



**Booklet of Cases** 

OCTOBER 2025



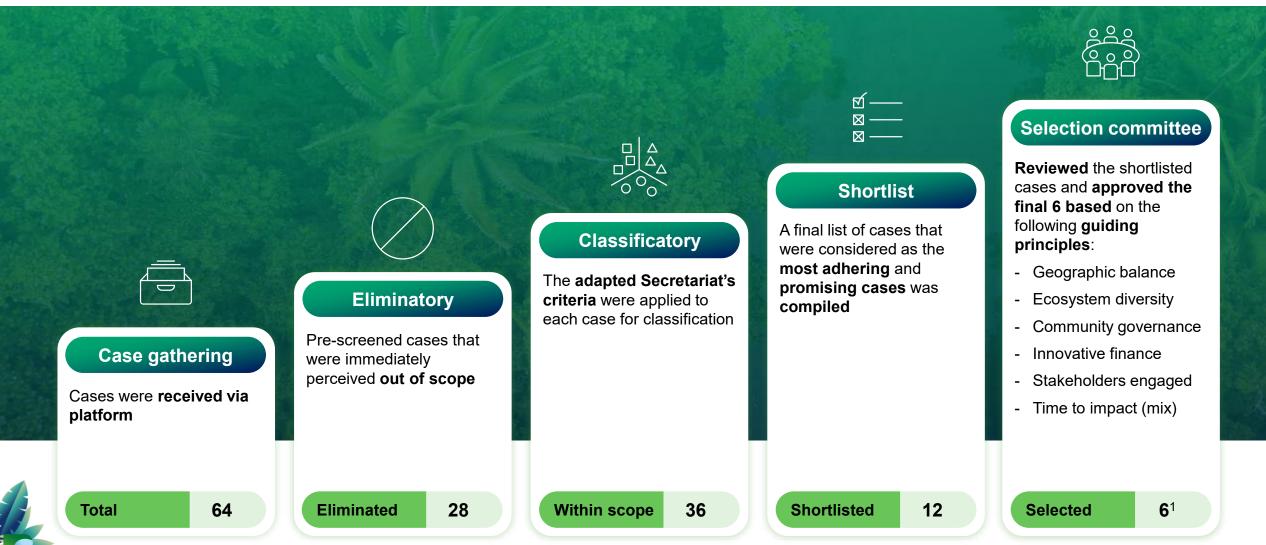






# 64 cases were received through the platform and went through a classification process, resulting in 6 shortlisted cases





### **Evaluation framework proposed by the Secretariat for case** selection





#### Scalable Emission Reduction

Contribute to emissions reductions and to achieve goals of Paris Agreement when adopted by multiple companies

Minimal or uncertain emissions

impact, with limited alignment to

Paris Agreement goals

Contributes to emissions reductions but faces scalability or impact limitations

Significantly reduces emissions and supports Paris Agreement goals when widely adopted



#### **Short-to-Medium Term Achievable**

Deliver impact within 5 years



Over 5 years to achieve impact

Up to 5 years to achieve impact

Up to 3 years to achieve impact



#### **Economic Impact**

Demonstrate returns and/or affordable implementation costs

Lacks proven financial returns, with high or unsustainable costs, making economic feasibility uncertain and requiring significant adjustments

Shows potential for returns, but they are unproven; costs are reasonable but may need optimization for sustainability

Clear and proven financial returns, with implementation costs that are both affordable and sustainable



#### **Innovative**

Close existing implementation gap, or introduce a pioneering approach

Fails to close existing implementation gaps and lacks originality, offering little to no pioneering value

Addresses some implementation gaps or incorporates innovative elements, but the approach is not entirely novel or transformative

Closes significant implementation gaps or introduces a groundbreaking, pioneering approach that sets a new standard in the field



#### Aligned with SB COP positioning

Contribute to SB COP priorities implementation

Presents arguments that contradict the priorities of the working group or fails to address any of its priorities

Addresses at least one of the working group's priorities and does not contradict them

Addresses multiple priorities of the working group and does not contradict them

# To tailor the process to NbS, the Working Group adapted some of the criteria

**1** Eliminatory



**Contextualization for NbS initiatives** 

Cases that are within the defined scope and illustrate the priorities defined by the NbS Working Group

**2** Classificatory



Cases that use of internationally recognized protocols and registries

- · Conservation/Management: shows quantified emissions reductions or avoidance
- Reforestation/Afforestation: shows quantified or expected emissions reductions



Demonstrate **solid business case** with overall **project financial results** (e.g. total investment, cost per ton, IRR)

Additional factors, such as **community benefits** and **biodiversity benefits** are also considered as key differentiators



**Short-to-Medium Term Achievable** 

- Conservation/Management: short-to-medium term achievability
- Reforestation/Afforestation: decade timeframe, with first results within 3-5 years



Demonstrate innovation in at least one aspect versus mainstream NbS projects. E.g., **novel financial arrangements for NbS funding** 





Enough data and details were submitted to enable the assessment of against the criteria



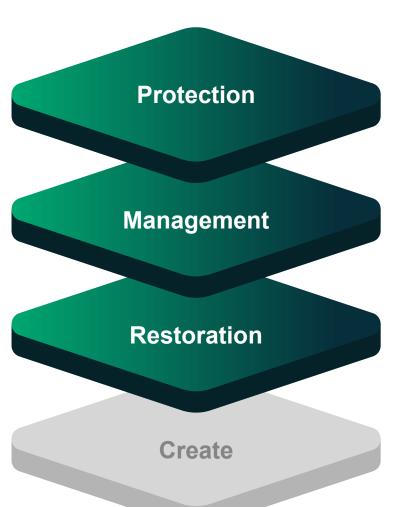
The company is willing to share data and results with the WG and potentially more broadly, later on



## Nature-based Solutions (NbS) working group scope



#### **Interventions**



#### **Habitats**





Savanna, Shrubland, Grassland and Desert

Marine, Estuaries and Intertidal





Wetland

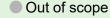
Terrestrial Agriculture





Artificial and Introduced (e.g., cities, gardens)

In scope



Note on restoration interventions: Focus of this working group is on ecological restoration, and interventions will also be considered restoration when forests previously existed on the land, regardless of how long ago degradation occurred.



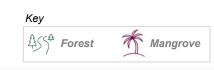


# **Portfolio of Cases**

**Awards** 



### The 6 most voted cases were selected





Ø	Cas	e name	☐ Company		Region	Reason for selection
rvation	\$55°	Improved Forest Management	Carbon Direct		Mexico	Represents a strong, scalable model rooted in <b>community governance and benefit-sharing</b> ;
Conse	\$55°	Legado das Águas	Reservas Votorantim		Brazil	Strong demonstration of <b>science-based regionalized MRV</b> , ecosystem services valuation, and a <b>mature business case</b>
	\$55°	Non-recourse project finance	Chestnut		United States	Innovative financial structuring for nature-based solutions, fully reliant on private capital; carried out in temperate zone
ration	4554	End-to-end ecological restoration business models	re.green + Biomas		Brazil	<b>End-to-end developers</b> showcasing different business models and funding approaches to deliver science-based, large-scale ecological restoration;
Restorati	4554	Miombo Restoration Alliance	Trafigura		Malawi + 3 other African countries	Africa representation, showcasing blended finance platform, multi-country coordination, and large-scale ambition
	煮	Delta Blue Carbon	PPP between Sindh Forest Department & Indus Delta Capital (Submitted by Trafigura)	C	Pakistan	Flagship blue carbon case with <b>unmatched scale of mangrove area already</b> restored and maturity



# Scaling Community Forest Management, Bioeconomies, and Carbon Removal in Mexico | Carbon Direct

## Nature-based Solutions case selection









#### Overview



#### **Case objectives**

Scale high-quality carbon removal through community-led improved forest management (IFM), channeling carbon finance into rural bioeconomies, biodiversity protection, and inclusive development



