



# A Blue Carbon Fund

The ocean equivalent of REDD<sup>1</sup> for carbon sequestration in coastal states



**Oceans and coasts play a crucial role in regulating our climate as well as supporting our economy. A recent report released by the UNEP<sup>2</sup>, IOC-UNESCO<sup>3</sup>, IUCN<sup>4</sup> and FAO<sup>5</sup> has shown that as much as 7% of carbon dioxide (CO<sub>2</sub>) reductions required to keep atmospheric concentrations below 450 ppm<sup>6</sup> can be achieved by protecting and restoring mangroves, salt marshes and seagrass communities, to the order of half that expected to be achieved by REDD.**

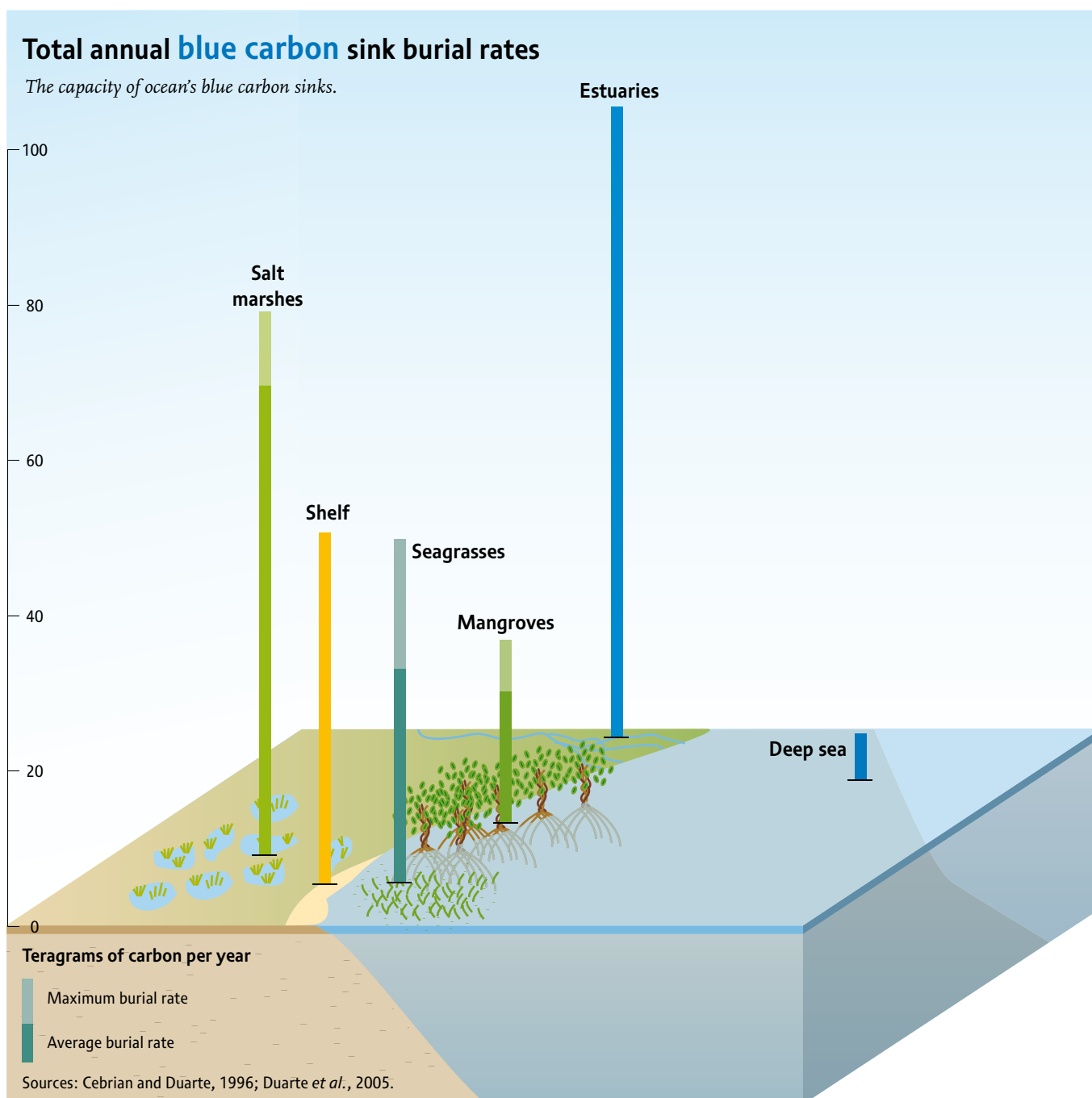
In addition to reducing the emissions of gases like CO<sub>2</sub> (Brown carbon), as well as soot (Black carbon), we can also capture emitted carbon by storing it in terrestrial vegetation (Green carbon) and in oceans (Blue carbon). If we are to tackle climate change and ensure economic development and prosperity, it is important for governments to recognize the opportunities of all the colours of carbon. Blue carbon is emerging as a new option on the palette of promising opportunities, and one that can also assist economic development in the coastal zone.

