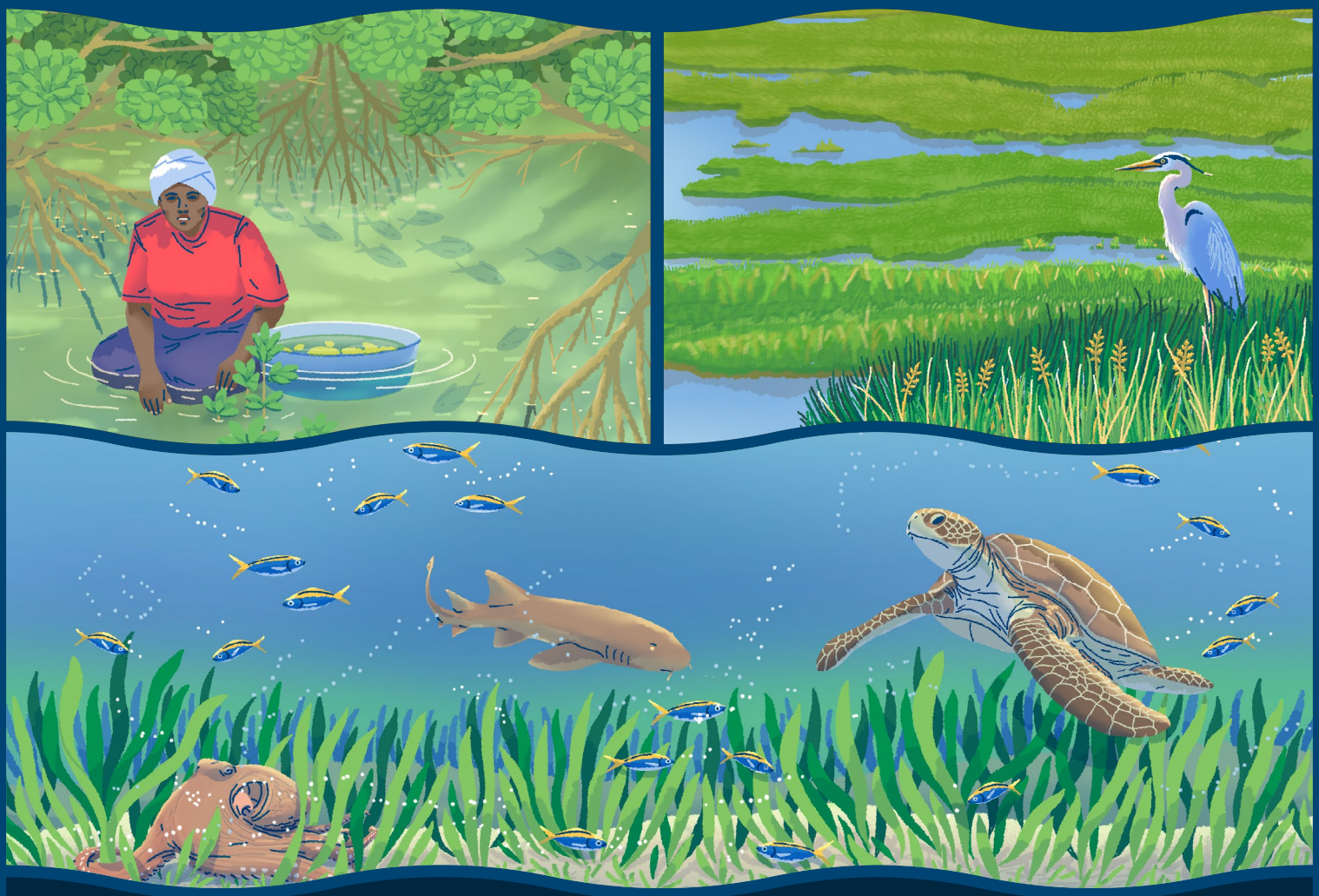


UNLOCKING BLUE CARBON DEVELOPMENT

INVESTMENT READINESS FRAMEWORK FOR GOVERNMENTS

EXECUTIVE SUMMARY

WORLD BANK GROUP PROBLUE

What is Blue Carbon?

"Blue Carbon" is the carbon stored in coastal and marine ecosystems. These ecosystems include everything from mangroves to seagrass beds and salt marshes and can support a world free of poverty on a livable planet.

The purpose of this paper is to provide a practical framework to guide governments in catalyzing and scaling up public and private investment in blue carbon as part of their blue economy development.

