Forest Carbon Partnership Facility
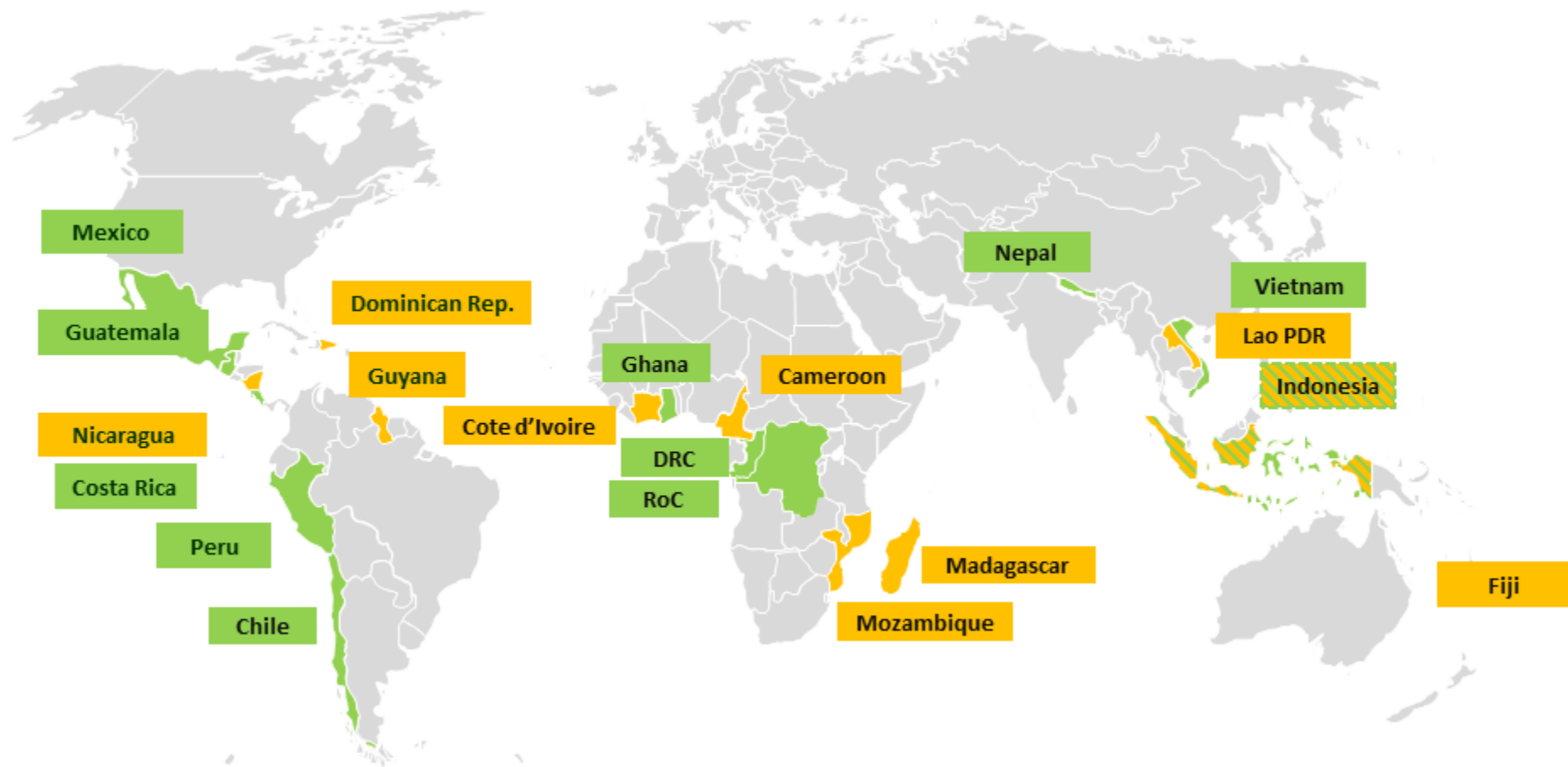
Portfolio Management and Selection of ER-PINs

