



Peatlands and Climate Change

Natural peatlands act as a long-term carbon store and play an important role in the regulation of the global climate by actively removing carbon from the atmosphere. This function is reversed when peatlands are damaged and they then release CO₂.

Current estimates are that peatlands across Ireland are a net source of CO₂, in the region of 5-9 million tonnes of CO₂ per year (this represents c.10% of Ireland's overall emissions*). According to SEAI (2020)**, household peat burning caused 840,000 tonnes of CO₂ emissions in 2018, equivalent to over 290,000 cars.

In Ireland peatlands cover about 21% of the land area but contain 2/3 of Ireland's carbon stock.

Globally, peatlands cover only about 3% of the world's land area, but they store 30% of soil carbon, making them the largest soil carbon store.

Peatlands store twice as much carbon as all of the world's forests. At the same time, as much as 5% of the annual greenhouse gas emissions come from damaged peatlands. This is more than the emissions from aviation.



When a peatland is dry/damaged it emits approximately 6 of tonnes of CO₂ per hectare per year



When a peatland is intact it sequesters, on average, approximately 2 of tonnes of CO₂ per hectare per year



Climate change seriously threatens our remaining peatlands, particularly those in poor ecological condition, as they are less resilient.

Increasing temperatures are expected to cause further losses in active peat forming vegetation, which will impact biodiversity and further increase Greenhouse Gas emissions.

Extreme weather events will increase erosion in degraded peatlands, the frequency of fire events and contribute to the spreading of invasive species.



Peatlands Restoration Efforts

Ireland is at the forefront of peatland restoration and rehabilitation practices and research.



In Ireland we restore bogs by blocking drains with peat and plastic dams and installing bunding which stops water from leaving the system, keeping the water level on or near the surface and encouraging the growth of Sphagnum mosses – the building blocks of the bog.



With advancements in science, public engagement and government policies, National Parks and Wildlife Service are restoring peatlands back to their natural boggy state.

*<https://www.epa.ie/our-services/monitoring--assessment/climate-change/ghg/>

**<https://www.seai.ie/publications/Energy-Emissions-Report-2020.pdf>