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# GEF-7 REPLENISHMENT: ADDITIONAL INFORMATION ON FINANCIAL STRUCTURE

## (PREPARED BY THE GEF TRUSTEE)

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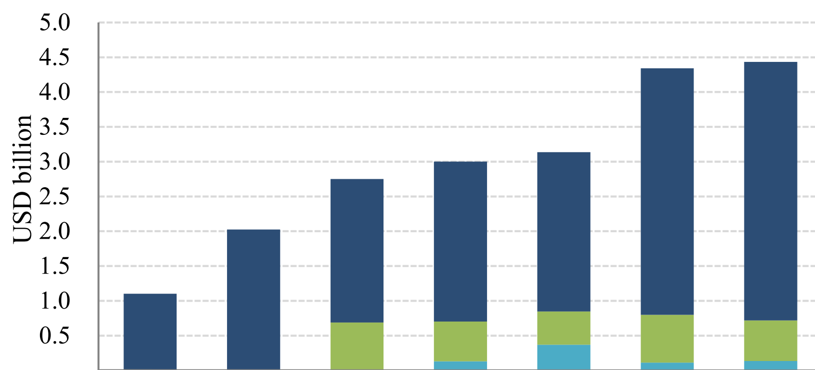
## I. Introduction

1. The Global Environment Facility (GEF) was established in 1992 to help tackle our planet's most pressing environmental problems. Since then, it has provided over $17 billion in grants and mobilized an additional $88 billion in financing for over 4,000 projects in 170 countries. Leveraging $5.2 in additional financing for every $1 invested, the GEF provides innovative and catalytic support to multi-stakeholder alliances to preserve threatened ecosystems on land and in the oceans, build greener cities, boost food security and promote clean energy for a more prosperous, climate-resilient world.

2. The principal objective of the replenishment process is to mobilize adequate funding to support the GEF's programming directions as agreed by Participants during the replenishment, while taking into consideration the individual objectives and constraints of each donor. Amounts pledged to previous GEF replenishments are shown in Figure 1 below.

**Figure 1**: Historical Pledged Amounts to GEF Replenishments (USD billion)




| | Pilot Phase | GEF-1 | GEF-2 | GEF-3 | GEF-4 | GEF-5 | GEF-6 |
|---|---|---|---|---|---|---|---|
| New Pledged Amount | 1.100 | 2.023 | 2.063 | 2.300 | 2.289 | 3.542 | 3.716 |
| Carryover from previous repl. | - | - | 0.687 | 0.570 | 0.478 | 0.687 | 0.583 |
| Projected Investment Income | - | - | - | 0.130 | 0.368 | 0.112 | 0.134 |

3. At the first meeting of the GEF-7 replenishment in March 2017, participants discussed several financial issues pertaining to the financial structure of the GEF Trust Fund (GEF TF) including; i) the minimum contribution required for participation in replenishment discussions; ii) the parameters to determine GEF-7 reference exchange rates; and iii) the three sources of replenishment resources (new donor funding, funds carried over from previous replenishments and investment income).

4. This paper aims to provide an overview of the principles governing the replenishment and the replenishment process itself, including steps leading to the conclusion of the replenishment process and donor pledges (Section II). It outlines the burden sharing framework in GEF (Section III) and the minimum contribution to participate in GEF (Section IV). It presents the financial terms of donor contributions and payments procedures (Section V) and outlines options for providing incentives to donors to fulfill their pledges (Section VI). The paper also outlines the

proposed investment management strategy (Section VII) and options for the mitigation of foreign exchange (FX) risk inherent in the GEF TF (Section VIII). Annexes include an overview of the agreed minimum contribution for participation in replenishment discussions (Annex A), parameters around the GEF-7 reference exchange rates (Annex B), indicative encashment schedule for GEF-6 (Annex C), and additional information surrounding the investment management strategy and FX risk management (Annexes D, E and F).

## II. Principles Guiding Contributions and the Replenishment Pledging Process

5. The overarching principles guiding donor contribution levels to the replenishment are transparency, equity, and ability to pay. Each donor considers options that best fit its individual objectives under a common and agreed financing framework.

6. GEF replenishment negotiations typically comprise of four meetings. Once the policy and programmatic directions are determined, donors agree on the overall target size of the replenishment at the third meeting of the replenishment negotiations (January 2018 for GEF-7). The target replenishment size depends on the estimated overall funding requirements for the agreed future programming and on donors' priorities and ability to fund the replenishment.

7. Following agreement on the overall target size of the replenishment, the Trustee and Secretariat will consult bilaterally with donors and develop illustrative pledging scenarios based on key assumptions arising from the consultations. It is important to note that, due to the flexible nature of the GEF contribution system and the differences in individual donor approaches, the actual pledging process is asymmetric and it is therefore not feasible to develop a common approach to determine contribution levels.

8. At the fourth and final replenishment meeting (April 2018 for GEF-7), a pledging session is held during which donors confirm their intended financial commitment levels. The Trustee uses the pledge information to prepare a table of contributions. Donors review the table and the Trustee makes any needed adjustments to the contribution table to reflect feedback from donors. The final contribution table is attached to the replenishment resolution.

## III. Burden Sharing Approach

9. Burden-sharing arrangements reflect the past and present collective sense of donors about fair sharing of the financial responsibilities for a multilateral effort. As in past replenishment discussions, the burden-sharing framework to be adopted for a GEF replenishment needs to reflect the consensus reached by donors and should aim to provide a foundation of both fairness and full funding of resources.

10. The challenge during each replenishment negotiation is the reconciliation of two core objectives. First, the replenishment must be adequate in size to be able to support overall financing requirements for future programming as agreed by the donors. Second, donors must reach consensus on an acceptable burden-sharing framework for the replenishment.

11. Burden-sharing frameworks vary, over time and across institutions, based on donor capacity and willingness to contribute as well as on agreement about what is an equitable distribution of financial responsibility. For some donors, a "burden-shared" approach is important, correlating contribution levels to objective criteria (e.g., GNI per capita, prior GEF burden shares, or contributions to other international funds or organizations). For other donors, a “burden-shared” approach is less relevant, as contribution levels are driven by domestic budgetary priorities and circumstances. Some donors use their contribution levels and or burden shares in prior GEF replenishments as a reference point.

12. At the initial discussion on a replenishment financing framework, a provisional burden-sharing framework is provided to donors as a beginning reference point for negotiations. At the outset, one generally looks to donor share levels in the previous replenishment, which reflect past budgetary decisions and replenishment considerations. Successful replenishment negotiations require flexibility on the part of donors, and shared willingness to achieve a successful outcome, in the light of the specific current circumstance and priorities of each donor.

# IV. Minimum Contribution

13. During GEF-1 replenishment negotiations, to promote efficiency in the negotiation process, donors agreed that while there is no minimum amount that can be contributed to the GEF TF, only donors intending to contribute over a certain amount should be able to participate in the replenishment meetings. Donors contributing less than the determined amount would be invited to attend as observers only. Recognizing that the minimum amount should not be burdensome for donors, it was set at SDR 4.0 million[1] in March 1993 (equivalent to USD 5.5 million at that time) and remained at that level in subsequent replenishments.

14. A proposal to adjust the minimum contribution amount was considered during the second GEF-6 replenishment meeting in September 2013. It was agreed that an adjustment should be made starting with GEF-7 reflecting inflation observed since GEF-6, rather than GEF-1.

15. As such, ahead of the first GEF-7 replenishment meeting, the SDR deflator available for the most recent four calendar years[2] was applied to the minimum contribution amount of SDR 4.0 million. Given the slightly positive inflation in 2012 and 2013 was almost entirely negated in 2014 and 2015, the result is that the minimum contribution amount remains at SDR 4.0 million. Please refer to Annex A for details of the methodology used.

## Minimum Contribution Process for GEF-7 and Beyond

16. Starting from GEF-7, the minimum contribution amount for participating contributors will be adjusted for inflation at the beginning of each replenishment cycle. The SDR deflator for the

[1] The SDR or Special Drawing Right is a currency basket consisting of fixed proportions of the EUR, JPY, GBP, USD, and CNY. As of 23 August 2017, SDR 4.0 million equates to USD 5.36 million. Contributions to GEF replenishments are typically pledged in national currencies. While the operating currency of the GEF is USD, SDR is used in GEF replenishments as the base currency to provide a common denominator for expressing the overall size of the replenishment.

