

**Blue Carbon International Policy Challenge – topics**

# **IPC-1: Maximising the co-benefits of blue carbon restoration – for nature, blue economy, and communities**.

Scotland has a wealth of blue carbon habitats, from deep-sea and shelf-sea seabed sedimentary stores to coastal seagrass, biogenic reef and saltmarsh stores. All of these face anthropogenic pressures, and all have undergone detrimental change which protection or restoration can improve.

Scotland is a maritime nation (population 5.5 million approximately) and has a large sea area - nearly six times larger than the land - with a variety of small island communities, rural communities, larger fishing communities and several large coastal cities.

This IPC aims to seek international examples of good practice in order to inform blue carbon restoration in Scotland. We are looking to learn from restoration practices and examples that are commensurate with conditions in Scotland, in terms of both the blue carbon habitat being considered, and the type of communities involved. Questions to consider could include:

* What are the barriers and opportunities for successful blue carbon restoration?
* How has technology been used to support delivery, and what opportunities are there for innovation, including to scale up restoration approaches?
* How have example blue carbon restoration projects been funded, including the role of private investment and carbon / biodiversity credit schemes?
* What examples are there of community-led restoration projects and the environmental and societal benefits from these projects (case studies)?
* What methods are available to successfully evaluate the impact of blue carbon nature restoration projects.
* What is the role of policy and strong governance in enabling successful nature restoration of blue carbon at local and national scales?

We are seeking to identify key international partners who we can work with us in the future to develop cooperation and co-learning possibilities.

Outcome: A policy brief and supporting communication materials that present international restoration examples relevant to Scotland, identifies good practice and lessons to be learnt, presents potential opportunities and barriers of blue carbon nature restoration (including for technology and innovation), identifies different funding mechanisms, and suggests contact organisations / forums (policy/science/implementation) that supports international network building in the field of blue carbon habitat restoration.

# **IPC-2: Blue Forests – how macroalgae farming can be used in a net-zero policy framework**

Macroalgae (seaweed) grows all around Scotland’s coast, with the principal type in terms of carbon sequestration being kelp. Kelp grows extensively in the rocky exposed Atlantic coasts of Scotland’s mainland and islands. While harvesting wild kelp has significant environmental concerns associated with it, there is the possibility to farm kelp and other seaweeds in specific areas. If harvested seaweed can be used for a range of purposes including biofuels (which can displace hydrocarbon use), or used in schemes where its carbon is captured and sequestered permanently away from the atmosphere, such schemes have the potential to support net-zero ambitions.

# We seek to improve the blue carbon evidence-base for seaweed farming in Scottish waters and particularly seek to understand the international experiences gained in developing this economic activity in relation to reducing greenhouse gas emissions. The following areas could be considered:

# What evidence is available to inform improved and robust carbon accounting benefits from seaweed farming activities, such as climate mitigation?

# What is the international experience of building a sustainable seaweed farming sector in harmony with nature?

* What are the barriers to seaweed farming becoming a net-zero aquaculture sector? What are the innovation, employment and other opportunities and co-benefits that seaweed farming can bring, looking at global case study examples.

This project may also want to reference the recently published [Seaweed Review](https://www.gov.scot/publications/statement-seaweed-review/documents/).

Outcome: A policy brief and supporting communications materials that present international examples of seaweed cultivation and use, relevant to Scotland, identifies good practice and lessons to be learnt, identifies potential opportunities as well as barriers to overcome (including for technology and innovation), identifies potential funding mechanisms, and identifies contact organisations (policy/science/implementation) that may help form an international network of cooperation for Scotland in the field of seaweed farming for carbon sequestration.

