



# Forest Carbon Partnership Facility

## 3d. Update on REDD+ Cost Assessment Tools

Eighth Meeting of the Carbon Fund Participants (CF8)

Paris, France

December 8-9, 2013

# Key Points

- **Cost Assessment is useful to**
  - Inform program identification
  - Explore Emissions Reductions (ER) program design options
  - Support informed ERPA negotiations (esp. for Program Proponent)
  - Understand cost-effectiveness of REDD+ (in the long-term)
- **Cost tools provide a structured approach to assess and compare costs of ER programs**
  - Economic and financial analysis
- **Cost assessment can help generate better (more sustainable) ER Programs**
  - REDD+ payments help shift to sustainable and profitable land uses through investment in underlying assets
- **Tools and Good Practice Guidance will complement the Methodological Framework**
  - The Methods Framework does not have specific criteria on costs

# World Bank REDD+ Cost Assessment Tool

- Developed jointly with UNDP (Tanzania and DRC) and World Bank Institute
  - Funded by Trust Fund for Environmentally and Socially Sustainable Development (TFESSD)
- Purpose
  - Assess all relevant cost elements (accommodates project to national scale)
  - Generate abatement costs of proposed activities
- Cost concept
  - Cost categories: opportunity, implementation, transaction, institutional costs
  - Cost and carbon comparison for up to 20 land use classes
  - Comparison of reference case (no REDD+) with REDD+ scenario (all 5 activities)

# World Bank REDD+ Cost Assessment Tool (cont.)

- Key Inputs and Output (per land use class) for each scenario

Inputs	Outputs
Time-average carbon stocks (5 pools)	Net Present Value, Internal Rate of Return
Area at beginning and end of programs (land use change matrix)	Opportunity and Abatement Costs
Cash flow; inflation and discount rate	Difference in GHG emissions
Implementation, institutional, transaction costs (for up to 12 intervention types); includes worksheets for each cost category	Incremental Cash Flow

# Framework for Cost Assessment

- Opportunity Costs
  - Foregone net benefits of alternative land uses (not just costs associated with conversion of forests, but also other land uses)
- Implementation Costs
  - Investments required to implement REDD+ interventions and minimize displacement
  - Includes operating costs (reoccurring costs after initial investment)
- Transaction Costs
  - For actions necessary to receive REDD+ payments
  - Transactions do not reduce emissions
- Institutional Costs
  - Incurred at political-administrative level to develop and manage REDD+ activities and ensure enabling legal and regulatory environment
- Costs are additional (relative to no REDD+ actions)