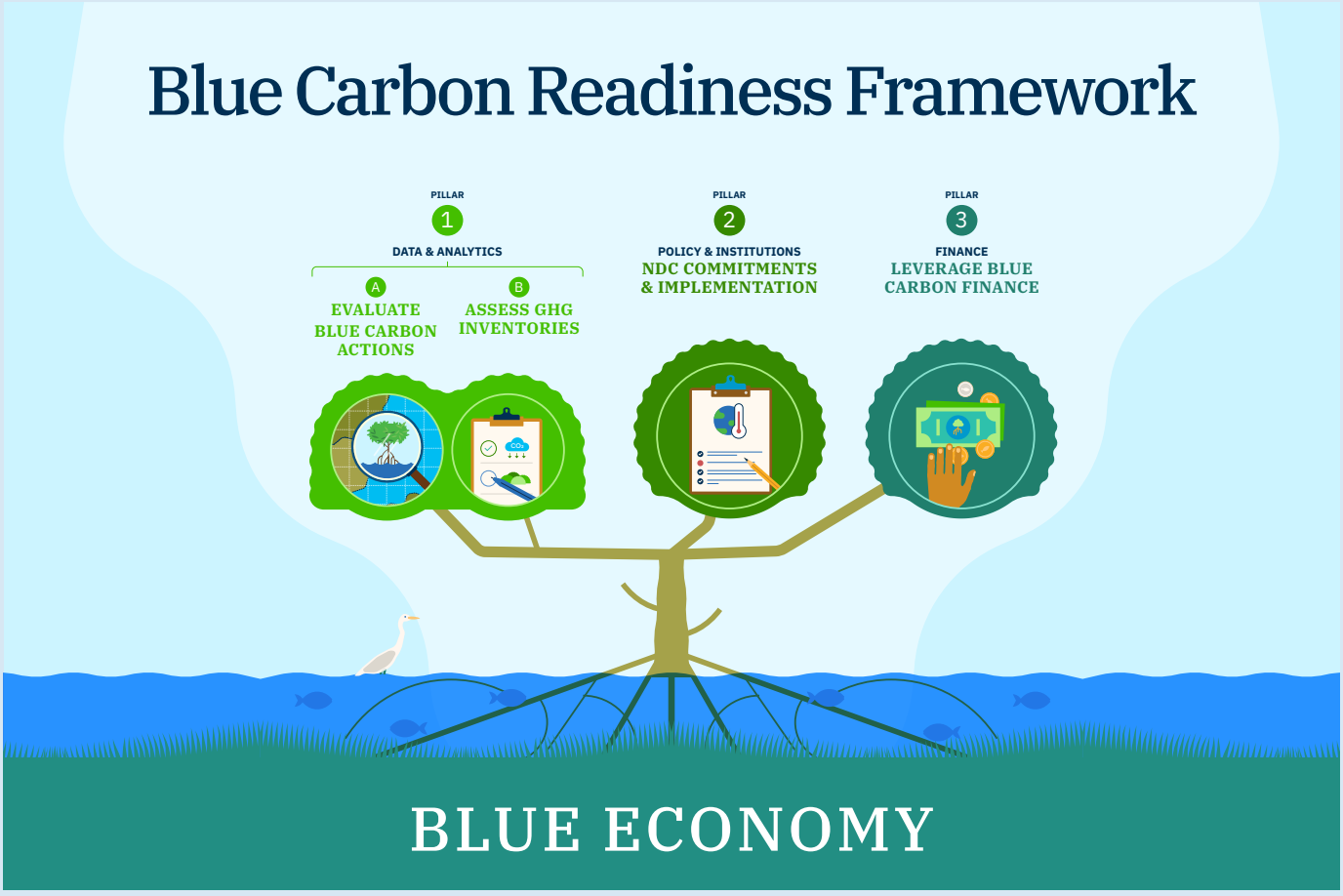
It does this by describing in detail a Blue Carbon Readiness Framework, a step-by-step, well-illustrated guide with simple checklists. Client countries can use the illustrations and checklists to determine their readiness to catalyze and scale up investment in blue carbon credit finance. The Blue Carbon Readiness Framework consists of three pillars:

Pillar 1: **Data and Analytics**

Pillar 2: **Policy and Institutions**

Pillar 3: **Finance**

Figure 1 The Blue Carbon Readiness Framework consists of three pillars



"Scientific Basis for Action on Blue Carbon Ecosystems (Pillar 1)" focuses on the latest scientific knowledge providing the impetus for action.

