inFUSE Accelerator Workshop IV
4th September 2024

#infuseaccelerator

Introduction to Blue Carbon

inFUSE

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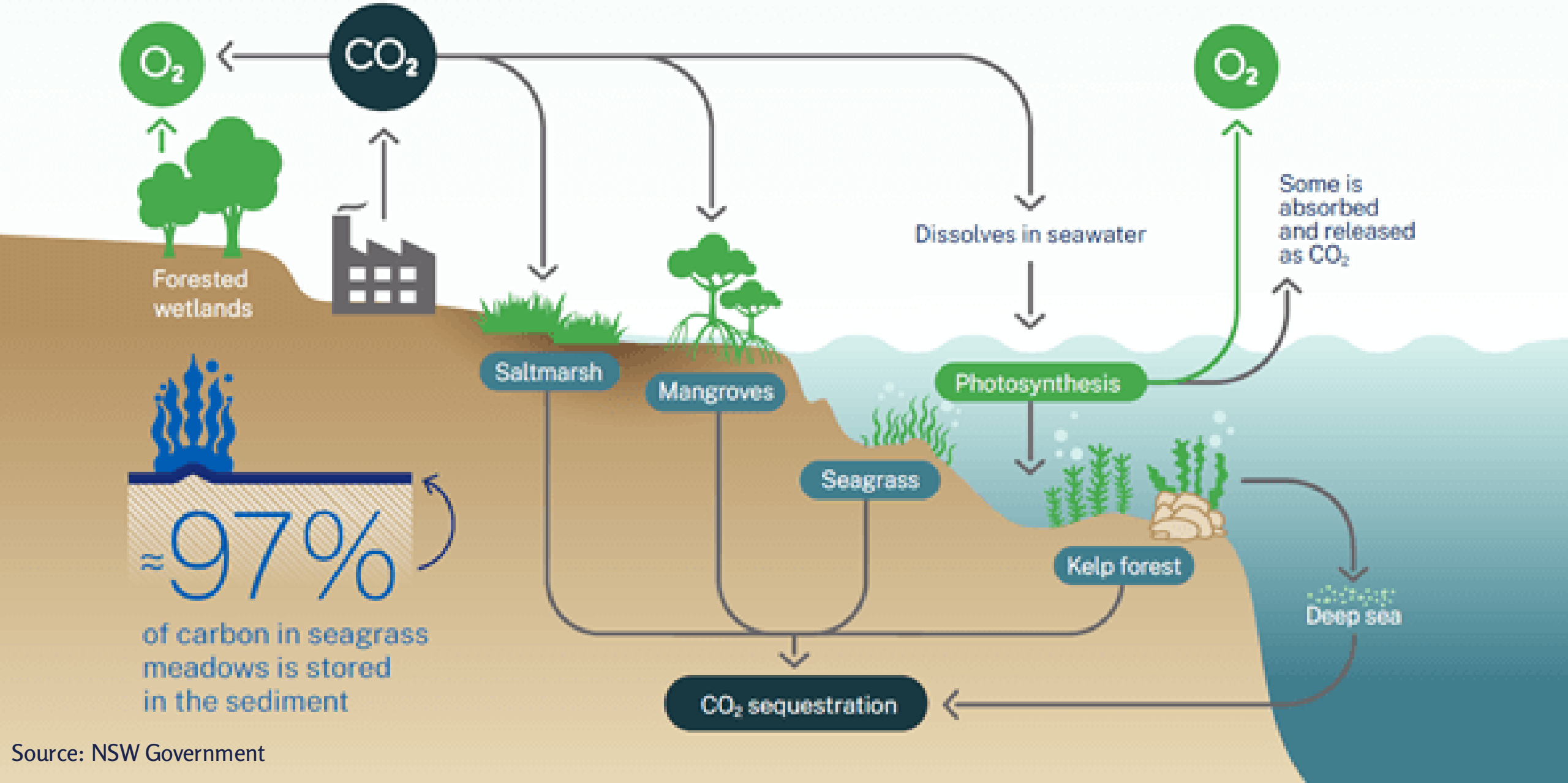
Agenda

