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FOREIGN EXCHANGE RISK: OPTIONS FOR THE GEF TRUST FUND (PREPARED BY TRUSTEE)

ACRONYMS AND ABBREVIATIONS

CEO	Chief Executive Officer
CHF	Swiss Franc
FY	Fiscal Year (for GEF and World Bank: July 1 to June 30)
GBP	British Pound
FX	Foreign Exchange
GEF	Global Environment Facility
GEF-5	Global Environment Facility – Fifth Replenishment
IBRD	International Bank for Reconstruction and Development
IoC	Instrument of Commitment
ISDA	International Swaps and Derivatives Association
SDR	Special Drawing Rights (The SDR or Special Drawing Rights is a currency basket consisting of fixed proportions of the EUR, JPY, GBP, and the USD).
USD	United States Dollar

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EXECUTIVE SUMMARY

i. During the exceptional market circumstances over the past year, volatility in foreign exchange rates resulted in variability in the amount of the GEF-4 envelope. This unusual level of volatility suggested that further exploration into the exposure of the GEF Trust Fund to such currency movements was warranted.

ii. There is limited scope for managing foreign exchange risk in the GEF Trust Fund. This paper examines the overall costs, benefits and issues associated with three options for mitigating foreign exchange risk, and the policy decisions required before moving forward with a strategy. However, the various options and costs suggest that a hedging strategy would be difficult to execute.

iii. The first option would be to hedge promissory notes as they are deposited. Although promissory notes themselves are legally binding, encashment schedules are not. However, hedge transactions have contractual obligations to exchange cash flows on set dates. This means donors would need either to agree to legally binding encashment schedules alongside deposit of promissory notes, or flexibility around timing of cash flows would need to be built into the hedging solution, at significant additional cost.

iv. The second option would be to maintain a reserve which would not be made available for Council allocation or CEO approval. The current reserve of USD 45 million is equivalent to just over 1% of funds held in trust (USD eq. 3.98 billion) or approximately 0.5% of cumulative pledged and committed resources. This reserve could be expanded to work as a reserve against all foreign exchange risk (not just Trustee commitments already made). This would present the lowest cost solution.

v. Finally, a third option would be to match currencies of donor contributions to the currencies of Trustee commitments to Agencies. This could be implemented in either of the following ways: (1) as long as the operational currency of most of the Agencies is in USD, the GEF could mitigate foreign exchange risk by donors agreeing to contribute in USD; this would effectively transfer the foreign exchange risk – and the need for any mitigating measures – to the GEF's donors; (2) Donors continue to contribute in their national currencies, however, the Trustee would match the predominant currency composition of the portfolio with commitments to Agencies. This third option would likely be challenging to implement in practice and would have extensive systems and other implications.

vi. Prior to the current crisis, foreign exchange variations resulted in a net appreciation to the trust fund, estimated at about USD 250 million from GEF-1 through GEF-3. There is, therefore, a policy decision facing GEF stakeholders on the degree of volatility that is deemed to be acceptable, and that beyond which other more active and costly approaches should be used.

BACKGROUND

1. At the first meeting of Contributing Participants ("Donors") to the GEF-5 Replenishment, the Trustee was requested to prepare a paper outlining available options to mitigate the impacts of foreign exchange volatility on the level and predictability of funding available for GEF programs. This paper examines the impact of recent foreign exchange volatility on the GEF, and presents three alternatives that could be considered to mitigate the impact of this volatility.

2. The holding and operating currency of the GEF Trust Fund is the United States dollar (USD), while Donors pledge primarily in national currencies. Typically, Donors also "pay in" their contributions over an agreed time period. As a result, the value of donor contributions to a given replenishment is not fully "locked in" until the last promissory note encashment is received by the World Bank (Trustee), which is about ten years after the start of the replenishment period. At any point in time, the GEF Trust Fund is therefore receiving regular non-USD contribution payments relating to the current replenishment and two prior replenishments.

3. Overall, foreign exchange variations have not had a negative impact on the value of donor contributions, when measured over the life of the GEF Trust Fund. Indeed, on balance, gains in the value of some currencies from the time when they were pledged to the time when they were paid have resulted in a net gain to the Trust Fund, estimated at about USD 250 million from GEF-1 through GEF-3.

4. Nevertheless, currency exchange rate variations have been significant within the GEF-4 period. At the time of the final replenishment agreement (August 2006), the book value of GEF-4 new donor funding[1] was just under USD eq. 2.3 billion. By the end of December 2007, due to net increases in the value of GEF-4 installment and promissory note receivables from donors, that value had risen to USD eq. 2.4 billion. By the middle of 2008, with the strong appreciation in the value of the Euro in particular, the estimated value of new donor funding had increased by about USD eq. 240 million to USD eq. 2.5 billion (for the same six months to mid-2008, rates of return on GEF liquidity investment reached over 10%). Since that time, its estimated value is back to the level in December 2007, i.e., USD 2.4 billion (equiv.).

5. As noted above, over the life of the Trust Fund, the GEF has benefited from a degree of net foreign exchange gains, as some contribution currencies appreciated in value between the time of the pledge and the actual payment of the contribution in cash. While the Trustee is still encashing promissory notes for GEF-2 and GEF-3, the bulk of the assets have already been converted into USD cash receipts. There still remains, however, some exposure to foreign exchange movements on GEF-2 and GEF-3 promissory notes (ref. Table 1). As it happens, the value of each GEF replenishment has, in the end, been fairly close to its agreed target funding envelope, taking into account arrears, foreign exchange gains, investment income, project cancellations, and approved project budget increases.

