



Section 1: General Policies

The policies within this Plan are designed to guide all marine and coastal users in terms of proposed and existing development(s) and activities. Users of this Plan must also comply with the National Marine Plan and other relevant legislation.

The general policies within this section of the Plan provide a framework for the sustainable development and use of the marine and coastal environment. The policies within this section can be considered cross-cutting, as they are all potentially relevant to any proposal for development or activity by any sector or user of the marine and coastal environment and should be adhered to in advance of the relevant sectoral policy. The chapters are laid out in the same order as they appear in the National Marine Plan.

Each chapter follows the same format, this includes:

- A context which sets out a summary of the main information relevant to the policy area. More information on each of the areas can be found within the [Clyde Marine Region Assessment](#).
- Objectives and policies; objectives provide a measurable strategic aim or goal for each policy area and policies which will deliver the objectives are set out underneath.
- Maps are included at the end of the chapter. For the latest available spatial data, see [National Marine Plan interactive](#) (NMPi). It is recommended that NMPi is used in conjunction with this Clyde Regional Marine Plan.
- Links to further information on the policy area.



Chapter 1: Climate Change

Climate change mitigation and adaptation have been considered throughout this Clyde Regional Marine Plan, with relevant objectives indicated by the following symbols:



Climate Change Mitigation



Climate Change Adaptation



Blue mussels in the intertidal zone.

Clyde Marine Region Context

Human activities, which release greenhouse gases to the atmosphere, are the major cause of the observed average increase in global temperatures over the last century. The increase in sea temperature in the Clyde Marine Region over the last 25 years has been between 0.4°C and 0.5°C per decade. This warming of the oceans, combined with melting sea ice, is leading to a rise in sea-level while an increase in the concentration of atmospheric carbon dioxide also contributes to ocean acidification. These chemical and physical changes are likely to have impacts on marine and coastal life. They will also have impacts on coastal communities and infrastructure – see chapter 4: Coastal Processes, Coastal Flood and Storm Damage Alleviation. It is important that development and activities in the Clyde Marine Region contribute to a reduction in overall greenhouse gas emissions (mitigation), and that they are resilient to current and future climate change risks and opportunities (adaptation). Carbon sinks are natural resources that absorb and store more carbon than they release. Carbon sinks can be found in sediment, seaweed, seagrass, saltmarsh and animals (for example in carbon-based structures such as shells and coral). The Clyde Marine Region contains examples of all of these carbon sinks. Many of the most important sinks occur within the Marine Protected Area network (see chapter 5: Natural Heritage), which provides some protection. However, it is important to avoid damage to all significant carbon sinks, including those that do not occur within the Marine Protected Area network. Threats to carbon sinks can include the physical disturbance of seabed sediments, habitat loss, increased turbidity affecting the photosynthetic ability of plants and ocean acidification, which makes it harder for organisms to form carbon-based structures (shells, maerl).

For further details on this issue, see Chapters 3.1, 3.2 and 3.4 of the [Clyde Marine Region Assessment](#).

Objectives



Objective CC 1 Coastal zone and marine development(s) and activities minimise emissions of greenhouse gases and are resilient to the impacts of climate change.



Objective CC 2 Natural carbon sinks and the associated benefits and services they provide are maintained and/or where possible enhanced in the Clyde Marine Region.

MEASUREMENT: Marine licence and Town and country planning determination processes as applicable.