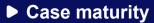
#### Institutions Involved

Carbon Direct; Ejidos Petcacab, Polinkín, Salto de Camellones, Catedral, Redondeados; Bioforestal; BRET Consultores



#### **WG Alignment**

Improved Forest Management; carbon removal; biodiversity co-benefits; community engagement





#### **Case Stage**



Mature generating stable results



#### Risk Involved

Carbon market stagnation



#### **Scalability**

Currently 5 projects covering 149,000+ ha, scaling via replication with new ejidos

#### **▶** Impact



#### **Innovative Drive**

Community-led land governance offering longterm management of natural resources and carbon outcomes that also deliver biodiversity and health co-benefits



#### **Economic Impact**

70% of carbon revenues reinvested in local priorities such as schools, water systems



#### **CO2 Impact**

40.8 million credits expected over project lifetime, with 1.7 million already issued. Verified removal credits under the Climate Action Reserve



**External Links:** https://www.carbon-direct.com/insights/the-role-of-improved-forest-management-for-carbon-dioxide-removal

## Legado das Águas | Reservas Votorantim

# Nature-based Solutions case selection









#### Overview



#### **Case objectives**

Prove that conservation, sustainable resource use, and revenue generation can coexist. Implement multiple-use land management with research, community engagement, and green economy business models



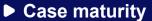
#### Institutions Involved

Legado das Águas



#### **WG Alignment**

Biodiversity, sustainable land use, green economy, community engagement





#### Case Stage



Mature generating stable results



#### Risk Involved

Market volatility for carbon credits; wildfires and climate pressures; balancing economic returns with long-term conservation goals



#### Scalability

31,000 ha protected (75% advanced conservation). Model replicated across biomes with potential for expansion with 43 scientific projects developed in the area

#### **▶** Impact



#### **Innovative Drive**

Biome-specific carbon methodology (PSA Carbonflor) issuing credits that integrate biodiversity and social safeguards. Multi-use land management combining restoration, conservation, and business models



#### **Economic Impact**

Activities are financed under an impact × return × investment matrix, where more profitable activities offset less profitable ones to ensure balance and long-term sustainability



#### **CO2 Impact**

Expected 1.7M credits over 100 years. 93,000 C+ credits already issued



External Links: https://www.reservasvotorantim.com.br/legado-das-aguas/

### Non-recourse Project Finance Credit Facility for NbS | Chestnut Carbon

# Nature-based Solutions case selection









#### Overview



#### **Case objectives**

Structure the first non-recourse project finance deal applied to a nature-based solution, enabling afforestation activities in the U.S. under a 25-year offtake contract with Microsoft to purchase carbon removal credits



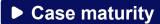
#### Institutions Involved

Chestnut Carbon; Microsoft; JP Morgan; CoBank; Bank of Montreal; East West Bank; ERM; Marsh; McDermott Will & Emery; Milbank



#### **WG Alignment**

Carbon markets; blended finance; corporate offtake





#### **Case Stage**





#### Risk Involved

Climate/environmental risk: market demand risk



#### **Scalability**

\$210M non-recourse facility to acquire land and implement ~25,000 hectares across 8–9 U.S. states in ~75 parcels

#### **▶** Impact



#### **Innovative Drive**

First non-recourse project finance applied to NbS, fully reliant on private sector capital and demonstrating market-driven restoration



#### **Economic Impact**

Unlocks \$210M private capital for afforestation, enabling long-term credit issuance under Gold Standard



#### **CO2 Impact**

Projected removal of 7.4 MtCO<sub>2</sub>e over 25 years from afforestation projects, with credit issuance expected starting in 2029



External Links: https://www.prnewswire.com/news-releases/chestnut-carbon-inks-deal-with-microsoft-for-groundbreaking-new-carbon-removal-project-302363922.html

## End-to-end Ecological Restoration Business Models | re.green + Biomas

## Nature-based Solutions case selection









#### Overview



#### **Case objectives**

re.green and Biomas operate as end-to-end players in Brazil's carbon removal sector. Both integrate land access, project development, restoration implementation, and carbon certification, but pursue distinct pathways to achieve scale. Together, they illustrate complementary pathways to make large-scale restoration investable and replicable



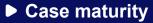
#### Institutions Involved

re.green; Biomas; IFC; S&P Global



#### **WG Alignment**

Carbon markets; restoration; MRV; corporate demand; blended finance





#### **Case Stage**



Under implementation



#### Risk Involved

Investor appetite; carbon market volatility; land acquisition risks; regulatory uncertainty; restoration operational risks



#### **Scalability**

Models under implementation with potential to scale to millions of hectares: re.green (~38.4k ha to be restored) and Biomas (~2M ha to be restored)

#### **▶** Impact



#### **Innovative Drive**

Two complementary models: Biomas with corporate governance and capital structuring, and re.green integrating carbon and timber revenues to enable projects



#### **Economic Impact**

Mobilizes investment, generates rural jobs, and supports restoration supply chains



#### **CO2 Impact**

Biomas: ~500k tCO<sub>2</sub> expected re.green: ~7.4M tCO<sub>2</sub> expected



**External Links:** https://re.green/en/; https://www.biomas.com/mucununga

## Miombo Restoration Alliance | Trafigura

# Nature-based Solutions case selection









#### Overview



#### **Case objectives**

Multi-country alliance across 11 African nations to restore the Miombo woodlands through blended finance. Projects structured to deliver Article 6-compliant carbon credits, with ~420,000 ha of planned restoration and ~500,000 ha of voluntary conservation. Alliance integrates corporate-backed governance, technical assurance, and transparent community payments



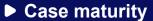
#### Institutions Involved

Trafigura, IFC, ICCF Group, Conservation International, Carbon Direct, Terraspect, ministries of Zambia, Malawi, Mozambique; Others



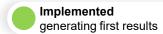
#### **WG Alignment**

Carbon markets; Article 6; blended finance; community engagement





#### **Case Stage**





#### Risk Involved

Nursery supply chains; seedling survival; droughts/natural disasters; Article 6 policy delays; project execution



#### Scalability

Scalable across 11 African states. First pilots cover 420,000 ha restoration and 500,000 ha of planned voluntary conservation (no carbon crediting)

#### **▶** Impact



#### **Innovative Drive**

First multi-country, Article 6-aligned restoration framework. Incorporates mobile community payment systems (Terraspect) and corporate-backed governance anchored by Trafigura as offtaker



#### **Economic Impact**

Sustained through blended finance and long-term carbon offtakes, with revenues from Article 6 carbon credits and agroforestry income shared with local communities



#### **CO2 Impact**

40 MtCO<sub>2</sub> expected removals over 20 years across projects, verified under Verra VM0047 with CCB and ABACUS co-benefit standards



**External Links:** https://www.trafigura.com/news-and-insights/press-releases/2024/pan-africa-miombo-initiative-welcomes-expert-partners-to-drive-native-species-restoration-at-scale-for-article-6/

### Delta Blue Carbon | Trafigura & Indus Delta Capital

# Nature-based Solutions case selection









#### Overview



#### **Case objectives**

Restore over 225,000 hectares of mangroves in Pakistan's Indus Delta through a public—private partnership. Combine large-scale ecological restoration with climate mitigation, biodiversity enhancement, and community development. Ensure Article 6 alignment and generate high-integrity blue carbon credits to support long-term resilience



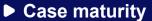
#### Institutions Involved

Sindh Forest Department; Indus Delta Capital; Trafigura; Microsoft; Carbon Growth Partners; Silvestrum Climate Associates; Inverto Earth



#### **WG Alignment**

Carbon markets; MRV; Article 6 alignment; community engagement





#### **Case Stage**



Mature generating stable results



#### Risk Involved

Severe cyclones and coastal erosion; sea-level rise and salinity intrusion; reduced freshwater flows; policy or governance changes



#### Scalability

Largest mangrove restoration project globally. Public–private structure with government support and international buyers makes the model replicable

