

Supplementary Table 1: Contributions of EU-funded projects to the development of the Climate-Smart MSP Framework to Support Biodiversity Objectives.

<p>Improved Science-Based Maritime Spatial Planning to Safeguard and Restore Biodiversity in a Coherent European MPA Network (MSP4BIO) aimed to mainstream biodiversity into policy decisions. The project provided guidance for incorporating climate change scenarios into the protection and prioritisation strategies for marine protected area (MPA) development, along with strategic guidance for integrating MPA and MSP processes across multiple governance and ecosystem levels.</p>	
Project contributions	Document analyses was supported by stakeholder interviews to determine the extent to which biodiversity was mainstreamed into marine policies at different stages of the policy cycle. Analysis covered the integration and prioritisation of biodiversity objectives, the level of ambition in biodiversity conservation, coordination of biodiversity issues, influence of the EU Biodiversity Strategy (EU BDS) and other international agreements, and the role of MSP in biodiversity conservation ³⁰ . Methodology from MSP4BIO was adapted to the context of climate change for the purposes of this work.
<p>Relevant criteria: 1.1, 2.1.1, 2.1.1.1, 2.2, 2.2.1, 2.3, 3.2, 3.3.1, 3.4, 4, 4.1, 4.1.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.4, 5.5</p>	
<p>Maritime Spatial Planning as an Enabler of the European Green Deal (MSP-GREEN) aimed to align MS plans with the ambition of the European Green Deal (EGD) by creating a framework for plans as marine enablers of the EGD. The project assessed how national plans align with the objectives of the EGD, highlighting areas where MSP can contribute to climate neutrality, nature protection, and a sustainable blue economy.</p>	
Project contributions	Assessment of the integration of the EGD in MSP processes by using a methodology to evaluate if core elements from the EGD and related policies were included in MS plans. The domains which contained relevant elements for application in this work were climate change mitigation, climate change adaptation, and biodiversity and ecosystem protection and restoration ^{31,32} .
<p>Relevant criteria: 2.2, 2.2.1, 2.3, 3.1, 3.2.1, 3.3, 3.3.1, 3.4, 3.5, 4, 5.4</p>	
<p>Emerging Ecosystem-based Maritime Spatial Planning topics in North and Baltic Sea Regions (eMSP NBSR) aimed to provide a platform for MSP planners to jointly develop approaches for MSP implementation in these regions. The project produced a climate-smart MSP policy brief, comparing the approaches of various countries and evaluating their MSP achievements against climate-related criteria to identify good practices and gaps.</p>	
Project contributions	EMSP NBSR reviewed the extent to which climate change was included in MSP in the North and Baltic Sea Regions (Netherlands, Germany, Poland, Denmark, Finland, Sweden, France, Belgium, Latvia) by identifying mitigation and adaptation actions either currently included in plans or identified as future actions ¹⁶ .
<p>Relevant criteria: 2.1, 2.1.1, 2.1.1.1, 2.2, 2.2.1, 2.3, 3.5</p>	

The table outlines three EU-funded projects that contributed to the development of the Climate-Smart MSP Framework to Support Biodiversity Objectives. Each project entry describes the project's aims, specific methodological contributions to this research, and the

framework criteria that were informed by the project's findings. Abbreviations: MSP, Marine Spatial Planning; MPA, Marine Protected Area; EU, European Union; EGD, European Green Deal; EU BDS, European Union Biodiversity Strategy; eMSP, emerging Marine Spatial Planning.

Supplementary Data 1: The Climate-Smart MSP Framework to Support Biodiversity Objectives for download.

This Excel spreadsheet presents the 31 criteria of the Framework, developed to evaluate the integration of climate considerations in MSP processes, organised by theme (climate change considerations and an ecosystem-based approach; climate mitigation; climate adaptation; and knowledge integration, monitoring and adaptive management). Supplementary Data 1 contains an empty Framework for completion (sheet 1); instructions for application of the Framework (sheet 2); and a scoring guide (sheet 3). Abbreviations: MSP, Marine Spatial Planning; Y, Yes; N, No; P, Partially; EU, European Union.