[2] The four calendar years were 2012, 2013, 2014 and 2015 as 2016 data was only available in June 2017, before the minimum contribution amount was set for GEF-7.

four calendar years prior to the start of the replenishment discussions would be applied to the minimum contribution amount for the previous replenishment.

17. In addition to the core objective of mobilizing adequate resources for the replenishment, an adjustment to the minimum contribution amount will continue to be guided by the principles of transparency and equity.

18. The practices at other funds is summarized below:

- *The International Development Association (IDA):* IDA does not have a minimum contribution amount required for participation in IDA replenishment discussions. As such, all contributors, regardless of size, can participate in replenishment discussions.
- *The African Development Fund (AfDF):* To be eligible to participate in the ADF-14 replenishment cycle, donors were required to maintain a minimum baseline burden share comprising two components: i) a minimum contribution in the form of grants (90% of ADF-13 grant subscriptions); and ii) at least meet their ADF-13 burden share on a grant equivalent basis.
- *The Asian Development Fund (ADF)* does not specify a minimum contribution amount.

## V. Financial Terms of Donor Contributions and Payment Procedures

19. *Currency of denomination and exchange rates.* While the operating currency of the GEF is the US dollar (USD), the SDR is used in GEF replenishments as the base currency for burden sharing purposes and to provide a common denominator for expressing the overall size of the replenishment. Contributions are typically denominated in national currencies; however, donor countries with high inflation rates[3] must contribute in SDR or in USD[4].

20. *Donor Instrument of Commitment.* Donor pledges to the four-year replenishment are formalized by the deposit of an Instrument of Commitment (IoC) with the Trustee. An IoC constitutes a legally binding obligation on the part of the donor to pay the total amount specified to the GEF TF. Some donors are not able to provide legally binding IoCs for the entire replenishment period; they may deposit a Qualified IoC with the Trustee, agreeing to pay a part of their contribution without qualification while the remainder is still subject to enactment by their legislature of the necessary appropriation legislation. A donor depositing a Qualified IoC undertakes to exercise its best efforts to obtain legislative approval for the full amount of its contribution by the same payment dates applicable to unqualified IoCs, as set out in a replenishment resolution.

[3] Inflation as measured by the consumer price index (CPI) published on the International Monetary Fund's World Economic Outlook Database (October 2016). Countries are considered to have high inflation rates if their annual average inflation rate over the prior three years is greater than 10%. For more information, refer to paper entitled "*Reference Exchange Rates for Use in the Seventh GEF Replenishment*" (Prepared by the Trustee), GEF/R.7/03, March 7, 2017.
[4] Should the EUR be introduced as a second operating currency in GEF-7, contributions from countries with high inflation could also be made in EUR.

21. *Payment of contributions.*

a) *Timing*: Donors are required to fulfill their financial commitments in four annual installments by November 30 of each year. Upon written request from a donor, the Trustee may agree to allow a donor to expedite the installment payment in fewer than the standard four installments. Alternatively, the Trustee may agree to a donor's request to postpone the payment of any installment, or a portion of the installment, up to, but not beyond, June 30 of the calendar year following the year in which the installment is due. Payments made pursuant to these agreements with the Trustee are deemed to be timely (i.e., not in arrears).

b) *Form of payment*: Payments for each subscription can be in cash or, at the option of the donor, by depositing in the designated GEF TF custody account, non-negotiable non-interest-bearing notes (promissory note) or similar obligations, to be drawn down in cash (encashed) on demand by the GEF Trustee.

22. *Encashment of Promissory Notes*: Promissory notes are payable on demand and are normally encashed (or drawn down) on an approximately pro rata basis among donors. The Council approves the replenishment work program over the four-year replenishment period. Trustee commitments and disbursements for those same funding decisions occur over a more extended period as project activities are implemented. Accordingly, draw downs on promissory notes typically occur over the period set out in an indicative encashment schedule, which is attached to the replenishment resolution. The encashment schedule, which typically extends up to ten years, is based on the projected disbursement needs of the GEF Agencies, while also taking into consideration donor preference for encashment levels which do not fluctuate sharply from period to period. Considering the GEF's exposure to foreign exchange (FX) risk and the impact of fluctuations in FX rates on the GEF's funding envelope, the Trustee would propose an accelerated encashment schedule within GEF-7 – from ten years to six years. The shortened length of time between donors' pledges and receipt of funds would reduce the FX exposure of the GEF portfolio; and should an FX hedging solution be put in place in GEF-7, the hedging of a portfolio with an accelerated encashment schedule would require shorter-term derivatives contracts, which could significantly reduce the cost of hedging. The indicative encashment schedule for GEF-7 will be provided by the Trustee at the third meeting of the GEF-7 replenishment.

23. In the past, donors paying their installments with promissory notes, or similar obligations, have also benefited from some flexibility in encashment arrangements. The Trustee may agree to encash promissory notes on a basis other than that of the indicative schedule provided the revised encashment schedule is no less favorable to the GEF TF than the indicative schedule. Additionally, at the written request of a donor experiencing exceptionally difficult budgetary circumstances, the Trustee may permit postponement of encashment for: i) up to two years for a donor that is also a recipient of the GEF; and ii) up to 45 days for all other donors. For reference, the GEF-6 agreed encashment schedule is shown in Annex C.

24. *Framework for accelerated contribution payments.* As described above, a donor may choose to take advantage of the flexibility provided for in the payment procedures, if the present value of its cash payments to the GEF TF is at least the same as the present value generated under the indicative schedule. Donors can accelerate either their cash installment payments or the

encashment of their promissory notes. Donors can choose to use the acceleration in either of two ways:

a) *Reducing the actual payment amount in the currency of contribution or taking a "discount"*. In this case, the present value of the contribution is maintained through a combination of accelerating the payment schedule and reducing the actual cash payment amount. Under this option, there is no impact on the SDR value of the contribution.

b) *Increasing the SDR value of the contribution while maintaining the actual payment amount in the currency of contribution, or taking a "credit"*. In this case, the present value of the contribution is increased by accelerating payment, and the burden-share can be increased or the donor can receive credit for a supplemental contribution. The option of selecting a credit enhances the SDR value of a contribution and can be applied to the donor's basic and or supplemental contribution.

25. The selection of a discount or credit (and corresponding increase in the basic or supplemental contribution amount) is generally made at the pledging session and reflected in the final contribution table attached to the replenishment resolution. The discount or credit selection is also expected to be confirmed at the time an Instrument of Commitment is deposited with the Trustee. If, for any reason, a donor was to change its discount or credit decision after replenishment negotiations are completed, its burden-share, and the SDR value of its contribution, would be affected retroactively.

26. *Definition of Funding Envelope.* The current practice for determining the full amount of a replenishment is to include arrears and carryovers from previous replenishments as the target programming amount for allocation to countries. Some global funds with flexible funding arrangements have opted to provide incentives for donors to fulfill their pledges by focusing on demand for resources. Under this type of approach, the total amount pledged by donors is used as the basis for planning and country funding allocation decisions with subsequent adjustments of the resource envelope through the project pipeline management. In the GEF TF, demand for resources is used as an incentive for donors to fulfill pledges. Participants agree on a targeted size for each replenishment based on donor contributions, anticipated investment income, and carryover from previous replenishments. This is then used to establish a target programming level, consisting of the agreed replenishment level less arrears and deferred contributions from previous replenishments. The target programming level is used for planning purposes and adjustments are made periodically throughout the replenishment to consider any reserves for foreign exchange and investment income volatility implemented by the Trustee, the likelihood of unfulfilled pledges, and the risk of non-payment of Instruments of Commitment (IoC) or Qualified IoCs (i.e. new arrears). Funding decisions made by the Council or the GEF CEO are based on available fund balance in the GEF TF at the time of the decision.

27. In recent replenishments, the inclusion of arrears and deferred contributions has consistently lead to the GEF TF being "over-programmed" and experiencing a funding "shortfall" at the end of the replenishment, where the amount programmed is less than the envelope determined at the start of the replenishment. One option for consideration is for the GEF-7 "funding envelope" used for programming purposes to only include *new contributions. Arrears*

and *carryovers from previous replenishments* would be monitored, but not programmed until received. Excluding arrears and carryovers from previous replenishments from the funding envelope and target programming amount would eliminate the risk of "over-programming". This suggestion is in line with the current process under IDA.

## VI. Incentives for Timely Payment

28. Donor commitment and appropriation processes vary country by country. In some instances, donors have been unable, for different reasons, to pay the full amount of their replenishment pledges which has resulted in arrears to the GEF. The arrears as of 31 August 2017 are shown in Table 1 below.