1. What Is Blue Carbon ?
2. Opportunities
3. Challenges

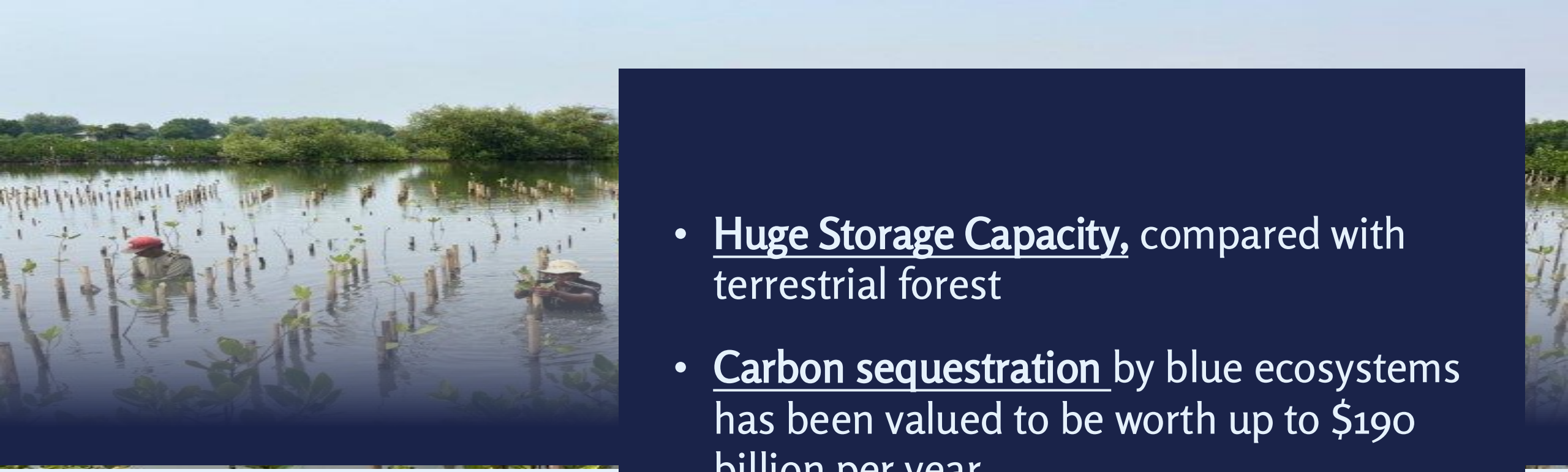
What is blue carbon?

- Blue Carbon refers to carbon dioxide stored in coastal and marine ecosystems, such as mangroves, saltmarshes, and seagrasses.
- It's important due to their role for
  Mitigation (GHG emission)
  Adaptation (livelihood and resilience of coastal communities)

