GHG Emission Reduction calculation guidance note

DATE November 12, 2015
PLACE Washington, D.C.
VENUE CIF Trust Fund Committees Meetings

FIP MONITORING AND REPORTING

"The ultimate impact of the FIP is with regard to long term changes to forest landscapes and ecosystems.

FIP intends to contribute, in a long-term, transformative manner to "reduced GHG emissions from deforestation and forest degradation; enhancement of forest carbon stocks" - FIP Results Framework

CONTEXT ON FIP PROJECTS AND M&R

GHG Emission Reductions should be reported as part of Theme 1.1. There are other five indicators not linked to GHG ER that have to be reported.

CATEGORY 1: COMMON THEMES

THEME 1.1: GHG EMISSION REDUCTIONS OR AVOIDANCE / ENHANCEMENT OF CARBON STOCK

THEME 1.2: LIVELIHOOD CO-BENEFITS

CATEGORY 2: OTHER RELEVANT CO-BENEFIT THEMES

Theme 2.1: Biodiversity and other environmental services

Theme 2.2: Governance

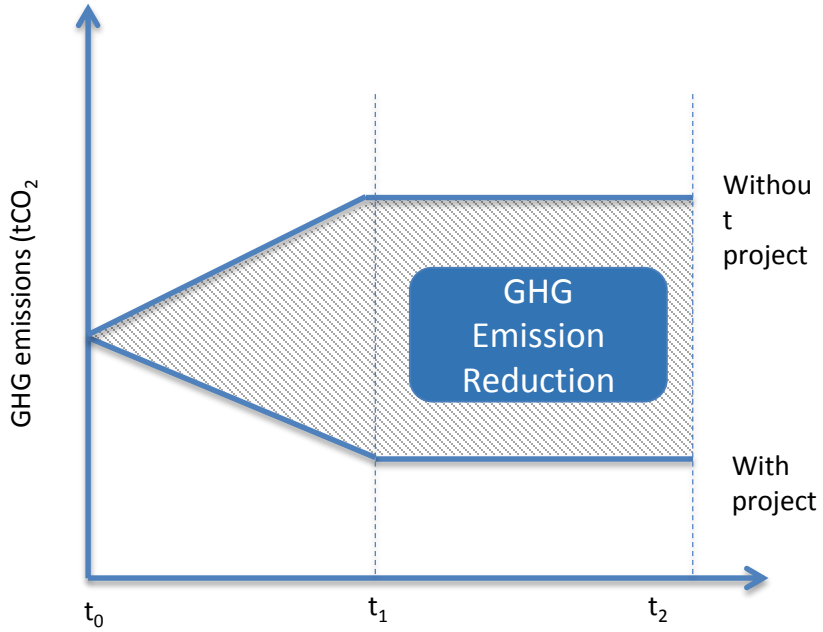
Theme 2.3: Tenure, rights and access

Theme 2.4: Capacity development

CATEGORY 3: ELEMENTS FOR NARRATIVE (IF IT APPLIES TO THE INVESTMENT)

THEME 1.1 : GHG EMISSION REDUCTIONS OR AVOIDANCE / ENHANCEMENT OF CARBON STOCKS

"Indicators will estimate the climate change mitigation potential of country actions as estimated quantities of avoided or reduced GHG emissions and removals or increase in carbon stocks that the implementation of the investment plan is able to achieve directly through its associated investments". FIP M&R toolkit



FIP REPORTING REQUIREMENTS FOR THEME 1.1

THEME 1.1 : GHG EMISSION REDUCTIONS OR AVOIDANCE / ENHANCEMENT OF CARBON STOCKS

<Country> Lead MDB:

Other Implementing MDBs:

Endorsed FIP funding (million USD):

Co-financing (million USD):

Level: Investment Plan (IP)

Reporting period From mm/dd/yy : To: mm/dd/yy

Table 1.1	Unit	Reference emissions level/baseline (if applicable)	Target 1 *(Expected results after the financial closure of the last project/program under the investment plan)*	Target 2 *(Lifetime projection of expected results of projects/programs under the investment plan)*	Report year 2014 Actual annual	Report year 2015 Actual annual	Report year 2016 Actual annual	Total actual to date
GHG emission reductions/avoidance/ enhancement of carbon stock (Total)[8]	Million tons of CO2 equivalent							
GHG emissions from reduced/avoided deforestation and forest degradation	Million tons of CO2 equivalent							
GHG sequestered through natural regeneration, re- and afforestation, and other related activities	Million tons of CO2 equivalent							

Type of forest(s)			
Area covered	ha		
IP lifetime	years		

Please specify methodology (ies) used for GHG accounting (e.g. by project/program), including the start year and period for the Reference Emissions Level
Please provide a brief description of the interventions (context and objective)
1. What have been key contributions (successes) of FIP regarding GHG emission reductions / avoidance / enhancement of carbon stock in your country context during this reporting year?
2. What have been your key challenges and what opportunities for improvement do you see?

