Forest Carbon Partnership Facility (FCPF)

Carbon Fund

Review of Financing Plans of Emission Reductions Programs and Options to Address the Financing Gap

June 2017

Background

Financing plans of the Emission Reductions (ER) programs of the FCPF Carbon Fund provide details of costs and resources available to implement them.

The details of financing are presented in Section 6.2 of the Emission Reductions Program Document (ERPD) with a summary included in the Annex I to the ERPD. The details of financial and economic analysis of programs are also presented in the project appraisal document and are reviewed by the World Bank team as part of appraisal.

This note reviews the financing plans of the ER programs submitted to the FCPF Carbon Fund for approval and the ER programs that are in advanced stages of preparation. This note will be updated on a periodic basis as new data and information on program financing becomes available.

1. Overview of ER program financing

The financing plan covers information on the use of funds (program costs) of the ER programs that are proposed to be implemented over a five to ten year duration. Whereas the duration of an Emission Reductions Payment Agreement (ERPA) between the Carbon Fund and the ER programs for the purchase of ERs is expected to be less than or equal to the total program duration.

Use of funds

A part of the financing plan provides information on the use of funds for implementing the proposed interventions, supporting institutional arrangements, and organizing monitoring and verification of program results. The use of funds represents the sum of implementation costs, institutional costs, and transaction costs of monitoring and verification of ER programs.

Source of funds

Another part of the financing plan provides information on funds committed and anticipated from different public and private sources for program implementation; projected revenue from the sale of products and services that can be reinvested in programs; and projected revenue from the sale of ERs. The revenue from the sale of products and services not reinvested in the programs is excluded as a source of finance for the programs.

Financing gap or surplus

The difference between the use of funds and the source of funds translates into a financing gap or surplus. The financing gap needs to be addressed to effectively implement the programs and to achieve results.

Financial and economic analysis

Financial and economic analysis focuses on the flow of funds to and from programs over a specific period with cash flows discounted to reflect the net present value (NPV) of cost and revenue streams; and the internal rate of return (IRR) of the program investments. The financial analysis compares the discounted cost and revenue streams estimated from the perspective of implementing agencies, whereas the economic analysis considers the costs and benefits of an activity or a set of activities to society, including the costs and benefits not paid for or captured by the implementing agencies. The financial and economic analysis of programs is expected to be reviewed as part of the World Bank's program appraisal.

2. Varying approaches of ER programs to the preparation of financing plans

The review of financing plans shows diverse approaches followed by the ER programs in estimating the costs of interventions proposed for implementation in the respective programs and their accounting over the program period.

The programs have also used diverse approaches to account for funds from the national budgets, public and private sources and revenue from the sale of products. Several programs included unsecured funding from public and private sources anticipated during the program implementation. Changes in anticipated funding can impact the financing available for program implementation.

The majority of the ER programs have not conducted a sensitivity analysis to reflect the changes in costs, revenues and financing sources to assess its potential impact on program financing.

3. Review of financing plans of the ER programs

This review covers the financing plans of ten ER programs - four programs (Costa Rica, Chile, DRC, and Mexico) submitted to the FCPF Carbon Fund for approval; and six programs (Ghana, Madagascar, Mozambique, Nepal, Republic of Congo, and Vietnam) that are in advanced stages of preparation for submission to the Carbon Fund. This review will be updated on a periodic basis as additional information on the program financing becomes available.

Financing plans corresponding to the full program duration

The total duration of the ER programs proposed for inclusion in the Carbon Fund range from five to ten years. Table 1 presents the use of funds (program costs) and the source of funds for the full program duration. The use of funds reflects the expected costs of implementing the programs. Whereas the source of funds includes funds committed and funds anticipated from different sources during the program period; as well as ER payments expected from the sale of emission reductions.

The financing gap represents the difference between the use of funds and the source of funds. Two categories of financing gap are identified based on whether or not ER payments are considered a financing source for the programs.