Blue carbon sinks cover only a fraction of the seabed but are among the most efficient carbon sinks known of today, yet they are among the fastest disappearing ecosystems on the

planet. At the same time they provide crucial services through food security, water quality and shoreline protection, supporting coastal livelihoods and generating jobs.

This report advises policy-makers to mainstream an oceans agenda into national and international climate change initiatives.

1. Reducing Emissions from Deforestation and Forest Degradation
2. United Nations Environment Program
3. Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization
4. International Union for the Conservation of Nature
5. Food and Agriculture Organization
6. Parts per million



It is well established that carbon dioxide (CO<sub>2</sub>) emissions are contributing to global climate change, and that the environmental, social and economic threats posed by these changes are among the largest challenges to humankind at present.

Maintaining or improving the ability of terrestrial and marine ecosystems to absorb and bury CO<sub>2</sub> is a crucial aspect of climate change mitigation. The contribution of forests in sequestering carbon – so called green carbon – is well known and is supported by relevant financial mechanisms. In contrast, the critical role of the oceans and coastal ecosystems in carbon sequestration – blue carbon – has been overlooked up until now, in spite of the fact that over half of carbon captured by living organisms is captured in the marine environment.

However, we are losing these coastal ecosystems at an incredibly rapid rate, as much as 7% annually, and most could be lost within two decades. Degradation of these ecosystems is caused by unsustainable natural resource use practices, poor watershed management, poor coastal development practices and poor waste management. Losing these carbon sinks

