

WWF SCOTLAND MEDIA BRIEFING

Scotland's Blue Carbon revolution

Background:

As a nation almost surrounded by the sea, so-called 'blue carbon' plays a central role in Scotland's natural 'carbon cycle'. Carbon is taken up (sequestered) by plants and animals found in our many coastal and marine habitats (such as saltmarshes, sand dunes, seagrasses and reef-forming habitats) and geological sediments covering Scotland's seafloor and sea lochs. [1]

Why does it matter?

The important role our oceans can play in fighting climate change has, for too long, been absent from global discussions. Thankfully this is beginning to change with increasing attention being given to the climate mitigation potential of 'blue carbon' in coastal ecosystems.

'Blue carbon' is carbon that is stored in marine systems, such as seagrasses, kelp, maerl beds, flame shell beds and salt marshes. These ecosystems also provide a host of other benefits, from supporting the livelihoods of coastal communities, protecting them from the impacts of storms, and providing important habitat for fish, birds, and a variety of other species. Given the UN synthesis report, which finds current emissions reductions commitments by governments leave us on track for a 16% increase in global emissions by 2030, leading to a catastrophic global average temperature rise of around 2.7 degrees C, it is crucial 'blue carbon' is urgently made a core part of climate solutions.[2]

What are the issues?

Scotland's marine environment is estimated to sequester 28.41 million tonnes carbon dioxide equivalent per year – equivalent to about half of Scotland's total annual greenhouse emissions output of 46.1million tonnes carbon dioxide equivalent each year. [3]

Marine habitats that are damaged, whether by trawling, coastal erosion or development, can't hold on to as much carbon and may, in some cases, become a source of greenhouse gases. That's why protection and restoration of coastal ecosystems must be a priority in the Scottish Government's plans to reach net zero.

What needs to happen?

Scotland's current climate change strategies focus on supporting land-based carbon-sequestering habitats, such as forestry and peatland. Scotland's recent Climate Change Plan update committed to restore peatland and increase forest cover 2032. However, it failed to mention any policies to protect or enhance 'blue carbon' stores. [4] The Scottish Government has recognised the evidence gaps that are to some degree limiting the inclusion of 'blue carbon' in climate policy and has committed funds to establish a Scottish Blue Carbon Forum to support 'blue carbon' research and inform policymaking. [5]

WWF Scotland is currently developing an ocean restoration project with a range of partners in the Firth of Forth, on Scotland's east coast, aiming to help restore populations of marine species (e.g. seagrass and oysters) and deliver benefits for people, climate and nature.

'Climate Smart' Fishing

Industries operating in and around our ocean have a vital role to play in tackling climate change and contributing to the goal of net zero carbon emissions.

Until now, fisheries have been largely ignored in climate negotiations, but it is high time all governments begin to show leadership and put the sector on a sustainable footing by adopting a 'climate-smart' approach.

A recent report published by WWF, Marine Conservation Society and RSPB reveals the extent to which Scotland's seas and fisheries could play a pivotal role in the fight against the climate and nature crises. [6] It outlines the urgent action required by all four UK Governments to 'futureproof' the fisheries sector in order to improve its sustainability and increase the opportunity for our seas to act as a vital carbon sink.

WWF is calling on all UK governments to adopt a 'climate-smart' fisheries strategy that would help to accelerate progress to net zero, and help meet the triple challenge of sustainably feeding a growing population, while staying on track to keep global warming below 1.5°C and reversing biodiversity loss. [7]

What should happen at COP about this?

The role of the ocean in tackling climate change needs greater recognition at COP26.

UNFCCC and Paris Agreement parties should:

- Increase their overall ambition on emissions reduction to secure the mitigation and adaptation function of marine and coastal ecosystems.
- Present quantifiable information on the ocean's contributions to mitigation and adaptation in NDCs, ideally accompanied by base year information, timeframes for implementation of measures, scope and coverage.
- Present qualitative information on the ocean's contributions to mitigation and adaptation in NDCs and NAPs to facilitate ocean-targeting actions across conventions.
- Request the IPCC to develop a supplement to its 2006 guidelines for national inventories of anthropogenic emissions by sources and removals by sinks for other blue carbon ecosystems beyond those covered under the IPCC Wetlands Supplement. The guidelines should include blue carbon ecosystems such as macroalgae (e.g. kelp forests); maerl, mussel, flame shell, brittlestar and bryozoan beds; biogenic reefs; and different types of sediments, among others. This would promote the inclusion of such ecosystems into NDCs and NAPs.

