

A stylized, abstract graphic of a globe in shades of blue and green, positioned on the left side of the slide.

BLUE CARBON:

OPPORTUNITIES FOR INDONESIA AND LESSONS LEARNED





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Blue carbon potential in Indonesia: Opportunities under the Mangroves for Coastal Resilience Project (M4CR)

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Lessons Learned from the Forest Carbon Partnership Facility program in East Kalimantan

Blue carbon potential in Indonesia



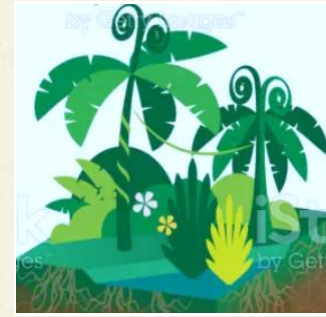
Mangroves



Salt marshes



Seagrass bed



Coastal peatlands

- Same underlying asset: carbon, blue because they're removed and stored in coastal ecosystem
- Forests make up 42% of global carbon credits in the last 5 years
- Mangroves carbon stock: five times more per hectare than tropical forests
- Indonesia has the largest extent of mangrove, seagrass, and coral reef extent in the world
- Mangroves can be implemented under REDD+ scheme
- Co-benefits from blue carbon: coastal protection, biodiversity, fisheries

Landscape approach to mangrove management – Mangrove for Coastal Resilience project



Component 1: Strengthening Policy and Institutions for Mangrove Management (USD 19 m)

- Sub 1.1 Strengthening Policy, Governance, and Coordination
- Sub 1.2 Record and Reshape the National Mangrove Map (PMN)
- Sub 1.3 Registration and Monitoring of Mangrove Rehabilitation
- Sub 1.4 Preparation for Blue Carbon Offset Readiness



Component 2: Rehabilitation and Sustainable Management of Mangrove Landscape (USD 300 m)

- Sub 2.1 Rehabilitation of 75,000 ha mangrove ecosystem
- Sub 2.2 Sustainable Management of 4 Large Landscapes



Component 3: Improving Livelihood Opportunities for Mangrove Communities (USD 80 m)

- Sub 3.1 Community-Based Livelihoods
- Sub 3.2 Enterprise Development.



Component 4: Project Management Unit (USD 20 m)

- PMO, PIUs, Provincial PIUs

M4CR will support Indonesia to tap into this blue carbon potential

- **M4CR: 75,000 ha of mangrove rehabilitation plus sustainable mangrove management (conservation)** across four provinces.
- Potential to **reduce/remove 67 million tCO₂e, which can be monetized.**
- M4CR supports developing a **blue carbon program** that makes these emissions reductions eligible for payments, **according to internationally-recognized standards.**
- LAUTRA project exploring carbon finance potential in MPAs **beyond mangroves (seagrass).**
- Opportunity to monetize **blue carbon at scale (jurisdictional level).** Will start with a pilot province, and scale up.

Table: Potential carbon finance value 1) based on average US\$ price per tCO₂e mangrove projects (US\$5.20) obtained in 2020 voluntary markets, and 2) based on US\$10.

	Avoided deforestation			Rehabilitation			TOTAL \$	
	MO (tCO ₂ e)	Value (\$5.20/tCO ₂ e)	Value (\$10/tCO ₂ e)	MO (tCO ₂ e)	Value (\$5.20/tCO ₂ e)	Value (\$10/tCO ₂ e)	Value (\$5.20/tCO ₂ e)	Value (\$10/tCO ₂ e)
Total (30 years)	29,418,162	\$152,974,440	\$294,181,615	38,249,642	\$198,898,139	\$382,496,420	\$351,872,580	\$676,678,038
Total first 5 years project implementation	4,432,537	\$25,495,740	\$49,030,269	6,374,940	\$33,149,690	\$63,749,400	\$58,645,430	\$ 112,779.673



Enabling Conditions Needed: Governance

- Blue carbon must be embedded in national and subnational processes/systems, including NDC, national registry, etc. Need to engage technical teams together with PPI.
- Clear responsibilities and coordination across ministries/government are critical.
 - Blue carbon sub-pokja is a forum for ministries to coordinate.
 - Need to define institutional and governance arrangements for blue carbon, including benefit distribution mechanism.
 - Need to define working/coordination modalities on blue carbon across ministries and development partners (CMMAI, KKP, PPI KLHK, BRGM, Bappenas, BPD LH, multilaterals, bilaterals, NGOs, etc.).
 - Provincial governments need to be engaged, develop regulations.



