

Forest Carbon Possibilities and Impossibilities

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Outline



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- Project Types
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 - Improved Forest Management (IFM)
 - Peatland Management (Peat)
- Status of the Market
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 - EU ETS and forestry
 - Future Compliance Market
 - Voluntary Market



Introduction

- Forest assets traditionally undervalued
 - Value given to value of land for alternative uses or value of timber only
- Existence of carbon market allows carbon sequestration or emission reduction potential of forests to be valued
 - Limited to recognized/eligible project types
 - Carbon market focused on “carbon” value only
- Carbon finance forestry projects can deliver additional benefits e.g.
 - Community development (jobs, income)
 - Biodiversity conservation (restoration/protection)
 - Watershed protection
 - Soil stabilization

LULUCF and the regulatory environment



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- For the last decade, LULUCF has been at the margin of the negotiation of the major climate change related regulatory frameworks.
- There is a recognition of the LULUCF sector
 - As large source of GHG emissions (mainly through deforestation)
 - As mitigation opportunity through the uptake of CO₂ from the atmosphere (sinks)
- *However* the focus of the Kyoto Protocol as well as the EU ETS is on the reduction of fossil fuel based and industrial emissions, LULUCF is mainly seen as
 - Increasing the flexibility to meet negotiated or assigned targets (pro-sinks)
 - Diverting the attention from the main goals of the regulatory instruments (anti-sinks)

Post-Kyoto negotiations



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There is a **need** for comprehensive system that rewards

- Decreasing deforestation
- Sustainable forest management
- Restoring forests
- Sustainable production and use of biomass
- Soil carbon management in agriculture

Tools: Reform of the LULUCF CDM. Design of new approaches and mechanisms to include emissions from deforestation and land degradation. Full accounting for land-use emissions.

Differences compared to 1997 when the KP was negotiated:

- Scientific basis more robust
- Political will incl from developing countries to address the problem of GHG emissions from deforestation
- Acknowledgement of the opportunity provided by the carbon market
- Active discussion on various proposals

Issues

Measuring and Monitoring



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Uncertainties

- There was no agreed methodological basis for measuring and monitoring emission reduction relating to land use projects

Recent Developments

- IPCC's GPG-LULUCF
- 2006 IPCC Guidelines for National Greenhouse Gas Inventories
- Data and analytical methods for monitoring change in land cover using remote sensing and field based techniques (GOFC-Gold report series, FAO, Winrock International)
- Third party validation and verification of measurement and monitoring required in all mandatory schemes

Additionality



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Uncertainties

- The reforestation activity and hence carbon benefits would have occurred anyway in the 'business-as-usual' scenario

Recent Developments

- Large areas of degraded and deforested lands continue to exist in the tropics and sub-tropics which are not viable to reforest without carbon financing
- UNFCCC Tool on Additionality in A/R CDM Projects:
 - projects require carbon finance for the viability of the project *or*
 - projects required to identify other barriers which would prevent the project activity from taking place



Uncertainties

- The implementation of project will lead to an increase in GHG emissions in another area outside the project boundary

Recent Developments

- Sources of leakage can be identified using a conservative approach that ensures they are not underestimated
- Leakage can be minimized. When it does occur it can be quantified and deducted from a projects carbon balance sheet
- Specific baseline methodologies approved under the CDM to deal with displacement of specific activities e.g cattle grazing, agriculture etc



Uncertainties

- Biological sinks could be reversed and their longevity could not be ensured

Recent Developments

- Loss of carbon benefits are monitored and deducted on carbon balance sheet
- On the ground experience of strategies to reduce and address the risk of loss of permanence e.g. fire breaks, pest control, community initiatives
- The risk of loss from a natural event in a managed forest is small – averaging 0.04% of loss per year (Hancock)
- Non permanence has been addressed for CDM A/R projects by means of temporary crediting
- Insurance (eg AIG) and reserve buffers (eg CCX) can be established to cope with unforeseen loss in carbon stocks

Project Types

CDM Afforestation/Reforestation (A/R) Projects



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- In practice no real difference between Afforestation and Reforestation
- HC definition of “forest” must be met
- Project start after 2000
- Land deforested on 31 Dec 1989
- Crediting Period: 20 years renewable twice (total 60 years), or 30 years (not renewable), retroactive crediting allowed
- “Permanence risk” (i.e. loss of forest): Dealt with by creating “tCERs” and “ICERs” that need to be constantly re-issued or re-verified



A/R under Voluntary Carbon Standard



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- No need to meet definition of “forest”
- There is no 1989 date similar to CDM
 - Need to demonstrate that forest not cleared to get VCS credits and that previous forest cleared at least 10 years prior to project start date
- Additionality test is more flexible than the CDM
- Crediting period is 20 – 100 years
- Permanence risk addressed using “buffer approach”



VCS buffer approach



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- Applicable to all VCS forest projects
- Permanence risk is assessed by two validators using a number of “risk factors”
- Based on project’s risks a % of credits are set aside in a buffer account
- Future verification is optional, but demonstrating permanence over time will “release” some of the credits that have been set aside
- Results in permanent, fully fungible Voluntary Carbon Units being issued for the project

Reducing Emissions from Deforestation and Degradation (REDD)



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Environmental Problem

- Forests store about 638 gigatonnes (Gt) of carbon
- 50% more carbon than in the atmosphere
- Gross deforestation averages 13m ha/year (net loss 7.3 million ha/year)
- Responsible for 20% - 25% of global CO₂ emissions



Challenges to a Solution

- Scary scale
- Uncertainty: methodological issues, leakage, permanence etc
- Sovereignty issues and country specific circumstances
- Environmental, social and socio-economic effects

