

Creating a Blue Carbon Asset under the Verified Carbon Standard

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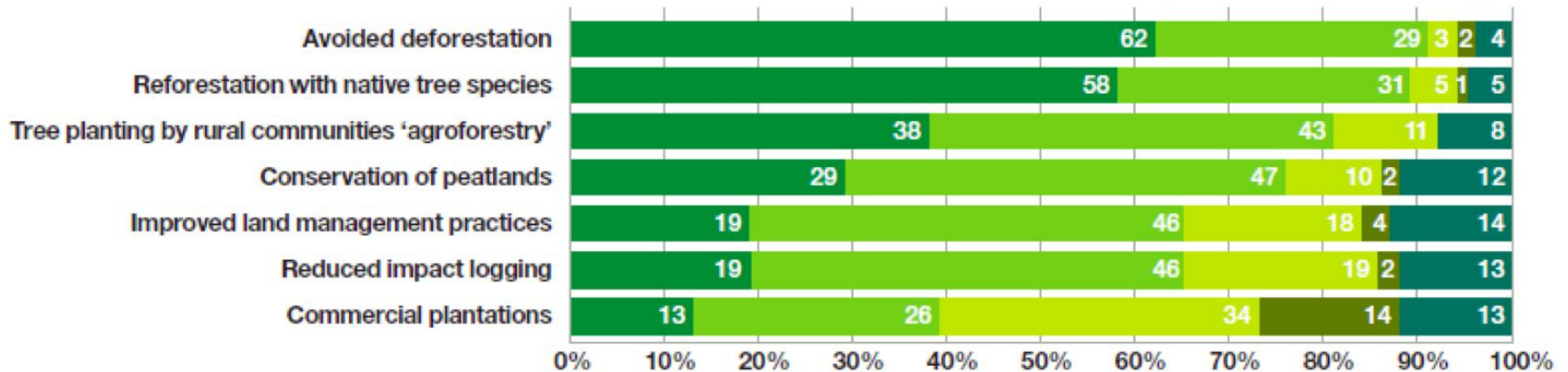
Silvestrum

- What is the voluntary carbon market and where are the buyers?
- How to structure a carbon project and carbon transaction to create a meaningful Blue Carbon asset

Carbon markets

- Compliance markets (>100 bln dollars)
- Voluntary market (1 bln dollars – 20% AFOLU)
 - Verified Carbon Standard
 - Gold Standard
 - Climate Action Reserve
 - American Carbon Registry
- OTC (over-the-counter) market vs Exchange
- Voluntary market drivers: CSR, PR

Desirability of project types



Key

Total sample = 112-116

- Highly desirable
- Desirable
- Undesirable
- Highly undesirable
- Don't know enough about this kind of activity



From standard to project

- Standards for project activities
 - General requirements and guidance for GHG accounting
 - Procedures for validation and verification
 - Registry and clearing house for ‘carbon credits’
- Methodologies are step-by-step explanations of how emission reductions or removals are to be estimated in line with the requirements following accepted scientific good practice
- Project description or design documents provide information on how a specific project complies with the requirements and applies the methodology



- Afforestation, Reforestation, Revegetation (ARR)
- Agricultural Land Management (ALM)
- Improved Forest Management (IFM)
- Reduction Emissions from Deforestation and Degradation (REDD)
- Avoided Conversion of Grasslands and Shrublands (ACoGS)
- Peatland Rewetting and Conservation (PRC)



- PRC becomes WRC: Wetland Restoration and Conservation
- Wetlands Restoration / Creation / Conservation
 - RWE: Restoration of Wetland Ecosystems
 - CIW: Conservation of Intact Wetlands

WRC categories

Baseline Scenario		Project Activity	Applicable Guidance
Condition	Land Use		
Degraded wetland (including, drained, impounded, and with interrupted sediment supply)	Non-forest (including aquacultures, shrublands and grasslands)	Restoring, enhancing, creating and/or managing hydrological conditions, sediment supply, salinity characteristics, water quality and/or native plant communities	RWE
		Ditto and conversion to forest / revegetation	ARR+RWE
		Ditto and conversion to wetland agriculture (including paludiculture)	ALM+RWE
		Ditto and avoided conversion of grassland or shrubland	ACoGS+RWE
	Forest	Restoring hydrology or hydrogeomorphology	RWE
	Forest with deforestation / degradation	Restoring hydrology or hydrogeomorphology and avoided deforestation	REDD+RWE
	Forest managed for wood products	Restoring hydrology or hydrogeomorphology and improved forest management	IFM+RWE

Baseline Scenario		Project Activity	Applicable Guidance
Condition	Land Use		
Non-wetland or open water	Non-forest	Creation of wetland conditions and conversion to forest/ revegetation	ARR+RWE
	Open water or impounded wetland	Creation or restoration of conditions for vegetation development/ revegetation	ARR+RWE