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[1] The value of donor funding can be estimated for different points in time by looking at, for a specific date, the historical value of cash payments that have been made, plus the "book value" of Instruments of Commitment not yet received, plus installment and promissory note receivables.

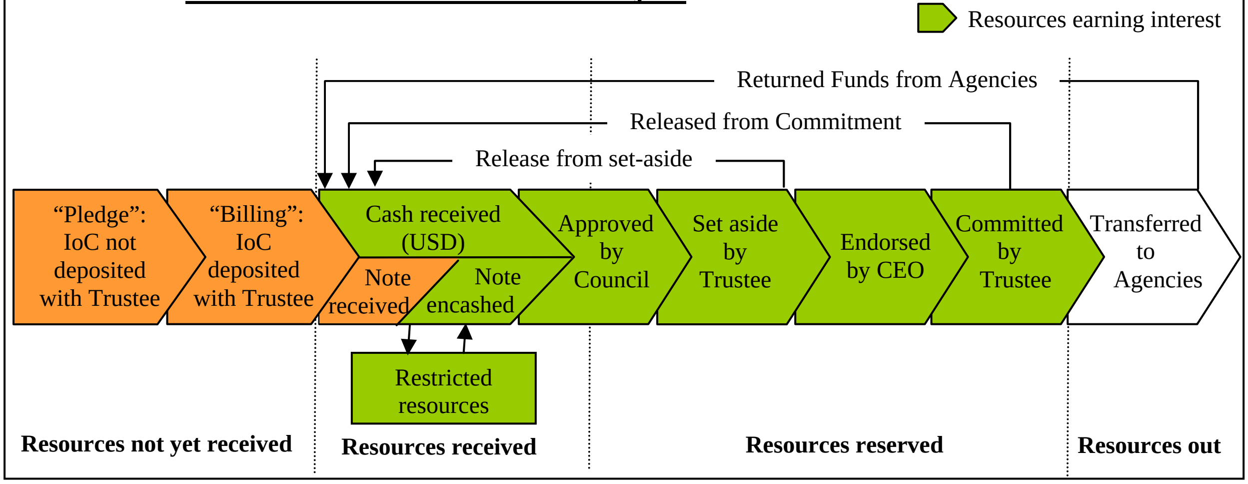
Table 1: Illustrative Changes to GEF-1 through GEF-4 Replenishment Contribution Tables
(in USD eq. millions)

Sources of Funds	GEF-1 Based on Replenishment Agreement on 03/16/1994	GEF-1 Based on Book Value as of 02/28/09	GEF-2 Based on Replenishment Agreement on 02/10/1998	GEF-2 Based on Book Value as of 02/28/09	GEF-3 Based on Replenishment Agreement on 08/07/2002	GEF-3 Based on Book Value as of 02/28/09	GEF-4 Based on Replenishment Agreement on 08/23/2006	GEF-4 Based on Book Value as of 02/28/09
Funding from Donors and Other Sources	**2,023**	**1,955**	**2,063**	**2,036**	**2,300**	**2,508**	**2,289**	**2,315**
New Donor Funds	1,963		1,991		2,300		2,289	
Gap	60		72					
IoCs Not Yet Deposited with the Trustee								123
Installment Receivables		3		141		32		661
Unencashed Promissory Notes		3		117		248		638
Paid-in cash historical value		1,949		1,779		2,227		894
Investment Income	**-**	**106**	**-**	**166**	**130**	**125**	**368**	**482**
Projected	- a/		- a/		130 b/		368 c/	42 d/
Realized		106		166		125		439
Carryover	**-**	**-**	**687**	**687**	**570**	**631**	**478**	**505**
Projected Arrears	-	-	190	190	254	266	194	194
Projected Deferred Contributions	-	-			192	242	214	241
Projected Funds Available at the end of a replenishment period to support financing decisions	-	-	497	497	123	123	70	70
Total	**2,023**	**2,061**	**2,750**	**2,889**	**3,000**	**3,265**	**3,135**	**3,302**
Target Replenishment Funding	**2,000**	**2,000**	**2,750**	**2,750**	**3,000**	**3,000**	**3,100**	**3,100**
Excess [shortfall] over the Target level as judged against the USD eq. Value	**23**	**61**	**-**	**139**	**-**	**265**	**35**	**202**

a/ Investment income projections were not included in the replenishment agreement.
b/ Represents projected investment income over the GEF-3 commitment period (FY03-FY06).
c/ In 2006, investment income was projected using a $2 billion average cash balance and expected investment returns of 4.6% per annum.
d/ As of February 28, 2009, investment returns were estimated at 1.5% per annum.

6. Tracking funding decisions made in USD against resources whose USD value fluctuates on a daily basis, however, presents a financial management challenge. Trust Fund financial transactions must be closely monitored to ensure that funding decisions of the Council and the CEO (existing and potential) do not exceed actual funds available. It is possible, for example, that foreign exchange movements on non-USD promissory notes may reduce available funding estimates below what is already needed to cover existing funding decisions. Fluctuations can impact possible set-asides, CEO endorsements, and Trustee commitments on a daily basis. Thus, while the GEF works on the basis of current available funds, the long approval and life cycle of projects needs to be taken into account when planning future funding availability.