Thirteenth meeting of the Carbon Fund (CF13)

Brussels, Belgium

October 13-16, 2015

Building the pipeline

Map of the world with countries labeled:

- Mexico
- Guatemala
- Nicaragua
- Costa Rica
- Peru
- Chile
- Dominican Rep.
- Guyana
- Cote d'Ivoire
- Ghana
- DRC
- RoC
- Cameroon
- Nepal
- Vietnam
- Lao PDR
- Indonesia
- Madagascar
- Mozambique
- Fiji

10 Countries selected into the pipeline	1 Country provisionally selected into the pipeline	9 Countries presenting ER-PINs at CF13

Reopening the pipeline

- 11 ER-PINs in pipeline so far → 8-9 ERPAs in eventual portfolio.

- Pipeline was closed at CF11. Some CFPs since indicated interest in increasing funding to the Carbon Fund and reopening the pipeline, subject to quality ER-PINs being submitted.

- 9 interested, eligible REDD Countries have submitted ER-PINs.

- Any new Countries selected would enter the same pipeline as existing Countries upon LOI signature.

Task at CF13

Two decision points to select ER programs:

1. Selection into Carbon Fund **pipeline** based on ER-PIN (**concept**-stage ideas)
   → Signing of Letter of Intent (LOI). This does not guarantee a Country will make it to Emission Reductions Payment Agreement (ERPA).

2. Selection into Carbon Fund **portfolio** based on ER-Program Document (full proposal)

   → Signing of ERPA.

FMT checked completeness of each ER-PIN

- On quality: Assessing ER-PINs at this stage. More detailed information required at ER-PD stage (many countries are in early Readiness stages);

- Not yet expected to meet every Methodological Framework standard;

- Considered guidance to countries on what needs to be in an ER-PIN;

- Considered 18 overarching questions;

- Made judgment calls (e.g., work in progress on reference levels);

- Objective: verify submissions were complete, consistent with Readiness information, and that proposed ER Program has potential to meet ER-PIN selection criteria **for selection into the pipeline.**

Task at CF13

- With original funding envelope, CFPs targeted 10-12 LOIs to eventually sign 8-9 ERPAs (estimated 20-25% droppage rate from LOI to ERPA).

- Number of ER-PINs selected at CF13 will depend on:
  – Outlook for potential new funding
  – The quality of programs presented
  – CFPs' appetite for risk. Do CFPs want to over-program by the same amount?
    → Experience: Some ER-PINs may not become ER-PDs at all, or ER-PDs that meet requirements or Carbon Fund Participants' needs. BioCF T1/T2: 32% droppage rate from LOI to ERPA.
    → If there is under-delivery or if more funds become available, there will be additional Programs under development to buy into.
    → Competitive process on quality and progress.
    → Countries may access other funding if not selected by the Carbon Fund.

- Think critically about the vision for the pipeline/portfolio.
  – Aim to close pipeline at CF13? Or invite Countries to re-submit at a later time?
  – Give clear guidance now, so Countries know whether to continue developing proposals.

Options for Selection of ER-PINs

1. Include ER-PIN in pipeline, allocate up to $650,000 (subject to a signed Letter of Intent)
   - to support Country to develop ER-PIN into an ER Program Document
   - to support due diligence by World Bank
   - funds will be managed by World Bank and/or FMT
   - Gives green light to country to further develop concept. Not expected to answer all questions before signing an LOI
   - *LOI resolution requires setting a maximum volume (and possibly maximum value) to be contracted.*

2. Allocate up to $200,000 to support revisions to ER-PIN
   - ER-PIN to be considered for inclusion in pipeline at later stage
   - funds will be managed by World Bank and/or FMT

3. Not include the ER-PIN
   - ER-PIN may be modified and presented again later if window is open

FMT recommends option 1 or 3, as has been done in the past

Options for Selection of ER-PINs

- Reopening to new ER-PINs is the result of potential new funding; however, new funding has not yet been secured.