- The gap between the use of funds and the sum of all public and private funds together with ER payments under the assumption that the ER payments are used as a financing source for program implementation (financing gap 1);
- The gap between the use of funds (program costs) and the sum of all public and private funds but *excluding* the ER payments under the assumption that ER payments are realized late in the program, thereby limiting their availability for program implementation (financing gap 2).

The financing gap of the programs can potentially fall between the financing gaps assessed with and without ER payments as financing sources. Assuming that a portion of ER payments can flow to program implementation from the ER payments received at the first verification, it is reasonable to assume that the financing gap is an average of the financing gaps assessed with and without ER payments.

Table 1: Financing plan of the ER programs over their full duration (USD million)

No.	ER Program	Program duration (years)	Use of funds (cost of program) (A)	Source of Financing		Financing Gap 1 (with ER payment) (D)=(B+C)-(A)	Financing Gap 2 (without ER payment) (E)= (B)-(A)
				All public & private sources[1] (B)	Expected ER payments (C)		
1	Chile	9	174	37	60	77	137
2	Costa Rica	9	297	N/A	23	N/A	N/A
3	D R Congo	10	89	78	97	0	11
4	Ghana	5	237	187	50	0	50
5	Madagascar	10	189	159	87	0	30
6	Mexico	5	426	420	50	0	6
7	Mozambique	10	N/A	40	44	N/A	N/A
8	Nepal	10	177	131	70	0	46
9	Rep of Congo	10	151	86	65	0	65
10	Vietnam	8	454	313	103	38	141
	Total		**2194**	**1451**	**649**	**115**	**486**

Source: ER program documents submitted to the FCPF Carbon Fund; and the ER program documents that are in preparation.

Note: 1. It should be noted that the updated information on the program costs, revenues and sources of financing can modify the financing plans as the programs conduct financial and economic analysis as part of the appraisal. Therefore, the data on program financing in the above table should be considered as indicative.

Financing plans of programs corresponding to the ERPA period

The duration of the Emission Reductions Payment Agreements (ERPA) between the FCPF Carbon Fund and the ER programs is expected to be of a shorter duration in comparison to the total duration of the ER programs proposed to the Carbon Fund. Considering the expected closure of the Carbon Fund in 2025, the length of ERPA can vary between five and eight years. For the purpose of this note, a time period of five years is assumed as the ERPA duration; and the financial plans of programs have been revised to coincide with the five year ERPA period. Table 2 presents the details of the financing plans of the programs corresponding to the five-year ERPA period.

The comparison of the financing plans of the programs corresponding to the full program duration with the financing plans of the programs corresponding to the five-year ERPA period shows that the cost of implementing the programs over their full duration is higher by about one-third. Whereas the difference in the public and private sources of financing between the two sets of financing plans is small, highlighting the need for additional funds required to implement the programs over their full duration. The value of ER payments during the ERPA period is about half of the value of the ER payments projected over the full program duration, and highlights that a major portion of emission reductions are projected to occur during the latter half of the program period.

Table 2: Financing plan of the ER programs corresponding to the five year ERPA period (USD million)

No.	ER Program	Length of ERPA (years)	Use of funds (cost of program) (A)	Sources of Financing		Financing Gap 1 (with ER payment) (D)=(B+C)-(A)	Financing Gap 2 (without ER payment) (E)= (B)-(A)
				All public & private sources (B)	Expected ER payments (C)		
1	Chile	5	128	21	17	90	107
2	Costa Rica	5	165	N/A	13	N/A	N/A
3	D R Congo	5	89	78	50	0	11
4	Ghana	5	237	187	50	0	50
5	Madagascar	5	169	159	50	0	10
6	Mexico	5	426	420	50	0	6
7	Mozambique	5	N/A	40	22	N/A	N/A
8	Nepal	5	97	80	35	0	17
9	Rep of Congo	5	92	86	35	0	6
10	Vietnam	5	241	193	38	10	48
	Total		**1644**	**1264**	**360**	**100**	**255**

Source: ER program documents submitted to the FCPF Carbon Fund and the ER program documents that are in preparation.

