Creating permanent forestry credits

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Forests are dynamic ecosystems & a permanent carbon pool

- 60% of terrestrial carbon is stored in forests, this is equiv. to 50% of all accessible fossil coal reserves (585 Gt)
- Emissions from deforestation are permanent, destruction of native forest sinks is irreversible
- 1.5 m ha where lost due to deforestation in last three years
**Getting the tools right**

- **Incentive based mechanisms** are most effective to change customs/ priorities of countries at different stages of development.

- **Forest protection needs to be profitable**
  a. At local level – communities need to be compensated
  b. At national level – competition between ministries
  c. At global level – forest investments pay back in next generations

- **Environmental integrity is key**
  a. National inventories are needed
  b. Proper MRV
Forestry credits need to be fungible

- Creating **permanent compliance LULUCF & REDD credits** is key to
  a. get the forestry sector into the global carbon market
  b. For intersectoral trading
- VER schemes provide good examples of how permanence can be assured
- **Carbon sink versus Carbon emissions:** Two approaches to permanence of forestry credits
  a. Afforestation/ Reforestation (A/R)
  b. Reduced Emissions from Degradation and Deforestation (REDD)
Carbon Sequestration in commercial A/R projects

- Year 7: thinning
- Year 14: Harvest, 1st rotation
- Year 21: thinning
- Year 28: Harvest, 2nd rotation
Carbon Sequestration in commercial A/R projects

Constant C sink until the project terminates
Carbon Sequestration in VCS A/R project

Permanent C sink in VCS A/R projects
Projects reduce atmospheric carbon

Enrichment planting
With native species

C at landscape level

Time
Carbon Sequestration in VCS A/R project

Permanent C sink in VCS A/R projects
Projects reduce atmospheric carbon

C at landscape level

Traditional forest enterprise

Institutional Transition Phase

Sustainable community forest mgmt
Emissions from Degradation & Deforestation

$tCO_2e \text{ ha}^{-1}$

- Undisturbed Forest
- Initial degradation
- Intermediate degradation
- Advanced degradation

Pedroni, 2008

Anna Lehmann SCCO Policy & Regulatory Affairs
Degradation in a LANDSAT-scene
Risk Factors

- Identify key risks
  a. Quality management (pest, disease, fire)
  b. Financial security
  c. Legal entitlement (ownership of land/wood/carbon)
  d. Environmental (fire, pest, disease)
  e. Social (population growth, poverty)
  f. Political (competing resources e.g. oil, minerals, infrastructure)
Risk Management

Afforestation/ Reforestation Projects

- Non-permanence risk can be managed at project level
- Project takes liability

Avoided Emissions from Deforestation & Degradation

- Risks need to be managed where they arise, at
  a. Project
  b. National
  c. International level
- Liabilities need to be shared between levels
Combined effort between public & private sector for REDD

- **Projects:**
  a. Facilitate distribution of land titles/use rights
  b. Gain experience & add to data collection
  c. Create local markets for non timber forest products/ sustainable fire wood
  d. Capacity building in communities and local administrations
  e. Start now, if market certainty post 2012 can be provided

- **National Governments:**
  a. Build up capacities & support infrastructure in administrations
  b. Land use planning at regional and national level
  c. Forest protection policies & enforcement

- **International Governments**
  a. Provide finance
  b. Apply similar standards & measures internationally
Land use equilibrium - towards an optimal forest cover

- Countries need to identify their optimal forest cover
- Land use planning at national level needed
- Public funds for capacity building

Economic costs of natural hazards due to lost forest cover

Opportunity & transaction costs of forest protection

Diagram: Graph showing the relationship between national forest cover and economic costs versus opportunity and transaction costs.
Monitoring/ Reporting/ Verification

- National forest inventory is needed but takes time to be built up
- Monitoring methodologies are rapidly evolving and ready for early action
- Technology is rapidly evolving and ready for early action
  a. Optical remote sensors
  b. Radar remote sensors
  c. Laser remote sensors
  d. Ground truthing

Permanence can be assured through

- Conservative calculations
- Carbon buffers

Commercial insurance products are not yet the right tool in developing country context.
Risk identification & ranking at project level

A/R

Buffer

Plantations: average loss 2-7% due to fire/pest/disease

VCS foresees buffer areas 5 - 60%

REDD

Forest protection

Leakage area

Reference scenario

Buffer
Buffer pooling

International Buffer

National buffer

Project Buffer

Project Buffer

Project Buffer

Project Buffer

Project Buffer
Permanence of forestry credits in VER schemes

- **Australia Carbon Pollution Reduction scheme**
  permit is valid only until carbon pool is maintained, replacement liability is with projects

- **NSW**
  100 year permanence period + regulator has right to prevent removal

- **VCS**
  project risk ranking + buffer are 5 – 60%
  ideally buffers are pooled in one international buffer

- **New Zealand ETS**
  established sinks need to be maintained, replacement liability lies with projects
The way forward

• There is urgent need for pragmatic approaches that work in a developing country context
• Carbon buffers are the way forward on the short term
• The Nested Approach (proposal for REDD) provides a good example of buffer pooling and crediting at project & national level
• 15 countries own 75% of global forests
  a. Design of a first agreement to start with few countries should be possible
• MunichRe’s Climate Insurance Initiative applies a risk tier approach to share risks
  a. A way forward on commercial insurance?
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