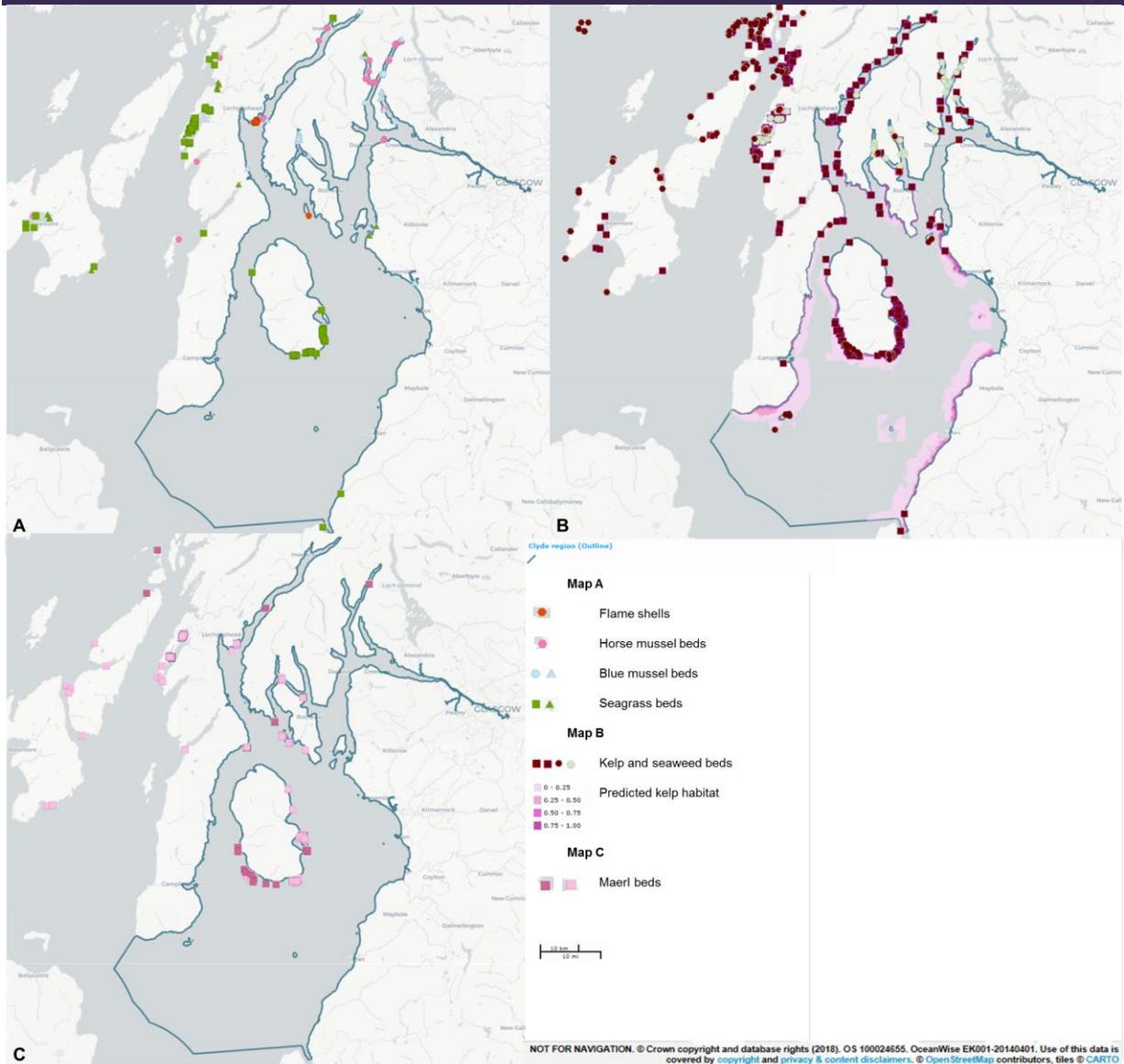
Policy – Authorisations and consents

Policy CC 1 Development(s) and/or activities will be supported where the proposal can demonstrate appropriate measures:

- to mitigate the effects of climate change, including minimising, as far as practicable, emissions of greenhouse gases, and
- to adapt to climate change over the full life-span of any development, including any decommissioning/remediation required, in line with Chapter 4: Coastal Processes, Coastal Flood and Storm Damage Alleviation