Note: 1. It should be noted that the updated information on the program costs, revenues and sources of financing can modify the financing plans as programs conduct financial and economic analysis as part of the appraisal. Therefore, the data on program financing in the above table should be considered as indicative.

4. Findings from the review of financing plans

Based on the review of the financing plans, the following findings are summarized:

i. The information on the ER program financing is partial considering that the information is available for about half of the programs (eight out of nineteen programs).
ii. The financing plans reflect diverse approaches adopted by the programs in accounting program costs and financing sources.
iii. The financing information of several programs is likely to be revised as the programs go through appraisal.
iv. The cost of implementing ER programs can range between three and five times of the value of projected emission reductions from the programs.

v. The average amount of financing available from public and private sources varies between two thirds and three fourths of the program costs.
vi. There is scope to improve the quality of data, information and assumptions presented in the financing plans. Use of a standardized template to present data on program financing as an Annex to the ERPD can promote consistency in the data and information on financing presented in the ERPD.

5. Financing gap of ER Programs

The financial plans of the ER programs corresponding to the five year ERPA presented in the Table 2 shows that the financing gap more than doubles if ER payments are excluded as a funding source. Assuming that some programs can be expected to use the ER payments received at the first verification to implement the activities during the latter part of the programs, the financing gap can be considered as an average of the financing gap with and without ER payments, which is assessed at USD 178 million for eight programs.

The financing gap varies significantly across the programs with some programs such as Chile showing a large gap exceeding fifty percent of the program costs, while other programs, such as Democratic Republic of Congo, Republic of Congo, Mozambique, Madagascar and Vietnam, show a small financing gap of up to ten percent of their respective program costs. However, it should be noted that the financing gap reflects not only financing need but also scale and ambition of the programs as well as their interventions.

It is also relevant to note that less than half of the financing is committed while the major portion of financing is anticipated from different public and private sources during program implementation. Limited committed funding contributes to uncertainty in the financing plans as non-realization of a portion of funds that are anticipated during program implementation could significantly increase the financing gap.

Estimate of the financing gap of ER programs

As per the information available from the financing plans, a conservative estimate of up to USD 200 million is assessed as the financing gap of the ER programs reviewed in this note. The financing gap of the programs could increase in case funding anticipated during program implementation does not materialize.

6. Country led options to address the financing gap of ER programs

The country led options to address the financing gap of the programs can be grouped into two categories: (i) domestic sources; and (ii) international sources.

Domestic sources

Domestic public resources continue to play a major role in the ER programs on a multi-year basis. In addition to the government budget for forestry, national and provincial budgets of agriculture, rural development and allied sectors can be relevant as their analysis can help to identify resources that support cross-sectoral interventions and supporting sustainable land use in the program jurisdictions.

Revenue from the sale of forest products in most countries goes to government budgets and is not often available for reinvestment in the programs. Institutional arrangements for channeling revenue from the sale of products and services in the program area as a funding source to the programs can support reinvestment of revenue from products and services in the program area.

International sources

Bilateral and multilateral financing in the form of grants and loans is relevant throughout the program implementation period. Engagement with bilateral and multilateral agencies during the early stages of program design can facilitate links between the ER programs and the existing and proposed bilateral and multilateral programs.

The growing role of private sector in sustainable production and trade of commodities provides opportunities for private sector engagement to support sustainable land use and production systems potentially contributing to program revenue streams from value chain improvements. The FMT will discuss possible ways to enhance work with private sector at the Carbon Fund 16 meeting.

7. Carbon Fund and Trustee facilitated options to address financing gap

The review of financing plans of the ER programs shows that the sources of financing and financing arrangements put forward by the counties for their programs are inadequate to meet the financing needs of several programs resulting in financing gap of several programs manifest at the start of the programs and can be a potential risk during program implementation. Therefore, addressing the financing gap of the programs is a priority.

In this context, it is relevant to examine the options facilitated by (i) Carbon Fund; and (ii) the World Bank as the trustee of the Carbon Fund.