Chart 1: Funds Flow for Full-Sized Projects



Some Options for Consideration:

7. At the present time, the options available to manage foreign exchange risk for the GEF Trust Fund are limited. Three options have been identified as possible methods to manage this risk: i) entering into transactions to hedge foreign currency risk; ii) expanding the present currency reserve to cover Donor pledges at the time of replenishment agreements; and iii) matching the currencies of donor contributions to the currencies of Trustee commitments to Agencies. Each of these three options carry with them advantages, limitations, and financial and opportunity costs, which are considered below:

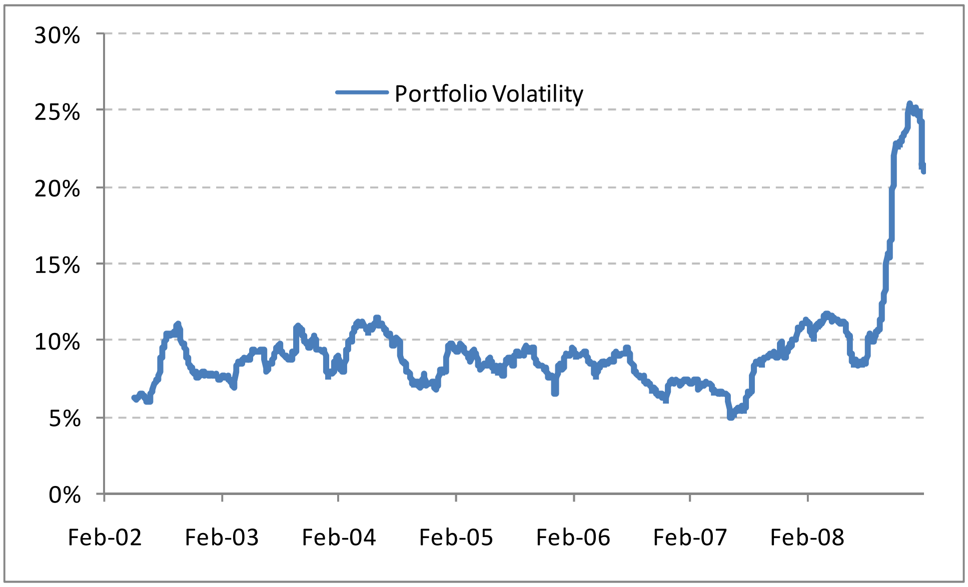
(I) Hedging Foreign Currency Risk

8. In the following paragraphs, the issues related to hedging foreign currency risk are examined, outlining where appropriate the considerations to be taken into account in any potential hedging solution. We consider: (i) an analysis of the GEF's existing currency risk; (ii) the types of receivables that could be hedged and the amounts involved; (iii) the GEF's current lack of legal status and options for accessing the market; (iv) the hedging strategies available and possible hedging instruments and (v) other factors such as system requirements and the treatment of credit risk in the asset pooled environment.

i. Risk Analysis

9. Estimates of the foreign currency risk faced by the GEF suggest that the risk has doubled since the levels witnessed in mid-2002. Chart 2 below shows the level of volatility in a pool of non-USD receivables similar in distribution to GEF-4[2] over the last 7 years. This volatility measures the possible variability in the value of the portfolio against the USD over a year, given the movements over the preceding three months. It is clear that there has been a step change in volatility between mid-2002-and the present, taking place entirely in the past year.

Chart 2: Portfolio Level Volatility of Foreign Exchange Rates



10. A question not addressed in this paper is whether the current volatility is an anomaly; if a return to normal levels is expected, it would imply there is no need to hedge. A policy decision would also need to be taken by GEF stakeholders on whether there is a level of volatility beyond which hedging would be preferred, or whether there is a preference to be hedged at all levels of market volatility. One way the GEF could assess acceptable levels of volatility would be to estimate how various levels of currency volatility affect the replenishment value and/or Funding Availability, then look at potential hedging costs at those same levels of currency volatility. Where hedging costs are deemed to be high relative to potential impact (i.e., hedging costs are in excess of estimated impact), the GEF may opt not to hedge. Another approach could be to assess what the "long-term" estimate of currency volatility is for the currencies in the GEF portfolio then adopt a strategy that only hedges when these volatilities rise above that long-term estimate.

[2] GEF-4 was chosen as a proxy for previous replenishments to ensure volatility comparison over time is consistent.

ii. What Would the Trustee Hedge?