- FMT recommends that new ER-PINs be subject to new funds received. Options at CF13 include:

1. Select X ER-PINs in a single batch, subject to new funds	2. Select X ER-PINs in tiers, subject to new funds	3. Select and rank X ER-PINs, subject to new funds
All new funds must be received to allow all X selected countries to sign LOIs.	Sufficient new funds must be received to allow the first tier of selected countries to sign LOIs; Additional new funds must be received to allow the second tier, and so on.	Sufficient new funds must be received to allow the first selected country to sign an LOI; Additional new funds must be received to allow the second country, and so on.

FMT recommends option 2

- Any new Countries would enter the same pipeline as existing Countries upon LOI signature.

Criteria for selection of ER-PINs into pipeline

7 formal criteria:

1. Progress towards Readiness
2. Political commitment
3. Methodological Framework
4. Scale
5. Technical soundness
6. Non-carbon benefits
7. Diversity and learning value

Other parameters raised by CFPs:

- Regional balance across portfolio
- Quality matters
- Goal of net emission reductions across portfolio
  - Countries with high forest cover and low deforestation (HFLD) should not represent a disproportionately large share of the total ER volume or total financial value of the portfolio.

Timeline for Readiness and ER Programs

	R-PP approved by PC	Grant Agreement signed	Estimated R-Package submission	Estimated final ER-PD submission
ER-PINs ALREADY SELECTED				
Chile	Oct 2012	Jan 2014	Fall 2016	Fall 2016
Costa Rica	June 2010	June 2012	Fall 2015	Spring 2016
DRC	Mar 2010	Mar 2011	Spring 2015	Spring 2016
Ghana	Mar 2010	Dec 2011	Spring 2016	Fall 2016
Guatemala	Mar 2012	Apr 2014	Fall 2016	Spring 2018
Indonesia	June 2009	June 2011	Fall 2016	Spring 2017
Mexico	Mar 2010	Mar 2014	Spring 2016	Fall 2016
Nepal	June 2010	Mar 2011	Spring 2016	Spring 2017
Peru	Mar 2011	May 2014	Spring 2016	Spring 2018
ROC	June 2010	Jan 2012	Spring 2016	Spring 2016
Vietnam	Mar 2011	Nov 2012	Spring 2016	Fall 2016
ER-PINS AT CF13				
Cameroon	Oct 2012	Dec 2013	Spring 2017	Fall 2017
Cote d'Ivoire	Dec 2013	Sep 2014	Fall 2016	Fall 2016
Dominican Republic	Dec 2013	Oct 2015	Spring 2018	Spring 2018
Fiji	Dec 2013	May 2015	Spring 2018	Spring 2018
Guyana	June 2009	Feb 2014	Spring 2018	Fall 2018
Lao PDR	Nov 2010	Aug 2014	Spring 2017	Fall 2017
Madagascar	July 2014	May 2015	Spring 2017	By 2019
Mozambique	Mar 2012	July 2013	Fall 2017	Fall 2017
Nicaragua	June 2012	Dec 2013	Fall 2017	Fall 2018

Most presenting Countries are in the early stages of Readiness

Based on Country documents where available, and FMT estimates otherwise.

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Key characteristics of new ER-PINs