**Table 1:** GEF Arrears as of 31 August 2017 (*in USD millions*)

| Countributing Participant | Repl. | Currency | Installment Receivable Amount | USD eq. (millions) |
|---|---|---|---|---|
| Egypt | GEF-1 | SDR | 0.5 | 0.7 |
| United States | GEF-2 | USD | 135.0 | 135.0 |
| Nigeria | GEF-3 | SDR | 0.7 | 0.9 |
| | | | | **136.6** |

29. Protracted arrears situations create difficulty for some donors as such arrears may be perceived as undermining equity principles and the "burden-sharing approach" that is an important factor in their pledging decision. Accordingly, donors have sought to establish measures that create incentives to avoid, or promptly resolve, arrears. Such measures are outlined below.

### The *pro-rata* provision in the GEF

30. Over the four years of a GEF replenishment period, donors are expected to pay their contributions in four equal annual installments. Due to domestic constraints, some donors deposit a Qualified Instrument of Commitment (IoC) with the Trustee, which authorizes the full amount of the four-year contribution, pursuant to which a donor agrees to pay part of its contribution without qualification, while the remainder is still subject to enactment of the necessary legislative approvals.

31. To facilitate fair burden sharing between a "lead donor"[5] that provides a Qualified IoC and other donors, and to protect the interests of other donors in the event of delayed or reduced contributions by the lead donor, the *pro-rata* (deferment) clause was introduced in the GEF-1. The *pro-rata* provision was also meant to provide an incentive to the lead donor to expedite necessary internal approvals of its GEF contribution. Timely provision of the donor's financing for the new replenishment would therefore "leverage" funding from the other replenishment donors who had invoked their *pro-rata* rights. However, where donors avail themselves of the *pro-rata* provision,

[5] A "lead donor" is a Contributing Participant that has deposited a Qualified Instrument of Commitment and whose contribution represents more than 5 percent of the total amount of the resources to be contributed pursuant to the GEF-6.

the predictability of when resources will be made available to recipient countries is reduced along with the amount available for programming.

32. Table 2 below shows the amount of arrears and deferred contributions which were carried over from each replenishment.

**Table 2**: Arrears and Deferred Contributions at beginning of Replenishment (in USD million)

| | GEF-1 | GEF-2 | GEF-3 | GEF-4 | GEF-5 | GEF-6 |
|---|---|---|---|---|---|---|
| Arrears/unpaid resources | 190 | 254 | 194 | 297 | 194 | 201 |
| Deferred Contributions | - | 192 | 214 | 232 | 152 | 61 |

33. In GEF-6, Participants confirmed the importance of clearing arrears but agreed that the *pro-rata* provision had not served as an effective instrument for facilitating timely payment. In addition to being ineffective, it was not widely used – being exercised by only one donor in GEF-6. In the absence of a more effective instrument, Participants agreed to maintain the *pro-rata* provision in GEF-6. Current practice and the outcome from pro-rata exercise suggests that the use of *pro-rata* clauses has had limited effect on the timely clearance of arrears. Consequently, Participants could consider removal of the *pro-rata* clause. This practice is aligned with the experiences of other development funds, which are summarized below:

- *The International Development Association (IDA)* introduced the original *pro-rata* provision in IDA7. It restricted the commitment of a corresponding part of donor contributions in the event of any shortfall from donors whose contributions exceed 20 percent of the total donor resources (or "lead donors"). The 20 percent threshold was set to ensure that the provision captured only the largest donors, without which the three-year replenishment could not proceed as planned. The *pro-rata* exercise would be triggered if a lead donor did not unqualify at least 66 percent of its total subscriptions and contributions by the second installment date specified in the replenishment resolution, or 31 days after the replenishment effective date, whichever was later[6]. By IDA14, no donor exceeded a burden share of 20 percent. In the absence of a single lead donor, IDA Deputies determined that the incentive provided by the clause had been weak and that the reduction in the amount of resources available to recipient countries merited greater consideration. Therefore, in the IDA15 replenishment negotiations in 2007, Deputies agreed that the use of the provision should be removed going forward to protect the interest of IDA recipient countries and enhance the predictability of resources.

- *The African Development Fund (AfDF)* also implemented a *pro-rata* reduction clause with similar objectives to IDA. Per the Board of Governors' resolution for the AfDF-10, the pro rata reduction clause would be triggered if a donor whose subscription represented no less than 10 percent of the total amount of subscriptions had not unqualified its second or third tranches of subscriptions by the due dates. Following IDA's initiative to discontinue the use of its *pro-rata* provision to mitigate adverse effects on financial resources, the clause was removed in AfDF-11 in January 2008.

[6] IDA. 2007. IDA15 Financing Framework. Washington, DC.

- *The Asian Development Fund (ADF)* also implemented a *pro-rata* reduction clause similar to that of IDA and AfDF. During ADF XI replenishment negotiations, there was broad consensus among donors that the *pro rata* provision has not served its intended purpose of encouraging donors with qualified contributions and delayed payments to accelerate their appropriations. Delayed payments of ADF donor contributions and the proportionate restriction on the use of payments due to the *pro-rata* exercise reduced available resources for ADF recipients and complicated operational planning for ADB. The *pro-rata* provision was removed in the ADF 12 replenishment.

## VII. Investment Management of the GEF TF's Liquid Assets

34. The indicative schedule for encashment of donors' promissory notes is established to ensure that cash is received from donors as and when it is needed for transfers to the Agencies. Once funding is approved by the GEF Council and subsequently committed by the Trustee, funds are expected to be transferred to the Agencies over a period of up to seven years. This time lag between commitment and transfer to Agencies resulting from the GEF project cycle means liquid assets may remain in the GEF TF for up to seven years. Additional liquidity may result from contributions that are paid in by donors choosing to 'accelerate' their encashment payments for budgetary purposes (and receive either a credit or discount in exchange) before the GEF requires these funds for disbursements.

35. The World Bank as the Trustee for the GEF TF manages these liquid assets according to the provisions of IBRD's General Investment Authorizations (GIAs)[7]. Approved by the World Bank's Board of Executive Directors, the GIAs determine the framework under which the Trustee provides investment management services to the GEF TF. It also specifies the types of transactions and eligible investments in which the World Bank is authorized to transact.

36. All trust funds assets administered by the World Bank, including those of the GEF TF, are maintained in a commingled investment portfolio (the "Pool"). Individual trust funds within the Pool may have different investment horizons and risk tolerances. To accommodate for these varying investment objectives, the Pool comprises of sub-portfolios (called Model Portfolios) in which trust fund liquid assets can be invested.

### Investment Strategy for the GEF TF

37. The Trustee has a fiduciary responsibility to help clients achieve their long-term investment objectives. In the case of the GEF TF, this has been implemented by an investment strategy that seeks to optimize investment returns subject to preserving capital and maintaining adequate liquidity to meet foreseeable cash flow needs, within a conservative risk management framework[8].

38. In line with these objectives, the liquid assets of the GEF are invested across three Model Portfolios (Model Portfolios 0, 1 and 2) comprising entirely of investments in high quality fixed-income securities as well as cash and cash equivalent securities for liquidity purposes. Of the GEF

[7] General Investment Authorization for IBRD (Resolution No. 97-1, adopted on April 18, 1997).

[8] Risk tolerance is defined as the expected maximum loss, as measured by the Conditional Value-at-Risk (CVaR), at the portfolio's investment horizon, not to exceed 1% at portfolio's investment horizon, with 99% confidence.

