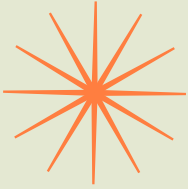




Business guide  
to peatlands

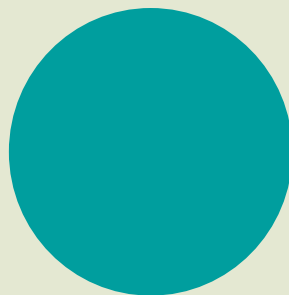
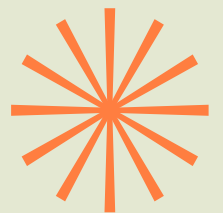
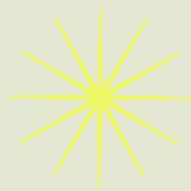




## About Climate Catalyst

Climate Catalyst works to compel our political leaders to take action at speed and scale. We do this by galvanising the collective power of businesses, investors and civil society to influence and accelerate policy change. Working behind the scenes we bring together new and diverse stakeholders to identify opportunities with the greatest potential for collaboration, share ideas and learnings and deliver creative campaigns that build power and secure decisive action by governments that reduce greenhouse gas emissions. Our vision is for a just, prosperous world in which global temperature rise is limited to 1.5°C.

Find out more at [www.climatecatalyst.org](http://www.climatecatalyst.org),  
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# 1. Why peatlands matter

As the impacts of climate change and biodiversity loss become increasingly visible, customers, investors and other stakeholders are asking businesses to take bolder action. Businesses are listening. According to the investor-led initiative Climate Action 100+, 75 per cent of the world's highest-emitting companies have now committed to net-zero emissions by 2050. At the UN Biodiversity Conference in 2022, 400 businesses and finance institutions from 52 countries asked governments to make corporate assessment and disclosure on nature mandatory as part of the Global Biodiversity Framework.

Peatlands are crucial for carbon sequestration – the process of removing carbon from the atmosphere and storing it. They are also vital as biodiversity “hotspots” that support rare and declining species. Yet many businesses are simply unaware of this vital ecosystem and its importance for nature, people and climate, and their own operations.

This guide aims to inform businesses about why peatlands matter so much, for both themselves and wider society. It demonstrates the opportunities that exist in restoring and protecting peatlands and sets out the positive actions businesses can take.

## Peatlands are climate and biodiversity heroes

Peatlands are vital ecosystems in the fight against climate change and biodiversity loss. They are the “unsung hero” of carbon capture, storing twice as much carbon as the world's forests. According to the former Head of the United Nations Environment Programme, Achim Steiner, peatlands restoration is one of the most cost-effective options for mitigating climate change<sup>1</sup>. Rewetting peatlands is considered a promising solution to reduce greenhouse gas (GHG) emissions, halt biodiversity loss, and mitigate risks from flooding and wildfires.