Blue carbon in coastal ecosystems



Source: NSW Government



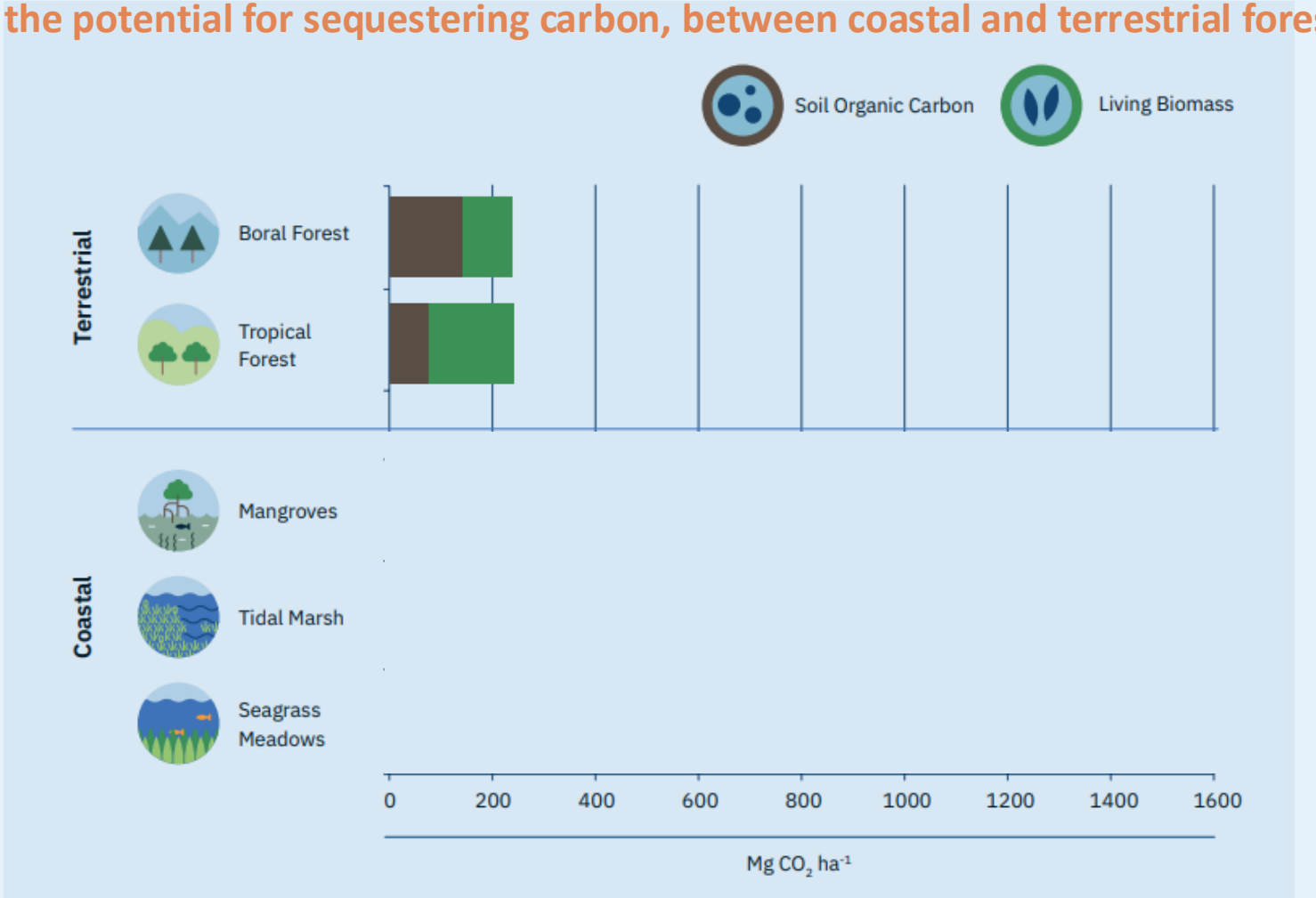
Mitigation

Carbon Sequestration

- **Huge Storage Capacity,** compared with terrestrial forest
- **Carbon sequestration** by blue ecosystems has been valued to be worth up to $190 billion per year