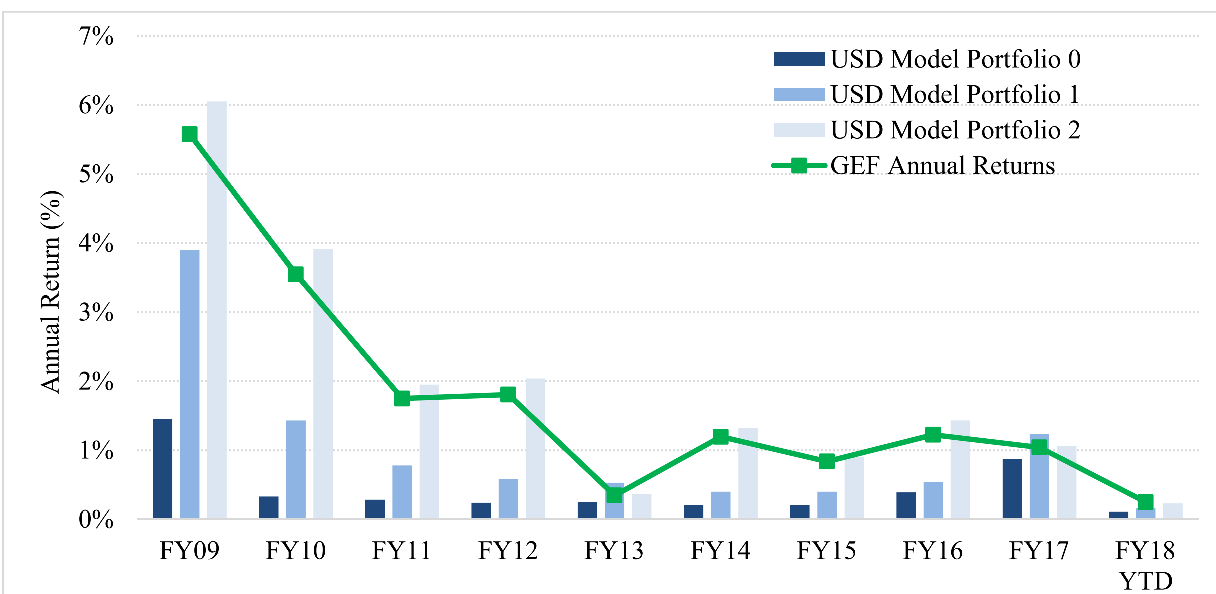
TF's liquid assets, approximately 85% is invested in Model Portfolio 2, with the remaining assets in Model Portfolios 0 and 1 for liquidity purposes. On a quarterly basis, the World Bank reviews the balances in each Model Portfolio against projected cash flows and rebalances these amounts to ensure adequate liquidity is available to meet cash flow requirements. The investment characteristics of the three Model Portfolios are shown in Figure 2 below.

**Figure 2**: Investment Characteristics of the Model Portfolios in which the GEF TF Invests

| Model Portfolio | Model Portfolio 0 | Model Portfolio 1 | Model Portfolio 2 |
|---|---|---|---|
| **Investment Objective** | Ensure timely availability of liquidity | Enhance returns subject to preservation of capital and the risk tolerance over the investment period. | |
| **Investment Horizon** | 3 months or less | 1 year | 3 years |
| **Eligible Trust Funds** | All Trust Funds | Funds with limited appetite for investment return volatility on a year to year basis | Larger Trust Funds with relatively predictable cash flow projections and stable liquidity over 3 years |
| **Eligible Investment Products** | Cash | Cash, short – intermediate government bonds | Cash, short – intermediate government bonds, US Agency MBS |

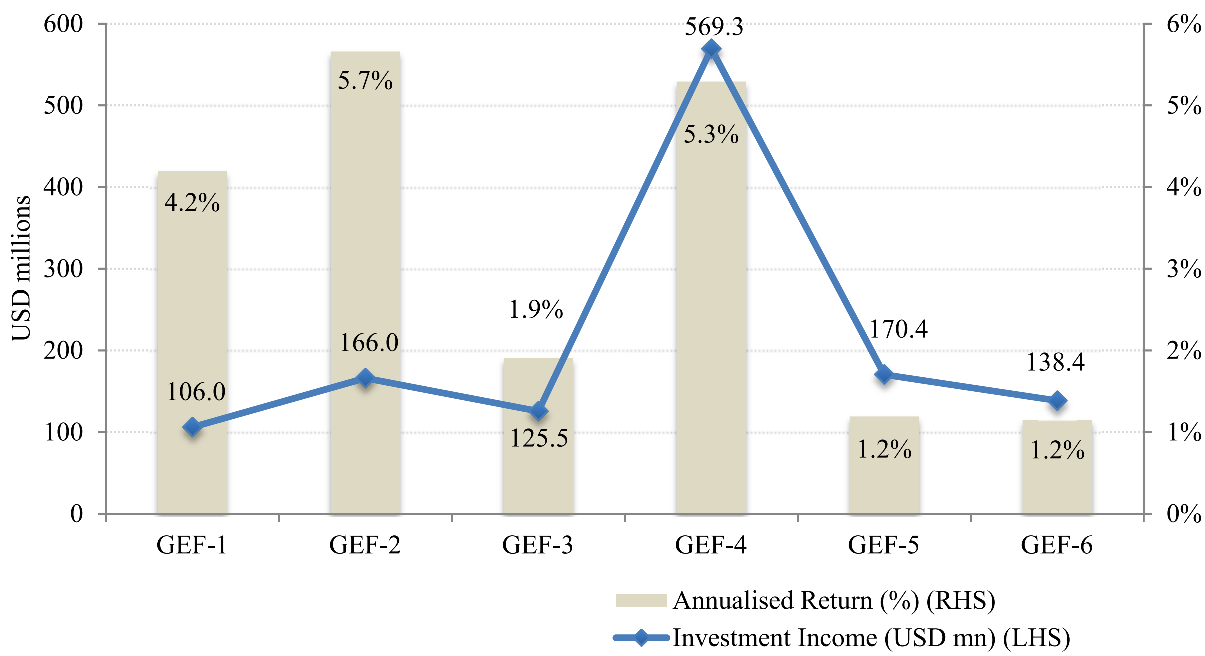
39. The historical investment returns of the GEF TFs investment portfolio (refer to Figure 3 below) are representative of the prevailing market conditions of each period. Several factors have negatively affected investment returns in recent years – firstly, historically low fixed-income yields continued to suppress the interest income and secondly, increased volatility in interest rates led to unrealized price losses that impacted the net investment income.

**Figure 3:** Historical Annual Returns of the GEF TF and by Model Portfolio (1 July 2008 – 31 August 2017)



40. Figure 4 provides a snapshot of the returns that GEF TF has earned in each replenishment since inception.

**Figure 4:** GEF Investment Income and Return by Replenishment (as of 31 August 2017)




41. The current market environment continues to pose challenges for investors in conservative fixed-income portfolios. The yields on fixed-income instruments are at historically low levels which poses asymmetric risks for the interest rate outlook going forward. Rising interest rates could result in unrealized or realized losses for fixed-income holdings. As such, in the coming years, the investment income earned by the Pool is projected to remain at low levels compared to historical averages under the current asset allocation framework. A gradual move to higher interest rates in the coming years is expected, and the outlook for fixed-income investments therefore continues to be for modest returns as increases in interest rates would result in further unrealized (i.e., mark-to-market) losses for fixed-income returns in general.

## Additional Investment Management Options

42. To provide additional investment opportunities to trust funds with stable balances over periods of five years or more, such as the GEF TF, the World Bank designed a new model portfolio, Model Portfolio 4[9], to potentially enhance the risk/return profile through added diversification benefits while retaining a relatively conservative risk profile.

43. In addition to the implementation of an investment strategy that helps clients achieve their long-term investment objectives, the World Bank is also aware of its clients' missions and values and is committed to working with clients to implement responsible investment strategies and

[9] Additional information on Model Portfolio 4 can be found in Annex D.

policies that align with the overarching fiduciary mandate. As such, the World Bank's Treasury is in the process of establishing a responsible investment policy that:

a) Formalizes existing and rigorous due diligence and risk management processes that take account of some Environmental, Social and Corporate Governance (ESG) related factors, and expands on a more comprehensive and consistent consideration of these factors through ESG integration; and

b) Meaningfully introduces ESG approaches to investment portfolio options in order to enhance alignment with clients' needs and institutional policies with regard to responsible investment of their funds.

44. The Trustee will provide updates on this Policy throughout the GEF-7 replenishment process. Additional information on ESG considerations within the GEF TF's current portfolio, as well as within any potential investment in Model Portfolio 4, can be found in Annex D.

## VIII. Foreign Exchange Risk Management

45. The GEF TF is exposed to fluctuations in foreign exchange (FX) rates because the holding and operating currency of the GEF TF is the USD, while donors' pledges are primarily made in national currencies. This mismatch can be significant; for example, 76% of donor pledges in GEF-6 were in currencies other than the USD exposing over USD equiv. 2.7 billion to FX risk.

46. In addition, there is an inherent FX risk to the GEF Replenishment Funding Envelope as this envelope is determined based on the Reference Exchange Rates[10] before the start of the replenishment period, while the actual inflow of donor funds happens over an extended time period. This risk increases with the length of the maturity of donor receivables/promissory note encashments, and means that the value of donor contributions to a given replenishment is not fully "locked in" until the last promissory note encashment is received by the Trustee, which can be up to ten years from the start of the replenishment.