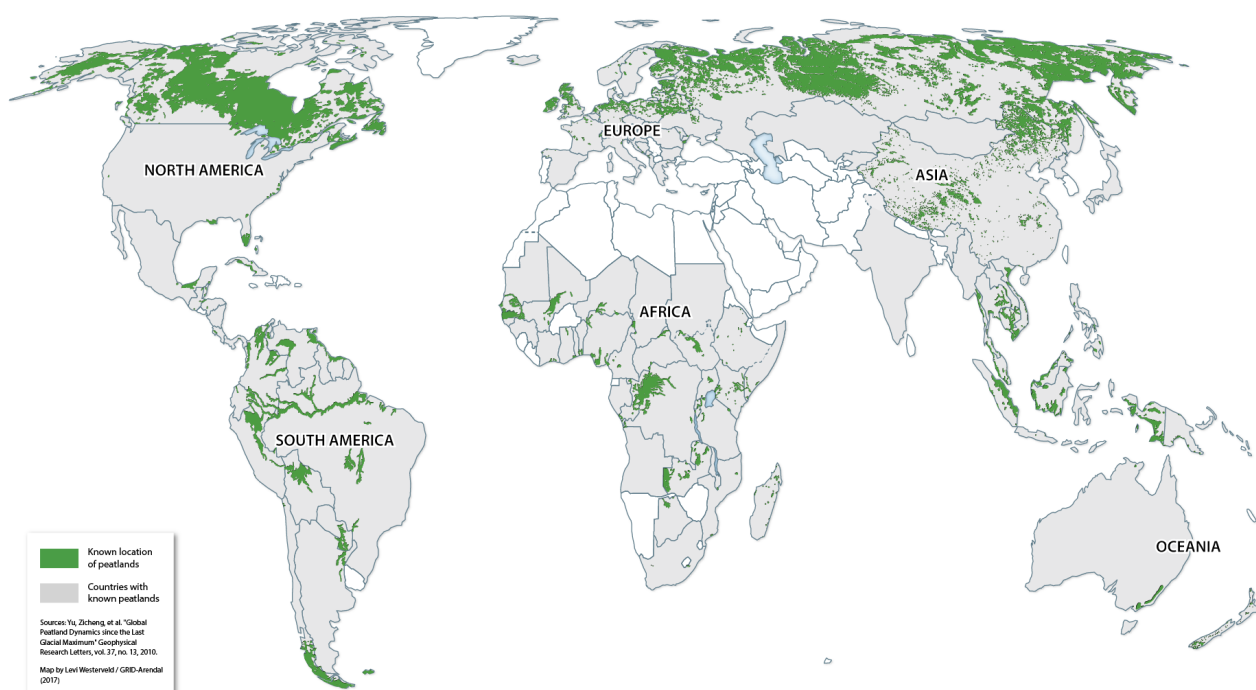
A peatland is characterised by waterlogged conditions that prevent plant material from decomposing – keeping carbon locked in the soil as organic matter. In their wet, natural state, global peatlands store approximately 550 billion tonnes of carbon. This is equivalent to 15 years' of annual global emissions. Peatlands hold at least 25 per cent of soil organic carbon on only three per cent of the world's land.

Degradation of peatlands undermines their ability to store carbon and turns them into significant GHG emitters. Drainage of peatlands for farming causes losses of nearly two billion tonnes of greenhouse gases each year. This is equivalent to five per cent of manmade emissions globally. This is more than double the GHG emissions stemming from the aviation sector, originating from only 0.3 per cent of landmass<sup>2</sup>. Peatlands are also degraded through burning for land use change and mining for fuel.

As extreme weather events become more frequent and intense, the need to preserve peatlands is increasingly urgent.

The good news is that peatlands can be restored by rewetting, fostering specific vegetation and biodiversity, and introducing waterlogged conditions. Over time, restored peatlands stop emitting carbon and eventually transform into 'carbon sinks', meaning they store more carbon than they release.

## Global distribution of peatlands



Source: <https://www.grida.no/resources/12546en/2023/09/11/peat-lands-around-world-under-threat-almost-everywhere>



## 2. Peatlands provide wide-ranging benefits to nature and society

Peatlands are scattered around the world and vary in age. They mainly occur in the temperate regions of the Northern Hemisphere but are also found in tropical equatorial zones of the Indonesian rainforest, the Amazon and the Congo basin. They also form part of the permafrost soils in the polar region. As unique ecosystems, peatlands provide a huge range of benefits to human wellbeing and quality of life.