Countries/ Characteristics	Cameroon	Cote d'Ivoire	Dominican Republic	Fiji	Guyana	Lao PDR	Mada-gascar	Mozam-bique	Nica-ragua
Program Name/Scope	Eco-region in south, includes Congo Basin	Eco-region covering 3 juris-dictions	National	Two largest islands	National	6 northern contiguous provinces	North-South eco-region in the East	7 districts of Zambezia province	N-S Carribbean Coastal in the west
Key drivers	Agriculture, logging, energy, infra-structure, mining	Agriculture, firewood; logging; mining; infra-structure	Agriculture, livestock, urbaniza-tion, fire, storms	Agri-culture, Logging	Infra-structure, Agri-culture, mining, fire	Infra-structure; logging; Agriculture	Agriculture, logging, mining, livestock	Agriculture firewood; logging; infrastructure	Agriculture, cattle, logging, fire, settle-ments
Accounting Area [mln ha, % of country]	9.3 [19%]	4.2 [13%]	4.8 [100%]	1.6 [90%]	21.4 [100%]	8.1 [35%]	4.7 [8%]	3.8 [5%]	7 [54%]
Forest Area in Accounting Area [mln ha, % of Accounting Area]	9.2 [99%]	1.1 [28%]	1.9 [39 %]	1 [62%]	18.5 [85%]	4.2 [52%]	4.0 [85%]	2.3 [59%]	2.9 [42%]
Average Annual Emissions during Reference Period [mln tCO2e/yr]	6 6.8 (with adjustment)	18.4	2.8 (emissions) 5 (removals)	0.3	11.7 31 (with adjustment)	6.9 (emissions) 7.2 (removals)	12.1	3.9	21.5
Estimated Program ERs* [mln tCO2e]	10.4 (incl. HFLD adjustment)	15	15.6	3.6	22.8 (incl. HFLD adjustment of 0.1%)	7.0	16.4	10.8	19.7
Total ERs offered to Carbon Fund [mln tCO2e]	10.4	12	7.5	3.6	22.8	7.0	16.4	8.7	11

* Values normalized to correspond to 5-year ERPA

ER-PINs in numbers

	[million tCO₂e/year]	HFLD Adjustment (% of total emissions)	Emissions	Removals	Effectiveness (% estimate)
ER-PINs already selected	Costa Rica [1]		7.2	4.4	11%
	Chile		9.4		16%
	Mexico		6.2		28%
	Ghana		28.5		13%
	DRC [1]	5.2 (5%)	107.4		29%
	Rep. Congo	5.1 (81%)	6.3		37%
	Nepal		4.4		64%
	Vietnam		16.0	15.3	13%
	Indonesia [2]		60.7		18%
	Guatemala		11.5		37%
	Peru	3.1 (18%)	17.6		24%
	Total (CF11 pipeline)	***13.4 (5%)***	***275.5***	***19.7***	
ER-PINs at CF13	Cameroon	0.76 (13%)	6.0		35%
	Cote d'Ivoire		18.4		16%
	Dominican Republic		2.8	5.5	41%
	Fiji		0.3		91%
	Guyana	19.5 (167%)	11.7		29%
	Lao PDR		6.9	7.2	10%
	Madagascar		12.1		27%
	Mozambique		3.9		30%
	Nicaragua		21.5		8%
	Total (w/ CF13 ER-PINs)	***33.7 (9%)***	***358.8***	***32.4***	

[1] Updated per draft ER-PD, Sept. 2015
[2] Using values from CF11 ER-PIN

Key variables that affect the eventual ER Volume in the Carbon Fund portfolio

- Updates to Reference Level (RL) estimates after ER-PIN was selected
  - RL is more carefully estimated for the ER-PD (e.g., using updated emission factors or different satellite data)
  - For instance: In the draft ER-PD, DRC increased RL by >400%, Costa Rica reduced rate of emissions by 1/3 and rate of removals by 2/3

- Program Effectiveness (percentage change in rate of emissions or removals during program implementation)
  - Difficult to estimate reliably at this stage
  - Most ER-PINs estimate effectiveness to be 10-30%

- Quality of Measurement (statistical uncertainty associated with measured emission reductions)
  - Improved measurement (e.g., through better data, denser sampling) lowers uncertainty
  - Uncertainty (confidence in estimates) is basis for conservativeness factors (ER discount)
  - Accordingly, a certain portion of ERs is managed through an Uncertainty Buffer account (and only paid for in certain conditions)

Key variables that affect the eventual ER Volume in the Carbon Fund portfolio (cont.)