11. Before considering the feasibility of hedging and fundamental issues related to this, it is worth first considering the objectives of a hedging program, and how these affect decisions on hedging strategies. A policy decision would be required by GEF Council with respect to whether the objective is to hedge GEF resources at a "replenishment" level or at the level of promissory note deposits. Both have advantages and disadvantages:

a. <u>Replenishment Level: The hedge would be entered into at the time of deposit of an Instrument of Commitment (IoC)</u>. The advantage to hedging at this level is that it provides a measure of certainty of cash flows available for cash transfer to Implementing Agencies over the encashment life of any given replenishment, which can be up to ten years. Hedging at this level would only be done for new donor funding. With respect to arrears/deferred contributions, which may be included in the GEF-5 Replenishment amount, from a contractual perspective, these should probably not be hedged given the additional uncertainty regarding the timing of these flows.[3]

   i. There will be a structural inconsistency between the agreed replenishment and the hedged replenishment due to the mismatch between the rates applicable in the replenishment agreement (i.e., historical exchange rates used during the negotiations to calculate donor commitments) and the actual forward rates used to calculate hedges.
   ii. Consideration would need to be given to when exactly the hedges are put in place. For instance, hedge transactions could be entered into on the date the Replenishment becomes effective, or they could be entered into one by one as IoCs are deposited with the Trustee.

b. <u>Promissory Note Deposits</u>: The advantage of hedging at the time of the deposit of promissory notes is that cash flows would be more certain to the extent that promissory notes, that are legally binding, would already have been deposited.

   i. Hedging contributions only after promissory notes are received over time would not provide up-front certainty of the total volume of funds available for Council funding decisions, Trustee commitments and cash transfers under any given replenishment.

12. With respect to hedging promissory note deposits, although promissory notes themselves are legally binding, encashment schedules are not. This presents a problem where a hedge would have contractual obligations to exchange cash flows on set dates. This means donors would either need to: (i) agree to legally binding encashment schedules alongside the deposit of their promissory notes; or (ii) flexibility around timing of cash

[3] Further analysis would be required as to how hedges are impacted by the occurrence of new arrears and deferred contributions.

flows needs to be built into the hedging solution. Under the former option, issues such as the certainty and timeliness of the payments to be hedged and provisions for unwinding of derivatives transactions in the event of non-payment would be relevant for this analysis. For example, in the case of IFFIm, an AAA-rated institution, the underlying donor agreements constituted legally binding, unconditional, and irrevocable obligations to make grant payments on fixed dates, and expressly included indemnification provisions for any additional hedging-related costs in the event of payment delays. The latter option, under which payment dates would be uncertain, would be expected to result in significant additional costs to hedging transactions.

13. Table 2 below puts the level of risk in currency markets into context by illustrating the possible variation in the US dollar equivalent values of promissory note balances for the currencies in the pool, given historical foreign exchange volatilities up to the end of February 2009. For instance, in this example the GBP 32 million of GBP promissory note balances was worth USD 46 million at end Feb-2009. If the observed level of USD-GBP volatility were to persist for the subsequent 12 months, the range of USD equivalent future receivables would have fluctuated between USD 35 million and USD 57 million between February 2009 and February 2010.

Table 2: Variation in GEF Promissory Note Balances for the GEF Trust Fund Given FX Volatility (vs. the USD) between February 2009 and February 2010

Promissory Note balances (ex-cash)	FX Exposure (USD Equivalent)	Actual Volatility	Possible variation with actual volatility
45,438,112	31,522,722	27%	8,525,452
9,763,000	7,713,518	22%	1,694,095
79,566,400	69,902,394	24%	16,479,463
15,451,000	2,765,428	21%	580,740
87,940,884	117,229,502	22%	25,944,644
32,165,800	46,119,148	24%	11,263,582
21,352,147,500	216,949,274	16%	35,323,879
170,940,200	25,466,710	19%	4,821,220
7,165,020	4,104,476	31%	1,253,646
813,080,500	98,775,511	22%	21,393,630
375,100,634	-	0%	-
14,971,494	22,383,264	10%	2,223,373
	642,931,948.40		**129,503,724.43**

iii. Legal Status & Credit Rating of GEF

14. The GEF is not a standalone legal entity, nor does it have a credit rating. This poses certain challenges to the use of market based instruments to hedge currency exposure. Possible avenues to address these challenges could include:

a. **The GEF Trust Fund obtains the requisite legal status and credit market standing to enable direct market access, then uses market counterparties to hedge currency risk.** Establishing the GEF as a stand-alone legal entity with a solid financial backing would enable it to enter into whatever transaction was deemed appropriate to cushion or eliminate the impacts of foreign exchange volatility. However, the legal and other costs associated with obtaining legal status and receiving a credit rating, along with the costs of ensuring the balance sheet strength required for the GEF to be considered a credible market counterparty, and the time this would take, should not be underestimated. There is also no guarantee that an acceptable rating would be achieved.

b. **Should GEF Donors not decide to pursue the option of obtaining the requisite independent legal and credit standing for the GEF, the hedging options would be more limited**. In this case, IBRD could consider acting as intermediary between the GEF and market counterparties, however it must be noted that the IBRD has not performed this function for other (similar) Trust Funds, and a policy decision by the Bank's Executive Directors would first be required. The feasibility of hedging for the Bank's Trust Funds as a whole would then need to be examined in more detail.