These include:

- **Biodiversity:** Worldwide, peatland habitats are home to rare, often endemic species (those not found anywhere else in the world), from red grouse, hen harriers and sphagnum moss to orangutans. They include a range of rare and declining habitats and ecosystems.
- **Flood mitigation and prevention:** Peatlands reduce the risk of flood by absorbing excess water during heavy rainfall. Restoration of peatlands in higher altitudes reduces the flow of water and offers a low-cost measure to prevent flooding of vulnerable rural communities.
- **Water purification and water provision:** Peatlands purify water through their unique physical and chemical properties, and are an important source of fresh drinking water. Water filtration by peatlands reduces the suspended matter that must otherwise be removed mechanically for drinking water and industrial use. It is estimated that in the UK, peatlands provide more than 43 per cent of the population (28.3 million people) with drinking water<sup>3</sup>.
- **Drought and wildfire mitigation:** By storing water during the rainy season and slowly releasing it during the dry season, peatlands can help prevent drought and wildfires. Loss of this function could lead to higher GHG emissions. This was seen in the case of the peat swamp forests in Indonesia in 2015, where widespread fires emitted more than 16 million tonnes of CO<sub>2</sub>-e (carbon dioxide equivalent) per day<sup>4</sup>.

Draining peatlands undermines these benefits, known as 'ecosystem services'. It reduces the availability of natural resources, creating threats to human health and posing a risk to businesses and their value chains.





## 3. Peatlands provide a wide range of benefits to businesses

As well as providing vital services to society, peatlands provide vital ecosystem services that businesses depend on, as outlined below. Businesses can further benefit from these by investing in peatland restoration.

### Regulating the climate

Peatlands are the largest natural terrestrial carbon sinks, storing more carbon than all the other vegetation types in the world combined<sup>5</sup>. Intact and restored peatlands provide natural solutions to adapt and mitigate the effects of climate change. Wet peatlands lower the temperature in the atmosphere around them, and preserve air quality because they are less likely to burn during wildfires. At the local, regional and local levels, peatlands contribute to climatic processes such as precipitation, evapotranspiration and cloud formation to regulate rainfall.

Peatland restoration and conservation provide an opportunity for businesses to take concrete action to mitigate the effects of climate change.

### Providing and purifying water

Peatlands provide high-quality drinking water and are vital to the water supply of many countries. Water that has passed through a peatland area is naturally of high quality, with few pollutants and low levels of minerals. This water can be treated at a low cost once it reaches a water treatment plant.

The whole of society needs clean water, including businesses that directly or indirectly utilise water in their operations. Peatlands provide a low-cost solution to water filtration. If peatland degradation continues, businesses will have to bear this cost.

### Reducing flood risks

Peatlands play a vital role in reducing the risk of flooding because they can store excess water during storms and periods of heavy rainfall. Peatlands reduce the speed at which stormwater reaches river channels, thus delaying and reducing flood peaks<sup>6</sup>.

Flooding has major implications for affected communities and businesses. Buildings, vehicles and valuable machinery are at risk of being damaged or destroyed by floods. Major floods disrupt business operations and can cause major financial losses that businesses may not be able to recover from. By taking action to protect and restore peatlands in their areas of operation, businesses can effectively manage their risk from flooding.

### Providing opportunities for recreation

As well as offering habitats for a wide range of plants, animals and fungi, the natural beauty of peatlands makes them attractive to tourists, generating income for local communities. Eco-tourism can combine recreational activities with programmes to inform and educate tourists about the importance of maintaining and protecting peatlands.



## 4. Peatland degradation creates significant risks for businesses

### Financial risk

As shown above, peatlands and the ecosystem services they provide are vital to many businesses. Businesses face the wider climate change impacts of increased GHG emissions from degraded peatlands. Operational and financial risks resulting from peatland degradation - including from increased flooding, wildfires and decreased water quality - cause loss of assets and disruptions to operations and supply chains.

### Legal and regulatory risk

As more and more countries enact laws around emissions and set emission reduction targets, businesses that operate on degraded peatlands may face stricter regulations and enhanced reporting obligations. Current corporate standards are provided by the Greenhouse Gas Protocol and the Science Based Targets initiative (SBTi). In Europe, the Corporate Sustainability Reporting Directive is now mandatory for a broad set of large companies and listed small and medium-sized enterprises (SMEs), obliging them to report regularly on environmental impacts and risks.