#### **▶** Impact



#### **Innovative Drive**

First-of-its-kind at this scale, combining PPP with international buyers, Tier-3 digital MRV, and direct community engagement and advancing and refining Verra's VM0033 mangrove methodology



#### **Economic Impact**

Strengthens local livelihoods through community revenue-sharing (60% private, 40% government reinvested in social programs), generates rural jobs, and supports long-term economic inclusion



#### **CO2 Impact**

~142 million tCO<sub>2</sub> expected over 60 years; ~5.4 million tCO<sub>2</sub> already removed to date



**External Links:** https://www.trafigura.com/press/trafigura-carbon-of-take-delta-blue-carbon



**Portfolio of Cases** 



# List of cases for the Nature-based Solutions Working Group



(1/3)

Activity type	Habitat	Value chain position	Region	Company	Case name
Protection	Forest	Supply	South America	Petrobras	Transforming Biomes and Communities for a Sustainable Future: Petrobras Forest Initiative
				Suzano S.A.	Connecting Half a Million Hectares of Priority Areas for Biodiversity Conservation in the Amazon, Cerrado and Atlantic Forest
				Vale - Fundo Vale	Vale Forest Goal 2030
				Institution Natura	Circular Carbon – RECA
		Trading & Measurement	South America	Sylvera	Multi-scale Lidar Carbon Quantification for Enhanced JREDD Verification in the Brazilian Jurisdiction of Acre
	Savanna, Shrubland, Grassland and Desert	Supply	South America	Reservas Votorantim	Legado Verdes do Cerrado (LVC)
	Wetland		Asia / Oceania	PT Mohairson Pawan Khatulistiwa	Mayas Project
Management	Forest	Supply	South America	Agrocortex	Agrocortex Nature-Based Business Case for the Amazon



# **List of cases for the Nature-based Solutions Working Group** (2/3)



Activity type	Habitat	Value chain position	Region	Company	Case name
Restoration	Forest	Supply	South America	Vale	Floresta Viva
Restoration				Acelen Renewables	180k ha recovery of degraded land through Macauba cultivation to develop sustainable low-carbon solutions for transportation (SAF/HVO) and others
				Santander	Scale finance to restore Brazil's native forests
			Asia / Oceania	CESC Limited	Miyawaki Forestation – Carbon Sequestration in Industrial Landscapes
		Trading & Measurement	South America	3-4 Cities	Online Platform for Carbon Offsetting in Civil Construction
				Carbon Free Brasil	Carbon Free Brasil: Technology-Driven Emissions Management with Scalable Climate Results
			Global	Instituto Tecnológico Vale	Towards No Net Loss and Nature Positive: A Scalable Method to Quantify Biodiversity Impacts in Tropical Landscapes
		Demand	South America	Solvay	Carbon Neutral Portfolio through Carbon Emission Reduction and Offset of Remaining Emissions
			Global	CarbonClick	One Click for Climate: Scalable Offsetting for Global Impact
				Google	Nature-based Solutions
		Financing instruments	Global	Terrasos	Habitat Banks Driving Private Sector Investment in Nature-based Solutions

# **List of cases for the Nature-based Solutions Working Group** (3/3)



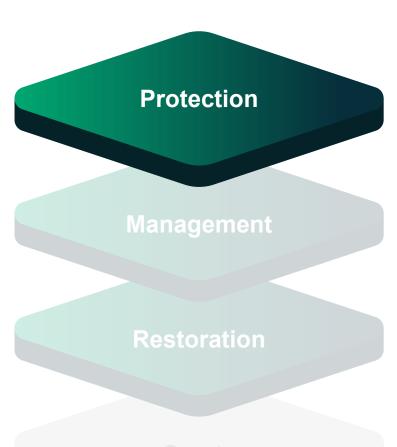
Activity type	Habitat	Value chain position	Region	Company	Case name
Restoration	Forest	Financing instruments	South America	Latimpacto	Green Catalytic Fund
120				Columbia University	Case Studies on Blended Finance and Sustainable Investing in Brazil
				IWA Gestão de Recursos Ltda	Environmental Compensations Credit Fund
	Marine, Estuaries and Intertidal	Supply	South America	Nosso Mangue	Carbono Azul
		Trading & Measurement	South America	OceanPact Maritime Services	MangueLab
	Wetland	Supply	Europe	Laflora	Extracted Kaigu peatland restoration process for implementation of paludiculture and carbon certification



## Nature-based Solutions (NbS) working group scope



#### **Interventions**



#### **Habitats**





Marine, Estuaries and Intertidal





Wetland

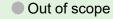
Terrestrial Agriculture





Artificial and Introduced (e.g., cities, gardens)

In scope



Note on restoration interventions: Focus of this working group is on ecological restoration, and interventions will also be considered restoration when forests previously existed on the land, regardless of how long ago degradation occurred.



# Transforming Biomes and Communities for a Sustainable Future: Petrobras Forest Initiative | Petrobras

# Nature-based Solutions case selection









#### Overview



#### **Case objectives**

The Forest Initiative is a voluntary investment program carried out in partnership with NGOs, which directly addresses the global challenge of reducing social inequalities and combating climate change



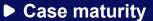
#### Institutions Involved

Petrobras; Ecoporé; AGEVAP; AS-PTA; Associação Caatinga; Associação Mata Ciliar; and multiple other NGOs and local organizations



#### **WG Alignment**

Blended finance; biodiversity protection





#### **Case Stage**



Mature generating stable results



#### Risk Involved

Climate change and extreme events; low community participation; land tenure insecurity; land-use conflicts



#### Scalability

The replication of the project model by various companies has the potential to generate a significant positive impact on avoided emissions

#### **▶** Impact



#### **Innovative Drive**

The Program drives innovation by supporting the development of social technologies, combining traditional knowledge, sustainable practices, income generation, and replicable solutions



#### **Economic Impact**

Mobilizes catalytic capital for NbS, strengthening local green economies and de-risking early-stage solutions



#### **CO2 Impact**

3 million tons of CO2 is the potential for net removal and avoided emissions from the ongoing projects in the year 2024



External Links: https://sustentabilidade.petrobras.com.br/en-US/#

# Connecting Half a Million Hectares of Priority Areas for Biodiversity Conservation in the Amazon, Cerrado and Atlantic Forest | Suzano S.A.

## Nature-based Solutions case selection









#### Overview



#### **Case objectives**

Suzano has committed to connecting 500,000 hectares of priority conservation fragments by 2030, addressing biodiversity loss while promoting large-scale ecological restoration



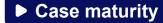
#### Institutions Involved

Suzano S.A.



#### **WG Alignment**

Biodiversity conservation





#### **Case Stage**



Under implementation



#### Risk Involved

Engagement of third-party landowners; deforestation pressures; fire risks in targeted biomes



#### **Scalability**

The project spans across three major Brazilian biomes and extends beyond Suzano's own lands. It creates a replicable model of corporate—community partnership for biodiversity corridors

#### **▶** Impact



#### **Innovative Drive**

Supported 56 families in seed collection and processing, lifting 116 people out of poverty, and contracted 30 indigenous families for restoration in the Atlantic Forest. It has also generated income for community suppliers through the acquisition of native seeds



#### **Economic Impact**

To date, 42,226 seedlings have been planted across 50 hectares. The project is expected to scale removals significantly as restoration advances



#### **CO2 Impact**

The corridors promotes the growth of native vegetation, which remove carbon from the atmosphere



**External Links:** https://centraldesustentabilidade.suzano.com.br/sustentabilidade-na-suzano/compromissos-para-renovar-a-vida/conservar-a-biodiversidade/

### Vale Forest Goal 2030 | Vale – Fundo Vale

# Nature-based Solutions case selection









#### Overview



#### **Case objectives**

Restore and protect 500,000 hectares by 2030: 100,000 ha through productive restoration systems and 400,000 ha via conservation units and REDD+ projects, to maximize climate, biodiversity, and social impact