   If these decisions were taken and IBRD were to be able to find a way to intermediate between the GEF and market counterparties, GEF could benefit from currency hedges even if the market was not conducive to the use of direct market counterparties. The legal and rating costs would still apply, however, and would be added to the costs of compensation to IBRD for intermediation services. For example, IBRD currently charges approximately 2bp to intermediate for IFFIm; an AAA-rated entity (an amount agreed before the current financial crisis; in the current environment, the charge may be higher) with comparable balance sheet to the GEF. Assuming the GEF was able to meet other Bank guidelines with respect to financial standing (and the Bank's Executive Directors agreed to allow such intermediation), in the event the GEF did not achieve an AAA-rating the charge would be higher. IBRD would need to use its available credit lines with market counterparties for this purpose.

c. **Use the World Bank's existing Trust Fund ISDA Master Agreement signed with market counterparties to hedge currency risk.** An ISDA (International Swaps and Derivatives Association) Master Agreement is a standardized agreement signed between counterparties to enter into derivatives transactions, which provides for the consolidation, or "netting" of amounts owed between counterparties. It is an industry standard, standardized, agreement normally required before market counterparties enter into derivatives transactions. The Bank's Master Agreement was established not for individual trust funds, but for the Bank's trust fund pool as a whole. It is difficult to assess the usefulness of this approach for the GEF Trust Fund because the Trust Fund Master Agreement was signed before the current financial crisis, and has not yet been used. It is highly unlikely that this would provide a solution for the GEF. Even under an ISDA Master Agreement, there is no guarantee that the counterparty would agree to enter into a transaction directly with a Trust Fund in the current market environment, which is still characterized by elevated levels of risk aversion by market counterparties. All but the higher rated entities with a solid track record in the financial markets are finding it difficult to get trading access and credit lines.

iv. How Could the GEF Hedge?

15. The GEF Council would first need to decide upon the degree of flexibility desired in a hedge solution. For other funds, the usual approach is for the governing body to establish a Committee or other expert body with suitable financial expertise. There are degrees of uncertainty associated with GEF Trust Fund cash flows (timing of payments, arrears, etc.) such that any hedge would need to be flexible enough to cope with this uncertainty. In addition, Council would need to determine whether hedges could allow the opportunity to potentially take advantage of favorable moves in exchange rates or whether the contracted rates would be strictly enforced. Whatever decisions are taken with respect to the overall hedging approach, Council would need to approve a Currency Risk Management Policy.

16. A hedging strategy for the GEF Trust Fund would need to incorporate the flexibility to address the issues outlined above. Simple market based instruments such as currency forwards are therefore not likely to be suitable. In Chart 3 below some possible instruments are highlighted, with pros and cons and estimated costs identified.

Chart 3: Hedging Instruments

Instrument	Description	Pros	Cons	Estimated Cost
Par Forward	This instrument allows the user to have a single exchange rate for the life of the contract (i.e. if an encashment schedule is 10 years long, all EUR flows will be converted at a single rate for the 10 year period). This assumes that an even amount of the total EUR balance must be exchanged each quarter at that rate.	- Allows the user to hedge at one known rate for the life of the contract.	- User is obligated to exchange the contracted cashflows on the assigned dates	- For a portfolio composition similar to GEF-4, estimated hedge costs are 2.5% - 3% of notional balance
Flexi-Forward	Similar to the par forward but this assumes the notional balance is split into equal annual amounts (as opposed to quarterly) where you will be able to buy USD throughout each year at any time up to the whole 1 year amount. The extra flexibility here is that the timing isn't as strict as the quarterly schedule.	- Allows the user to hedge at one known rate for the life of the contract. Also gives the user some flexibility with respect to timing of encashments, spreading risk over 1yr rather than 3 months	- Some residual risk remains with respect to the amount of foreign currency received over the course of the year.	- For a portfolio composition similar to GEF-4, estimated hedge costs are 2.5% - 3% of notional balance
Participating (50%) Forward	This is a again a quarterly contract at a single rate, but where if the spot rate at the time is negative (for the GEF) then we have the right to exchange the full quarter amount, but if the spot rate at the quarter date is beneficial then you must exchange half at the contract rate, and half is free to exchange at the beneficial rate. The flexibility here is that the GEF can take advantage (but not fully) of advantageous rate moves.	- Allows the user to retain some upside in the case that foreign exhange rates are advantageous while retaining full protection when they are not.	- User is obligated to exchange the contracted cashflows on the assigned dates	- For a portfolio composition similar to GEF-4, estimated hedge costs are 4% - 4.5% of notional balance

17. The estimated costs of the instruments shown in the table are not actual USD costs paid to the counterparty. Typically, these instruments are structured in such a way that the cost is contained in the exchange rate offered over the life of the contract. For example, a 2% cost on Swiss Franc (CHF) hedges means that if the objective was to hedge CHF 50 million equivalent of exposure, and the current market USD-CHF exchange rate was 1.14, the counterparty would offer an exchange rate of 1.117 for the life of the hedge. In practice, this would mean that funds available to transfer would be USD 55.85 million under the hedge vs. USD 57 million as suggested by spot market pricing. Indicative costs will vary depending on the level of variability and the flexibility desired for the GEF Trust Fund.

18. As a rough approximation of cost, if it was assumed that the full amount of the GEF-4 pledges could have been hedged at the time of the replenishment agreement, and par forward (the least costly) hedges could have been employed, the cost would have been in the order of USD 75 million to USD 90 million. This, of course, assumes that all of the other issues involved in hedging transactions could have been resolved at the time of the replenishment agreement.

v. Other Issues for Consideration

19. **Systems:** The GEF Trustee currently employs an automated end-to-end Enterprise Resource Platform to deal with donor commitments, meaning that there is little manual intervention required as funds are received and made available to the GEF Trust Fund for use. Currency hedging would require the automated cash management process to be disabled to permit specific donor cash flows be assigned to currency hedges. The Trustee's Treasury Department would be involved to hedge the required cash flows and the Accounting Department would need to allocate funds to different investment portfolios and manage the extended financial reporting. These issues would require substantial IT development work such as building new modules and integrating them into the existing systems as well as building additional interfaces with the systems used by the Trustee's Treasury Department. Estimated system costs, based on comparable systems work, would be USD 1-2 million.