### Reputational risk

Public awareness is also growing about the importance of peatlands as large carbon stores and sinks. Businesses that exploit and contribute to peatland degradation face reputational risks with their customers, investors and other stakeholders for their role in exacerbating the climate, nature and biodiversity crises.







## 5. Risks by sector

### Agriculture

While agricultural activities on peatlands may be profitable in the beginning, ongoing peatland degradation makes productivity decline over time. Draining peatlands causes loss of organic matter, eventually resulting in the loss of peatlands. It also leads to subsidence (sinking of the ground), increasing the risk of flooding and erosion. Draining significantly increases the risk of peatland fires, even in regions with high rainfall. Flooding damages farming by lowering crop yields, causing economic losses for agriculture. Peat compaction creates technical and financial challenges for agricultural producers and value chains.

However the greatest impact of continued agricultural use of peatland soils is the large loss of CO<sub>2</sub>, methane and nitrogen as nitrous oxides. The release of these greenhouse gases from the peatland store contributes to climate change, causing widespread negative impacts for wider society and individual businesses. The dairy and beef industries, which are already under pressure for their high emissions, are particularly relevant in this regard. Grazing cattle on land with layers of peat underneath adds to this sector's GHG emissions.

### Food and drink

Food and drink companies need a reliable source of clean water. Draining peatlands reduces drinking water quality, as water becomes polluted with the organic carbon and pollutants previously absorbed within peat. Because peatlands are vital freshwater sources in many parts of the world, their shrinkage leads to a reduction of drinking water directly available at surface. Compensating this loss requires often costly exploitation of new freshwater sources. In general, sourcing drinking water from rivers, lakes and subsurface aquifers is more costly than using freshwater sources from peatlands. In short, the loss of peatlands creates additional costs in finding substitute freshwater sources.

### Insurance

The increased risk of flooding and wildfires from draining peatlands increases insurance premiums, in turn reducing the number of people willing to be insured. This affects the bottom line of insurance companies.

### Water

As shown above, draining peatlands reduces the quality of drinking water. Rewetted peatlands can reduce the costs of water management by making pump systems, used to control the water table, partially obsolete.



## 6. Business opportunities from peatlands restoration

### First-mover advantage

Businesses that innovate to utilise products from rewetted and restored peatlands, such as reeds, cattails and alder brush, can create a new, sustainable, climate- and nature-friendly business model, giving them first-mover advantage. Businesses can also gain an advantage over their competitors by securing sources of raw materials from local peatlands and shortening operational chains. This helps in the transition towards a more “circular” business model, which minimises ecological and social costs while delivering stakeholder value.

Peatland restoration gives businesses the opportunity to reduce their supply risks, by protecting their value chains from the physical effects of climate change and loss of natural capital. Businesses maintain customer demand by responding to changing preferences, including the demand for sustainable goods. They also avoid regulatory risks by staying ahead of regulatory requirements and maintaining access to capital.

### Opportunities for carbon offsetting (including through the voluntary carbon market)<sup>7</sup>

The multiple benefits of peatlands for carbon storage, biodiversity and nature means carbon credits from peatlands can be considered and promoted as “premium credits”. Peatlands can thus provide credible, high-quality carbon offsets for companies looking to make offset investments while reducing their own value chain emissions.

As biodiversity credit markets reach maturity, investing in peatland restoration projects offers companies the opportunity to make additional investments to offset their nature-related impacts. For example, recent developments in the area of payments for water purification services raise hopes that businesses will soon be able to monetize the water purification services that come with peatland restoration.

### Build resilience to environmental threats and report it to investors

There is a strong trend among businesses to improve certainty over threats arising to them from environmental crises. Businesses will increasingly be obliged to report impacts of climate change and biodiversity loss on their activities, and whether these pose a material financial risk in the future. They will report through frameworks such as the Task Force on Climate-related Financial Disclosures (TCFD) or the Task Force on Nature-related Financial Disclosures (TNFD).