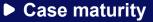
#### Institutions Involved

Vale; Fundo Vale; Reserva Natural Vale; Instituto Tecnológico Vale



#### **WG Alignment**

Forest restoration; conservation





#### **Case Stage**



Under implementation



#### Risk Involved

Ecological failure; low community engagement; funding gaps; regulatory changes; carbon monitoring and conservation partnerships challenges



#### Scalability

Initiative blends corporate finance and community partnerships, replicable across biomes. Combines agroforestry, silvopastoral systems, and conservation to scale restoration

#### **▶** Impact



#### **Innovative Drive**

Applies productive restoration models that regenerate soil and generate income. Combines REDD+, impact businesses, and innovative blended finance tools to expand NbS investments and accelerate forest recovery



#### **Economic Impact**

Leverages blended finance and catalytic capital. Supports forest startups, ESG integration, and job creation, while building long-term financial sustainability through carbon markets



#### **CO2 Impact**

REDD+ projects generated 866,485 verified carbon units



External Links: https://vale.com/documents/44618/429697/Relato+Integrado+Vale+2024.pdf

## Circular Carbon – RECA | Institution Natura

# Nature-based Solutions case selection









#### Overview



#### **Case objectives**

Strengthen communities and reduce deforestation by combining payments for ecosystem services (PES), avoided emissions, and cooperative management to support sustainable livelihoods



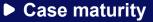
#### Institutions Involved

Natura; RECA Cooperative; WayCarbon; IMAFLORA; IDESAM



#### **WG Alignment**

Forest conservation; community inclusion





#### **Case Stage**



Mature generating stable results



#### Risk Involved

Land tenure conflicts; wildfires; market volatility for carbon credits; low community engagement; regulatory changes



#### **Scalability**

The RECA model demonstrates potential for replication in other cooperatives and regions, linking PES and carbon credits with sociobiodiversity supply chains

#### **▶** Impact



#### **Innovative Drive**

Pioneers a circular insetting approach where companies directly fund PES and forest conservation inside their value chain. Integrates verified carbon methodologies with cooperative governance and smallholder inclusion



#### **Economic Impact**

Generated direct and indirect financial benefits for smallholders, improving household income stability and cooperative funds, while strengthening Natura's insetting strategy



#### **CO2 Impact**

~497k tCO<sub>2</sub> avoided in 10 yrs via REDD+, with PES incentives securing lasting conservation



External Links: https://2024ar.naturaeco.report/documents/11/Annual\_Integrated\_Report\_Natura\_Co\_2024\_vf.pdf

# Multi-scale Lidar Carbon Quantification for Enhanced JREDD Verification in the Brazilian Jurisdiction of Acre | Sylvera

# Nature-based Solutions case selection









#### Overview



#### **Case objectives**

Partner with the State of Acre to conduct a jurisdictional lidar campaign, improving forest carbon estimates and strengthening Acre's JREDD readiness to access climate finance



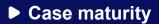
#### Institutions Involved

Sylvera; Government of Acre



#### **WG Alignment**

High-integrity MRV





#### **Case Stage**



Under implementation



#### Risk Involved

Not disclosed



#### **Scalability**

The approach enables carbon monitoring using Lidar and remote sensing, unlocking emissions reductions and climate finance aligned with the Paris Agreement





#### **Innovative Drive**

First state-wide use of multi-scale lidar for forest carbon accounting. Peer-reviewed method reduces conventional estimate errors by up to 2.2×, unlocking more credible credits and investment



#### **Economic Impact**

Strengthens Acre's capacity to attract highintegrity carbon finance, improving investor confidence and supporting local green economies



#### **CO2 Impact**

Lidar shows 1.5–2.2× errors in estimates, helping Acre avoid  $CO_2e$  miscounts and boost JREDD integrity

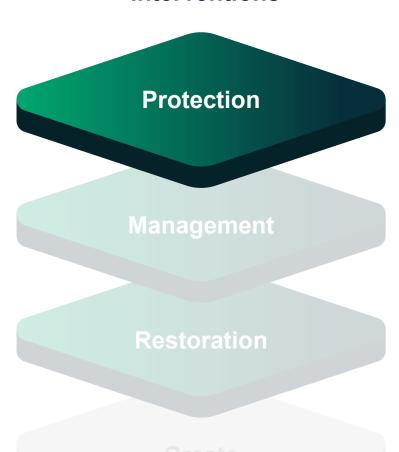


External Links: https://www.nature.com/articles/s43247-024-01448-x

## Nature-based Solutions (NbS) working group scope



#### **Interventions**



#### **Habitats**





Marine, Estuaries and Intertidal





Wetland

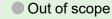
Terrestrial Agriculture





Artificial and Introduced (e.g., cities, gardens)

In scope



Note on restoration interventions: Focus of this working group is on ecological restoration, and interventions will also be considered restoration when forests previously existed on the land, regardless of how long ago degradation occurred.



### Legado Verdes do Cerrado | Reservas Votorantim

# Nature-based Solutions case selection









#### Overview



#### **Case objectives**

Conserve 32,000 ha of Cerrado (Brazillian savannah) through an integrated model combining biodiversity protection, restoration, sustainable business, and community engagement. Area owned by CBA and managed by Reservas Votorantim



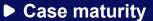
#### Institutions Involved

Companhia Brasileira de Alumínio (CBA); Reservas Votorantim; Ecosystem Regeneration Associates (ERA); ECCON Soluções Ambientais



#### **WG Alignment**

Forest conservation; REDD+





#### **Case Stage**



Mature generating stable results



#### Risk Involved

Not disclosed



#### Scalability

The RPDS model (Private Sustainable Development Reserve) is replicable for other biomes, integrating conservation, ecological restoration, and carbon markets

#### **▶** Impact



#### **Innovative Drive**

Pioneering REDD+ project in the Brazilian savannah, generating verified carbon credits; integration of biodiversity monitoring, community education, ecotourism, and agroforestry in a single management model



#### **Economic Impact**

Generates sustainable business opportunities (ecotourism, native plant production, carbon credits), driving local jobs, co-ops, and scientific partnerships while adding ESG value to CBA



#### **CO2 Impact**

Certified REDD+ project with 316,000 credits issued in the first batch (2017–2021) and a capacity of ~50,000 credits/year

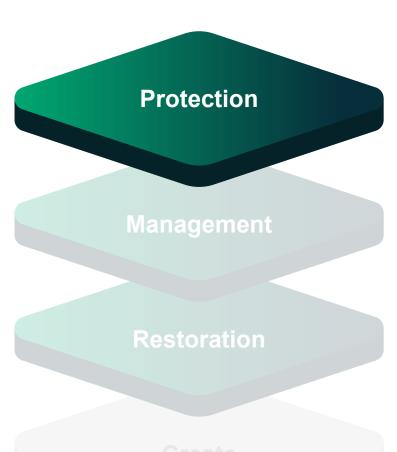


External Links: https://www.legadoverdesdocerrado.com.br/

## Nature-based Solutions (NbS) working group scope



#### **Interventions**



#### **Habitats**





Marine, Estuaries and Intertidal





Wetland

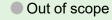
Terrestrial Agriculture





Artificial and Introduced (e.g., cities, gardens)

In scope



Note on restoration interventions: Focus of this working group is on ecological restoration, and interventions will also be considered restoration when forests previously existed on the land, regardless of how long ago degradation occurred.