**IPC-3: International experience of marine planning policies to safeguard and enhance blue carbon**.

In Scotland, there are a raft of marine planning policies in place including the [Marine and Coastal Access Act](https://www.legislation.gov.uk/ukpga/2009/23/contents) (2009), the [Marine (Scotland) Act](https://www.legislation.gov.uk/asp/2010/5/contents) (2010) and [Scotland's National Marine Plan](https://www.gov.scot/publications/scotlands-national-marine-plan/) (2015). These policies introduced tools such as integrated coastal zone planning, marine spatial planning, Regional Marine Plans and Marine Protected Areas (MPAs), in addition to existing tools such as fisheries management options. In the [Scottish Government and Scottish Green Party Draft Shared Policy Programme](https://www.gov.scot/binaries/content/documents/govscot/publications/agreement/2021/08/scottish-government-and-scottish-green-party-shared-policy-programme/documents/scottish-government-and-scottish-green-party-draft-shared-policy-programme/scottish-government-and-scottish-green-party-draft-shared-policy-programme/govscot%3Adocument/SG%2BSGP%2BTalks%2B-%2BDraft%2BPolicy%2BProgramme%2B-%2Bversion%2B7%2B-%2BFINAL%2B-%2BOFFSEN.pdf?forceDownload=true) (2021) there is a commitment to provide for ecosystem recovery and biodiversity enhancement, including the protection of blue carbon, using a suite of Highly Protected Marine Areas (HPMAs).

We are particularly interested in developing an improved understanding of marine planning policies in other regions and countries that have been shown to safeguard and enhance blue carbon ecosystems. The evidence from successful case-study examples would be particularly helpful, including how technology has been used to support these approaches, together with some analyses of how these examples might translate into marine planning opportunities in Scotland.

Outcome: A policy brief and supporting communication materials that present international examples of marine planning policies (at a regional or national level) which have been used to safeguard and enhance blue carbon habitats and ecosystems, and which are relevant to conditions in Scotland. The brief will identify good practice, potential barriers and opportunities of marine planning approaches used in the protection and management of blue carbon and lessons to be learnt. It will identify contact organisations (policy/science/implementation) that may help form an international network of cooperation for Scotland in the field of blue carbon habitat protection policy.

**IPC-4: An assessment of the potential for a blue carbon partnerships between Scotland and International Partners**

While Scotland has unique marine habitats and ecosystems, it also has many features of its coast that it shares with other nations. For example, Scottish west coast sea lochs, which are hot spots of blue carbon sequestration, are fjords which share physical and ecological similarities with fjords in Norway, New Zealand and Chile. Saltmarsh, another key blue carbon habitat for Scotland, exists in many other mid-latitude temperate countries.

The Scottish Government recently signed a Memorandum of Understanding with the Government of Chile during COP26, and an emergent opportunity has therefore arisen to build a stronger research and policy dialogue, that shares blue carbon knowledge and expertise, between these two countries. We are keen to support a network-building initiative that will identify and establish strong and direct links with academia, industry and the third sector across other nations, including Chile, New Zealand and Norway.

Outcome: A policy brief and supporting communications materials that summarise the key institutions and organisations within Chile, New Zealand, Norway and other relevant countries/regions, who conduct research and/or implement management measures relevant to the understanding, protection and enhancement of blue carbon habitats, along with descriptions of what activities they undertake and current contact details for these institutes and organisations. The brief should consider the benefits of collaboration between nations, identify research topics and areas of policy development where joint projects would be mutually beneficial. It should identify areas of challenge and opportunity that could be addressed through working together across nations and the most appropriate mechanisms for achieving high impact projects.

**IPC-5: Blue carbon ocean literacy: Communicating blue carbon research and evidence to diverse stakeholder communities**

It is widely recognised that most successful projects to protect and enhance blue carbon habitats harness the cooperation and leadership of local communities and build in a strong sense of community ownership. Success depends on understanding the needs and expectations of communities as well as enhancing their knowledge of blue carbon, the opportunities that healthy blue carbon ecosystems can bring and the need for its protection and restoration.

The Scottish Government, through its support of the Scottish Blue Carbon Forum and its membership of the International Partnership for Blue Carbon (IPBC), is committed to ensuring that diverse stakeholder communities are aware of the growing body of blue carbon research and evidence. We therefore seek to develop this area work for the Forum and IPBC by documenting, mapping, and understanding the diversity of international approaches adopted.

Outcome: A policy brief and supporting communication materials that present examples of ocean literacy projects related to blue carbon (including translation into local languages), as well as projects which work with local communities to improve the understanding, protection and enhancement of blue carbon habitats. This should detail the type of groups involved, engagement tools used (including new and emerging technologies to support learning) and the outcomes and lessons learnt from these projects. It should highlight the barriers and opportunities of supporting blue carbon ocean literacy approaches at different scales / in different locations, including ideas for potential international collaborations with respect to ocean literacy and blue carbon.