Investing in peatland restoration can help businesses build resilience and actively reduce the risks arising from climate change, while restoring nature and addressing biodiversity loss.

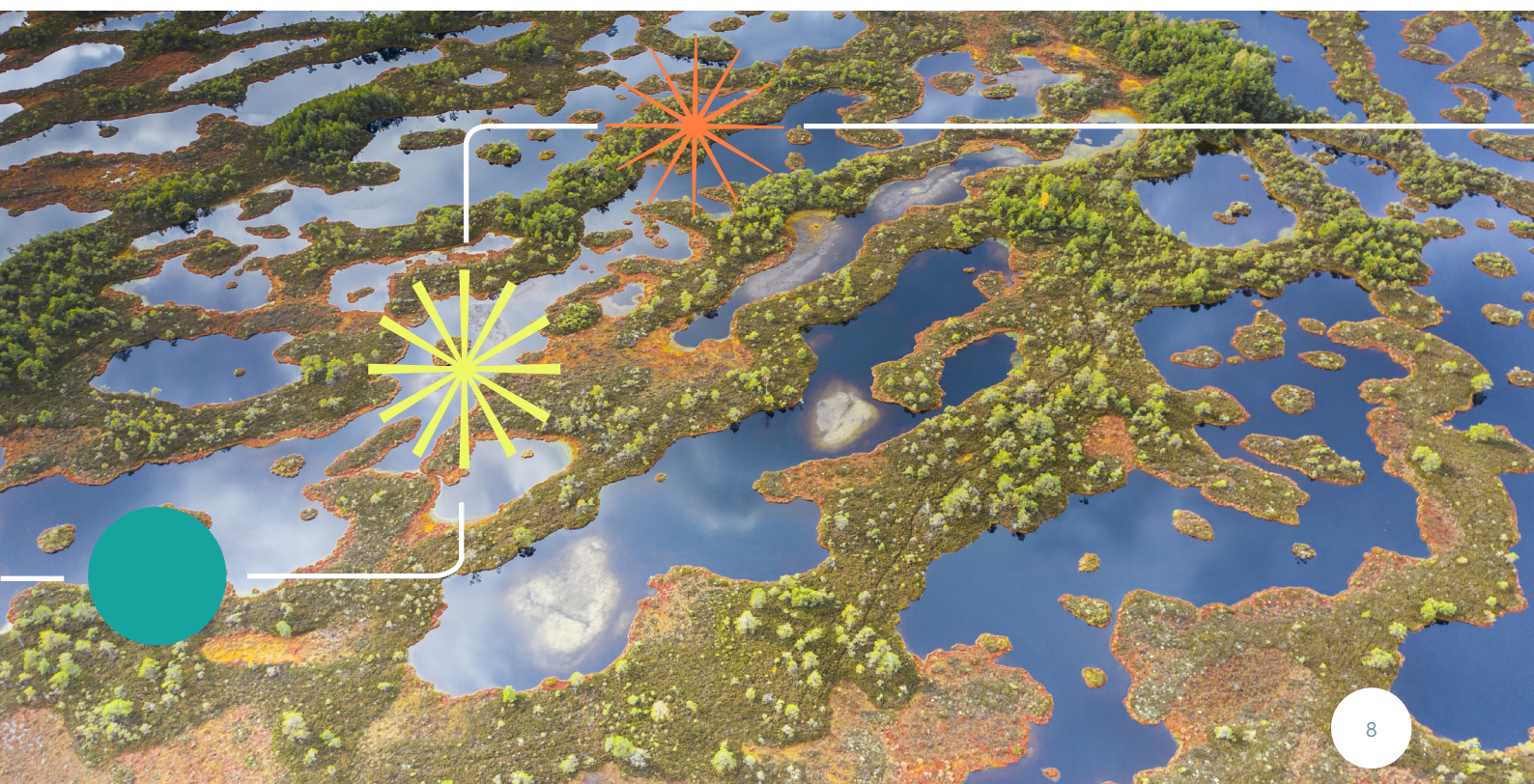
### Reputational benefits

Businesses that invest in peatland restoration through their philanthropy, and those that take action on protecting peatlands, can communicate this directly to their customers for enhanced reputational benefits. By engaging directly with local communities, supply chain actors and farmers, businesses can greatly strengthen their reputation at local and national levels. By first decarbonising their supply chain, and offsetting residual emissions where necessary through the voluntary carbon market, businesses can demonstrate and promote a holistic approach to curbing emissions from their activities on peatlands.



## 7. Broad challenges in taking action on peatlands

- Businesses lack knowledge on how peatland degradation is caused and how to measure harm, how peatlands are important to business activities and operations, and where peatland degradation lies in their value chains.
- There is no clear, unambiguous approach to account for the impacts of peatland utilisation within value chains. Often it remains unclear which business partner should account for scope 3 emissions arising from downstream peatland utilisation in the value chain. Clear regulations offering win-win solutions for businesses along a value chain are yet to be provided.
- The methodology to measure emissions from peatland degradation needs to be improved, as there is large uncertainty stemming from spatial variability. Businesses also lack access to and awareness of existing data and methodologies.
- There are insufficient detailed recommendations for companies to make a best estimate of peatland degradation in their existing assets, supply chains and operational sites.
- There are no proven business models at scale that utilise products from rewetted peatlands, and no detailed analyses of potential markets for these products. This means the potential for profit and the business opportunity of such ventures is unproven and unexplored.
- There is a lack of resources and standard pathways of action for businesses that want to understand and take action on peatlands.