Enabling Conditions Needed: Policy, regulatory and legal framework

- Clarify blue carbon rights and land tenure
- Carbon regulation frameworks for transfer of ERs, links with NDC reporting
- Link to carbon market discussions, e.g., NDC vs. Corresponding Adjustments, pricing, etc. → These decisions will determine potential financiers to approach for blue carbon.
- Sub-agreement and benefit-sharing principles, how resources would be managed (e.g., role of IEF in managing and distributing payments).
- High quality credits can attract more buyers and/or higher prices. E.g., through robustness of social and environmental measures in place to safeguard against potential risks and promote co-benefits.



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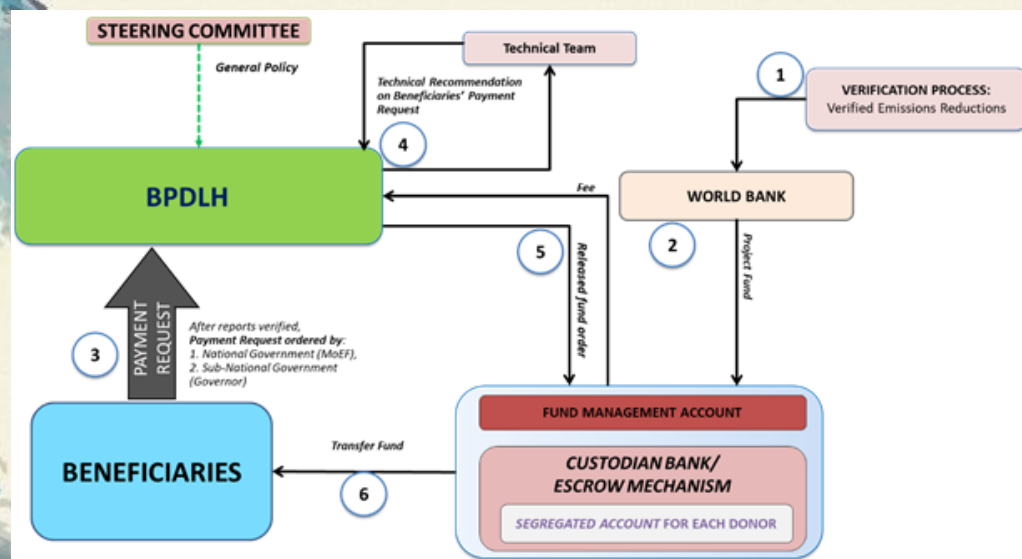