It includes a comprehensive description of the ecosystem services provided by Blue Carbon Ecosystems (BCEs) and the rationale for the actionable status of established BCEs (mangroves, seagrass beds, and wetlands) as well as emerging BCEs. The first section describes the ecological, economic, and social importance of BCE services, especially for sequestering carbon. It also highlights the threats and drivers of degradation and discusses recent trends to address degradation and restore these ecosystems. This section also provides the basis for evaluating blue carbon actions and for assessing Greenhouse Gases (GHG) inventories within the readiness framework.

Mangroves, seagrass beds, and coastal wetlands are part of the established wetlands inventory category for reporting requirements to the United Nations Framework Convention on Climate Change (UNFCCC) and are eligible for blue carbon credit schemes.

Some marine ecosystems, such as kelp beds and mudflats, are progressing towards becoming actionable for reporting to the UNFCCC, ultimately within a carbon credit scheme. Others, such as coral reefs, oyster reefs, and marine fauna are currently considered non-actionable. A lack of scientific information on these BCEs is limiting and constraining their actionability and inclusion.

Blue carbon investments are among the most effective climate solutions available.

Restoring one hectare of mangroves stores five times more carbon than restoring a similar area of terrestrial forest.

5:1

Restoring one hectare of seagrass stores three times more carbon than restoring a similar area of terrestrial forest.

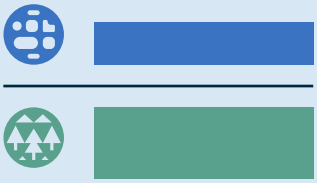
3:1

Conserving one hectare of seagrass stores two times more carbon than restoring a similar area of terrestrial forest.

2:1

Restoring and conserving one hectare of saltmarsh stores two times more carbon than restoring a similar area of terrestrial forest

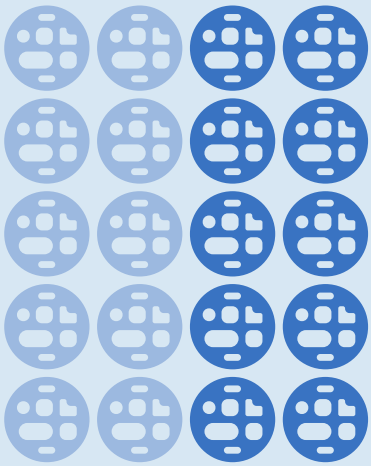
2:1



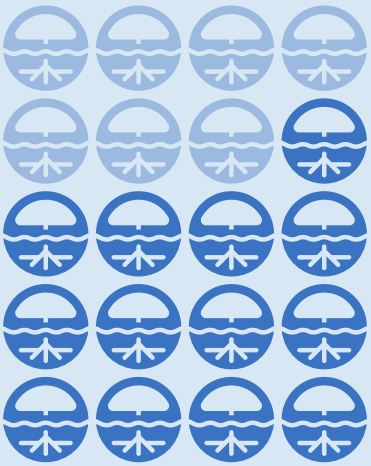
Restoration and conservation are two widely used practices to capitalize on the potential of blue carbon as a means of addressing and preventing degradation.

The established and emerging BCEs provide a multitude of ecosystem services, from flood protection to fish nurseries, which add to the carbon sequestration value. Expressed in monetary terms, carbon sequestration and storage by mangrove, salt marsh, and seagrass ecosystems has been valued at roughly US$ 190 billion per year (about $ 580 per person in the US) in terms of global blue carbon wealth.

Coastal ecosystem degradation threatens the prospects of realizing the significant potential of the three key BCEs.



Over 50 percent
of the world's original salt marshes were lost during the twentieth century.



As much as 35 percent
of mangroves were lost due deforestation in the 1980s and 1990s,

and researchers estimate that
25 percent
of total global seagrass beds have been lost.

Often upland and seaward drivers of degradation are linked, compounding the intensity and effects of BCEs losses.

Efforts over recent decades demonstrate that degradation can be addressed and prevented through restoration and conservation efforts in emerging and industrialized countries.

These efforts require substantial financial resources that depend on the scale, scope, and nature of the needed efforts. In many cases, however, BCE restoration is relatively less expensive than engineering works. Funding these efforts requires public and private sector financing, with blue carbon credit markets as one source of finance.

The second chapter, "Building a Policy and Institutional Environment for Blue Carbon (Pillar 2)," provides policy anchor points for client countries to set objectives and pathways to catalyze and scale up blue carbon investments.