- **Save** up to 650 million tons of CO_2 emissions/year (equal with the global emission form shipping industry)

Carbon Sequestration

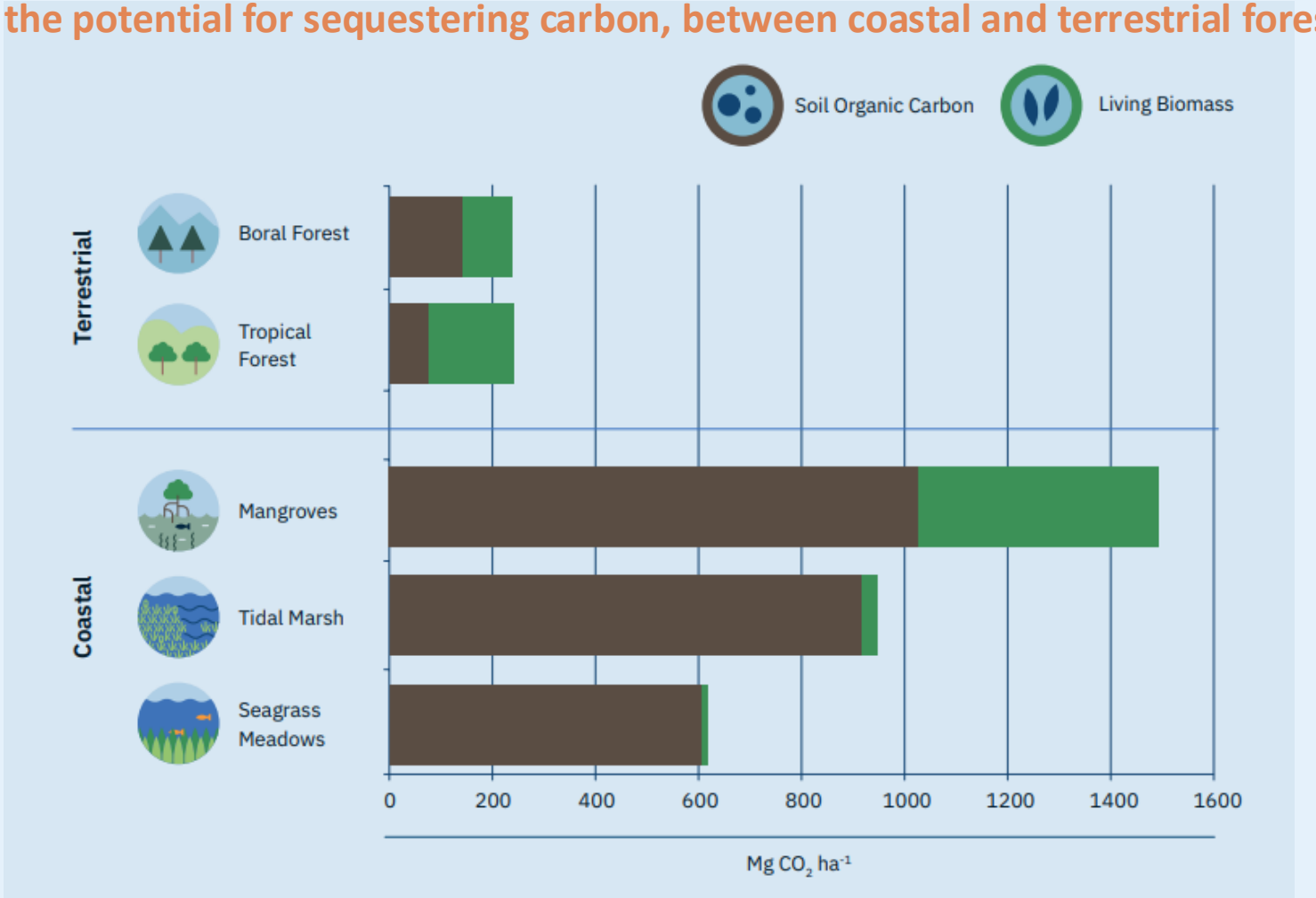
Comparison of the potential for sequestering carbon, between coastal and terrestrial forests