47. These factors give rise to two specific risks:

a) The risk that on the pledging date, the USD has appreciated against the donor contribution currencies (compared to the Reference Exchange Rates). This results in a situation where the real resource envelope available for commitments differs from the value of pledges at the outset of a replenishment; and

b) The risk that the USD has appreciated against the donor currency at the time of encashment (since donor pledges can be paid in over a significant period of time),

[10] GEF Reference Rates are the FX rates used to the convert pledges in national currencies into US dollars to determine a Target Replenishment Level of funding for that particular replenishment. The FX rates used are the average daily FX rates over a defined period (typically six months) prior to the effective date of the relevant replenishment.

meaning that there is less cash available than expected to meet either new or existing commitments.

48. Tracking funding decisions made in USD against resources whose USD value fluctuates daily presents a financial management challenge. GEF TF financial transactions must be closely monitored to ensure that funding decisions of the Council and the CEO do not exceed actual funds available. It is possible, for example, that FX movements on non-USD promissory notes may reduce estimates of available funding (in USD terms) below the level of existing commitments. Thus, while the GEF makes commitments against funds available at the time of decision making, the length of approval and life cycle of each project needs to be considered when determining future funding availability.

49. An appreciation of the USD relative to the donor contribution currencies (as has occurred throughout the GEF-6 period) affects the programming ability of the GEF and exposes recipients to the risk of the relative valuation of the USD against other contribution currencies. To put this risk into context, the GEF-6 Target Replenishment Envelope revalued at 31 August 2017 FX rates equates to USD 3.88 billion. Compared to the Target Replenishment Envelope of USD 4.44 billion, this represents a decline of USD 0.56 billion, or 12.6%.

50. *FX Reserve*: Recognizing the order of magnitude of the FX risks the GEF faces and to attempt to insulate the GEF's programming ability (and its recipients) from FX rate fluctuations, the Trustee has adopted the use of holding a defined USD reserve over the replenishment period to help protect against adverse exchange rate movements without constraining the programming levels. The reserve level is reviewed for each replenishment and the actual level of the reserve confirmed at the completion of the replenishment negotiations to consider changes in market conditions, programming level requirements, and the currency composition and amounts of the final donor pledges. The Trustee will adjust the reserve level (USD 150 million in GEF-6) as needed, on an annual basis throughout the replenishment period, and inform the GEF Council of any adjustments.

51. The FX reserve is focused on limiting the negative impact of FX volatility on the programmed GEF's activities but does not directly address the FX volatility inherent in the GEF's funding structure. To facilitate a more comprehensive FX risk management solution, the Trustee is exploring additional measures to manage the FX risk, including: A) the establishment of an FX hedging program within an overarching risk management framework; B) employing a second operating currency; and C) encouraging donors to contribute in USD.

### A. Establishing an FX Exposure Management Framework and Hedging Program for the GEF TF

52. To facilitate a more comprehensive FX risk management solution, and based on requests from GEF contributors, the Trustee is reviewing additional measures to manage the FX risk, including the establishment of an FX hedging program within an overarching Risk Management Framework. It should be noted that while a hedging strategy may prove effective in insulating the GEF's funding from FX fluctuations, potential gains from currency movements would also be

eliminated[11]. For example, in previous replenishments (prior to GEF-6) the final GEF Funding Envelopes (versus Target Replenishment Funding) have benefited from FX fluctuations, in some replenishments by as much as 5.0% (or USD equiv. 0.55 billion), and hedging may mean forfeiting such gains in the future.

53. Hedging for the GEF TF has been explored in the past but substantial external and internal challenges made implementation impossible. Some of these challenges have evolved over time, triggering a comprehensive review of hedging using the capital markets in the context of the GEF-7 replenishment. This review included examination of anticipated costs, possible collateral requirements and their impact on the GEF's programming ability, and the legal implications and challenges to gaining capital market access. An overview of some of the analysis performed to determine the implications of implementing a hedging strategy is included in Annex F. Among the options examined, two have been identified as most viable for further pursuit[12]. These options, both of which would require World Bank Board approval, are as follows:

<u>Option 1: GEF Accesses the Capital Markets as part of IBRD's Trust Fund Pool (TF Pool)</u>

54. The option of using the World Bank's existing Trust Fund ISDA Master Agreements[13] signed with market counterparties to hedge currency risk has been explored previously, but was not found to be viable due to the nature of Agreements into which IBRD could enter. Revised Agreements, coupled with the market's increased willingness to enter into certain transactions with the TF Pool, has now made hedging activity possible.

55. The following are the immediate next steps in pursuing implementation of this option:

- *Establish an FX Exposure Management Framework.* A successful FX Exposure Management Framework defines an FX policy, determines the governance framework, assesses risk positions, develops an FX hedging strategy, and evaluates and monitors the hedging strategy as well as the remaining exposures. Reference is made to Annex E for a summary of key attributes of an FX Exposure Management Framework.
- *Determine the cost of hedging*. Broadly speaking, hedging costs are twofold: i) administration/transaction cost; and ii) external trading cost which is a factor of market price of individual trades on a rolling basis. The cost of hedging is dependent on many factors which are yet to be determined, including – but not limited to – the final hedging

[11] For example, in previous replenishments the final GEF Funding Envelopes (versus Target Replenishment Funding) have benefitted from FX fluctuations. FX fluctuations, however, can also have a significant negative impact – in the case of GEF-6, encashments to date have been almost USD equiv. 118 million lower than the figures implied by the GEF-6 replenishment exchange rates, a realized reduction of almost 10% on encashed amounts. Since inception to March 2017, the GEF Trust Fund has a net positive position of USD 90 million.

[12] The other two options examined that are less feasible in the current environment include: a) *IBRD intermediates on behalf of the GEF Trust Fund.* In the current environment, IBRD intermediation is unlikely due to IBRD having insufficient counterparty credit lines to support the addition of substantial FX derivatives exposures; and b) *GEF faces the capital markets as a standalone legal entity.* For the GEF to hedge its FX risk with market counterparties as a standalone entity, the GEF will need to obtain the requisite legal status and credit market standing. This process may prove lengthy and is likely to entail significant legal and operational costs. In addition, there is no guarantee that the terms for market access that the GEF would receive would make hedging a practical option.

[13] An ISDA (International Swaps and Derivatives Association) Master Agreement is a standardized agreement negotiated and signed between counterparties that sets out the legal and administrative terms that apply to all derivative transactions entered into between those parties. The ISDA Master Agreement is an industry-wide accepted form agreement aimed at reducing credit risk between the parties mainly by payment- and close-out netting of the values mutually due by the parties. The ISDA Master Agreement negotiated by IBRD as trustee of the Trust Funds was established not for individual Trust Funds, but for the TF Pool as a whole.

structure and nature and size of instruments employed under the hedging framework. There would also be additional costs for the development of new systems to manage, monitor and report on the hedging strategy. This would vary with the complexity of hedging instruments employed.

- *Determine an appropriate collateral arrangement.* Almost any solution that involves the use of capital markets to hedge FX exposure with market counterparties would result in the need for collateral posting. When the mark-to-market valuation of GEF hedges drops below the original value of the hedge, posting of collateral might be required. The size of the collateral will depend on the nature of the hedges undertaken (size, maturity etc.), the volatility of the currencies being hedged[14], and the terms of the ISDA Master Agreement. A system will need to be established to adequately track and manage the level of collateral requirements and postings by individual Trust Funds within the TF Pool.

- *Develop a mechanism that would insulate other Trust Funds in IBRD's TF Pool.* A mechanism will need to be developed to protect the assets of other Trust Funds in the TF Pool from any financial risk arising from the FX hedging for the GEF (spillover risk). The primary financial risk would be triggered by changes in the mark-to-market valuation of GEF FX hedges that may negatively (or positively) affect the Net Asset Value (NAV) of the rest of the TF Pool that is not participating in the FX hedging; for example, by necessitating collateral calls from the TF Pool in the event that the GEF TF assets are insufficient to meet the collateral obligations resulting from the GEF FX hedging. One way to manage this risk is to develop mechanisms to ringfence all transactions relating to the GEF's hedging activity to the GEF TF within the TF Pool. To make this possible, appropriate systems to identify, track and report all transactions related to the FX hedging activities, including the necessary virtual posting of collateral between trust funds. It would also be necessary to track and report all attribution of profit and loss from GEF hedging transactions. The World Bank Treasury is undertaking a careful review and analysis with the aim of quantifying the magnitude of these risks and identifying possible measures in order to ring-fence and avoid or minimize potential spill overs of losses (and gains) incurred by the GEF TF.