Spokespeople available for interview:

Contact Mandy Carter 07771 818 677 mcarter@wwfscotland.org.uk

- Dr Lyndsey Dodds, Ocean Recovery Manager, WWF Scotland
- Stephen Cornelius and Martin Sommerkorn, WWF International Climate Scientists

Case studies:

- [Orkney Hydrogen | Surf 'n' Turf \(surfnturf.org.uk\)](http://surfnturf.org.uk)
- [Seawilding | Native Oyster Reintroduction, Loch Craignish, Scotland](#)

NOTES:

[1] [\[Out of the blue: Is blue carbon the next frontier for climate change mitigation in Scotland? – SPICe Spotlight | Solas air SPICe \(spice-spotlight.scot\)\]](#)

[2] [Full NDC Synthesis Report: Some Progress, but Still a Big Concern | UNFCCC](#)

[3] [\[Out of the blue: Is blue carbon the next frontier for climate change mitigation in Scotland? – SPICe Spotlight | Solas air SPICe \(spice-spotlight.scot\)\]](#)

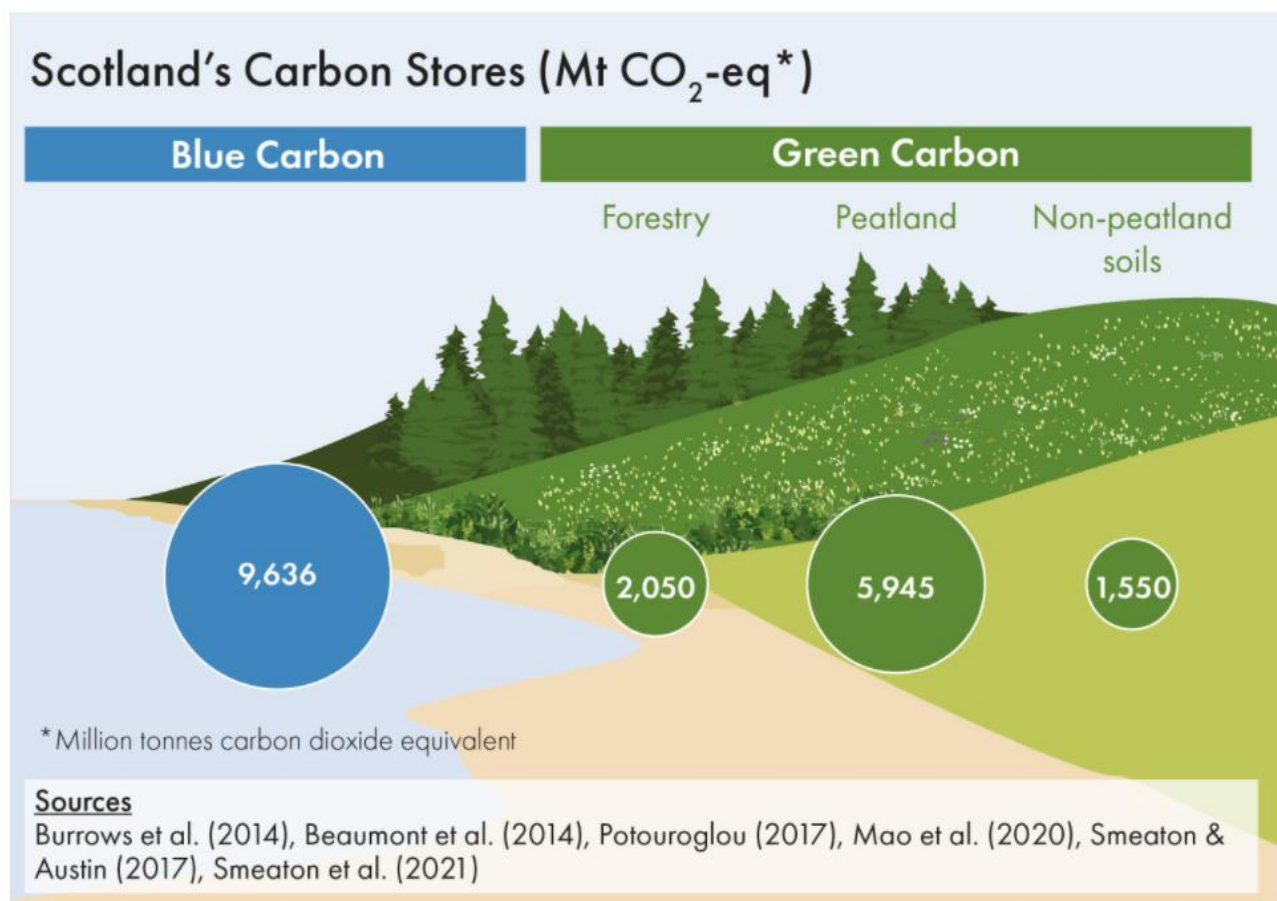
[4] [Securing a green recovery on a path to net zero: climate change plan 2018–2032 - update - gov.scot \(www.gov.scot\)](#)