Baseline Scenario		Project Activity	Applicable Guidance
Condition	Land Use		
Intact wetland	Non-forest (including shrubland and grassland)	Avoided drainage and/or interrupted sediment supply	CIW ⁴ Methodology
		Avoided conversion to open/impounded water (including excavation to create fish ponds)	CIW
		Avoided drainage and/or interrupted sediment supply and avoided conversion to agriculture or devegetation	ACoGS+CIW
	Forest	Avoided drainage and/or interrupted sediment supply	CIW
		Avoided conversion to open / impounded water	CIW
	Forest with deforestation / degradation	Avoided drainage and/or interrupted sediment supply and avoided deforestation	REDD+CIW
		Avoided conversion to open / impounded water and avoided deforestation	REDD+CIW
	Forest managed for wood products	Avoided drainage and/or interrupted sediment supply and improved forest management	IFM+CIW

Typical project activities

- Conservation of mangroves – REDD
- Improved management of mangroves – IFM
- Restoration of mangroves – A/R and restoring hydrology
- Restoration of sediment supply on tidal marshes
- Restoration or conservation of natural vegetation of wetlands



Carbon accounting in projects

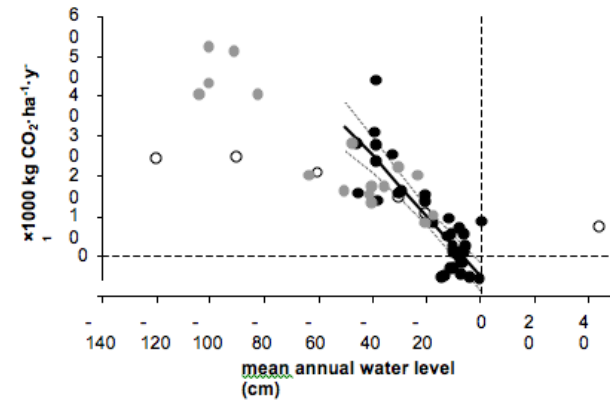
- Project boundaries
 - Geographical – temporal – carbon pools – GHGs
- Baseline scenarios and additionality
- Baseline GHG accounting
- Project GHG accounting including leakage
- Permanence
- Monitoring protocol

From peatlands to wetlands - some issues

- Wetlands definition
- Eligible wetland categories to include sea grasses?
- Hydrology, sedimentation and erosion
- Buffer zones and upstream threats
- Sea level rise

GHG accounting

- Spatial and temporal dimensions
- Direct measurements (fluxes) or
- Proxies
 - Carbon stock changes
 - Water level
 - Salinity and others...
- Leakage
- Uncertainty versus conservativeness
 - Avoid complex/expensive measurements by conservatively neglecting pools and fluxes



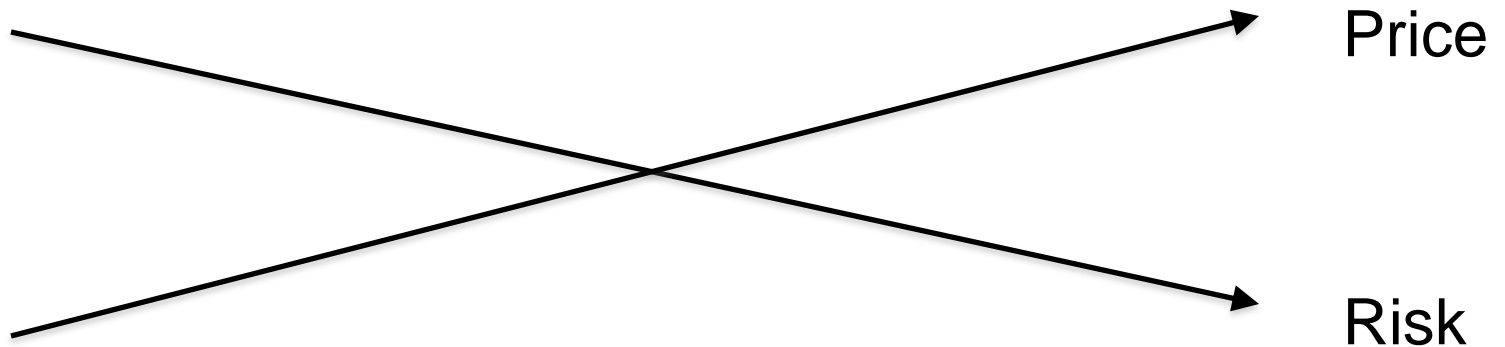
Carbon credit sales

- Spot transactions – the sale of credits after they have been generated and issued
 - OTC or Exchange
- Forward sales – a contract to sell carbon credits before they have been generated
 - Payment upon delivery / advance payment

Project development stages

- **Pre-feasibility assessment**
 - Smart tools
 - Incomplete information - guestimates
- **Feasibility assessment and documentation**
 - Smart tools
 - Complete information
- **Validation / registration**
 - Proof of concept
- **Verification / issuance of credits**

Project development stage and risk



Work at 3 fronts

Project design

Science
Project activities / Plan of operations
Legal / institutional (incl title and permits)
VCS AFOLU category
Carbon accounting
EIA / SIA – FPIC

1-5 years

Project documentation (for carbon asset)

Carbon methodology
Project Document (PD)
Contracts
Operational procedures
(incl monitoring plan)

1 year

Project financing

Cash flow statement
Funding sources forward
or spot sales / equity /
other commodities)
Pricing of VCUs
Marketing strategy / PIN

1 year?

Thank you

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