## 8. Take action to protect peatlands

### 1. DO NO HARM. ASSESS WHETHER AND WHERE PEATLAND DEGRADATION LIES IN THE BUSINESS OPERATIONS.

Businesses should proactively investigate the extent of peatlands in the land they operate on. They should assess whether peatland degradation exists in their supply chain, their operation sites and in the products they produce and sell. As new resources such as the Global Peat Atlas<sup>8</sup> become available, businesses should use and promote these tools to become champions among their peers for peatlands.

To ensure that businesses correctly assess and report on peatland degradation in their operations, it is crucial that they engage with emerging climate and nature-based frameworks such as the Greenhouse Gas Protocol, TNFD and SBTi, and promote peatlands within them. These new methodologies are becoming standardised around assessing, disclosing and setting targets, to help businesses align their strategies with global climate and sustainability goals.

Agriculture, horticulture and peat extraction for fuel are among the main sources of GHG emissions from peatlands. Understanding how degradation exists in operational activities, and ceasing these activities, can go a long way towards reducing a business's Scope 3 emissions. Innovative, sustainable ways of managing peat soils for food, fibre production and biofuel through paludiculture (see below), combined with carbon and other ecosystem markets, can replace the income from these currently damaging activities.

#### Steps businesses can take:

1. Assess the business's level of impact and dependence on peatland degradation.
2. Engage with the emerging climate and nature standard-setting methodologies to assess, disclose and set targets around peatlands.
3. Investigate and invest in alternatives for business operations that are peatlands sustainable.

### 2. FINANCE PEATLAND RESTORATION PROJECTS.

Peatland restoration gives businesses a unique opportunity to invest in carbon sequestration as well as biodiversity preservation. Businesses should use their philanthropy efforts to finance peatland restoration projects, contributing to the company's sustainability efforts and enhancing its reputation.

The major cost of a restoration project primarily relates to the capital outlays associated with restoration techniques such as rewetting, replanting and sphagnum moss plugging. These are capital intensive, so long-term capital with a reasonable cost is essential.