### Mayas Project | PT Mohairson Pawan Khatulistiwa

# Nature-based Solutions case selection









#### Overview



#### **Case objectives**

Protect 33,747 ha of peat forest in Ketapang to reduce emissions, safeguard biodiversity (including 1,200+ orangutans), and generate cobenefits for local communities under Indonesia's carbon regulations



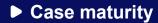
#### Institutions Involved

PT Mohairson Pawan Khatulistiwa; PT Inti Alam Raharja; Yayasan Inisiasi Alam Rehabilitasi Indonesia; Karbon Natura Indonesia



#### **WG Alignment**

Land protection; biodiversity conservation; community engagement





#### **Case Stage**



Under implementation



#### Risk Involved

Anthropogenic fire risk linked to El Niño; regulatory uncertainty



#### Scalability

Applies a non-extractive land use model in peatlands, aligning climate mitigation, biodiversity protection, and social benefits under verified REDD+ frameworks

#### **▶** Impact



#### **Innovative Drive**

Applies a non-extractive land use model in peatlands, aligning climate mitigation, biodiversity protection, and social benefits under verified REDD+ frameworks



#### **Economic Impact**

The project concept is economically viable providing returns aligned with sectoral norms while providing corresponding revenues to the state and economic benefit to local communities



#### **CO2 Impact**

Between 2019 and 2023, the project avoided ~12.3M tCO<sub>2</sub>e. Over its lifetime, it is expected to avoid more than 81M tCO<sub>2</sub>e

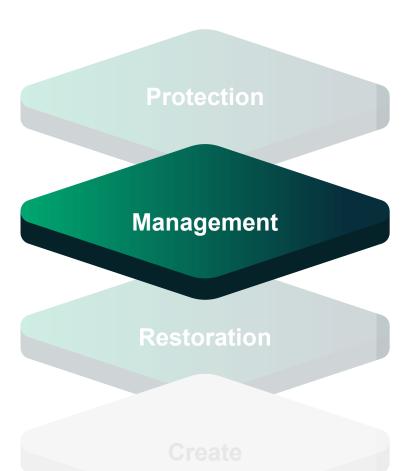


External Links: Not disclosed

## Nature-based Solutions (NbS) working group scope



#### **Interventions**



#### **Habitats**





Marine, Estuaries and Intertidal





Wetland

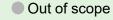
Terrestrial Agriculture





Artificial and Introduced (e.g., cities, gardens)

In scope



Note on restoration interventions: Focus of this working group is on ecological restoration, and interventions will also be considered restoration when forests previously existed on the land, regardless of how long ago degradation occurred.

## **Agrocortex Nature-Based Business Case for the Amazon | Agrocortex**

# Nature-based Solutions case selection









#### Overview



#### **Case objectives**

Manage 186,000 hectares of tropical forest in Acre and Amazonas through FSC®-certified sustainable timber operations and a verified REDD+ project. The initiative aims to protect carbon stocks, conserve biodiversity, and generate socioeconomic benefits for local communities



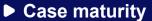
#### Institutions Involved

xAgrocortex Florestas do Brasil S.A..; Forest Stewardship Council (FSC®); VERRA (VCS and SOCIALCARBON®); IBAMA (regulatory authority)



#### **WG Alignment**

REDD+; carbon markets; biodiversity conservation





#### **Case Stage**



Mature generating stable results



#### Risk Involved

Illegal encroachment and deforestation pressures from neighboring areas; regulatory instability in Brazil's forest and environmental sector; market fluctuations impacting timber and carbon revenues



#### Scalability

The integrated REDD+ model is replicable in other tropical regions. It demonstrates how timber production combined with carbon crediting and community inclusion can preserve forests

#### **▶** Impact



#### **Innovative Drive**

First large-scale Amazon project combining FSC®-certified forest management, VCS-verified REDD+ credits, and SOCIALCARBON® social indicators in a single model



#### **Economic Impact**

Generated over 600 direct and 3,000 indirect jobs and injected millions into the regional economy



#### **CO2 Impact**

Over 4.3 million tCO<sub>2</sub>e avoided between 2014 and 2024 through conservation and REDD+ credits

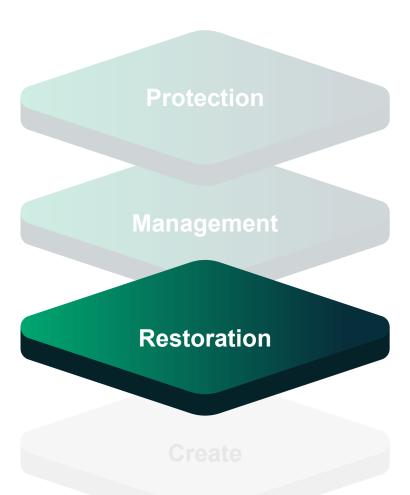


External Links: http://www.agrocortex.com/

## Nature-based Solutions (NbS) working group scope



#### **Interventions**



#### **Habitats**



Marine, Estuaries and Intertidal





Wetland

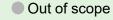
Terrestrial Agriculture





Artificial and Introduced (e.g., cities, gardens)

In scope



Note on restoration interventions: Focus of this working group is on ecological restoration, and interventions will also be considered restoration when forests previously existed on the land, regardless of how long ago degradation occurred.

### Floresta Viva | Vale

# Nature-based Solutions case selection









#### Overview



#### **Case objectives**

Implement biological and productive restoration projects in the Amazon, enhancing ecosystem services, CO<sub>2</sub> removal, income generation, and local job creation



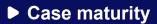
#### Institutions Involved

Vale; BNDES (Brazilian Development Bank); Funbio; Energisa; Fundo Vale; Norte Energia



#### **WG Alignment**

Forest restoration; biodiversity; carbon credits; public–private partnerships





#### **Case Stage**



Under implementation



#### Risk Involved

Institutional capacity gaps; land regularization issues; high deforestation pressure; limited incentives for restoration



#### Scalability

Floresta Viva uses a blended model (public and private co-financing) that can be replicated in other regions

#### Impact



#### **Innovative Drive**

Blends biological and productive restoration, integrating community nurseries, training, and biodiversity management. Its governance involves private sector and public banks, aligning restoration with national policies



#### **Economic Impact**

Match-funding from BNDES and private sector partners reduces risks, supports forest value chains, and channels investments into restoration models



#### **CO2 Impact**

The first 700 ha under restoration are being evaluated for high-integrity carbon credits



**External Links:** https://www.bndes.gov.br/wps/portal/site/home/desenvolvimento-sustentavel/parcerias/floresta-viva; https://chamadas.funbio.org.br/floresta-viva-restauracao-bacia-do-rio-xingu

# 180k ha recovery of degraded land through Macaúba cultivation to develop sustainable low-carbon solutions for transportation | Acelen Renewables

# Nature-based Solutions case selection









#### Overview



#### **Case objectives**

Transform degraded land into productive landscapes by cultivating Macauba, producing sustainable aviation fuel (SAF), renewable diesel (HVO), and co-products, while delivering carbon capture and socio-economic benefits



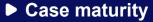
#### Institutions Involved

Acelen Renewables



#### **WG Alignment**

Large-scale forest restoration; community engagement





#### **Case Stage**



Under implementation



#### Risk Involved

Policy and regulatory instability for clean fuels, generating lack of demand for clean fuels



#### **Scalability**

Plans to recover 180,000 ha with Macaúba, combining commercial farms and smallholder partnerships. The model is designed for replication in other degraded lands across Brazil

#### **▶** Impact



#### **Innovative Drive**

Leverages agritech and R&D to fully utilize Macauba fruit for oil and co-products. Establishes an "Agripark" for R&D, seedling production, and partnerships, integrating sustainable agriculture with advanced biofuel production



#### **Economic Impact**

Strengthens rural economies with inclusive production chains, job creation, and ESG alignment



#### **CO2 Impact**

Potential capture of over 60 MtCO<sub>2</sub> with Macauba cultivation. SAF/HVO emissions reduction potential of 70–80% vs fossil fuels



External Links: https://www.acelenrenovaveis.com.br/

### Scale finance to restore Brazil's native forests | Santander

# Nature-based Solutions case selection









#### Overview



#### **Case objectives**

Position the financial sector as a key enabler of large-scale forest restoration. Through participation as an anchor stakeholder in Biomas, Santander mobilizes climate finance and strengthens the restoration economy by combining capital, governance, and long-term engagement with restoration partners