Learning from REDD+: FCPF in East Kalimantan

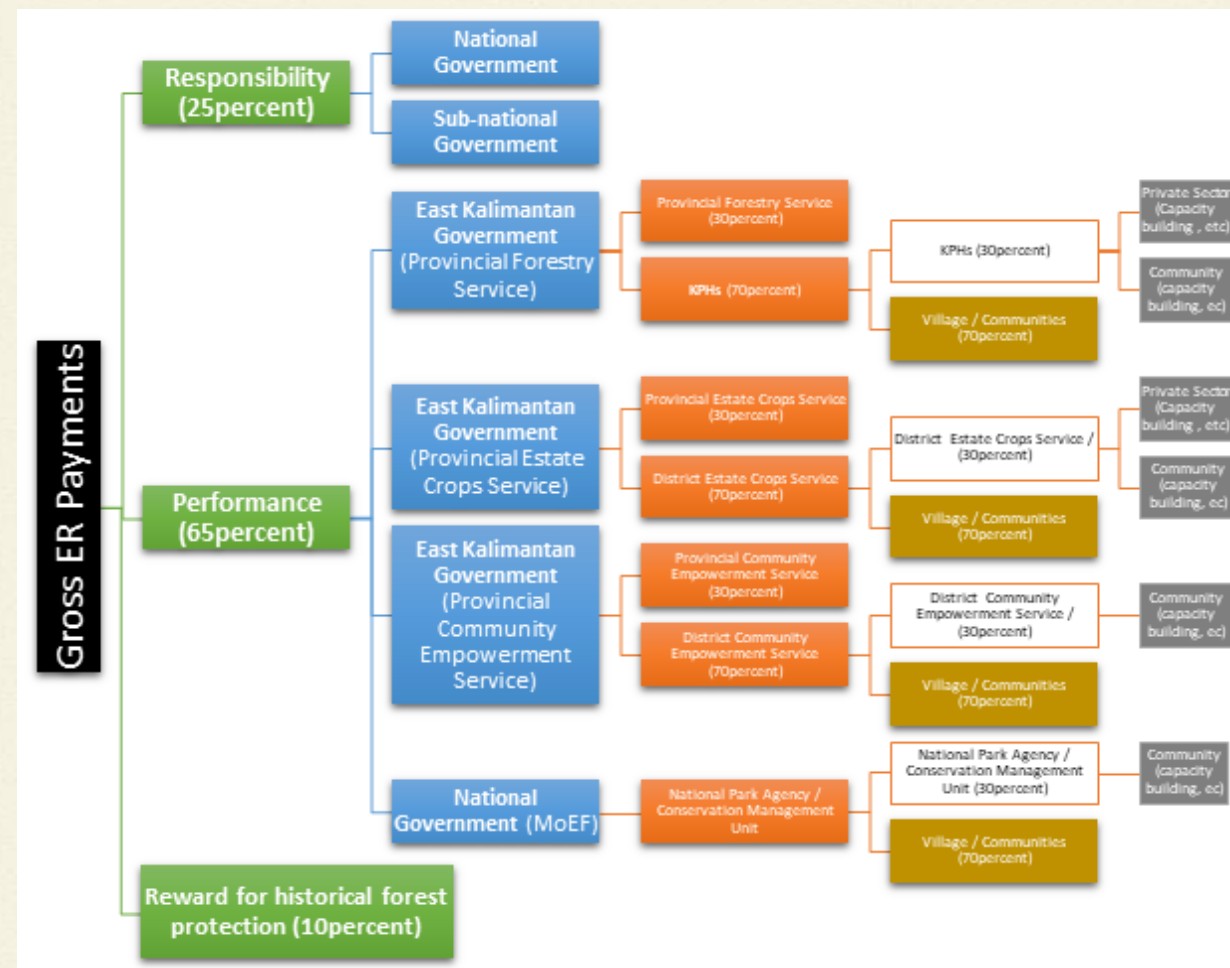
- **East Kalimantan REDD+ Program:** Forest and land governance (e.g., improving licensing governance, tenure conflict resolution, strengthening village planning, support to recognition of indigenous peoples), strengthening forest and land management capacity, strengthening forest and land management, alternative livelihoods, etc.
- **What has this entailed at provincial level?**
 - Prepared strategic documents about emission reductions
 - e.g., East Kalimantan Green Declaration, Governor's Regulations, Sector strategies, East Kalimantan Development Strategy, East Kalimantan Sustainable and Equitable Economic Development Acceleration and Expansion Strategy, Climate Change Master Plan, Declaration of Green Growth Compact / Green Development Agenda, East Kalimantan Sub-national ER-PD for FCPF.
 - Issued regulations and policies for climate change adaptation and mitigation.
 - Set 2030 Kaltim Economic Performance Targets. Made GHG emission reductions a target in the Prov. East Kalimantan Medium Term Development Plan (RPJMD) 2019-2023.
 - Ensure FCPF ER Program is embedded in NDC commitments/targets.
 - Established baseline, submitted monitoring report, undergoing verification.
 - Engaged with stakeholders.
 - Developed benefit-sharing plan – who will receive benefits (national govt, provincial govt, communities), what share, based on what (performance? Share?) and in what form (capacity building, financial benefits, non-financial benefits)

Benefit sharing arrangements: FCPF example

- The sharing of monetary and/or non-monetary benefits under ER program in accordance with the Benefit Sharing Plan.
- Beneficiaries include people involved in or affected by ER Program implementation, identified in the Benefit Sharing Plan to receive monetary and/or non-monetary benefits



The schematic diagram of requesting payment in ER program implementation



FCPF East Kalimantan benefit sharing proportion.