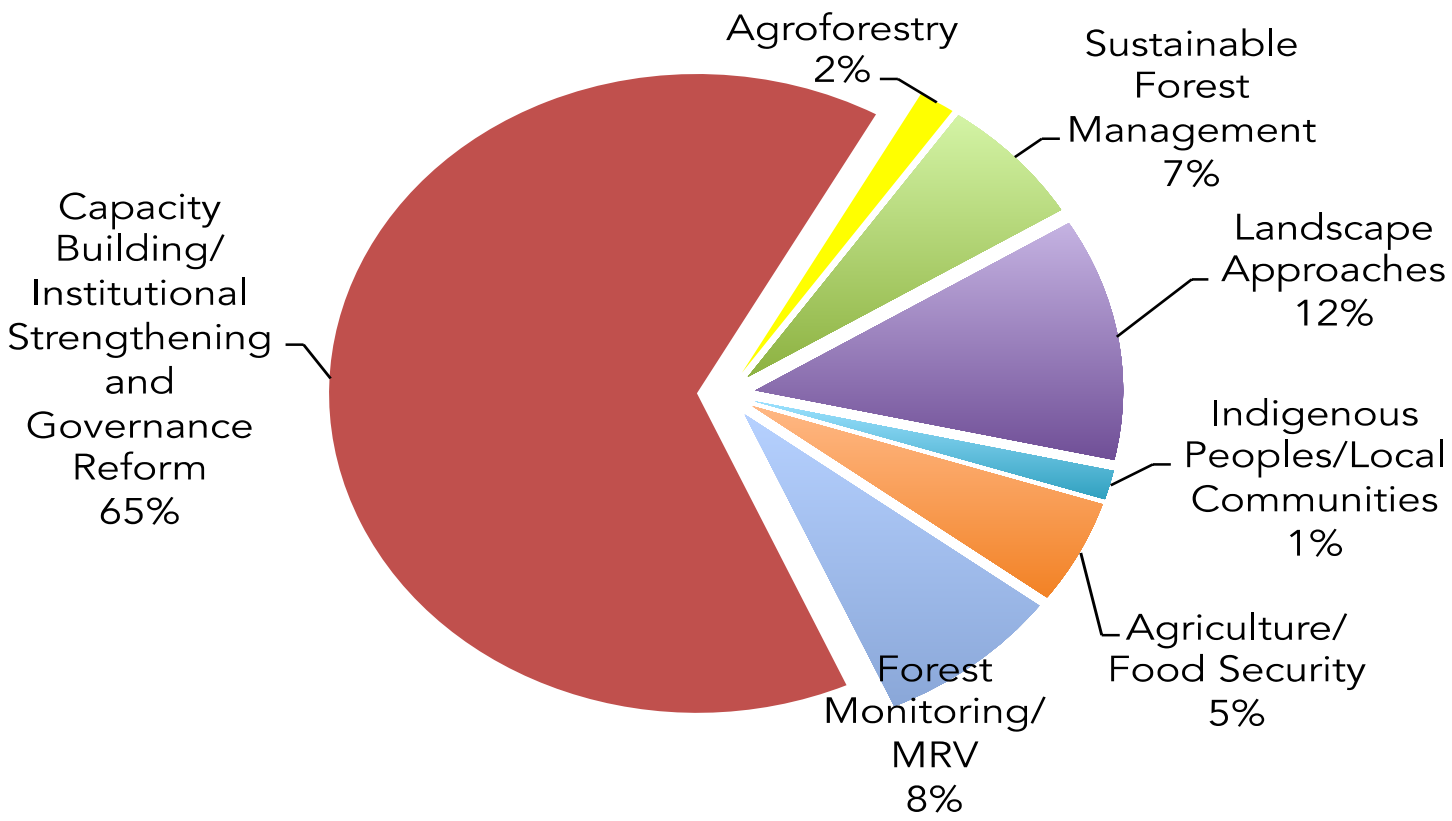
GHG ER ASSESSMENT CHALLENGE

- FIP projects are very diverse. GHG ER methodologies have to adjust to this diversity of approaches.
- MRV systems offer data based on national systems. It is difficult to make assessments with this data on a project basis.