- *Agree on the timing of hedging.* Decisions would be required around when hedges are executed. Given that the Reference Exchange Rates are set ahead of the pledging session, it is necessary to explicitly recognize that there is no practical way to hedge the replenishment based on the Reference Rates. Therefore, a decision would need to be taken on the time the hedges are executed (for example, when IoCs are received or when the Replenishment period opens in July 2018), and the methodology used to determine the Replenishment Funding Envelope. A proposed solution would be for the GEF to adopt a process, similar to that followed by IDA, whereby the replenishment envelope is re-set using FX rates on the date the hedging transactions are completed.

- *Determine the timing, amount, and nature of receivables to be hedged.* Decisions will need to be made around which donor inflows will be hedged – for example, whether all

[14] Hedging done within the TF Pool may have lower collateral requirements as the hedging transactions will form part of a far larger set of financial transactions, some of which may be offsetting.

IoCs will be eligible to be hedged or would the GEF only hedge promissory notes that have been deposited[15]. Qualified IoCs may be ineligible for inclusion in the hedging mechanism; as such, to allow a greater portion of the GEF TF to be hedged, it would be preferable for the Trustee to receive unqualified IoCs**.** Assuming cash and unqualified IoCs in non-USD can be hedged, there was approximately USD equiv. 2.3 billion (or approximately 60%) in GEF-6 that would have been eligible for hedging. It is important to note that entering into hedging transactions creates legally enforceable financial obligations vis-à-vis the market counterparties with whom the FX hedge was entered into, and therefore any late payments, cancellations and changes in encashment schedules may result in a financial cost that could affect the remainder of the TF pool. Assurances must be obtained that such costs will ultimately be borne by either the GEF TF or donors.

Option 2: IDA Intermediation on behalf of the GEF TF

56. As IDA received a triple-AAA credit rating in September 2016, it could potentially provide sufficient counterparty credit lines to support additional derivative exposure on behalf of the GEF TF. That is, IDA would execute a hedging transaction with market counterparties and then enter into an offsetting transaction with the GEF. IDA is not currently authorized to provide such hedging services. While IDA is authorized to provide risk management products to its client countries and regional and international organizations, these are limited to either disaster risk products or financial products and do not include hedging services of the sort proposed. The addition of risk intermediation for GEF would require further consultations with IDA Deputies and would require an amendment of IDA's General Investment Authority[16] with necessary approvals by the World Bank Board of Executive Directors.

57. In addition to pursuing the necessary authorizing environment, the immediate next steps in implementing this option are the same as those for Option 1. The Trustee is committed to reviewing the policy implications on IDA, including pursuing the World Bank Board authorization as well as the anticipated costs and potential risks. It should be noted that the policy implications for IDA will include assessment of the extent to which IDA has space to use its counterparty lines for such hedging given its own risk management needs and the fact that it will take time to build up its counterparty lines as a new market issuer.

A summary of Options 1 and 2, including the premise, benefits and key implementation issues, is included in Table 5 below.

[15] In GEF-6 for example, of the total non-USD pledges of USD 2.7 billion, 75% were to be promissory note deposits with the remaining 25% cash installments. Hedging promissory notes only may result in residual FX exposure.

[16] General Investment Authority ("GIA") for IDA, Resolution No. 2017-0004, adopted on April 11, 2017 authorizes IDA to engage in FX transactions and the general use of derivatives. However, IDA can do so for third-parties only for investment funds administered by IDA for their account. As IBRD is the GEF Trustee, IDA's GIA would need to be amended with approval from the Board.

**Table 5**: Benefits and Challenges of Hedging through the TF Pool and IDA Intermediation

| Hedging Option | Premise/ Considerations | Benefits | Key implementation issues |
|---|---|---|---|
| **Option 1**: GEF accesses the Capital Markets as part of IBRD's TF Pool | GEF leverages the existing infrastructure and relationships of the TF Pool to execute market hedges. | 1) Given the size of the TF Pool, collateral requirements might be lower than if GEF were to conduct FX hedges outside of the Pool.<br>2) Synergies could arise such as economies of scale from the aggregation of risk across several trust funds in the Pool.<br>3) Depending on the hedging strategy employed, liquidity requirements could be managed within the TF Pool resulting in fewer constraints on the amount that can be hedged. | 1) Implementation would entail potentially significant changes to legal and financial aspects of the GEF TF.<br>2) Adequate ringfencing will need to be put in place to limit the risks posed to other participants in the TF Pool posed by the currency hedges transacted on behalf of the GEF TF.<br>3) Political/reputation risk of large collateral calls on GEF's liquid assets, which may reduce funds available for disbursement and pose challenges for liquidity management. |
| | | | |
| **Option 2**: IDA intermediation on behalf of the GEF TF | IDA executes a hedging transaction with market counterparties and then does an offsetting transaction with the GEF. | 1) Collateral arrangements would be easier to implement given that a ringfencing arrangement would not need to be developed. | 1) GEF's exposure to IDA will not benefit from potential offsetting transactions with the TF pool; therefore collateral calls on GEF's liquid assets may be larger and may reduce the GEF funds available for disbursement and pose challenges for liquidity management.<br>2) Dependent upon IDA having sufficient credit lines to support additional derivative exposure.<br>3) Would require a lengthy authorization process to allow IDA to intermediate on behalf of trust funds. In addition, IDA is only just establishing its revised FX Management Framework under the new hybrid model.<br>4) Given that IDA is now a rated entity, subject to significant scrutiny as a first-time issuer, IDA would need to ensure adequate collateral arrangements to mitigate the additional risk it is exposed to. Considerations would also need to be given to market perception of such transaction and the impact on IDA's financial sustainability, when IDA is yet to establish itself in the capital markets. |

58. The implementation of an FX hedging strategy would be an efficient solution to managing the FX risk within the GEF TF. In both options listed above, the GEF Council needs to authorize the Trustee to move forward with implementing a hedging mechanism for GEF. The Trustee will present the preferred solution to the GEF Council once an FX Exposure Management Framework is established and the above-mentioned issues have been addressed. The Trustee is committed to finding the preferred solution including seeking GEF Council approval in time for implementation of GEF-7.

## B. Second Operating Currency

59. The World Bank policies and procedures do not restrict the use of multiple currencies as operating currencies. As such, an option for GEF-7 may be to include a second operating currency based on the volume of inflows in each currency. In GEF-6, a larger proportion of contributions are denominated in EUR (27%) than in USD (24%), making the EUR the most suitable candidate.

60. Factors to be considered when introducing a second operating currency include the following:

a) To manage multiple operating currencies in a cost-effective manner, the balance in each currency should match the commitments and disbursements in that currency, requiring meticulous financial management by the Trustee to manage the timing of inflows and outflows in multiple currencies.

b) Operating expenses for the Secretariat and the Trustee would increase as the Secretariat would need to manage project pipelines in both currencies while the Trustee would need to maintain two programming envelope applications and reports. This may have a spillover impact on the operating cost of Agencies due to additional efforts needed to monitor and track project pipeline in multiple currencies.

c) Multiple operating currencies would involve splitting the GEFs resources into two or more investment portfolios denominated in each of the operating currencies, which could have an adverse impact on investment income if it prevented the GEF TF from investing in securities with longer maturities. Consideration should be given to the market environment such that the GEF does not face investment risk simply due to the choice of currency. For example, investments in EUR in the current environment would very likely incur negative investment income due to interest rates being below zero in the EUR market. At present, the Trustee only has a longer-term investment portfolio in USD[17], meaning EUR denominated assets would be invested in shorter-term investment portfolios which are expected to generate slightly lower investment returns until such time that a EUR investment portfolio could be established.

61. As such, any decision around employing a second operating currency should consider: the cost, complexity of implementation, the level and predictability of demand from recipient countries, the willingness of GEF Secretariat and Agencies to handle dual currencies in terms of pipeline management, cash management and reporting, the current market environment and impact

[17] Model Portfolio 2 (only available in USD) has a three-year investment horizon and invests in a broader universe of fixed income assets than Model Portfolios 0 and 1 (available in USD and EUR).

on investment returns, and the potential benefit it could bring in terms of mitigating FX risk. It should also be noted that a second operating currency does not relieve the GEF from the inherent FX risk in the GEF Replenishment Funding Envelope as this envelope is determined based on the Reference Exchange Rates[18] before the start of the replenishment period, while the actual inflow of donor funds happens over an extended time period.