- Risk of Reversals (disturbance events lead to emissions that impact ERs paid for by the Carbon Fund)
  - Risk is assessed during verification
  - Risk of reversal can be mitigated (through program design) and managed (a reversal buffer)
  - A portion of ERs (10-40%) is set-aside in a Reversal Buffer account (and only released if reversal is risk reduced)

- Length of the ERPA Term
  - With the Carbon Fund extension to 2025, up to 8-year ERPAs may be possible for some programs (subject to ERPA signature date)

- Share of Total ERs offered to the Carbon Fund
  - Countries may choose to retain a certain portion of ERs for sale to other buyers

- Pipeline attrition
  - A portion of selected ER-PINs may not get fully developed and result in an ERPA

Carbon Accounting
Calculation of Emission Reductions

ER Volume

Uncertainty set aside
ERs available for sale to other buyers
Reversal Buffer
ERs paid for by CF
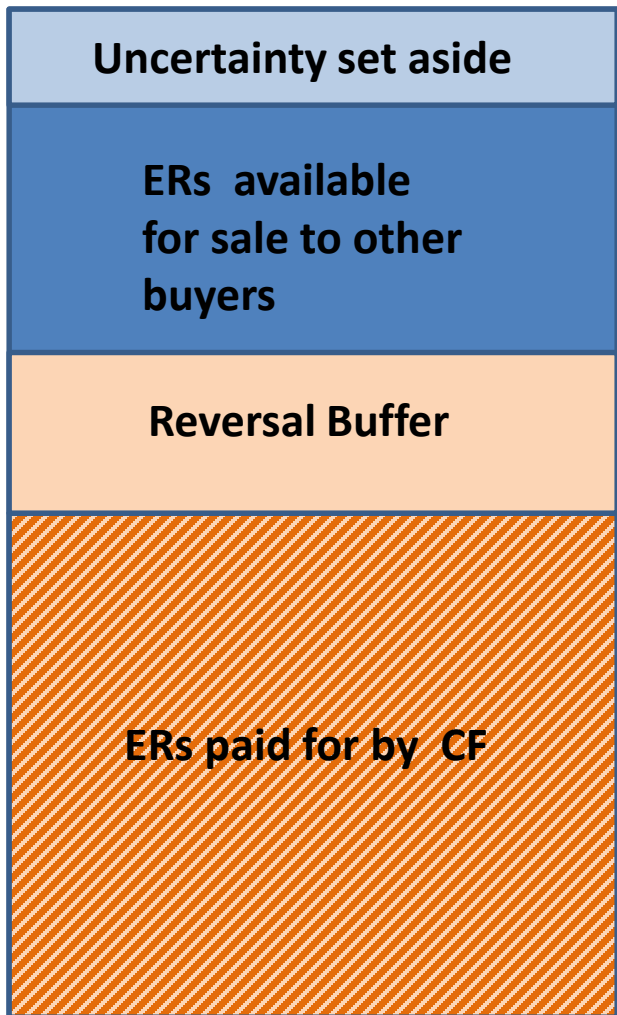
- Subtract the reported and verified emissions and removals from RL

- Set aside a number of ERs to reflect the level of uncertainty associated with the estimation of ERs (percentage of ER Volume)

- CF will buy percentage of the ER Volume

- If CF Buffer is used → set-aside of ERs in CF Buffer to deal with risk of Reversals of ERs purchased by the CF (percentage of ERs purchased by CF)

- Remaining ERs can be sold to other buyers

Portfolio Simulation using Monte Carlo Analysis

- A sophisticated approach to explore potential portfolio outcomes
  - Produces a distribution of thousands of portfolios using different randomized combinations of key portfolio variables
  - Supports risk-based decision-making (at this point: selection of ER-PINs)

- Requires assumptions about the range of variability in key portfolio variables
  - Reasonable input values can be defined on the basis of experience, expert judgment or expectations
  - Assumptions and expectations can be updated later as more information becomes available about the ER Programs

For illustration, let's assume …

Portfolio Variable	
Change relative to RL in ER-PIN	-30% to +30%
Program effectiveness	10 to 30%
Uncertainty Buffer set-aside	5-15%
Reversal Buffer set-aside	10-30%
Share of ERs offered to Carbon Fund	90%
ERPA Term Length	5 years
LOI drop rate	25%

… then generate a thousand portfolios …

... and examine the outcome!