20. **Liquidity Risk:** To begin with further investigation would be needed to assess whether the lack of legal standing of the GEF and its present lack of credit rating would mean that collateral would have to be posted as part of any currency hedging arrangement. If this were the case, this could reduce available GEF Trust Fund liquidity (and hence, funding availability) due to collateral being used to support the hedge transactions. It should be noted that current Bank policy precludes hedging with counterparties with a credit rating of less than 'A', impacting the ability of the Bank to intermediate with the GEF. Second, collateral would almost certainly be required from the GEF by market counterparties, even if the GEF were to receive a good credit rating (even the long-standing AAA-rated supranationals have been pressed to provide collateral. It is therefore difficult to imagine that an untested new entity would not be required to post collateral.

21. **Equity:** Under the current pooled arrangement, all Trust Funds participate in various liquid asset investment tranches with income, gains (and losses) being allocated on a pro-rata basis across the different trust funds. If hedging transactions were performed for

the GEF Trust Fund using the larger Trust Fund pool, it would mean that other Trust Funds are effectively taking on GEF's credit risk with no participation and/or compensation. The Bank would therefore need to either (i) set up a separate investment tranche solely for the GEF Trust Fund currency hedging program; or (ii) internally ring-fence GEF Trust Fund assets such that any losses due to a failure to fulfill contractual obligations on the currency hedge are limited to the GEF Trust Fund and do not impact other Trust Funds. This would need to be resolved, and would entail additional costs.

22. In summary, while hedging foreign exchange risk for the GEF Trust Fund within the current Trust Fund structure at the World Bank might be possible, as outlined above, this approach would not be without challenges, and would incur additional costs. There are several structural elements inherent in the GEF (such as its lack of legal status and credit rating, segregated vs. fungible cash flows, timing and certainty of promissory note encashment) and also institutional elements inherent to the Bank (such as Trust Fund asset pooling, distribution of credit risk, legal status of Trust Funds, and Trust Fund access to markets) that would make hedging challenging and add to costs. Systems development would take time and would be costly.

23. From a legal perspective, the Bank is not currently authorized to enter into hedging transactions except with respect to (1) its own operations, including equity, liability, and investment hedging, and (2) intermediation services for IDA, borrowing member countries, and two external clients (IFFIm and CCRIF). Since hedging transactions create balance sheet risk for the Bank, all such activities are subject to approval by the Executive Directors, either by category or on a case-by-case basis. Accordingly, for the Bank to take on a hedging intermediation function for the GEF, the Bank's Executive Directors would need to be satisfied that the resulting financial exposure to the Bank would be acceptable and approve the engagement. Hedging intermediation would thus require endorsement by the GEF Council, approval by the Bank's Executive Directors, and amendment to Annex B of the Instrument.

(II) MAINTAINING AN EXPANDED FOREIGN EXCHANGE RESERVE

24. In FY06, the Trustee implemented a reserve against resources available for commitment, to mitigate the variability in cash flows resulting from foreign exchange rate volatility, and ensure that amounts available for commitment were not adversely affected. Another option to deal with foreign exchange risk would be to simply increase the size of the foreign exchange reserve.

25. Donors may pledge both during and after replenishment negotiations. On an ongoing basis, the Trustee tracks all pledges and formalized commitments, i.e., written commitments by Donors made through the deposit of an IoC. The management of the financial flows of the GEF Trust Fund is described below. Contributions from Donors comprise the bulk of the incoming, usable resources to the GEF Trust Fund. They are denominated in multiple currencies and as such are subject to foreign exchange exposure until they are converted into USD. Resources are also increased by investment income as well as any returned funds from the Agencies, including unused funds and investment income earned on the undisbursed balance of GEF funds transferred by the Trustee to the

Agencies. The following represent the categories of resources received into the GEF Trust Fund:

- Cash paid in – All non-USD cash receipts are converted to USD immediately upon receipt by the Trustee;
- Promissory notes received as Installments – USD and non-USD balances, whose value remains subject to foreign exchange movements until notes are encashed;
- Promissory notes converted to cash (i.e. note encashments) – non-USD encashments are converted to USD immediately upon receipt by the Trustee;
- Investment income on GEF liquid assets;
- Investment income earned by the Agencies on undisbursed balances of the GEF funds they hold; this income is transferred back to the GEF Trust Fund in USD; and
- Returned funds from Implementing or Executing Agencies on cancelled or closed projects; on occasion, the Agencies may be required to return cash to the GEF Trust Fund;[4] in such cases, the funds are returned in USD.

26. During any replenishment period, some resources previously set aside or committed by the Trustee for a particular use are subsequently cancelled. When this occurs, the Trustee records the cancellation upon receipt of notification from an Agency or the Secretariat, as applicable. These cancellations include any of the following:

- Amounts associated with dropped projects or activities;
- Amounts associated with CEO endorsement (i.e., reduction of the initial amount approved by the Council); and
- Unused amounts from closed projects or activities.