Currently, in many countries, public financing for peatland restoration projects is not enough to achieve the scale needed for climate and nature benefits. Businesses can become champions for peatlands by investing the essential capital to unlock restoration projects, while public finance can be key in establishing institutions and mechanisms to mitigate the risks for private capital.

Businesses can generate revenue from peatland restoration projects by engaging in long-term contracts with buyers of carbon and other credits, water management companies and municipal bodies. Creating public-private partnerships improves the revenue predictability of peatland restoration projects, mitigating the risk for private financiers.



#### **Steps businesses can take:**

1. Engage in peatland restoration pilot projects to learn about the benefits, opportunities and challenges related to peatland restoration.
2. Consider using corporate social responsibility funding to support peatland restoration projects, as pilots and test cases for revenue generation.
3. Build public-private partnerships with local governments and engage with other stakeholders to create a feasible model of sustainable revenue generation from peatland restoration.

### **3. BECOME A PIONEER IN INNOVATIVE, CLIMATE-FRIENDLY USE OF PEATLANDS.**

Businesses can invest in developing new products and services based on the innovative use of products from rewetted peatlands. Climate-sustainable business models, with innovations in insurance, water filtration, solar panels and paludiculture products, can herald the advent of a new, green, climate-friendly economy.

Paludiculture, the use of above-ground biomass from wetlands for commercial purposes, keeps under-the-surface peat intact. Innovation in use of rewetted peatlands products can create revenue-generation opportunities that do not depend on peatland degradation. Uses include fibre for clothing and packaging, housing insulation material, and food crops including celery, cranberry and watercress.

#### **Steps businesses can take:**

1. Assess the feasibility of value creation through innovative use of paludiculture products to replace existing business operations and create new products, becoming first movers to gain significant competitive advantage.
2. Provide farmers with viable alternative business opportunities to support them in moving away from agricultural activities that depend on peatland degradation.
3. Conduct market analysis to understand the potential of a paludiculture market, required upfront costs and expected returns on investment.

### **4. ADVOCATE FOR STRONGER POLICY TO PROTECT AND RESTORE PEATLANDS.**

Businesses can advocate for progressive regulations that contain policy to protect and restore peatlands. For example, they can start by supporting the targets set by the UN-brokered Global Biodiversity Framework, promoted as the “Paris Agreement for Nature”, that aims to protect 30 per cent of lands and oceans, including peatlands, as protected areas. The Framework has provisions to require companies to disclose their impacts on biodiversity and the natural world, make biodiversity targets a mandatory part of corporate governance and increase nature-positive financial flows. Policy for peatlands protection has also been part of the EU’s Nature Restoration Law, which is part of the European Green Deal. If passed, this law will require countries to set ambitious targets to protect and restore their peatlands ecosystems.

#### **Steps businesses can take:**

1. Support the implementation of international initiatives such as the Global Biodiversity Framework by indicating a commitment to protecting global biodiversity resources, including peatlands.
2. Engage with local policy makers to champion the need for strong and ambitious targets to protect and restore peatlands.
3. Identify companies with a similar remit or stake in the peatlands challenge and create a consortium to work collaboratively and present a united voice to policy makers.



## 9. Examples of private sector action on peatlands

- [The APRIL Group](#) has committed to restoring two million hectares of peatland in Indonesia by 2030.
- [The Wilmar Group](#) has developed a peatland management plan. This includes measures such as blocking drainage canals and planting native vegetation.
- [The Asia Pulp & Paper \(APP\) Sinar Mas Group](#) is increasing public awareness through its peatland restoration campaign and conserving peatland in its concessions.
- Global food and agricultural company [Cargill](#) has committed to restoring one million hectares of peatland by 2030.
- Palm oil company [Golden Agri-Resources](#) has committed to restoring 500,000 hectares of peatland by 2030.
- Palm oil company [Sime Darby Plantations](#) has committed to restoring 250,000 hectares of peatland by 2030.





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