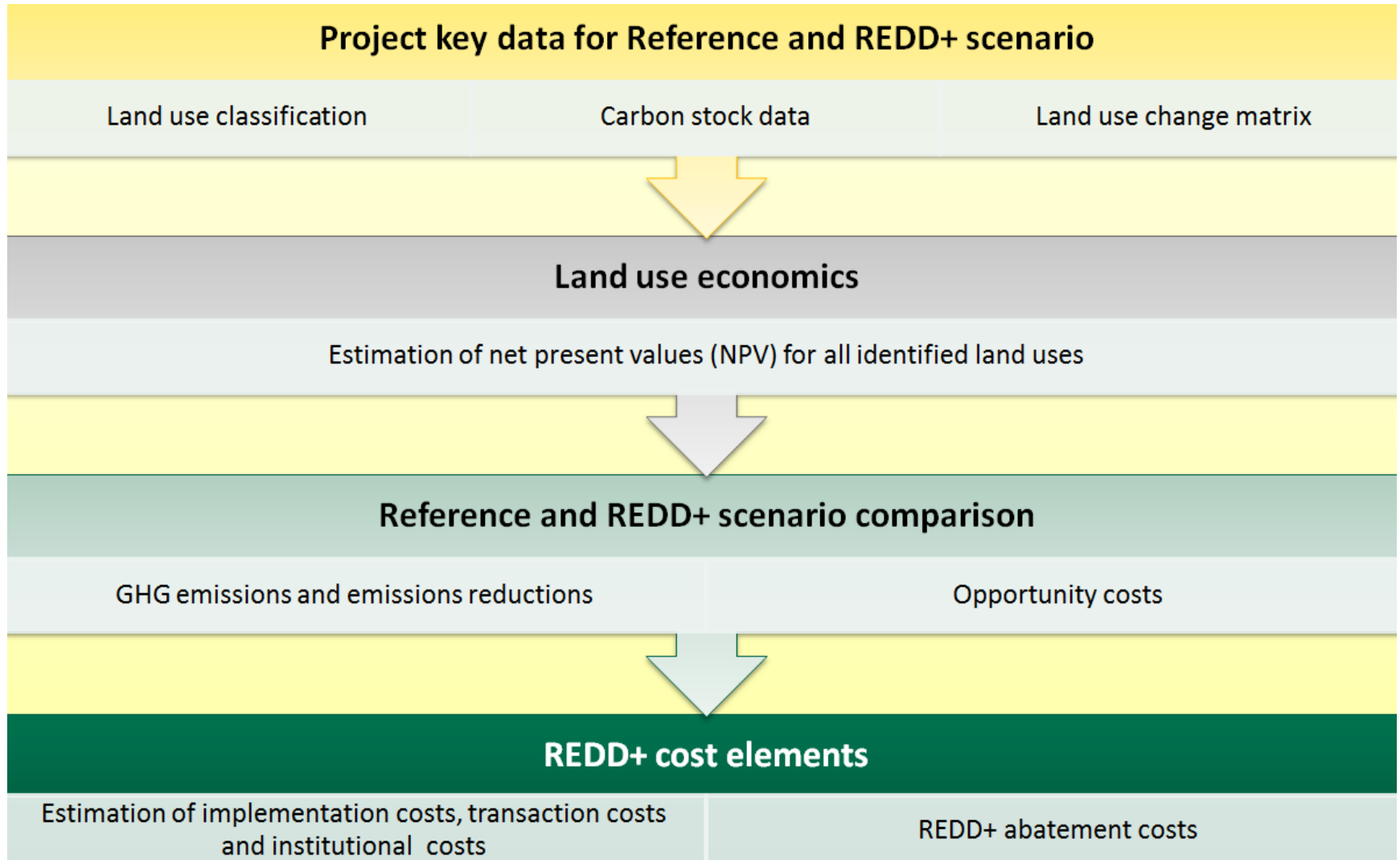




# Cost Examples by Category

Implementation	Transaction	Institutional
Infrastructure development	Program Documentation	Institutional reform
Extension support services	Payment distribution	Policy development and formulation
Sustainable forest management practices	Measurement, Reporting, Verification	Establishment and operation of new institutions/authorities
Law enforcement	Contract management (negotiation, compliance etc.)	Knowledge transfer and dissemination (e.g. from national to local)
Investment in agricultural input	Consultation, Marketing	Establishment of participatory mechanism
Staff costs	Registry, Database operation	Training, capacity building

# Key Steps in Cost Assessment



# Example Empirical Results

Pilot Study Example	Intervention	Opportunity Costs (US\$/tCO <sub>2</sub> )	Projects Costs (Implementation, Transaction, Institutional) (US\$/tCO <sub>2</sub> )
DRC: Ecomakala+ (438,400ha)	Reforestation, micro forest plantations, subsidies for improved cook stoves	4.1	7.5
Colombia: Huila (103,500ha)	Conservation, improve livelihoods	2.6	3.1
Tanzania: Jane Goodall Kigoma (85,200ha)	Conservative, alternative income generation	15	13.8

- World Bank cost assessment tool applied to 8 projects
  - Funded by WB TFESSD and UNDP
  - Performed with Unique Forestry, ONFi, World Bank Institute



# Some Early Insights

- Transaction and implementation costs can be as high opportunity costs
  - Opportunity costs inform policy and upstream design (e.g., siting of programs)
  - Transaction, institutional and implementation costs are relevant for detailed ER program design
  - Project costs can be similar to opportunity costs and can amount to an average of approx. \$7/t CO<sub>2</sub>
  - Economies of scale: small projects tend to have high unit costs
- Availability of reliable data is sparse
  - Estimates of nascent REDD+ projects at sub-national level largely hinge on short-term budget estimates, not long-term cost estimates
  - Economics of alternative land uses are difficult to estimate: limits utility opportunity cost analysis
- Implementation and transaction costs are crucial for cost-effective ER program design
  - Institutional costs are small and mostly covered by readiness funding
  - Transaction costs (mostly RL and MRV) at national are significant
  - For ER Programs at sub-national level transactions costs need to be minimized

# Conservation International's Tool for the Financial Analysis of REDD Projects

- REDD+ Feasibility Tool

- Quick, accurate assessment of site/region's potential for REDD+
- Detailed financial feasibility breakdown
- Only requires reasonable expectations of costs, deforestation rates, probability of success
- Builds on IPCC default values
- Allow sensitivity analysis (e.g., changes in carbon price)
- Guides investment decisions

REDD+ Feasibility Tool

Please choose your language  
Por favor elija su idioma  
Por favor escoge la opción

English

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**Protection**

The worksheets/ cells of this tool are protected (you cannot delete or modify its contents), with the exception of the cells where you must enter data and parameter values. This protection can be removed using the sheet name of the sheet so the password (Go to "Review" then "Unprotect sheet" in the tool menu bar).