GHG ER ASSESSMENT CHALLENGE

High diversity of project characteristics/sectoral focus.

FIP MDB-approved Funding by Sectoral Focus
(USD 203.85 million total as of December 31, 2014)



GHG ER ASSESSMENT CHALLENGE

Challenge:

Different accounting methodologies used. Data cannot be compared or aggregated.

- It is not possible to know FIP global impact
- It is not possible to compare one country's targets with another. Even in some cases, under one Investment Plan, it is not possible to aggregate/compare one MDB project performance with another.

CHALLENGES FOUND WITH GHG ACCOUNTING

REFERENCE EMISSION LEVEL/BASELINE

Submitted GHG baselines:

FIP pilot country	Investment plan/project	MDB	Baseline (M tCO2e)
Burkina Faso	**Investment Plan**		**-50.7**
	Decentralized forest and woodland management project (PGDDF)	IBRD	*-48.33*
	Gazetted forests participatory management project for REDD+ (PGFC/REDD+)	AFDB	*-2.35*
DRC	**Investment Plan**		**-2.15**
	Integrated REDD+ project in the Mbuji Mayi/Kananga and Kisangani basins	AFDB	*- 0.29*
	Improved Forested Landscape Management	IBRD	*-1.86*
Lao PDR	*Smallholder Forestry Project (Technical Assistance)*	IFC	*0.00*
Mexico	**Investment Plan**		**22.07**

REFERENCE EMISSION LEVEL/BASELINE

Methods for calculating the REL/Baseline:

1. Amount of GHG that would have been emitted if there had been no FIP investment.

Burkina Faso

DRC

Example: Burkina Faso, AFDB project.

2013	2014	2015	2016	2017	2018
55,368,244	54,896,047	54,425,103	53,955,407	53,486,952	53,019,732

Baseline

$C\ stock_{2018} - C\ stock_{2013} =$ **$-2.35\ MtCO_{2e}$**

2. Historical average of annual emissions

Mexico

Average emissions from deforestation, degradation and forest fires for Oaxaca, Jalisco, Campeche, Q. Roo, Yucatan for the 2000-2010. Mexico's baseline, **22.07** $MtCO_{2e}$

GHG EMISSION REDUCTION (ER) TARGETS

FIP pilot country	Investment plan/project	MDB	Target 1 (M tCO2e)	Target 2 (M tCO2e)
Brazil	**Investment Plan**		7,779,840 (ha)	
Burkina Faso	**Investment Plan**		4.1	13.8 *(15 years)*
	Decentralized forest and woodland management project (PGDDF)	IBRD	3.5	11.1 *(15 years)*
	Gazetted forests participatory management project for REDD+ (PGFC/REDD+)	AFDB	0.6	2.7 *(15 years)*
DRC	**Investment Plan**		4.2	18.07 *(30 years)*
	Integrated REDD+ project in the Mbuji Mayi/Kananga and Kisangani basins	AFDB	0.95	4.00 *(25 years)*
	Improved Forested Landscape Management	IBRD	3.25	16.1 *(15 years)*
Ghana	*Engaging Local Communities in REDD+/Enhancing Carbon Stocks*	AFDB		3.9 *(25 years)*
Lao PDR	**Investment Plan**		0.89	
	SUFORD-SU	ADB	0.135	
	Smallholder Forestry Project (Technical Assistance)	IFC	*0.755*	
Mexico	**Investment Plan**		**2.21**	