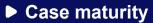
#### Institutions Involved

Santander



#### **WG Alignment**

Carbon markets; blended finance; large scale restoration





#### **Case Stage**



Under implementation



#### Risk Involved

Not disclosed



#### **Scalability**

Designed to restore 4 million hectares and remove up to 900 million tCO<sub>2</sub>e in 20 years. Santander's participation signals that private banks can anchor blended finance solutions

#### **▶** Impact



#### **Innovative Drive**

Pioneers large-scale restoration with native species, premium carbon credits, and blended finance tools. It combines investment and ecosystem-building to scale impact efficiently



#### **Economic Impact**

Studies of restoration projects in Brazil demonstrate positive financial returns, with Biomas combining carbon credit revenues and land value gains



#### **CO2 Impact**

Muçununga pilot expects ~500k tCO<sub>2</sub>e removals over 40 years. The broader portfolio targets up to 900 million tCO<sub>2</sub>e removals



**External Links:** Home; Santander ramps up deforestation initiatives in fight against climate change; Annual Report ENG 2024; https://exame.com/bussola/parceria-projeta-restaurar-1200-hectares-de-mata-atlantica/

# Miyawaki Forestation – Carbon Sequestration in Industrial Landscapes | CESC Limited

## Nature-based Solutions case selection









#### Overview



#### **Case objectives**

Convert unused industrial land into dense, biodiverse native forests using the Miyawaki method to boost CO<sub>2</sub> sequestration, restore ecosystems, and create long-term climate and biodiversity benefits



#### Institutions Involved

**CESC Limited** 



#### **WG Alignment**

Forest restoration; low-cost implementation

#### Case maturity



#### **Case Stage**



Mature generating stable results



#### Risk Involved

Climatic variations; sapling survival rates; invasive species; community engagement challenges



#### **Scalability**

Replicable across multiple industries and industrial sites, providing a low-cost and fast-growing forest model with measurable carbon and biodiversity impacts

#### **▶** Impact



#### **Innovative Drive**

Adopts the Miyawaki method in industrial landscapes, creating dense native forests within 3 years. Demonstrates how corporates can shift from compliance-driven planting to biodiversity as strategy



#### **Economic Impact**

Self-funded by CESC Limited; cost-effective, minimal maintenance after 1 year, long-term ecological and financial returns



#### **CO2 Impact**

Sequestration of over 560 metric tons of CO<sub>2</sub>. Improves soil organic carbon and creates microhabitats



**External Links:** https://www.cesc.co.in/storage/uploads/sustainability/ESG%20Report%202023-24.pdf

### Online Platform for Carbon Offsetting in Civil Construction | 3-4 Cities

# Nature-based Solutions case selection









#### Overview



#### **Case objectives**

Create a national platform that integrates carbon offsetting into the civil construction sector. The system links building permits and technical documents to a mandatory compensation fee, calculated by square meter and typology, funding reforestation and NbS



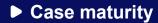
#### Institutions Involved

3-4 Cities; REDE REGENERA



#### **WG Alignment**

Regulatory frameworks, governance alignment





#### **Case Stage**

Under planning



#### Risk Involved

Resistance from public agencies; low adoption by construction companies; integration challenges with municipal systems; budget constraints



#### **Scalability**

Designed to scale nationally by linking municipal and federal construction permitting systems, with potential expansion to international markets.

#### **▶** Impact



#### **Innovative Drive**

Uses blockchain for transparency and traceability. Integrates regulatory compliance, financial self-sustainability, and NbS financing in one mechanism



#### **Economic Impact**

Creates a self-sustaining model that funds NbS and strengthens urban climate governance



#### **CO2 Impact**

Estimated offset potential of up to 8 tons CO<sub>2</sub> per project in pilot phase



**External Links:** https://brasilparticipativo.presidencia.gov.br/processes/planoclima/f/85/proposals/18111

# Carbon Free Brasil: Technology-Driven Emissions Management with Scalable Climate Results | Carbon Free Brasil

## Nature-based Solutions case selection









### Overview



### **Case objectives**

Provide companies with a scalable, tech-based solution to measure, reduce, and offset GHG emissions with verified climate and social impact



### Institutions Involved

Carbon Free Brasil; Renault; Grupo Barigui



### **WG Alignment**

Voluntary carbon markets, emissions reduction pathways; digital MRV





### **Case Stage**



Mature generating stable results



### Risk Involved

Low data quality; limited staff engagement; infrastructure gaps; offset delays; dependency on OEM engagement



### **Scalability**

Adopted across 81 Renault dealerships and expanding to other dealership groups.
Standardized onboarding enable rapid replication across automotive retail and beyond

### **▶** Impact



### **Innovative Drive**

Proprietary platform automates GHG inventories, connects clients to certified offsets, and integrates an environmental cashback model funding native forest restoration



### **Economic Impact**

Self-funded by dealerships; low-cost model; it enhances brand value, and reduces regulatory risk, creating ROI through reputation, market positioning, and client retention



### **CO2 Impact**

Over 1,200 tCO<sub>2</sub>e offset annually through certified credits (Verra). ~120 tCO<sub>2</sub>e/year avoided via efficiency measures



**External Links:** https://docs.google.com/presentation/d/1FZ2zaoY881PqnXwbQnfRPYqyoJnobA87jqUb8zzSe1M/edit

# Towards No Net Loss and Nature Positive: A Scalable Method to Quantify Biodiversity Impacts in Tropical Landscapes | Instituto Tecnológico Vale

## Nature-based Solutions case selection













### **Case objectives**

Introduce a robust and scalable methodology to measure biodiversity losses and gains in tropical landscapes impacted by mining project



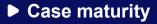
### Institutions Involved

Instituto Tecnológico Vale; Vale S.A.



### **WG Alignment**

Biodiversity accounting; science-based metrics





### **Case Stage**



Under implementation



#### Risk Involved

Ecological uncertainties; limited availability of reliable data; operational complexity



### **Scalability**

The Biotic Value framework is modular and adaptable, designed for application across sectors, biomes, and geographies where ecological data is available

### **▶** Impact



### **Innovative Drive**

Develops the Biotic Value indicator, integrating ecological data (area, importance, biodiversity complexity) into a standardized, comparable metric. Bridges academic science with corporate practice in impact management



### **Economic Impact**

Supports ESG performance, permitting processes, and compliance. Helps reduce long-term environmental liabilities and optimize restoration targeting, creating cost savings



### **CO2 Impact**

While focused on biodiversity, the methodology indirectly supports restoration in degraded areas, enabling carbon sequestration co-benefits



External Links: https://www.sciencedirect.com/science/article/pii/S0959652624004062

# Carbon Neutral Portfolio through Carbon Emission Reduction and Offset of Remaining Emissions | Solvay

## Nature-based Solutions case selection









### Overview



### **Case objectives**

Achieve a carbon-neutral product portfolio with up to 93% of cradle-to-gate Product Carbon Footprint (PCF) reduction through efficiency, renewable energy, and abatement projects, and offsetting remaining emissions with high-quality NbS credits from reforestation



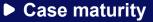
### Institutions Involved

Solvay; Office National des Forêts (ONF Brasil)



### **WG Alignment**

Carbon markets, high-integrity offsets





### **Case Stage**





### Risk Involved

Not disclosed



### **Scalability**

Model replicable by corporations, uniting emissions cuts, verified Product Carbon Footprint, and NbS offsets, scaling to carbon-neutral portfolio within 1–2 years

### **▶** Impact



### **Innovative Drive**

Combines large-scale PCF reductions with rigorous third-party verification of Product Carbon Footprint (PCF) and selective NbS offsets. Out of 11,000+ projects screened, only one reforestation project (Fazenda São Nicolau) was chosen through strict audits, setting a benchmark in transparency and quality