REDD projects



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- Design elements
 - Forest
 - Deforestation (conversion of forest to non-forest)
 - Activity that reduces deforestation
 - Management of permanence and leakage
- Host country endorsement preferable to mitigate political risk
- VCS eligible methodologies currently under development



REDD: complex krachtenveld

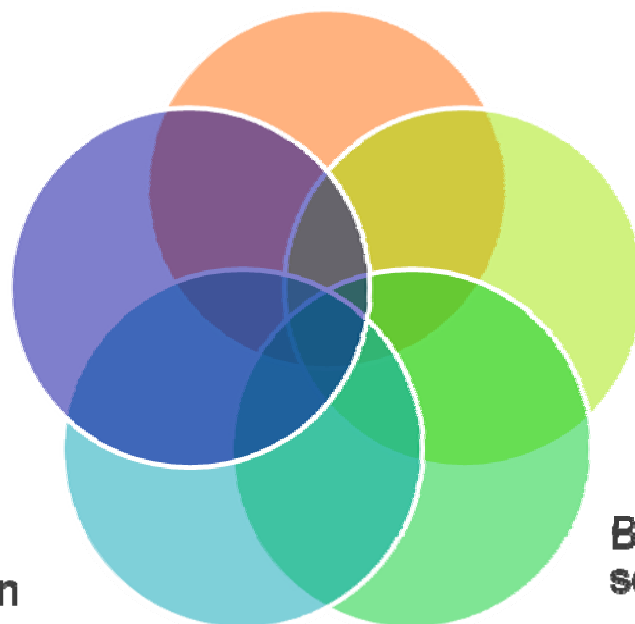


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Financiering van bosbehoud;

- emissiehandel of fondsen
- project- of landniveau
- samenhang met ontwikkelingshulp
- rol van multilaterale organisaties

Soevereiniteit
tropische
boslanden: baas in
eigen bos?



Emissiedoelstellingen
industrielanden

- hoeveel reductie
- hoeveel compensatie door REDD

Emissiehandel:
REDD-credits een
vloek of een
zegen?

Betrokkenheid van private
sector

- uitvoering van projecten
- toegang tot REDD-credits

Improved Forest Management (IFM) project types



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- Improved forest management activities are carried out on forests that remain as forests.
- Project categories:
 - Conversion from conventional logging to reduced impact logging
 - Conversion of logged forests to protected forests:
 - protecting currently logged or degraded forests from further logging; and
 - protecting unlogged forests that would be logged in the absence of carbon finance.
 - Extending the rotation age of evenly aged managed forests

IFM project types



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- Project categories continued:
 - Conversion of low-productive forests to productive forests (improving the stocking of poorly stocked forests)
 - introduction of better tree species and/or silvicultural techniques;
 - improved fire management;
 - improved grazing management;
 - improved fuel wood management
- Similar issues of permanence, leakage, additionality of other projects

Example of IFM project



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Before



Few years later



Status of the Market

Current Compliance Market for Forestry Projects



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- Only 3 CDM forestry projects registered to date
- tCERs and ICERs valued at a fraction of regular CERs
- No demand from EU private sector because not allowed in EU ETS
 - Canada also indicated will not allow international forest credits (but will allow domestic)
- Currently no compliance market for REDD, IFM, Peat lands

Future Compliance Markets?



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Future domestic trading schemes

- US State
 - RGGI: allows local forestry offsets and does not exclude international (but international credits not defined yet)
 - California: expected to allow local forestry offsets
- US Federal
 - Will dwarf EU market
 - Not expected to pass until 2009 or 2010 at the earliest, coming into affect ~2012 or later
 - Expected to allow domestic and international forestry
 - L-W allowed 10% int. forestry offsets and 5% for all other categories
- US potential
 - Significant potential for IFM, limited A/R and REDD because of land prices

Future Compliance Markets?



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Future domestic trading schemes cont.

- Australia
 - Federal ETS under development, but NSW trading scheme already has domestic forestry
- New Zealand
 - Federal under development, domestic forestry will be recognized, but int. forestry?
- EU
 - Efforts underway for a number of years to lift ban

Future Compliance Markets?



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Post-2012 agreement

- REDD may be included in future trading regime
 - Most countries push for inclusion
 - Unclear how it may be included and treated
- Possible revision of CDM A/R?
 - Possible expansion to IFM and other land use related project types
 - Some calls for reform of A/R rules
 - Unclear if these reforms will occur (not much traction yet?)

Status of the Voluntary Market



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Voluntary Market

- Most forestry projects developed for voluntary market
- Some criticism for bad projects/permanence risks

Transaction Volumes and Values, 2006 and 2007¹

Markets	Volume (MtCO ₂ e)		Value (US\$million)	
	2006	2007	2006	2007
Voluntary OTC Market	14.3	42.1	58.5	258.4
CCX	10.3	22.9	38.3	72.4
Total Voluntary Markets	24.6	65.0	96.7	330.8

Source: Ecosystem Marketplace, New Carbon Finance

- Market still small compared to compliance market - risk of market flooding if large volumes of new supply enters the market
- CCX prices and volumes increased significantly in 2008

Risks and Hurdles



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- Lack of project finance
 - Over-estimating revenue
 - Under-estimating costs
- Project too small
- Not conducting legal due diligence
- Lack of technical expertise
- Lack of host country support

Summarising



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- Market for forestry carbon still very small, and mostly voluntary
- Post-Kyoto agreement: will give a greater role to forestry, but still unclear how
- Individual project developers: there is more to a forestry project than only having a forest

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