27. A foreign exchange reserve helps to reduce the likelihood that the GEF Trust Fund may not have sufficient funds to disburse against commitments already made by the Trustee, as a result of foreign exchange movements. Initially, a reserve amount of $35 million was set based upon simulations of movements in foreign exchange rates over a 12-month horizon (as predicted by current forward rates). The reserve amount is recalculated periodically to reflect variations in the amount and currency composition of new donor funds to be received as well as prevailing market conditions. This reserve could be expanded to work as a reserve against all foreign exchange risk (not just Trustee commitments already made).

28. The Trust Fund currently maintains a reserve of USD 45 million, which is not made available for Council allocation or CEO approval. The reserve is equivalent to just over 1% of funds held in trust (USD eq. 3.98 billion), or approximately 0.5% of cumulative pledged and committed resources.

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4 Agencies are required to return funds to the GEF Trust Fund only when the Trustee does not have a liability to that Agency.

29. A reserve does not mitigate foreign exchange risk losses, it simply protects against the impacts of such losses. The advantage of this approach is that it provides a cushion that could be used to protect the GEF Trust Fund from swings in currencies over time. However there is an opportunity cost associated with maintaining donor funds in reserve which cannot be used for GEF programming until the end of the replenishment period. The financial cost is difficult to estimate with precision, since a reserve – if held in cash, as opposed to promissory notes – could generate investment income. But it would also represent a cost to contributors, whose cost of funding varies by donor, and over time. Some estimates are presented below, using GEF investment income as a proxy for donors' cost of funds.

30. Table 3 shows estimated opportunity cost at different reserve levels. Foregone investment income was calculated as the portion of realized investment income per replenishment that is foregone if there is no reserve. This was calculated by using rates of return based on average annual trust fund balances and realized investment income for each replenishment period. While these costs have been based on foregone investment income, the opportunity cost of not holding a reserve could be significantly higher due to the lack of a mechanism to protect the GEF Trust Fund from currency fluctuations.

Table 3: The Opportunity Cost of Maintaining a Reserve (Total)
Status as of February 28, 2009 (in USD millions)

	Estimated Opportunity Cost a/				
Reserve	GEF-1	GEF-2	GEF-3	GEF-4	Total
40.0	6.7	9.1	3.0	6.6	25.4
60.0	10.1	13.6	4.6	9.9	38.1
80.0	13.4	18.1	6.1	13.2	50.8
100.0	16.8	22.6	7.6	16.5	63.5
150.0	25.2	34.0	11.4	24.7	95.2

a/ Based on total estimated foregone investment income since GEF-1 .
b/ Foregone investment income was calculated as the portion of the realized investment income per replenishment that is foregone if there is no reserve. This was calculated by using rates of return based on average annual trust fund balances and realized investment income for each replenishment period.

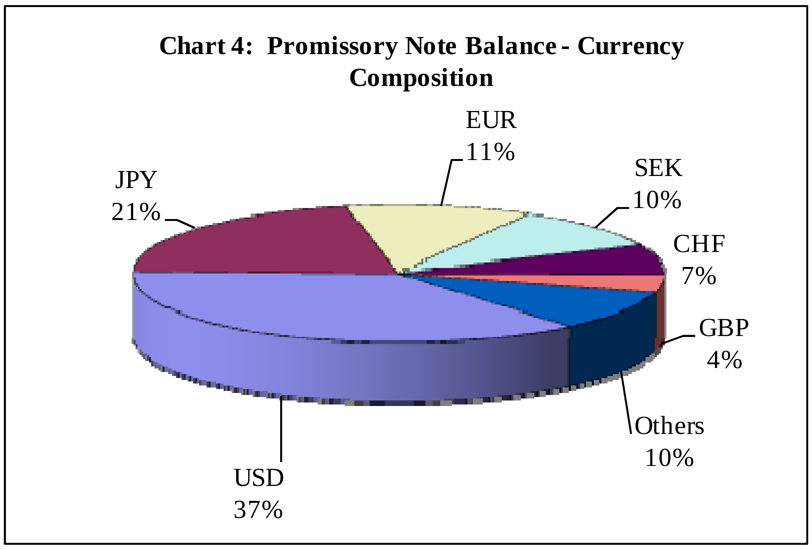
(III) MATCHING THE CURRENCY OF DONOR CONTRIBUTIONS TO GEF COMMITMENTS

31. Another potential method to reduce GEF exposure to exchange rate risk might include agreement among GEF contributors to contribute in USD (which would completely mitigate the foreign exchange risk for the GEF), or to examine the possibility of matching currencies of donor contributions with currencies of Trustee commitments to Agencies.