### **Economic Impact**

Portfolio demonstrates commercial viability of NbS project due diligence



### **CO2 Impact**

The reforestation NbS project captures and stores carbon while restoring ecosystems



**External Links:** https://www.solvay.com/en/sustainability/carbon-neutral-products

### One Click for Climate: Scalable Offsetting for Global Impact | CarbonClick

# Nature-based Solutions case selection









### Overview



### **Case objectives**

Make carbon offsetting simple, trusted, and impactful by enabling businesses and individuals to support high-quality NbS projects at scale



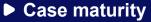
### Institutions Involved

CarbonClick



### **WG Alignment**

High-integrity offsets; voluntary carbon markets





### **Case Stage**



Mature generating stable results



### Risk Involved

Low customer uptake; perceptions of greenwashing; regulatory shifts; technical integration delays; offset project underperformance



### **Scalability**

Scalable across industries with plug-and-play API, widget, and SaaS model. When broadly adopted, can channel millions of tonnes of CO<sub>2</sub>e reductions while supporting ESG targets

### **▶** Impact



### **Innovative Drive**

Simplifies climate action with one-click offsetting, pre-vetted NbS projects, and full traceability via a 7-Point Impact Check. Modular tech and rapid onboarding make it easy for enterprises to deploy offset programs



### **Economic Impact**

Boosts customer retention and provides companies with a low-cost, fast ROI to meet ESG commitments



### **CO2 Impact**

Over 75,000 tCO2e offsets recorded



External Links: www.carbonclick.com

### Nature-based Solutions | Google

# Nature-based Solutions case selection









### Overview



### **Case objectives**

Invest in NbS and carbon removal projects, using AI and digital tools to protect forests, fight deforestation, and expand high-quality climate solutions worldwide



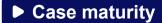
### Institutions Involved

Google; Terradot; Mombak; as well as other carbon removal partnerships, including through Frontier and Symbiosis; MapBiomas; The Nature Conservancy



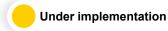
### **WG Alignment**

Carbon removal; MRV advancements; biodiversity monitoring





### **Case Stage**





#### Risk Involved

Not disclosed



### **Scalability**

Google leverages its global scale, Al capacity, and partnerships to expand NbS and carbon removal projects, creating replicable models for corporate ESG engagement

### **▶** Impact



### **Innovative Drive**

Funds diverse NbS and carbon removal approaches, such as enhanced rock weathering, and reforestation of the Amazon (Mombak). In addition, applies Google's technology to Alpowered forest fingerprinting (The Nature Conservancy), and geospatial monitoring (MapBiomas).



### **Economic Impact**

Mobilizes significant investment into carbon removal and NbS projects, positioning nature-based solutions as investable assets



### **CO2 Impact**

For carbon removal projects: 200,000 tCO<sub>2</sub>e Terradot, 50,000 tCO<sub>2</sub>e Mombak, ~728,300 tCO<sub>2</sub>e for additional offtakes in 2024



**External Links:** https://blog.google/outreach-initiatives/sustainability/our-progress-to-accelerate-carbon-removal-solutions/

# Habitat Banks Driving Private Sector Investment in Nature-based Solutions | Terrasos

## Nature-based Solutions case selection









### Overview



### **Case objectives**

Scale private sector investment in biodiversity by creating habitat banks that restore threatened ecosystems, consolidate compensatory obligations, and generate measurable biodiversity gains through voluntary and compliance markets



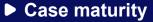
### Institutions Involved

Terrasos



### **WG Alignment**

Regulatory frameworks; blended finance





### **Case Stage**





### **Risk Involved**

Regulatory uncertainty in target countries; operational challenges in remote areas; climate variability affecting restoration; workforce limitations; data systemization issues



### **Scalability**

Designed for regional expansion: pilots in 3-5 habitat banks, 100,000 hectares efficiently delivered, and MDBs adopting habitat banking in loans

### **▶** Impact



### **Innovative Drive**

Introduced biodiversity unit protocol; blockchain traceability for voluntary credits. Pioneers integration of finance, technology, and conservation into scalable biodiversity markets



### **Economic Impact**

Provides cost-efficient biodiversity compensation and mobilizes private capital for conservation



### **CO2 Impact**

Each habitat bank secures carbon sequestration as a co-benefit. Estimated CO<sub>2</sub> depends on ecosystem type



External Links: https://www.terrasos.co/en/about-us/

### **Green Catalytic Fund | Latimpacto**

# Nature-based Solutions case selection









### Overview



### **Case objectives**

Accelerate decarbonization in Latin America and the Caribbean by funding and strengthening earlystage NbS and climate ventures with scalable potential



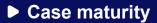
### Institutions Involved

Latimpacto; IDB Lab; Coca-Cola; Bayer Foundation; Inter-American Development Bank; Green Climate Fund



### **WG Alignment**

Blended finance; innovation ecosystems





### **Case Stage**



Under implementation



### Risk Involved

Limited ESO absorption capacity; disbursement delays; regulatory changes; impact measurement challenges; early-stage venture risk



### **Scalability**

Scales climate solutions via Ecosystem Support Organizations (ESOs) and early-stage ventures. Adoption by multiple companies can drive emissions reduction and resource efficiency

### **▶** Impact



### **Innovative Drive**

Combines catalytic capital, ESO capacity building, and data-driven selection to de-risk and grow early-stage NbS ventures often overlooked by traditional investors



### **Economic Impact**

Strengthens local green economies by channeling philanthropic and corporate capital into inclusive early-stage ventures, supporting SMEs, and local communities



### **CO2 Impact**

Ventures identified with high CO<sub>2</sub> reduction potential; impacts will be measured during implementation



External Links: https://latimpacto.org/en/fondo-verde-catalitico/

# Case Studies on Blended Finance and Sustainable Investing in Brazil | Columbia University

## Nature-based Solutions case selection









### Overview



### **Case objectives**

Document and analyze blended finance and sustainable investing cases in Brazil, highlighting how financial innovation can channel resources to NbS and climate-positive projects



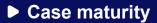
### Institutions Involved

Mirova; Sabesp; KPTL; Vale (and others featured in case studies)



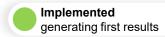
### **WG Alignment**

Blended finance; mobilizing private capital; derisking mechanism





### **Case Stage**





#### Risk Involved

Not disclosed



### **Scalability**

Provides replicable finance models that can be adapted across sectors and geographies, particularly where blended mechanisms unlock risk-tolerant capital for NbS

### **▶** Impact



### **Innovative Drive**

Highlights pioneering cases bridging ESG investing with on-the-ground NbS



### **Economic Impact**

Showcases how blended finance can reduce cost of capital, attract institutional investors, and generate long-term financial and social returns, positioning NbS as viable investment assets



### **CO2 Impact**

Case studies include projects with measurable GHG mitigation and resilience co-benefits; aggregated figures depend on project



External Links: https://siri.sipa.columbia.edu/sites/siri.sipa.columbia.edu/files/content/SIRI%20Blended%20Finance\_Case%20Studies%20Brazil\_2025\_0.pdf

### Environmental Compensations Credit Fund | IWA Gestão de Recursos Ltda

# Nature-based Solutions case selection









### Overview



### **Case objectives**

Provide credit to companies with legal environmental compensation obligations, financing restoration projects that ensure compliance while promoting large-scale Atlantic Forest recovery



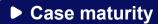
### Institutions Involved

IWA Gestão de Recursos Ltda



### **WG Alignment**

Blended finance; regulatory compliance





### **Case Stage**



Under implementation



### Risk Involved

Credit default by obligated companies; project underperformance (low survival rates); changes in compensation laws or regulations



### **Scalability**

Model can be scaled to mobilize billions in private capital for nature-based solutions. By creating liquidity and demand for restoration credits, it can drive systemic forest recovery

### **▶** Impact



### **Innovative Drive**

Creates a credit fund dedicated to environmental compensation obligations in Brazil, linking regulatory requirements with private investment