Carbon fund facilitated

The Carbon Fund facilitated option to address the financing gap relates to the use of a portion of ERPA value as an advance payment meet a portion of financing gap.

(a) *Advance payment*

The advance payment is the payment that can be transferred from the Carbon Fund to the ER programs in advance of the receipt of the emission reductions from the programs. The advance is expected to be negotiated between the Carbon Fund and the ER programs taking into account the specific context and status of financing of the programs when no other sources of funding are available to address the financing gap. The advance payment can be grouped into three categories.

I. *Upfront advance*: is an amount payable upfront at the beginning or early period of the ERPA.
II. *Interim advance*: is payable some time into the ERPA based on an interim progress report; and achievement of specific program milestones.
III. *ER advance*: is payable based on the monitoring report as well as meeting all conditions of ER payment with the exception of verification of emission reductions.

The potential of advance payment to meet a financing gap of programs is limited as the total amount of advance payment is limited to a portion of ERPA value of an ER program.

Trustee facilitated

The World Bank as the trustee of the Carbon Fund can explore the feasibility of some options to address the financing gap of ER programs in coordination with the Carbon Fund Participants and the ER program countries. The trustee facilitated options are discussed under four categories – grants, bonds, guarantees and revolving fund.

(b) *Grants*

Grants can play a significant role in supporting policy, institutions and capacity needed to implement programs and to support the program activities that are not financially viable. Grants can also enable the programs to access different financing sources. Grants relevant to the ER programs are grouped into three categories.

I. *Fixed grants:* payable as a lump sum or cost basis or on other criteria to support specific program needs.
II. *Reimbursable grants:* allow for payment of actual costs incurred on specific program activities and interventions subject to a grant threshold.
III. *Contingent grants:* are expected to be repaid if programs are successful in achieving results. In the case of low program performance, contingent grants can potentially get converted into grants.

(c) Bonds

Bonds are a debt instrument that allows investors (bond holders) to lend money to a borrower (bond issuer) for a defined period in return for a periodic interest and repayment of principal at maturity. In the context of ER programs, the bond can be structured as the use-of-proceeds bond in which the bond issuer (e.g. IBRD) in agreement with the ER programs and the Carbon Fund Participants can act as an issuer of the bond and pass the bond proceeds to the Carbon Fund for transfer to the ER programs to meet their upfront financing needs with arrangements for transfer of a portion of ER payment to repay the bond at maturity.

The bond is expected to facilitate private investors to finance the ER programs. However, in situations of poor program performance, the bond investors can suffer a loss if ER payments cannot cover the principal to be repaid at the bond maturity. In such situations, a guarantee can be used to cover the repayment risk of the bond thereby improving the attractiveness of the bond to private investors.

(d) Guarantees

Guarantees can help to mobilize private sector investment in the ER programs by addressing investment barriers and promoting public-private partnerships. Guarantees can help to secure additional financing to the ER programs by covering the risks specific to private investment. Guarantees can also improve the attractiveness of other financing instruments (e.g. bond) to private investors and can help to mobilize private sector engagement for sustainable land use and sourcing (e.g. off-take agreements for sustainable products from the ER program areas).

(e) Revolving fund

A revolving fund (RF) is a self-replenishing pool of funds that can serve as a flexible source of finance for meeting upfront financing needs of the ER programs. The RF can facilitate access to concessional finance instruments and can serve as bridge financing in the ER programs that have delayed revenue streams. The recycling of funds can enhance the capital base of the RF allowing it to be sustained on an ongoing basis. With competitive rates and flexible terms, the RF can support different categories of programs and potentially address their financing gap.

8. Guidance needed from the Carbon Fund Participants (CFP) on the options to address the financing gap

Guidance is requested from the CFP on the willingness to consider and support the following options to address the financing gap of the ER programs so that further work can be advanced to assess their feasibility for use in the ER programs:

- Advances
- Grants
- Bonds
- Guarantees
- Revolving fund