## C. Encouraging Donors to make Pledges in USD

62. The simplest option to mitigate FX risk would be to encourage development partners to make their pledges in USD. As the holding, operating, contribution and commitment currencies would all be USD, FX risk within the GEF TF would be negated. It is acknowledged, however, that this option would significantly increase the complexity on the part of the donors and would be transferring the FX risk from the GEF TF to the donors since donor budgets are almost always denominated in national currencies. This option is therefore likely to be unattractive from the donor's perspective.

[18] GEF Reference Rates are the FX rates used to the convert pledges in national currencies into US dollars to determine a Target Replenishment Level of funding for that particular replenishment. The FX rates used are the average daily FX rates over a defined period (typically six months) prior to the effective date of the relevant replenishment.

## Annex A: Minimum Contribution Methodology

The measure of inflation applied to the minimum contribution amount for participants in a GEF replenishment is the *Special Drawing Rights (SDR) deflator*.

The SDR deflator is used as a measure of world inflation for annual adjustments to operational and analytical income thresholds and World Bank Atlas[19] method estimates of Gross Net Income (GNI) per capita, and is based on inflation measures of the economies represented in the basket of SDR currencies.

The SDR deflator is calculated by the International Monetary Fund (IMF) as a weighted average of the GDP deflators of China, Japan, the United Kingdom, the United States, and the euro area. Weights are the amount of each country's currency in one SDR unit noting that both the composition of the SDR and the relative exchange rates for each currency change over time. The SDR deflator is first calculated in SDR terms, and then converted to U.S. dollars using an SDR to dollar conversion factor that is calculated using the *Atlas* method.

The SDR deflator is calculated annually and is available at a six-month lag. The most recent data point available at the time of finalizing the minimum contribution for GEF-7 was December 31, 2015. When the SDR deflator is applied to the minimum contribution amount for GEF participants of SDR 4.0 million over the four calendar years prior to the planning meeting of the GEF-7 replenishment, the minimum contribution amount falls very slightly to SDR 3.998 million and therefore will be rounded up to SDR 4.0 million (refer to Table 6 below).

**Table 6:** Calculation of Inflation-Adjusted Minimum Contribution for GEF Participating Members

| Year | SDR Deflator in USD terms[20] | SDR inflation rate (% change) | Inflation-Adjusted Minimum Contribution for GEF Participants |
|---|---|---|---|
| 2011 | 332.2 | | 4.00 |
| 2012 | 336.0 | 1.14% | |
| 2013 | 339.4 | 1.02% | |
| 2014 | 339.0 | -0.10% | |
| 2015 | 332.0 | -2.06% | **4.00** |

Going forward, the minimum contribution amount for participating members in each GEF replenishment will be calculated on a rolling four-year basis. The four years prior to the planning meeting of each replenishment will be used for that replenishment cycle.

[19] In calculating gross national income (GNI) in USD for certain operational and analytical purposes, the World Bank uses the *Atlas* conversion factor instead of simple exchange rates. The purpose of the *Atlas* conversion factor is to reduce the impact of exchange rate fluctuations in the cross-country comparison of national incomes. The *Atlas* conversion factor for any year is the average of a country's exchange rate for that year and its exchange rates for the two preceding years, adjusted for the difference between the rate of inflation in the country and international inflation; the objective of the adjustment is to reduce any changes to the exchange rate caused by inflation.

[20] Source: The World Bank, 1 July 2016.

## Annex B: GEF-7 Reference Exchange Rates

Reference exchange rates are used to translate contributions between SDR values and national currency values for the purpose of burden sharing in replenishment negotiations. For each of the previous GEF replenishments, Contributing Participants have agreed, early in the replenishment cycle, on a time period to use for determining the reference exchange rates. An average of the daily exchange rates of each national currency against the SDR were then calculated for the agreed period, and used as the reference exchange rates for the replenishment.

In choosing a reference period for the GEF-7, Contributing Participants considered the same criteria that has been used in each of the previous replenishments:

- The time period chosen should not include known exchange rates to the extent feasible.
- The end point of the reference time period chosen should allow for sufficient lead time to determine the national currency amounts in which Contributing Participants will pledge to meet a specific share objective.
- The method for determining reference exchange rates should minimize distortions that may be caused by short-term currency fluctuations.

Based on the criteria above, it was agreed that the reference time period for the GEF-7 will include the dates April 1, 2017 through September 30, 2017. The average daily rates of this time period will be confirmed at the second GEF-7 replenishment meeting in October 2017.

## Annex C: GEF-6 Indicative Encashment Schedule

For reference purposes, the indicative encashment schedule that was agreed for GEF-6 is shown in Table 7 below.

**Table 7**: Indicative Encashment Schedule for GEF-6

| Year | Percentage of Total Pledge |
|---|---|
| 2015 | 3% |
| 2016 | 8% |
| 2017 | 10% |
| 2018 | 12% |
| 2019 | 13% |
| 2020 | 15% |
| 2021 | 14% |
| 2022 | 11% |
| 2023 | 9% |
| 2024 | 5% |
| **Total** | **100%** |

## Annex D: Additional Investment Management Considerations

### Eligibility for Model Portfolio 4

To provide additional investment opportunities to trust funds that have liquidity levels that are significant in size and stable over a period of five years or longer, the World Bank has developed a new model portfolio, Model Portfolio 4. Model Portfolio 4 has been designed to potentially enhance the risk/return profile of funds through added diversification benefits while retaining the conservative approach to risk that overarches the World Bank's investment of donor funds[21]. Model Portfolio 4 features a five-year investment horizon and comprises a broader investment universe including a limited allocation to developed market equities. The World Bank's Board endorsed Model Portfolio 4 pursuant to receipt of written instruction from the relevant governing body, which in the case of the GEF TF would be the GEF Council.

The rationale for considering an allocation to developed market equities is two-fold: i) firstly, in a growing economy, equities offer the potential for capital appreciation over the longer term; and ii) secondly, equity and bond returns have low correlation, i.e., they do not generally move in tandem. As such adding equities to the fixed-income investment portfolio may provide diversification benefits – that is, the potential for adverse outcomes over the long-term tends to be more limited in a portfolio with a small allocation to equities than in a fixed-income portfolio as the equities portion counterbalances the risk of loss or below-inflation returns in bond holdings.

The equities exposure within Model Portfolio 4 was initially to be gained through replication of the MSCI World index[22], a common benchmark providing exposure to over 1,600 large- and mid-cap stocks across 23 developed market countries[23]. At the 50th GEF Council Meeting in June 2016, the Trustee offered the GEF the option to participate in Model Portfolio 4[24]. The GEF Council took note of the opportunities available to potentially enhance investment returns through diversification of investment options, and requested the Trustee to explore any Environmental, Social and Corporate Governance (ESG) opportunities for the GEF TF Investment portfolio including the associated tradeoffs and challenges.

In August 2016, an ESG working group within the World Bank was established to examine all aspects of ESG investing with a focus on suitable opportunities for the GEF TF, among others. The Trustee will continue to monitor developments in the ESG equity market and will bring this matter to the GEF Council at an opportune time.

### ESG Considerations within the Existing GEF TF Portfolio

Typically applied to corporate issuances, ESG metrics for the assets held within the GEF TF (predominantly sovereigns, sub-sovereigns and agencies) are only just emerging. The Trustee is continuously monitoring ongoing developments in this area to see how the metrics available, despite being in their infancy, can be meaningfully and practically applied to the World Bank's

[21] The new risk framework defines the risk tolerance as the expected maximum loss, as measured by the Conditional Value-at-Risk (CVaR), at the portfolio's investment horizon, not to exceed 1% at portfolio's investment horizon, with 99% confidence.

[22] Refer to Annex II for detail on the composition of the MSCI World index.

[23] Developed market countries include: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the UK and the US.

[24] GEF/C.50/12, Investment Strategy Review of the GEF Trust Fund" dated May 19, 2016.

investment portfolio. In addition, from a risk management perspective, the Trustee applies a very rigorous risk assessment to every investment and portfolio, which may already account for several material ESG factors, and work continues to streamline and formalize a comprehensive and consistent incorporation of material ESG factors in the management of all investment portfolios.