Source: World Bank

Carbon Sequestration

Comparison of the potential for sequestering carbon, between coastal and terrestrial forests



Source: World Bank

Adaptation

(livelihood and resilience of coastal communities)

- Coastal Protection: protection from flooding
- Economic Benefits: increasing fisheries products, high quality mangroves with no degradation
- Livelihood Support: empower women as payment for local community to participate in planting and protecting mangrove is enough to support their family

Project Cost: $419 million
Implementing Agency: CMMIA, MoEF, BRGM, IEF

Example

Mangrove for Coastal Resilience, Indonesia

- Carbon Sequestration: restored 34,911 hectares (out of 600,000 target) in 2021
- Livelihood Support: empower women as payment for local community to participate in planting and protecting mangrove is enough to support their family
- Coastal Protection: protection from flooding
- Economic Benefits: increasing fisheries products, high quality mangroves with no degradation

Source: World Bank, BRGM

Opportunities

Emission Reduction

- Mangrove ecosystem in Indonesia estimated to store 3.14 billion tons of CO2
- Indonesia has the potential to develop blue carbon projects (mangrove) reducing up to 11 million tons of carbon dioxide a year

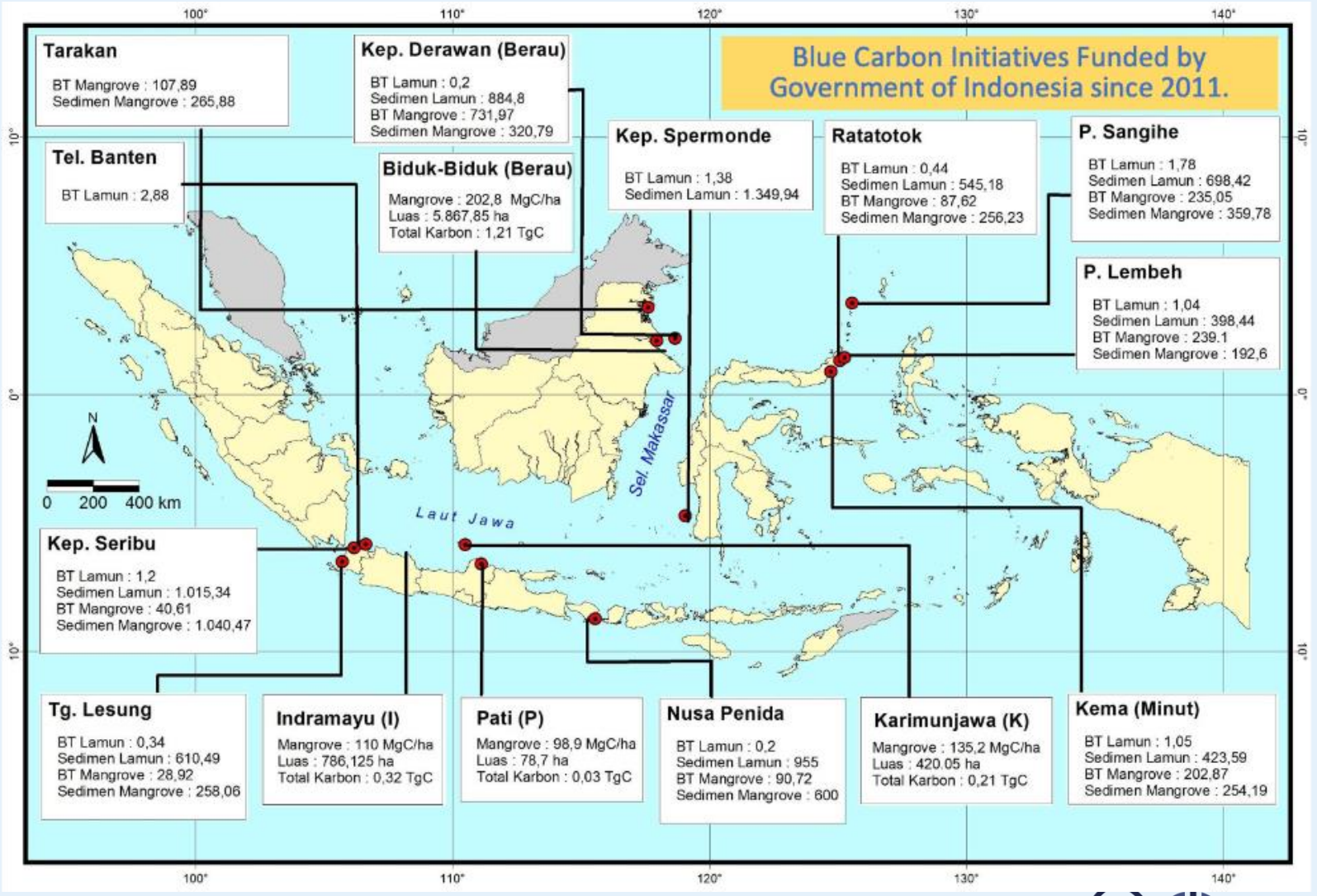
Economic Value

- Carbon sequestration and storage by blue ecosystems valued to be worth up to $190 billion/year (worldwide)
- Indonesia has the potential to develop blue carbon projects (mangrove) with a net present value of $532 million