### **Economic Impact**

Mobilizes private capital into restoration finance while ensuring stable returns for investors. The model combines compliance-driven demand with financial innovation



### **CO2 Impact**

As the fund finances large-scale restoration, outcomes are expected to deliver millions of tons in removals

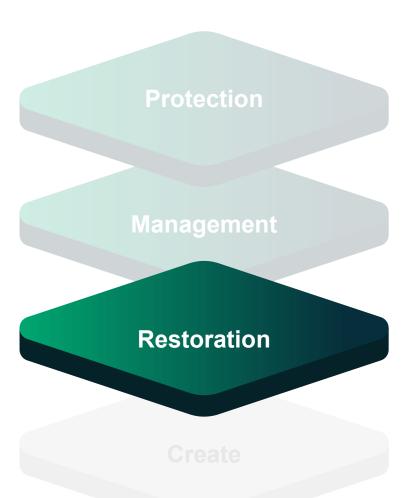


External Links: https://www.iwa.am/

### Nature-based Solutions (NbS) working group scope



### **Interventions**



### **Habitats**





Marine, Estuaries and Intertidal





Wetland

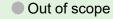
Terrestrial Agriculture





Artificial and Introduced (e.g., cities, gardens)

In scope



Note on restoration interventions: Focus of this working group is on ecological restoration, and interventions will also be considered restoration when forests previously existed on the land, regardless of how long ago degradation occurred.

### Carbono Azul | Nosso Mangue

# Nature-based Solutions case selection









### Overview



### **Case objectives**

Measure and restore carbon in mangroves, building the foundation for future blue carbon credits while generating income and environmental education for local communities



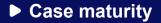
### Institutions Involved

Nosso Mangue



### **WG Alignment**

Restoration; community engagement





### **Case Stage**

**Under planning** 



#### Risk Involved

Funding gaps for R&D; regulatory hurdles; vulnerability to extreme climate events



### **Scalability**

The model can expand to restore mangroves at scale, generating blue carbon credits and strengthening ecosystem services aligned with Paris Agreement goals

### Impact



### **Innovative Drive**

Applies IoT and geoprocessing technologies for real-time mangrove monitoring, integrating environmental data into a transparent blue carbon compensation platform



### **Economic Impact**

Seeks public and private funding (preferably non-reimbursable) to develop restoration and credit generation. Potential to create a high-value blue carbon market



### **CO2 Impact**

The project aims to quantify and certify blue carbon removals from restored mangrove areas



**External Links:** https://www.linkedin.com/company/nosso-mangue-br/?viewAsMember=true

### MangueLab | OceanPact Maritime Services

# Nature-based Solutions case selection









### Overview



### **Case objectives**

Develop innovative solutions to enhance mangrove restoration efficiency and carbon measurement, reducing costs and promoting scalable blue carbon projects



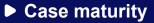
### Institutions Involved

OceanPact Maritime Services; Qatar Energy



### **WG Alignment**

Carbon measurement innovation





### **Case Stage**





### Risk Involved

Restoration failure; underperformance of new technologies; salinity and humidity affecting sensors; community engagement challenges



### **Scalability**

Aims to deliver low-cost, replicable protocols for mangrove restoration and carbon accounting, with potential to expand nationally and internationally as a model for blue carbon projects

### **▶** Impact



### **Innovative Drive**

Combines germplasm management, process semi-automation, drones, low-cost methane sensors, bioenhancers, and Al-driven modeling to improve restoration efficiency and carbon quantification in mangroves



### **Economic Impact**

Funded through Brazil's oil & gas regulatory mechanism. Reduces restoration and measurement costs, increasing investor confidence and margins for blue carbon credits



### **CO2 Impact**

Activities include carbon stock quantification, methane monitoring, and biodiversity correlations

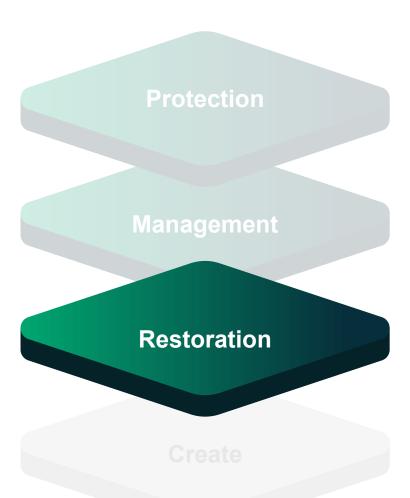


External Links: Not disclosed

### Nature-based Solutions (NbS) working group scope



### **Interventions**



### **Habitats**



Marine, Estuaries and Intertidal





Wetland

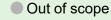
Terrestrial Agriculture





Artificial and Introduced (e.g., cities, gardens)

In scope



Note on restoration interventions: Focus of this working group is on ecological restoration, and interventions will also be considered restoration when forests previously existed on the land, regardless of how long ago degradation occurred.

# Extracted Kaigu peatland restoration process for implementation of paludiculture and carbon certification | Laflora

## Nature-based Solutions case selection









### Overview



### **Case objectives**

Restore 16.4 hectares of extracted peatland in Jelgava County by rewetting and stabilizing the water table, enabling carbon sequestration, habitat recovery, and eligibility for carbon credits. The initiative integrates paludiculture, hydrological regulation, and robust carbon certification under the VCM (VM0036 methodology for rewetting drained temperate peatlands)



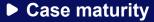
### Institutions Involved

Laflora Ltd; Verra; EPIC – Lake and Peatland Research Centre; Others



### **WG Alignment**

Land use transformation; carbon markets





### **Case Stage**



Under implementation



### **Risk Involved**

Incomplete or ineffective rewetting, seasonal variability and drought, technical or engineering failures, methane emission increase, delayed vegetation recovery, and impacts on surrounding land use



### **Scalability**

When replicated by multiple companies, peatland restoration provides a high-impact, cost-effective, and scalable NbS model, supporting global climate agreements

### **▶** Impact



### **Innovative Drive**

Integrates paludiculture for sustainable land use with advanced hydrological engineering, robust carbon certification frameworks, and cutting-edge GHG monitoring. The project also builds local scientific capacity and fosters multi-stakeholder collaboration



### **Economic Impact**

Supports sustainable land use and community livelihoods through paludiculture, knowledge transfer, and strengthened participation in carbon markets



### **CO2 Impact**

Rewetting: estimated carbon offset of ~124.9 tCO<sub>2</sub>e per hectare per year; paludiculture: estimated ~180.4 tCO<sub>2</sub>e per hectare per year



External Links: https://laflora.lv/laflora30



Annexes



### **Annex A – Process Overview**





### **Case Submission**

- Official platform launched on June 23rd to collect cases from the private sector
- Submission window remained open until July 25<sup>th</sup>, with an extension granted until September 1<sup>st</sup> to allow additional entries
- In total, 64 cases were received



### **Case Screening & Analysis**

- Preliminary review removed cases considered out of scope
- Remaining cases were evaluated against the adapted Secretariat criteria
- A shortlist of 12 cases was consolidated by the Working Group



### **Selection Committee**

- The shortlist was shared with the Selection Committee
- Composition: Karen Holl Professor of Environmental Studies, University of California; Renata Piazzon Executive Director, Arapyaú Institute; Daniela Carbinato Partner and Head of ESG Practice in South America, Bain & Company
- Members reviewed the cases and allocated 6 votes
- A **final list of 6 selected cases** was approved, **guided by principles** such as geographic balance, ecosystem diversity, stakeholder engagement, innovative finance, and time to impact



### **Annex B – Disclaimer**



The information presented in this booklet is the sole responsibility of the institutions that submitted the cases. All case descriptions reflect the information shared directly by the applicants.

The primary source for the evaluations described herein was the submitted cases; however, in certain instances, additional publicly available information from websites and/or official documents was consulted.

Where specific information was not provided by the applicants, the Working Group applied its best judgment to interpret missing parts, taking into account the context of each case.