## Annex E: Key Attributes of FX Exposure Management Framework for the GEF TF

63. A successful FX Exposure Management Framework defines an FX policy, assesses risk positions, develops an FX hedging strategy, and then evaluates and monitors the hedging strategy as well as the remaining exposures. For illustrative purposes, a broad framework might look like:

- *FX Policy*: The FX policy is focused on defining exactly what risk the GEF is exposed to. For example, is the GEF's programming envelope exposed to fluctuations in exchange rates vis-à-vis the Reference Rates or is there some other more tangible rate that better defines the risk exposure? The policy also deals with clarifying the aims of managing or mitigating the risk exposure. Would the GEF seek to fully insulate its programming envelope from FX fluctuations or would it aim to only partially insulate it? Would such a decision be based on the costs of mitigation and if so, what are the cost/benefit tradeoffs that would drive the mitigation decision? If only partial mitigation is chosen, how are the choices about which future flows to hedge made? Finally, the policy would deal with the permitted instruments for mitigating risks. There are range of instruments available in the capital markets to manage FX risk and deciding which may be used would be in the purview of the overall FX policy.

- *Risk Assessment System*: A risk assessment system first clarifies what risk measure is to be used to quantify the level of FX exposure. For GEF-6, US Dollars only accounted for around 24% of projected inflows, with the EUR and JPY accounting for 27% and 17% respectively. What does this distribution mean in terms of expected losses for the GEF TF? Risk metrics such as Value-at-Risk (VaR) or Conditional Value-at-Risk (CVaR) are widely used to quantify the potential losses that may be expected to arise from a specific FX exposure. The policy may then make informed statements about acceptable or target levels of risk.

- *Hedging Strategy*: The hedging strategy looks to reduce the uncertainty in future funding caused by volatile exchange rates using capital markets instruments. For example, using FX forward contracts to lock-in the USD value of amounts to be encashed at a certain date in the future is the most direct way to deal with FX uncertainty. The hedging strategy may also deal with questions relating to realizing any potential gains via the hedging strategy and questions relating to whether hedges are done for all uncertain flows in the future (at relatively higher cost) or whether layered hedges are put in place and subsequently rolled over[25] (at relatively lower cost).

[25] Layering and rolling hedge involves executing hedges that cover a percentage of future exposures and additional hedges are added as time progresses. This compares to the "set and forget" strategy in which hedges to cover risk at all future maturities are done on day 1.

## Annex F: Additional Analysis to Determine the Implications of Implementing a Hedging Strategy

To better understand the implications on the GEF TF on implementing an FX hedging strategy, and to determine the optimal approach for hedging the FX risk in the GEF TF, below is a sample of the pieces of analysis carried out.

### 1. Simulation of the GEF-6 Replenishment

The Trustee performed a hypothetical simulation of hedging the GEF-6 replenishment contributions, using the following simplifying assumptions:

- All contributions scheduled to be encashed during a quarter were considered to be encashed at the end of the quarter; and
- For each non-USD contribution currency and on each encashment date, a forward contract is concluded on the effective date of GEF-6 (July 1, 2014), selling the respective currency and buying USD. The maturity of the contract is given by the encashment date. Setting the maturity of the forward contracts equal to the encashment date is nothing but a simplifying assumption as long-term contracts could be very expensive and highly illiquid, and implementing a strategy based on rolling over[26] short-dated contracts could be more efficient but could also imply financing negative outflows at the moment of roll-over.

*Hedging simulation results*

Table 8 below shows the valuation of the GEF-6 donor flows using GEF-6 Reference Rates and using the market forward prices as of 1 July, 2014. The table shows that hedging the flows would have resulted in a 3% increase in the valuation of the receivables due to market expectations of exchange rates in the future.

**Table 8:** GEF-6 Valuations using Reference Rates and Forward Rates (with an effective date of 1-July-2014)

| GEF-6 Contributions (USD equiv. million) | Value at Reference Rate | Value at Forward Rate |
|---|---|---|
| Non-USD | 2,712 | 2,823 |
| USD | 873 | 873 |
| **Total** | **3,585** | **3,696** |

### 2. Determining the level of GEF FX Risk in GEF-6

Based on the FX exposure of the GEF-6 replenishment, Table 9 below summarizes the risks using a widely-used measure of risk called Conditional Value-at-Risk (CVaR). CVaR at X% confidence level makes a statement about the average expected loss that can be expected in the worst X% of loss cases. CVaR can be defined at any confidence level X, but 95% or 99% levels are most typical.

[26] A roll-over represents the continuation of a hedging arrangement upon the maturity of a previous arrangement, by closing the current FX contract and entering a new one. Because of the basis (difference between forward and spot rate), the short term rolling forwards to hedge longer term cash flows would mean potentially incurring intermediate negative outflows which would need to be financed.

**Table 9:** Summary Risk Statistics for GEF-6 non-USD Receivables

| Contribution Currency | USD Appreciation vs. Contribution Currency/1 | Receivables/2 (USDEquiv. thou) | Mark-to-Market/3 (USDEquiv. thou) | 99% Daily CVaR (USDEquiv. thou) |
|---|---|---|---|---|
| **EUR** | 22% | 495,000 | (108,000) | (7,430) |
| **JPY** | 14% | 447,000 | (63,100) | (4,280) |
| **GBP** | 23% | 222,000 | (50,300) | (2,420) |
| **SEK** | 33% | 126,000 | (42,100) | (2,120) |
| **CHF** | 6% | 109,000 | (6,000) | (1,610) |
| **CAD** | 26% | 61,000 | (16,100) | (520) |
| **AUD** | 25% | 59,000 | (15,000) | (770) |
| **NOK** | 40% | 44,000 | (17,400) | (710) |
| **DKK** | 21% | 15,000 | (3,100) | (220) |
| **NZD** | 11% | 5,000 | (500) | (60) |
| **ZAR** | 38% | 1,000 | (500) | (10) |
| **CZK** | 27% | 1,000 | (300) | (20) |
| **Total** | | **1,585,000** | **(322,400)** | **(20,170)** |

**1/ The appreciation of the USD against the contribution currency is the exchange rate at end-Jan 2017 relative to the replenishment rate**

**2/ The valuation of the receivables is the contribution currency amount valued at exchange rates as at end-Jan 2017**

**32/ The mark-to-market is the valuation of the receivable at end-Jan 2017 rates relative to the valuation using the replenishment rate**

Given the strengthening of the USD against other contribution currencies (calculated relative to the GEF-6 Reference Exchange Rate[27], the mark-to-market of outstanding receivables at end of January 2017 reflected a potential loss of USD 0.32 billion. Looking at the CVaR figures specifically, we can make the statement: "*As of end-Jan 2017, the average daily loss expected in the worst 1% of loss cases due to FX volatility is USD 22 million while over a one month horizon (keeping the FX exposures unchanged over the horizon) the average expected loss in the worst 1% of cases is USD 92 million*". Those potential losses would be in addition to the USD 0.32 million mark to market loss at January 31, 2017.

To highlight the sensitivity of the GEF-6 contribution receivables portfolio to changes in the USD, Table 10 below shows the loss scenarios in USD equivalent for various levels of appreciation. In summary, if the USD appreciates by 1% against the January 31, 2017 exchange rates at the encashment of each contribution in non-USD currencies, the loss would be USD 16 million, whereas if the USD appreciates by 5% or 10%, the expected loss would be USD 77 million and 152 million respectively.

[27] GEF-6 Reference Rates are the FX rates used to the convert pledges in national currencies into US dollars to determine the GEF-6 Target Replenishment Level. The FX rates used are the average daily FX rates over a six-month period from 1 April 2013 to 30 September 2013.

**Table 10:** USD losses per contribution currency in the GEF-6 receivables for various levels of USD appreciation (in USD millions)

| Contribution Currency | 1% USD Appreciation | 5% USD Appreciation | 10% USD Appreciation |
|---|---|---|---|
| AUD | -0.6 | -3.0 | -8.6 |
| CAD | -0.6 | -2.9 | -2.9 |
| CHF | -1.1 | -5.2 | -5.2 |
| CZK | 0.0 | -0.1 | -0.1 |
| DKK | -0.1 | -0.7 | -0.7 |
| EUR | -5.0 | -24.8 | -71.8 |
| GBP | -2.2 | -11.1 | -32.2 |
| JPY | -4.4 | -21.3 | -21.3 |
| NOK | -0.4 | -2.1 | -2.1 |
| NZD | 0.0 | -0.2 | -0.7 |
| SEK | -1.3 | -6.0 | -6.0 |
| ZAR | 0.0 | -0.1 | -0.1 |
| **Total** | **-16** | **-77** | **-152** |