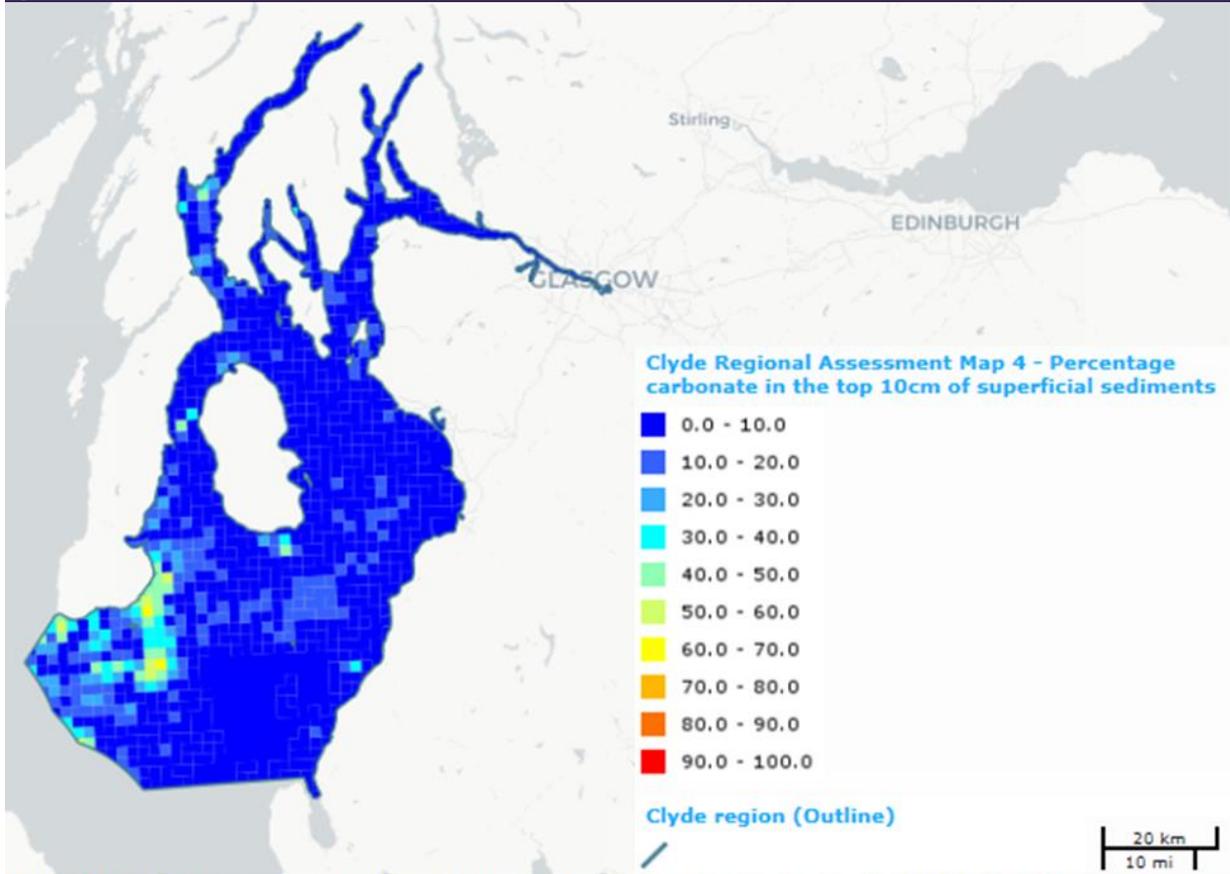
Policy CC 2 Development(s) and/or activities will be supported where they can demonstrate that they will avoid damage to and/or, where possible, enhance the capacity of recognised carbon sinks in the Clyde Marine Region (see Maps CC 1 and CC 2).

Map CC 1 – Carbon sinks in the Clyde Marine Region; where (A) shows the presence of flame shell beds, horse mussel beds, blue mussel beds and seagrass; (B) shows the presence of kelp and seaweed communities and predictions of kelp habitats; and (C) shows the presence of maerl beds. For saltmarsh locations see NMPI.



These maps are indicative only. For up-to-date mapping with interactive features, visit [National Marine Plan interactive](#).

Map CC 2 - Percentage of carbonate in the top 10 cm of superficial sediments. Data is interpolated from the British Geological Survey sediment records and describes the potential for carbon stores.



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Further information

Intergovernmental Panel on Climate Change released a [Special Report](#) in October 2018 alongside a [Summary to Policy-makers](#). The Met Office provides [UK Climate Projections](#).

The UK [Marine Climate Change Impacts Partnership](#) provides co-ordinated advice on climate change impacts and adaptation around our coast and seas from scientists, government, its agencies and non-governmental organisations (NGOs).

[Adaptation Scotland](#) provides advice and support to help Scotland be prepared and resilient to the effects of climate change.

[Climate Ready Scotland: Scottish Climate Change Adaptation Programme 2019-2024](#) is open for consultation.

[Scotland's Climate Change Adaptation Framework](#) sets the strategic direction for Scottish Government actions. It was published by the Scottish Government in 2009.

[Climate Ready Clyde](#) provides a strategic approach, working in partnership with other organisations to create a vision and action plan for climate change adaptation in the Glasgow City Region.

Scottish Natural Heritage has published 2 reports: [Assessment of carbon budgets and potential blue carbon stores in Scotland's coastal and marine environment](#), and [Assessment of Blue Carbon Resources in Scotland's Inshore Marine Protected Area Network](#).