GHG ER TARGETS

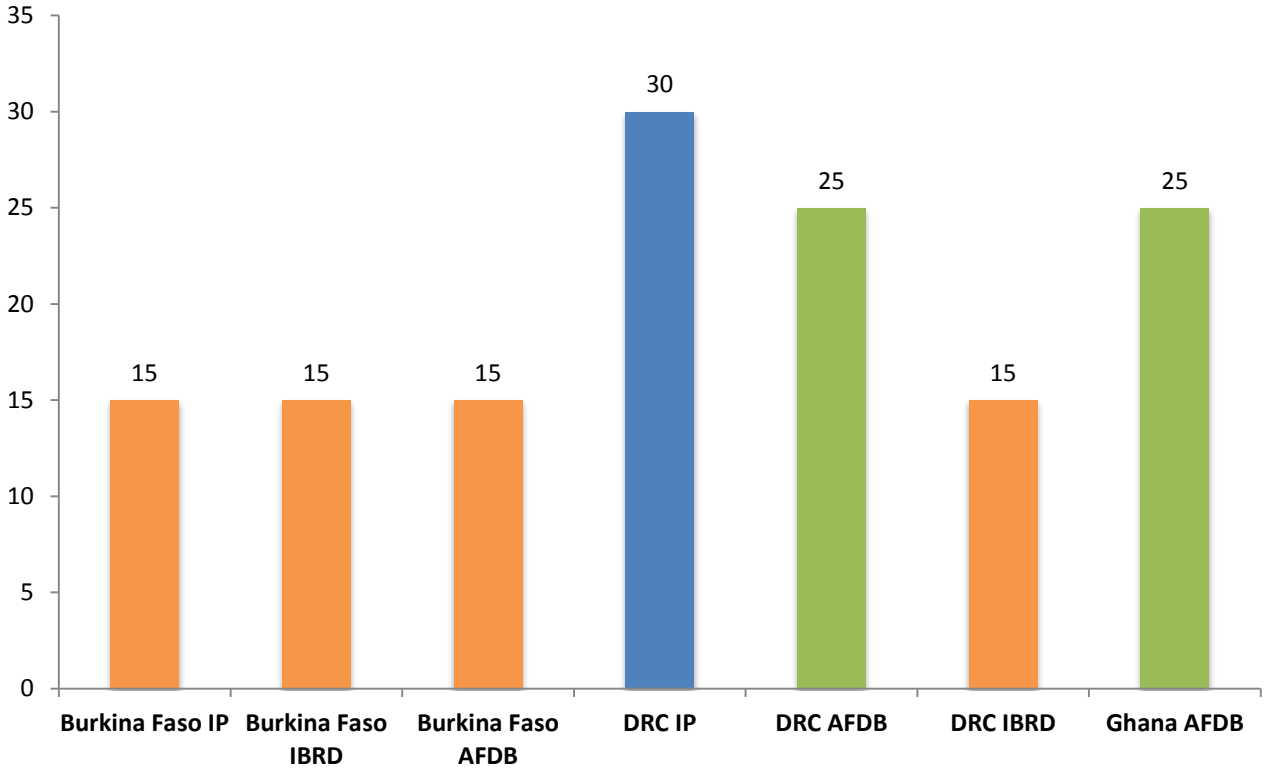
Countries that submitted results reports	Target 1 – project implementation (M tCO2e)	Target 2 – intervention lifetime (M tCO2e)
Brazil	7,779,840 (ha)	
Burkina Faso	4.1	13.8
DRC	4.2	18.07
Ghana	0.5	3.9
Lao PDR	0.89	
Mexico	2.21	

GHG ER calculated as **sum of project targets**. Targets are based on **project activities**.

Mexico is the only country to set GHG ER target at the **IP level**, and as **a % of the baseline**.

GHG ER TARGETS – TARGET 2. NUMBER OF YEARS

Number of years considered for Target 2 in the FIP results sheets



GHG ER TARGETS – CONSERVATIVE FACTOR

FIP pilot country	Investment plan/project	MDB	Use of conservative factor?	Conservative factor
Brazil	**Investment Plan**		✗	
Burkina Faso	**Investment Plan**			
	Decentralized forest and woodland management project (PGDDF)	IBRD	✗	
	Gazetted forests participatory management project for REDD+ (PGFC/REDD+)	AFDB	✓	**40%**
DRC	**Investment Plan**			
	Integrated REDD+ project in the Mbuji Mayi/Kananga and Kisangani basins	AFDB	✓	**30%**
	Improved Forested Landscape Management	IBRD	✗	
Ghana	*Engaging Local Communities in REDD+/Enhancing Carbon Stocks*	AFDB	✓	**25%**
Lao PDR	**Investment Plan**		✗	
	SUFORD-SU	ADB	✗	
	Smallholder Forestry Project (Technical Assistance)	IFC	✗	
Mexico	**Investment Plan**		✗	

GHG ER TARGETS – CARBON STOCK RATES

Carbon stock rates, deforestation rates and degradation rates used by IBRD and AFDB are different for projects taking place in the same or nearby area.

