Challenge 3. Applying knowledge to support cross-cutting decision making and fulfil obligations

3a. Valuing assets to support decision making

Determine the value of natural and built assets to make informed decisions on their future use in the context of a changing climate.

Valuing nature:

*Improving decision making through interdisciplinary working to better recognise and value the benefits provided by the UK coastal and marine environment.

Valuing sectors assets and losses:

- *Calculating coastal flood losses to help inform national threat level and improve decision making.
- *Quantifying how projected climate change impacts may benefit, or adversely affect the value of different sectors (e.g. tourism and recreation).
- *Implementing robust processes to value and prioritise cultural heritage assets to help support preservation action.

3b. Developing adaptive management responses in the marine environment Enable flexible management options that can accommodate uncertainty in the nature and scale of climate change impacts.

Identifying barriers:

*Identifying all of the barriers to 'managed realignment' and 'no active intervention' in shoreline management plans and for marine spatial planning (e.g. historic landfill sites that need protecting).

Developing responses:

- *Implementing practical adaptation options for future shorelines that are technically feasible, balance costs and benefits, attract finance, and are socially acceptable.
- *Integrating nature-based approaches into management and gaining acceptance of 'dynamic' coasts and seas.
- *Facilitating adaptive management approaches to marine spatial planning (e.g. for marine renewables).
- *Adopting a more flexible approach to accommodating climate-driven changes in the distribution of features within the marine protected area network.

3c. Fulfilling our climate and environmental commitments in a changing world

Support the implementation of national and international obligations to conserve the environment (e.g. legislation and conventions).

Greenhouse gas assessments and inventories

*Improving accounting for coastal and marine habitats in national GHG inventories, and providing a clearer understanding of their importance to the global carbon cycle.

Conservation measures

- *A better understanding of likely future climate change impacts on species and habitats of conservation importance to inform conservation measures.
- *Identifying key physical, environmental and biological metrics that can be integrated to inform management in the context of long term climate trends.
- *Improving the application of data portals such as Copernicus (e.g. to establish baselines for physical climate change, and identify impacts on key environmental and biological indicators).

3d. Enabling cross cutting decision making

Create effective mechanisms to deliver the breadth of evidence and advice needed to underpin decisions affecting multiple sectors and policy domains.

Applying the best available evidence

*Taking an interdisciplinary approach to developing and providing the tools and knowledge to enable cross-cutting decision making (e.g. translating updated sea-level science into resilience planning). *Better predictions of the likely effects of extreme events on ecosystems and society (both now and in the future) to support cross-cutting decision making. *Improving ocean and climate literacy amongst decision makers.

Recognising conflicts and balancing the requirements of different policy areas and sectors

- *Understanding how implementing legislation in one area can compound climate change impacts in another (e.g. how discard bans, and expansion of renewables, affects the resilience of seabirds).
- *Taking difficult cross sectoral decisions to manage seas, enabling adaptation across coastal and marine industries.