A photograph of a mangrove forest with several trees in the foreground. The trees have dense green foliage and prominent, reddish-brown prop roots extending into the water. In the background, a large, arid hill or mountain is visible under a clear blue sky. The water is calm, reflecting the trees and the sky.

Thank you

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A photograph of a mangrove forest with several trees in the foreground. The trees have dense green foliage and prominent, reddish-brown prop roots extending into the water. In the background, a large, hilly mountain is visible under a clear blue sky. The water is calm, reflecting the trees and the sky.

Annex slides

1. Non-market (result-based financing)

2. Types of carbon market

International
bilateral/ multilateral



Domestic
Jurisdictional

Level of implementation

What is the payment for?

Results/performance-based financing

- GCF REDD+
- Indonesia-Norway Partnership RBP
- BioCF/FCPF/CERF

Compliance carbon markets

- Paris Agreement Article 6*
- CDM transition to Article 6.4 is under discussion
- Joint Crediting Mechanism (JCM) likely to transition towards Article 6.2 mechanism

Voluntary carbon markets

There is an evolving discussion on requirements for voluntary market buyers; the nature of commitment required from the host country may vary

Domestic carbon pricing

- Cap and Trade/Emissions trading system
- Carbon tax
- Crediting mechanism

Domestic voluntary markets

e.g., Renewable energy credit (REC), voluntary market to offset carbon of domestic companies





Market opportunities/potential buyers for blue carbon

Key demand drivers for BC opportunities can be broadly grouped into two categories:

1. Private sector investor demand for Blue Carbon, including impact investors looking for carbon opportunities alongside other environmental / social benefits and corporations searching for carbon credits - specifically BC credits - to meet net zero commitments and for corporate social responsibility (CSR)

- At least a dozen major companies have made headlines this year announcing bold climate targets, including Amazon, Apple, AT&T, Facebook, Morgan Stanley, Ralph Lauren, Philip Morris, and Walmart.
- These add to the list of companies, now exceeding 1000, that have made public climate commitments and joined groups such as **Race to Zero and Climate Action 100+**.
- **ICAO has developed a compliance mechanism, CORSIA**, to limit the growth of emissions from international air travel from a baseline year of 2019. The shipping industries and port authorities of the world are investigating offsetting potential, alongside efficiency measures to reduce emissions.

2. Governments interested in BC for national accounting (including incorporation of BC in NDCs) as well as for the purposes of sustainably financing marine protected areas.

- IUCN, CI, and UNESCO's IOC work together through the **International Blue Carbon Initiative** to catalyze BC policies in Costa Rica, Ecuador, Indonesia, and the Philippines.
- These NGOs also promote BC conservation best practices by providing pilot project financing and by partnering with local institutions to execute demonstration projects.



Non-Carbon Finance

Other tools that catalyze conservation or restoration finance exist. These are critical where carbon finance (payment for emission reductions) is not adequate such as for conservation of stable blue carbon ecosystems. These include:

- **Payments for Marine Ecosystem Services (PMES)** focused on BC and BC ecosystems. PMES are not well-established, despite their enormous potential for generating badly needed funds flows for conservation, and their ability to strengthen co-management arrangements.
- The use of “**conservation credit**” which accounts for multiple ecosystem services (rather than just carbon) could be an appropriate choice for stable ecosystems
- Use of “**stacked conservation credit**” could be applied in different contexts globally and at a national level is needed. The ecosystem services can be stacked as a “conservation credit” used to value the bundle of services in a single accounting and payment unit that is not an offset.
- Issuance of ‘**blue bonds**’ to support marine conservation and restoration.