**How do you use this tool?**

Below are summarized the basic guidelines for the tool use, if you want more information see the attached manual.

**The cells' colors and their meanings**

	The yellow cells indicate the places where you have to enter a parameter or value. The size of domain (min/max) "" or "" will depend on your country and your computer's local settings.
	Grey cells without any text or value indicate inactive cells.
Text or Value	Grey cells with red text or value indicate inactive cells, where its content can generate errors for subsequent calculations. Please delete the text or the value.
	Light blue cells indicate the existence of a drop-down, according with the IPCC default values.
Value	The dark blue cells with white value indicate the output values chosen from the drop-down with the light blue color.
Text or Value	The orange cells with red text or value are hidden, however, do not eliminate them because they are necessary for the calculation routine.

**The Worksheets with their respective functions:**

<b>Parameters</b>	Sheet where you enter your project general conditions. Please only fill the yellow cells.
<b>Cost structure</b>	Sheet where the user must enter the costs associated to the project.
<b>Carbon Pools</b>	Sheet to quantify the carbon pools. Please only fill the yellow and light blue cells.
<b>Reductions</b>	Sheet where is showing the emission reductions results for the project.
<b>Financial</b>	Summary sheet of the financial calculations.
<b>Sensitivity</b>	Sheet that presents the impacts in the IRR and NPV due to fluctuations in different variables of the model.
<b>Optimization</b>	In this sheet the user has the possibility to define target values of NPV and IRR to calculate what must be the change of different variables.
<b>Summary</b>	Sheet that presents the calculation results of the main variables and its most representative graphics.
<b>Tables</b>	Sheet where you can find the IPCC default tables used for carbon calculations.

If you find errors or inconsistencies, please inform the authors.

**Authors:**

The tool was developed by: <b>Federico Acevedo - MGM Issues</b>	Supported by: <b>Alicia Hara - MGM Issues</b> <b>Diego Rojas - MGM Issues</b> <b>Agustín Salazar - Conservation International</b> <b>Christy Taylor - Conservation International</b>
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To contact the developers please email [ted@ci.org](mailto:ted@ci.org)

# Some key differences in features between WB and CI tool

	WB Cost Assessment Tool	CI “Financial Analysis of REDD Projects”
<b>Scope</b>	<ul style="list-style-type: none"> <li>Covers all five REDD+ activities</li> </ul>	<ul style="list-style-type: none"> <li>Only Deforestation (RED)</li> </ul>
<b>Carbon Finance</b>	<ul style="list-style-type: none"> <li>Does not account for carbon revenue</li> </ul>	<ul style="list-style-type: none"> <li>Includes carbon revenue in financial feasibility; also: taxes, capital expenditures, depreciation rate; carbon price development, loan costs</li> </ul>
<b>Cost categories</b> (tools use different terminology and categorization)	<ul style="list-style-type: none"> <li>Opportunity, implementation, transaction, institutional costs</li> </ul>	<ul style="list-style-type: none"> <li>Project development, implementation, management, community development, land acquisition, and activity cost</li> </ul>
<b>Strengths</b>	<ul style="list-style-type: none"> <li>Costs and emissions based on detailed land-used change matrix</li> <li>Compares economic implications of a reference (no REDD+) and REDD+ scenario</li> </ul>	<ul style="list-style-type: none"> <li>Detailed cost structure and revenue analysis support sound investment analysis</li> <li>Performs sensitivity and optimization analysis</li> </ul>
<b>Weaknesses</b>	<ul style="list-style-type: none"> <li>Assessment of financial feasibility is limited</li> </ul>	<ul style="list-style-type: none"> <li>Limited land-use differentiation and dynamics</li> </ul>

# Going forward

- Existing tools can be applied (and further enhanced) in ER Program design and preparation
- Cost-effective design and financial considerations will become more relevant in relation to expected benefits (ER payments)
- There is some experience in assessing and designing projects – assessing and costing *programs* has new challenges





THANK YOU!

[www.forestcarbonpartnership.org](http://www.forestcarbonpartnership.org)