		Net emissions reductions	ER Volume in CF portfolio			Buffer	
	[million tCO$_2$e]	< historical*	Average*	Max	Min	Uncertainty*	Reversal*
ER-PINs already selected	Costa Rica [1]	11.5	**6.9**	13.9	2.6	1.7	2.7
	Chile	9.2	**5.5**	13.5	1.6	1.4	0.9
	Mexico	6.2	**3.8**	8.8	1.1	0.7	1.3
	Ghana	28.6	**17.4**	40.1	5.6	2.4	5.5
	DRC [1]	107.5	**80.5**	168.5	30.0	14.2	7.9
	Rep. Congo	6.3	**19.1**	28.7	12.9	2.8	2.7
	Nepal	4.4	**2.6**	5.9	0.8	0.4	0.6
	Vietnam	31.6	**19.3**	38.2	6.8	2.7	3.5
	Indonesia [2]	60.2	**36.3**	76.5	11.2	3.4	9.8
	Guatemala	11.6	**6.9**	15.7	2.2	0.9	1.3
	Peru	17.9	**20.2**	34.0	10.8	3.6	6.0
ER-PINs at CF13	Cameroon	6.0	**5.9**	11.2	2.9	0.9	1.3
	Cote d'Ivoire	18.3	**11.0**	25.5	3.5	1.9	1.3
	Dominican Republic	8.3	**5.0**	10.6	2.3	1.5	1.8
	Fiji	0.3	**0.2**	0.4	0.1	0.0	0.0
	Guyana	11.7	**66.3**	90.3	48.7	15.5	22.2
	Lao PDR	14.2	**8.6**	18.5	3.5	1.4	2.2
	Madagascar	12.1	**7.3**	15.9	2.3	1.3	1.3
	Mozambique	3.8	**2.3**	5.4	0.7	0.3	0.6
	Nicaragua	21.8	**13.2**	29.7	4.4	1.4	1.3

[1] Updated per draft ER-PD, Sept. 2015
[2] Using values from CF11 ER-PIN
* Average of 1000 randomly generated portfolios

Aggregate portfolio
(using variable settings above)

[million tCO$_2$e]	Net emissions reductions	ER Volume in CF portfolio			25-75%ile	Median	Buffer	
	< historical*	Average*	Max	Min			Uncertainty*	Reversal*
CF11 pipeline *(11 programs)*	295	**163**	290	28	125-198	168	34	42
w/ CF13 ER-PINs *(20 programs)*	390	**251**	405	75	211-291	255	60	91

* Average of 1000 randomly generated portfolios

- **Portfolio volume and value**
  - Values above are in million tCO$_2$e; multiply by a price to get value of total portfolio
  - For all 20 programs and a price of \$5 per tCO$_2$e the portfolio value would be \$1.255bn (using the average volume of 251 million tCO$_2$e)
  - Considering all 20 programs, 50% of all simulated portfolio outcomes fall in a range of 211-291 million tCO$_2$e

- **Net emission reductions are for the entire program**
  - Measured against respective historical average
  - ER Volume reflects performance, buffer set-asides and share offered to the Carbon Fund

- **Buffer ER Volumes**
  - Estimated based on average uncertainty discount and reversal risk for program lengths