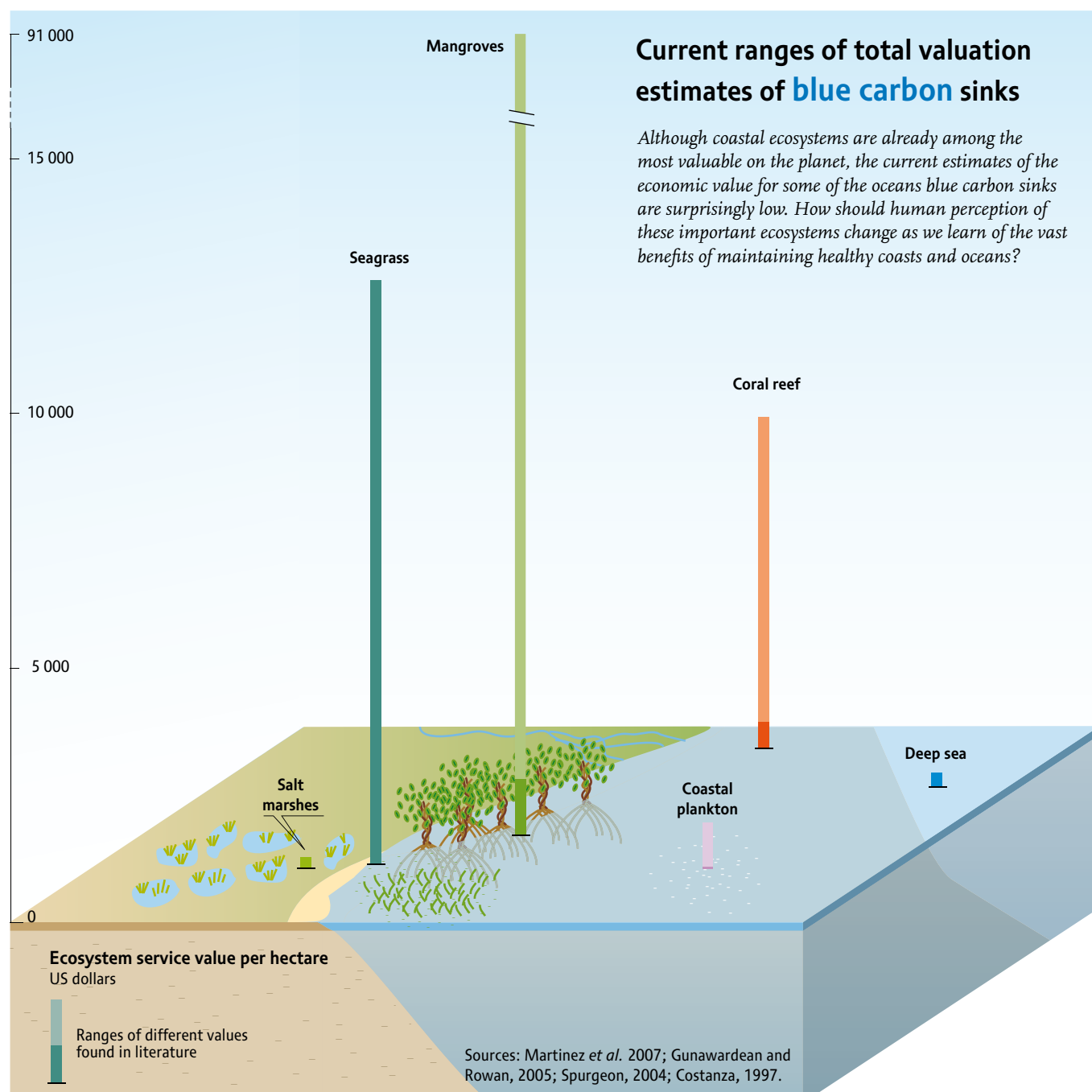
### The facts

Coastal ecosystem services are worth an estimated US\$25,000 billion annually.

Blue Carbon sinks (coastal ecosystems such as mangroves, salt marsh and seagrass) store approximately 235–450 Tg C every year, the equivalent of up to half of the emissions from the entire global transport sector (1,000 Tg C yr<sup>-1</sup>) and 3–7% of total anthropogenic emissions (7,200 Tg C yr<sup>-1</sup>).

Blue Carbon sinks, together with coral reefs, supply an estimated 50% of the world's fisheries, providing nutrition to close to 3 billion people, as well as 50% of animal protein and minerals to 400 million people in developing nations.

means that we are eroding their natural capacity for carbon sequestration as well as their contribution to sustaining human health, food security and economic development in the coastal zone, including extremely vulnerable Small Island Developing States. It is one of the biggest current gaps in the effort to mitigate climate change.





## The report sets out the following key options:

### Establish a global Blue Carbon Fund for protection and management of coastal ecosystems.

- a.** Within international climate change policy instruments, create mechanisms to allow the future use of carbon credits for marine and coastal ecosystem carbon capture and effective storage as acceptable metrics become available. Blue Carbon could be traded and handled in a similar way to Green Carbon – such as rainforests – and entered into emission and climate mitigation protocols along with other carbon-binding ecosystems;
- b.** Establish baselines and metrics for future environmentally sound Blue Carbon sequestration;
- c.** Consider the establishment of enhanced coordination and funding mechanisms;
- d.** Upscale and prioritize sustainable, integrated and ecosystem-based coastal zone planning and management, especially in hotspots within the vicinity of blue carbon sinks to increase the resilience of these natural systems and maintain food and livelihood security from the oceans.

### Manage remaining seagrass meadows, salt marshes and mangrove forests, through effective ecosystem management to retain their full carbon storage capacity.

Future funds for carbon sequestration can contribute to maintaining management and enforcement.

### Initiate management practices that reduce and remove threats, and which support the robust recovery potential inherent in blue carbon sink communities.

### Maintain food and livelihood security by implementing integrated ecosystem management approaches aiming to increase the resilience of human and natural systems to change, for example through ecosystem-based adaptation strategies.

### Implement win-win mitigation strategies in marine sectors, for example:

- a.** Improve energy efficiency in marine transport, fishing and aquaculture sectors as well as marine-based tourism;
- b.** Encourage sustainable, environmentally-sound ocean-based production, including algae and seaweed;
- c.** Curtail activities that negatively impact the ocean's ability to absorb carbon;
- d.** Ensure that investment for restoring and protecting the capacity of Blue Carbon sinks to bind carbon and provide food and income is prioritized in a manner that also promotes economic development opportunities;
- e.** Catalyze the natural capacity of Blue Carbon sinks to regenerate by managing coastal ecosystems for conditions favourable for seagrass, mangroves, and salt marshes.



*Blue Carbon: the role of healthy oceans in binding carbon* is a Rapid Response Assessment report compiled by UNEP/GRID-Arendal and UNEP in collaboration with the Food and Agriculture Organization of the UN, the Intergovernmental Oceanographic Commission of UNESCO and other institutions. The report was launched on the 14th October, 2009, Cape Town, South Africa and is available for download at [www.grida.no/publications/rr/blue-carbon](http://www.grida.no/publications/rr/blue-carbon). The collaborating agencies are available to assist governments who seek additional information or support beyond the full report.