 7.7% of the country's agricultural lands and a substantial proportion of its forests, which cover over 50% of Latvia's territory.

The extraction and use of peat for litter, heating and soil improvement has a long history in Latvia. Today, peat is extracted industrially, primarily for horticultural uses. In 2018, about 1.8 million tons of peat were exported from Latvia, primarily to western EU Member States and China.



Fig. 8: Peatland in Latvia (I. Bodnieks, www.daba.gov.lv/public/lat/turistiem/vidzeme1/cenas_tirelis)

Development of the Strategy for Sustainable Use of Peat Resources

Ministry of Environmental Protection and Regional Development of the Republic of Latvia is currently developing a strategy for the sustainable use of peat resources. The process was officially started in 2015. By 2020, Latvia plans to evaluate which areas will be protected and which are available for further peat extraction.

The main objectives of the Sustainable Peat Use Strategy will be:

- To assess the potential of sustainable use of peat when taking into account interests of related industries, economy and society in nature conservation, mitigating climate change and needs of recreation.
- To create preconditions for sustainable management of peat resources, as well as stable and predictable availability of peat resources.
- To ensure systematic acquirement, updating and maintenance of data about distribution of peatlands and available peat resources.

The following targets are currently being proposed (among others):

- By 2030, measures should be developed for the reclamation of over 26 000 ha of degraded peat bogs and historical peat extraction sites.
- The current annual amount of peat available for extraction should not increase (1.2 million tons of peat or 25 000 ha of peatlands) until 2030.
- No net increase in total greenhouse gas emissions.

Lessons learned from the Latvian example

The strategy development places the topic of degraded peatlands on the national political agenda. This holds a large potential, e.g. to address after-use management of peat extraction sites or to highlight the importance of peatlands for climate change mitigation.

The Latvian peat use strategy will focus on the peat extraction sector only. However, it would be important to address the use of drained peatlands for forestry and agriculture as well. Including other relevant sectors would be important for a more comprehensive strategy.

The amount of peat extracted in Latvia is driven by international demand. Many peat extraction companies have recently moved to the Baltic States after former supplying countries (like Germany) regulated extraction more restrictively.

Case study 3: Strategic Approaches for Peatlands in the Alpine Region

Peatlands in the Alpine Region

The Alps are Europe's second highest mountain range and stretch across eight European states. They share a number of physical and cultural features. More than 80% of peatlands in the Alpine region are located on the axis Lyons – Salzburg. In addition, peatland clusters and corridors occur in Slovenia and Carinthia, parts of the Central Alps and the Italian High Alps. Many of them are small mountain peatlands that differ fundamentally from larger lowland fen areas in their geomorphology and ecology as well as their land use.



Fig. 9: Small Alpine mire in Hauteluce, Savoy, France (F. Muller)

Towards national peatland strategies

With increasing recognition of the values and ecosystem services of peatlands, Alpine countries today put more emphasis on safeguarding peatlands and develop strategies and action plans. Austria, for example, over the past years designated a number of its peatlands as “Ramsar sites” under the International Wetlands Convention and drafted a national peatland strategy. France integrated peatlands into its national and subnational strategic plans for wetlands, with implementation being realized by local initiatives that are particularly effective in reaching stakeholders. Germany currently develops a federal peatland strategy and the federal state of Bavaria (where most parts of the German Alps are located) recently endorsed a master plan for peatlands as a means to specifically address climate change impacts. Switzerland constitutionally protects peatlands since 1987. It abandoned peat extraction in the country and adopted a peat exit plan to reduce imports from other countries.

Potential for cooperation

The need for regional cooperation to safeguard the environment and jointly foster sustainable development in the Alpine region had been recognized long ago. This resulted in the foundation of the International Commission for the Protection of the Alps (CIPRA) in 1952, the entry into force of the Alpine Convention in 1995 and the establishment of the EU-Strategy for the Alpine Region in 2015. These institutions particularly foster multilateral cooperation and could provide a useful basis for conceptualising and contributing to the implementation of peatland conservation and sustainable management across the Alpine Region. With the EU funded Alpine Space Programme financial support exists and was utilized already, for example, in the INTERREG project “Moorallianzen” carried out by Austria (Tirol and Salzburg) and Germany (Bavaria) or the currently implemented project “Impulse4Action” with its peatland component covering all Alpine States.

Lessons learned from the Alpine Region

In this regard, the question arises whether a joint strategy that covers a geographic region, linked by common objectives and values, could further contribute to foster peatland conservation and sustainable use and be an add-on to national strategies. This question is also of relevance and discussed in relation to the region of the European Union and Switzerland.

Besides, with regard to small mountain peatlands, due to their limited potential for carbon sequestration, they are at risk of being overlooked. However, they deserve recognition as important habitats for rare plant and animal species as well as for their crucial role for water management in rivers' upstream catchment areas.