Burkina Faso

tCO2/ha	IBRD project - Burkina Faso	AFDB project - Burkina Faso	Difference (%)
Forest	198	194.33	1.85
Shrubland	128.33		
Grassland	36.67	12.85	64.95
Crops	84.33	18.35	78.24

GHG ER TARGETS – CARBON STOCK RATES

Burkina Faso - Deforestation rate

	IBRD project - Burkina Faso		Difference in deforestation	AFDB project - Burkina Faso		Difference in deforestation
	without project	with project (after 5 years)		without project	with project (after 5 years)	
%	2	0.8	1.2	0.5	0.25	0.25

Burkina Faso - Degradation rate

	IBRD project - Burkina Faso		Difference in degradation	AFDB project - Burkina Faso		Difference in degradation
	without project	with project (after 5 years)		without project	with project (after 5 years)	
%	5	3	2	0.4	0.2	0.2

GHG ER TARGETS – CARBON STOCK RATES

DRC - Carbon stock rates

tCO2/ha	IBRD project - DRC	AFDB project - DRC	Difference (%)
Primary forest	1059.7	400	62.29
Secondary forest	354.93	400	12.69

Ghana - Carbon stock rates

tCO2/ha	IBRD project - Ghana	AFDB project - Ghana	Difference (%)
Plantation		9.6	
Set aside land		18.35	
Shade cocoa plantation		291.6	
Low-Shade cocoa plantation		201.85	
Forest		360	
Closed Forest in the HFZ	568	360	-36.62
Open Forest in the HFZ	319	360	12.85
Cropland in the HFZ	54	360	566.67

GHG (ER) TARGETS – CARBON POOLS CONSIDERED

Projects	Carbon pools considered				
	Aboveground	**Belowground**	**Deadwood**	**Litter**	**Soil**
Burkina Faso-IBRD	✓	✗	✗	✗	✗
Burkina Faso-AfDB	✓	✗	✗	✗	✗
DRC - IBRD	✓	✗	✗	✗	✗
DRC-AfDB	✓	✗	✗	✗	✗
Ghana -IBRD	✓	✓	✗	✗	✗
Ghana-AfDB	✓	✓	✗	✗	✗
Indonesia-ADB	✓	✓	✗	✗	✗
Lao-ADB	✓	✓	✗	✗	✗

RECOMMENDATIONS

RECOMMENDATIONS

- Same timeframe should be used for GHG ER calculations.
  - Suggested: 30 years. Exceptions could be made for private sector projects.
  - Targets reported on results sheets should be for the same timeframe on all FIP projects in the same country.
- Same carbon stock, and deforestation data for same regions in a country should be used by all MDBs.

RECOMMENDATIONS

- Discount factors should be used only whenever necessary following a recognized methodology.

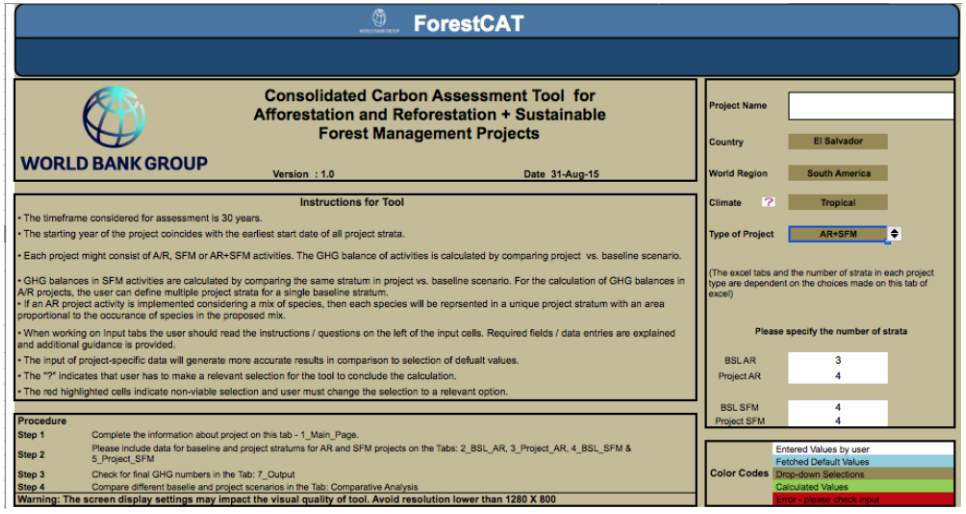
- Leakage estimations should be included in calculations, whenever relevant.

RECOMMENDATIONS

- Use existing calculation tools:

EX-ACT

FORESTCAT



RECOMMENDATIONS

- Technical assistance on GHG accounting, especially for new FIP pilot countries should be delivered. Could be combined with FIP M&R training workshops
- Consultations will be held with FIP pilot countries and MDBs
- Agreement should be reached on a minimum proxy
- A roadmap should be developed to harmonize GHG accounting

Thanks

Obrigado

Merci

Gracias