Each country's commitments to mitigate climate change are different. This chapter can inform decision makers on the best international policy commitments, especially the Nationally Determined Contributions (NDCs) that ground many blue carbon investments. A number of international instruments, such as the UNFCCC and Paris Agreement, include NDCs as core commitments to addressing climate change.

Many international commitments have resulted in greater inclusion of BCEs in GHG accounting. The IPCC "2013 Wetland Supplement" and its updates is an example. The supplement provides guidance to account for GHG emissions and removal of established BCEs. Conversely, it also informs or guides client countries on the GHG mitigation actions that can be included in GHG accounting. This chapter and the Readiness Framework help to show client countries how they can ensure their BCEs are included in GHG inventories and are part of the accounting process.

The Paris Agreement commitments capitalize on potential opportunities to generate co-benefits, such as meeting Sustainable Development Goals (SDGs) from blue carbon actions. Co-benefits-generation is an additional incentive to invest in blue carbon. Currently, many of the co-benefits generated are from BCE projects or projects that reduce fuel use. Emerging BCEs, as well as carbon fluxes between components of marine ecosystems, are currently not eligible for such benefits.

Governments are increasingly designing REDD+ (Reducing Emissions from Deforestation and Forest Degradation) projects and toolkits to include mangroves. However, by restricting their REDD+ accounting to above-ground biomass only, the enormous below-ground carbon sink underlying mangroves is missed.

Including mangroves in forestry agencies can contribute to this missed opportunity. Nevertheless, the global REDD+ infrastructure provides rich models and templates for intervention that are helpful for the planning and design of blue carbon interventions.

The Convention on Biological Diversity **(CBD) COP15's Kunming-Montreal Global Biodiversity Framework (GBF) vastly increased conservation and restoration targets, including for coastal and marine ecosystems, and notably for BCEs.** The Framework's Special Trust Fund to support developing countries in achieving their conservation targets is an additional anchor point for client countries to invest in blue carbon. Together with other climate-change-related policy commitments and disaster-related policies such as the Sendai Framework, synergies are possible.

The third chapter, "Mobilizing Finance for Blue Carbon (Pillar Three)," provides the entry points for client countries to pursue the public and private financing needed for blue carbon investments.

This chapter reviews the different forms of financing:multilateral funding, results-based carbon finance, private philanthropy, and private finance (project development, and carbon markets).

It describes the different forms of funds within each of these finance types, the conditions to access such funds, broad eligible activities, and monitoring and reporting obligations. This Pillar describes stable investment parameters for the private sector, including with respect to carbon finance such as defining and allocating carbon rights, creating mandates for carbon trading, and presenting models for community involvement and benefit sharing. The chapter ends with an interesting discussion on trends in blue carbon pricing, opportunities for emissions trading under the Paris Agreement, and emerging financing approaches.

Chapter 4, "The Blue Carbon Readiness Framework," provides a harmonized response for governments to tap their full blue carbon potential by combining technical, institutional, regulatory, and financial aspects.

Adopting such a comprehensive response will help countries shift to a more productive and resilient Blue Economy that gives stability to natural habitats and predictability to the private sector. This chapter consists of effective illustrations, supplemented by checklists, to guide the reader through the process of assessing blue carbon readiness. The process follows a pillar-by-pillar approach, with a series of questions that guide governments on next steps or areas on which to focus actions and investments. Practical and actionable recommendations for governments are proposed to improve readiness and to help accelerate blue carbon investments.

PILLAR

1

Data and Analytics

- **Recommendation 1:** Strengthen country capacity to develop GHG inventories.
- **Recommendation 2:** Promote the use of ecosystem valuation in decision making.

PILLAR

2

Policies and Institutions

- **Recommendation 3:** Strengthen national legal and institutional structures and design specific policies that facilitate the implementation of Blue Carbon commitments.
- **Recommendation 4:** Adopt integrated planning and a blue carbon strategy to enhance local benefits.
- **Recommendation 5:** Leverage partnerships between governments, the private sector, international financing institutions, and philanthropic organizations to help address the systemic risks stemming from BCE loss and influence global agendas.

PILLAR

3

Finance

- **Recommendation 6:** Adopt a holistic approach to mobilizing finance.
- **Recommendation 7:** Access international grant funding for blue carbon readiness.
- **Recommendation 8:** Promote public-private partnerships (PPPs) for blue carbon market development.

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More information: problue@worldbank.org worldbank.org/problue

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