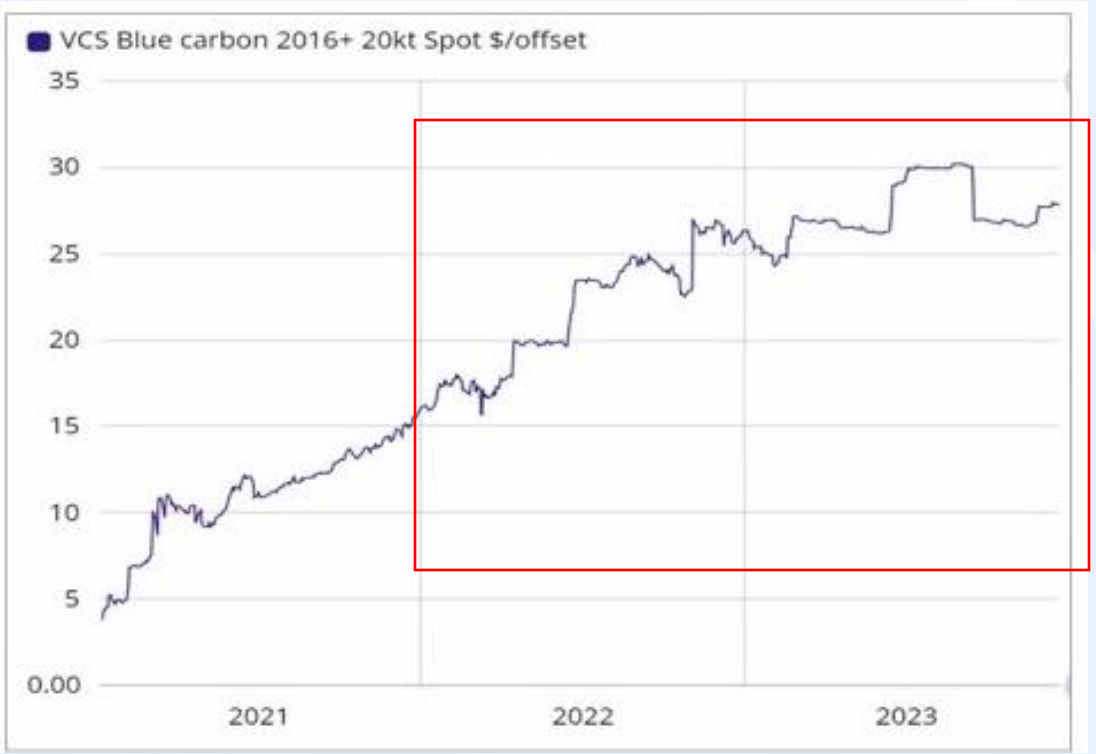
Social Protection

- Mangrove ecosystem protect >6 million people from flooding annually and prevent losses of $24 billion in productive assets (average)
- Due to their flood protection, Mangroves near developed coastal areas are worth about $50,000 a hectare and exceeding US$10,000 per hectare per year in Indonesia

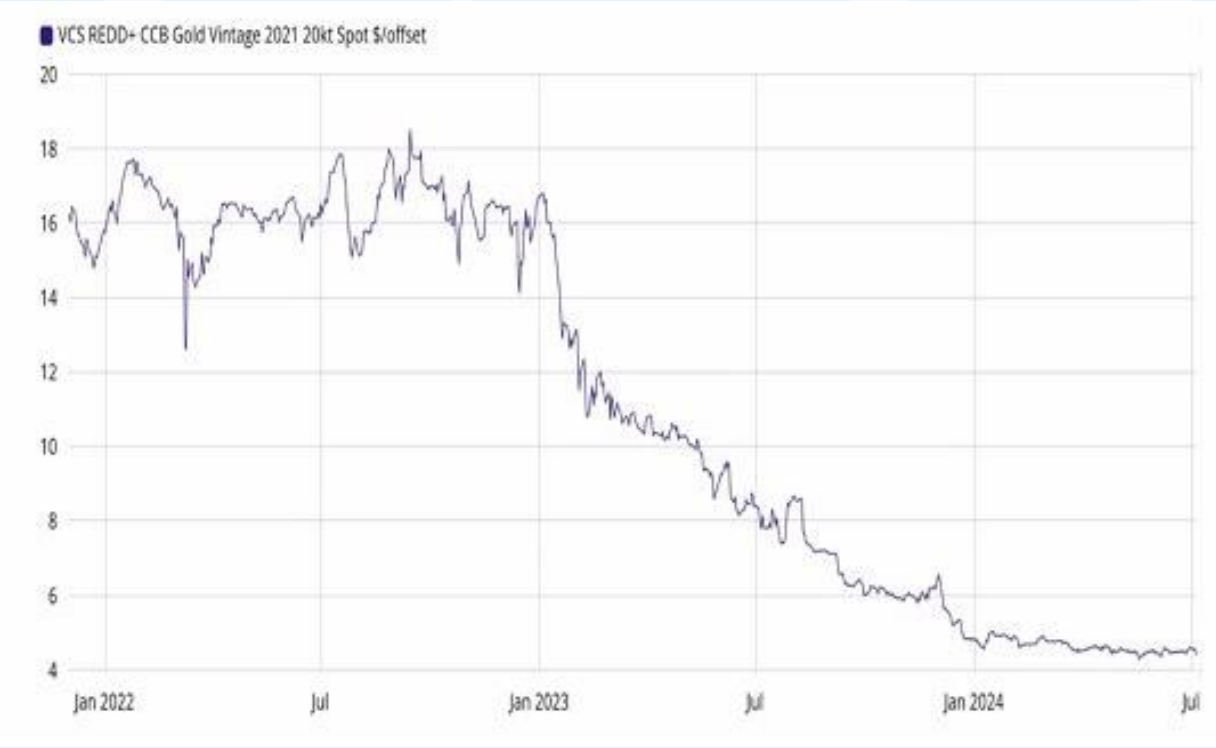
Blue Carbon Projects in Indonesia



Opportunities: Dynamic VCM Price



Blue Carbon



Forest Carbon

Challenges

Shortage of land:
Only 30% (193,367 hectares) of mangroves is suitable for restoration in Indonesia

High Cost:
Mangrove recovery cost in Indonesia is $1,640 - $3,900 per hectare

Knowledge Gaps:
Restoration without proper planting plans and designs causing planting failures

Maximize lasting impact:
Changes in water flow can influence mangrove growth

Interactive Activity

Q&A

Feedback

Material