Financial Situation:
Sources and Uses Summary

Carbon Fund Sources and Uses Summary ($m)					
	Current Situation	Scenario 1a	Scenario 1b	Scenario 2a	Scenario 2b
Sources ($m)	**456**	**700**	**800**	**700**	**800**
Number of ER Programs (#)	**7**	**11**	**11**	**14**	**14**
Number of LoIs (#)	11	16	16	21	21
Uses					
Costs over Fund Lifetime	$m	$m	$m	$m	$m
Fixed Costs (FY10 to FY26)	22.7	22.7	22.7	22.7	22.7
ER Program Costs	13.7	21.2	21.2	27.2	27.2
Total Costs	**36.4**	**43.9**	**43.9**	**49.9**	**49.9**
Available for Purchase of ERs	**419.6**	**656.1**	**756.1**	**650.1**	**750.1**

Conflict of Interest

- Charter: CFPs disclose involvement in ER-PINs, FMT determines whether CFP should recuse from:
    - discussion = discussion during plenary
    - deliberation = formulation of resolution

Notifications Received	Countries Involved in	Details and FMT Determination
Australia	N/A	- **No conflict of interest.**
BP	N/A	- **No conflict of interest.**
Canada	N/A	- **No conflict of interest.**
EC	Cameroon, Cote d'Ivoire, Guyana, Lao PDR	- Supporting national FLEGT/REDD+ processes, with EFI's EU REDD/FLEGT Facilities. - **No conflict of interest.**
France	Cote d'Ivoire, Mozambique	- Cote d'Ivoire: AFD supports REDD+ Readiness Process and a pilot REDD+ Project. No direct funding or technical assistance to ER-PIN development. - Mozambique: FFEM supports a pilot project focused on the Gilé National Reserve and its surrounding, which is part of the ER Program area. No direct funding or technical assistance to ER-PIN development. - **No conflict of interest.**

Conflict of Interest (continued)

Notifications Received	Countries Involved in	FMT Determination
Germany	Cote d'Ivoire, Dominican Republic, Nicaragua	• Cote d'Ivoire: GIZ and KfW support conservation of Tai National Park, which is part of the program area. • Dominican Republic, Nicaragua: GIZ REDD/CCAD program provides support to the countries. • **No conflict of interest** for the above.
	Cameroon, Fiji, Lao PDR, Madagascar,	• Cameroon: REDD+ Secretariat receives advisory support through GIZ, and financial support through a basket fund. • Fiji, Lao PDR, Madagascar: Directly or indirectly supported ER-PIN preparation. **Do not recuse from discussion, deliberation; recuse from decision if by vote.**
Norway	Guyana	• Guyana: Through *Norway-Guyana climate and forest partnership*, Norway provides financial contributions for maintaining extremely low levels of deforestation. This involves payments for achieved, independently verified ERs, and financial support to Conservation International who has assisted the Guyana Forestry Commission, including ER-PIN development. **Do not recuse from discussion; recuse from deliberation, decision.**
	Cameroon, Cote d'Ivoire, Dom. Rep., Fiji, Lao PDR, Madagascar, Mozambique, Nicaragua	• All others: No direct funding or technical assistance. Norway is a financial contributor to UN-REDD and FIP, where funding may have contributed to ER-PIN development. **No conflict of interest.**

Conflict of Interest (continued)

Notifications Received	Countries Involved in	FMT Determination
US	Cameroon, Dominican Republic, Lao PDR, Nicaragua	• Cameroon: US Forest Service provides technical support, largely focused on MRV and R-PP implementation, and capacity building. No direct support to the ER-PIN. **No conflict of interest.** • Dominican Republic: US Regional Climate Change Program (RCCP) provides limited technical support to REDD+ Readiness through its partners CATIE, IUCN and TERRA Global Capital. RCCP partners assisted in drafting ER-PIN. **Do not recuse from discussion, deliberation; recuse from decision if by vote.** • Lao PDR: USAID implements projects on forest and land management, reducing carbon emissions, and capacity building. No direct support to ER-PIN. **No conflict of interest.** • Nicaragua: USAID supports development of National Landscape Restoration Strategy. No direct support to ER-PIN. **No conflict of interest.**
IP Observer	N/A	• **No conflict of interest.**

PC13 Agenda

- Deliberation and discussion of decisions in plenary and small groups built-in.

THANK YOU!

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