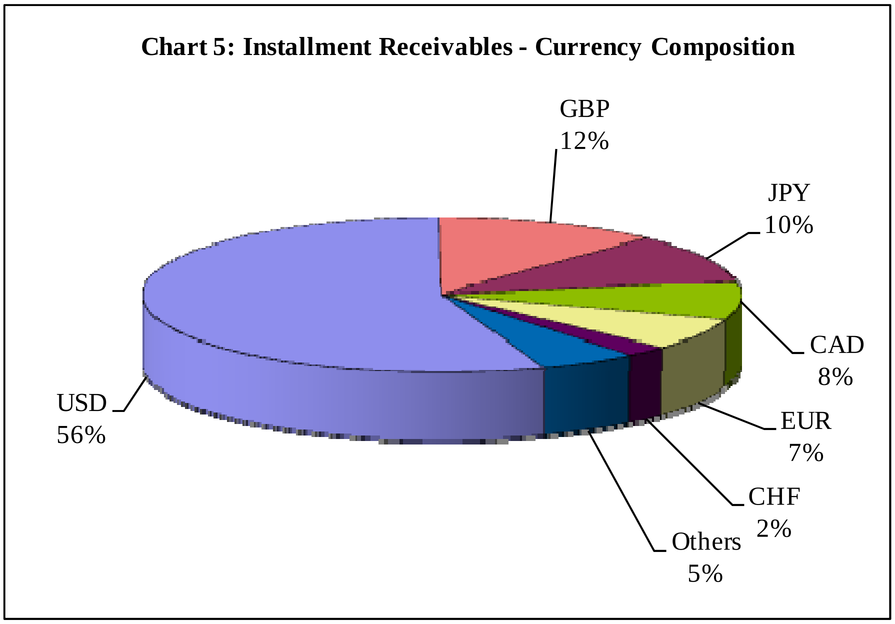
32. The holding and operating currency of the GEF Trust Fund is the USD. Upon receipt of a non-USD cash asset, the Trustee currently converts the funds into USD, removing any further risk of mismatching GEF assets to liabilities. That currency mismatch risk exists because USD set-aside amounts arising from Council or CEO funding decisions

are funded, in part, against the outstanding balances of promissory notes denominated in other currencies.

33. ***Promissory notes are subject to foreign exchange exposure.*** As shown in Chart 4, at the end of April 2009, about 37% of the current value of promissory notes is represented by USD denominated promissory notes or letters of credit. **Thus, approximately 63% of the current value of promissory notes is subject to daily foreign exchange rate fluctuations until these promissory notes are drawn down and converted into USD.**



34. ***Instruments of Commitment Not Yet Deposited with the Trustee.*** Chart 5 shows the composition of the value of installment receivables by currency. The majority of the current value of installment receivables is represented by receivables denominated in USD (56%) followed by GBP (12%), JPY (10%), CAD (8%), and EUR (7%). All installment receivables denominated in currencies other than the USD are subject to exchange rate fluctuations until they are paid in cash and converted to USD.



35. ***As long as the operating currency*** of most of the GEF Agencies is in USD, the GEF could achieve a natural, "costless" hedge by way of a requirement that donors contribute in USD. This would effectively transfer the foreign exchange risk – and the need for any mitigating measures – to the GEF's donors. An alternative would be to match the currency of the Trustee commitments and cash transfers to Agencies to the composition of the currency composition of donor contributions. This would effectively transfer the foreign exchange risk – and the need for mitigation – to the GEF's Agencies and final recipients. Both of these options may appear challenging if not unrealistic in practice.

36. Donors may have budgetary, legislative or other requirements that would also preclude the option of making contributions in a specific currency. An alternative could be for donors to agree to make Maintenance of Value contributions. Under this arrangement, if the contribution currency depreciated beyond an agreed threshold, the donor would be required to make supplemental contributions with the sole objective of preserving the USD value of their pledged contribution. Donors could continue to pledge and make payments in the currency of their choice, but the donors would assume the risk of the value of that currency depreciating over time vis-a-vis the US dollar. Conversely, if the contributor's currency appreciated over time, the donor would benefit from the foreign exchange gain.

CONCLUSION

37. Three possible options to mitigate foreign exchange exposure of the GEF Trust Fund have been discussed here. From the perspective of the Trustee, each of the three options would be possible to implement, however each option has different implications with respect to cost, complexity, and time required to implement. Further guidance would be needed from the GEF Council on these options and associated issues, in order to guide further work.

ANNEX

Global Environmental Facility Trust Fund Average Exchange Rates Against USD Updated as of February 28, 2009				
Currency	**GEF-1**	**GEF-2**	**GEF-3**	**GEF-4**
ATS	12.296	14.256		
AUD	1.428	1.741	1.449	1.227
BEF	36.041	41.793		
CAD	1.405	1.518	1.318	1.087
CHF	1.446	1.601	1.303	1.159
CZK				19.386
DEM	1.748	2.026		
DKK	6.664	7.698	6.342	5.387
ESP	147.922	172.359		
EUR			0.852	0.723
FIM	5.259	6.160		
FRF	5.874	6.796		
GBP	0.611	0.655	0.577	0.529
GRD	281.740	347.310		
IEP	0.683	0.815		
INR	37.300	45.186	45.667	
ITL	1733.210	2005.720		
JPY	123.305	118.237	113.118	111.219
KRW	1143.251	1227.432		1011.281
LUF	36.041	41.793		
MXN				11.101
NOK	7.246	8.413	6.803	5.911
NZD	1.629	2.142	1.617	1.433
PKR				65.117
PTE	178.057	207.699		
SEK	7.740	9.215	7.835	6.813
SIT				183.071
USD	1.000	1.000	1.000	1.000
XDR	0.729	0.759	0.697	0.650
ZAR				7.643