Non-market: result/performance-based financing



- Emission reductions/mitigation outcomes remain in the country
- Agency/facility providing such payments will have their own technical requirements—may follow rules already established

FCPF: East Kalimantan

- ERPA signing in November 2020
- USD 110 million in RBP
- Emission Reduction Title transfer as condition of payment
- Benefit Sharing Plan/ Implementation and the use of fund will be delivered within 6 months after receiving the first ER payment, and every year afterwards.



BioCF: Jambi

- Landscape level: cross-sectoral
- USD 70 million in results-based payments
- Pre-investment grant (\$13.5 mi) signed in December 2020
- Private sector engagement support (\$ 4 mi) approved in May 2020
- ERPA signed by Dec 2020



Green Climate Fund

- Considers emissions reductions from deforestation and forest degradation under GCF REDD+.
- USD 103.8 million for 20.3 million tCO2 emission reductions for 2014-16 period approved (peat soil excluded due to uncertain estimation and national circ.).
- Total USD 213 million across 5 projects, including geothermal resource risk mitigation project

















Indonesia-Norway RBP

- Has reported 7.4 MtCO2e/year as results for 2017 and is expected to receive payments under the partnership.
- The baseline of 278.5 MtCO2e/year covering annual average emissions for deforestation and forest degradation is used under Indonesia-Norway Partnership.



Voluntary, Compliance, and Result-based Carbon Finance

Markets/Standards

	Voluntary	Compliance  Article 6	Result based  Article 5/9
Mangrove	   		 
Tidal Marshes Seagrass	  		

*Only REDD+

**Only project based

Methods to measure and monitor (blue) carbon

Project-based for tidal wetlands

- (i) VCS REDD+ Methodology Framework (VM0007): covers REDD+ and blue carbon conservation and restoration activities in mangroves, seagrasses and salt marshes as part of broad REDD+ methodology framework.
- (ii) VCS Methodology for Tidal Wetland and Sea Grass Restoration (VM0033): applicable to projects focusing on all tidal wetland systems such as mangroves, tidal marshes and seagrass meadows.

Jurisdictional & nesting covering mangroves

Mangroves grouped into sub-national strata in which programs and projects could be implemented by different public and private implementing agencies and nested into the FREL using one of the three following jurisdictional methodologies :

- (i) FCPF Methodological Framework
- (ii) VCS Jurisdictional and Nested Requirements (VCS JNR)
- (iii) Architecture for REDD+ Transactions (ART)-The REDD+ Environmental Excellence Standard (TREES)

*VCS JNR and ART approved by ICAO CORSIA; FCPF provisionally approved

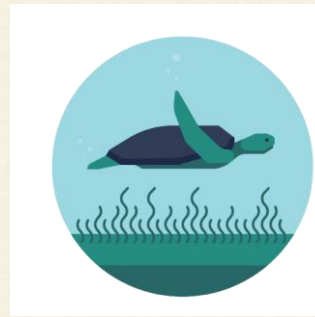
Specific gaps to address for blue carbon



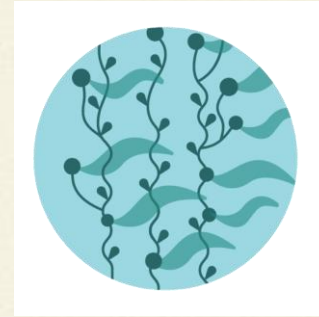
Mangroves



Salt marshes



Seagrass bed



Coastal peatlands

Eligibility for International Financing:

- Lack of robust baseline especially for below-ground carbon stock for mangroves, which determines eligibility for NDC financing
- Eligibility for finance outside the NDC is to be confirmed in UNFCCC negotiations
- Bilateral engagement to be determined under Article 6.2
- Further analytical work required on potential and regulatory requirements
- More discussion on benefit-sharing arrangements

Methodology Gaps:

- Different methodologies to monitor conservation vs. restoration
- Jurisdictional methodologies (next slide)
- Methodologies need to be adapted to Indonesian compliance requirements

Domestic Market Potential:

- Introducing ETS will allow enterprises to purchase credits from eligible mangroves and blue carbon projects
- If companies are allowed to use offsets, mangroves and blue carbon projects could potentially supply those offsets.
- A system will be needed to certify/issue offsets to eligible projects