[5] [Blue Carbon forum launched - gov.scot \(www.gov.scot\)](#)

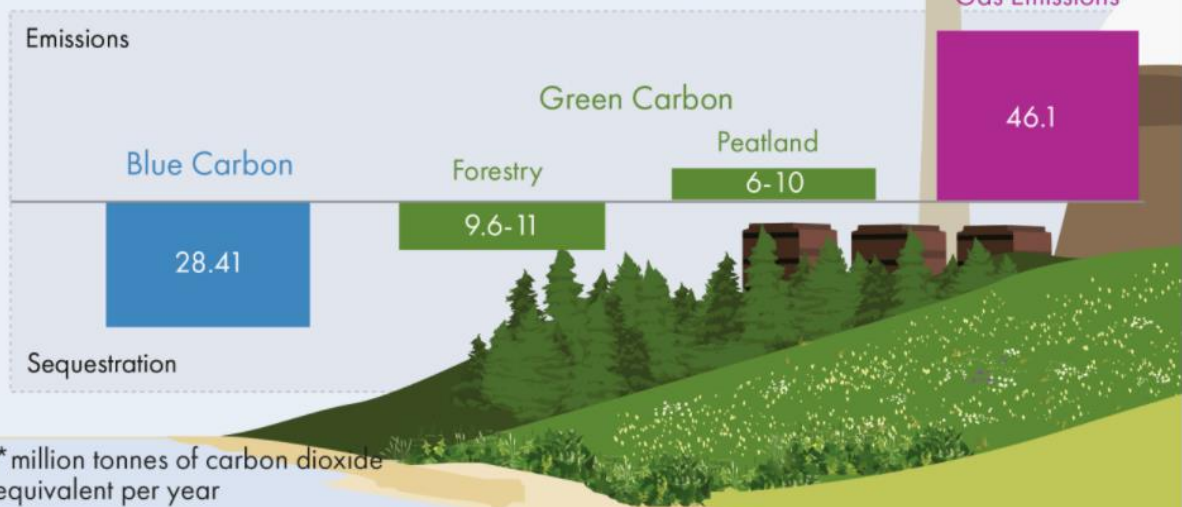
[6] [Shifting Gears – Achieving climate smart fisheries](#)

[7] [Triple Challenge | WWF](#)

Appendix 1: Scotland's carbon stores and the role of blue carbon. [Out of the blue: Is blue carbon the next frontier for climate change mitigation in Scotland? – SPICe Spotlight | Solas air SPICe \(spice-spotlight.scot\)](#)



Scotland's carbon sequestration and emissions (Mt CO₂-eq per year*)



Sources

Burrows et al. (2014), Beaumont et al. (2014), Potouroglou (2017), Mao et al. (2020), Smeaton & Austin (2017), Smeaton et al. (2021), Chapman et al. (2009), Forestry Commission (2018, 2020), Scottish Government (2018), Aitkenhead & Coull (2016).