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Annex 10

POSSIBLE OPTIONS FOR LOAN SCHEME TO COVER THE COST OF CDM PROJECT DEVELOPMENT TO COUNTRIES WITH LESS THAN 10 PROJECTS

I. Introduction

1. This background document was prepared to facilitate the Executive Board (EB) consideration of the regional distribution agenda item that will look at possible options for a loan disbursement scheme to countries with less than 10 registered CDM projects. The CMP requested the Executive Board to recommend guidelines and modalities for operationalising the disbursement of the loans for consideration at CMP6.

2. At its fifth session (Copenhagen, 2009), the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP 5):

(a) Requested the Executive Board to "*allocate financial resources from the interest accrued on the principal of the Trust Fund for the Clean Development Mechanism, as well as any voluntary contributions from donors, in order to provide loans to support the following activities in countries with fewer than 10 registered clean development mechanism project activities:*

(i) *To cover the costs of the development of project design documents*;

(ii) *To cover the costs of validation and the first verification for these project activities*";

(b) Decided that these "*loans […] are to be repaid starting from the first issuance of certified emission reductions*"; and

(c) Requested "*the Executive Board to recommend guidelines and modalities for operationalizing the activities outlined […] above for consideration by the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol at its sixth session*" (hereafter the "2/CMP5 decision").

3. Based on the CMP decision, the secretariat contracted a consultant with the relevant financial background and experience to explore and consult with relevant programmes in the secretariat and externally with organizations and banking institutions that have experience in loan disbursement and management.

4. The mandated work to develop modalities and guidelines of operationalising a loan scheme is to be carried out in two phases:

5. Phase 1 - February - May: to explore and assess the possible options for a loan scheme and recommend the best viable option. The findings of the 1st phase are contained in this annex for the Executive Board consideration of the option available to develop the modalities and procedures for its operationalisation.

6. Phase 2 - June - September: Following Executive Board consideration and decision on the best option, work would proceed as mandated by CMP to develop draft guidelines and modalities for operationalising the loan scheme including a system for accounting and monitoring. The output of phase II and the EB deliberations on this agenda item will lead to preparation of draft recommendations for consideration at CMP.6.

II. Executive Summary and proposed recommendations to the Executive Board

7. In its decision 2/CMP5 the Parties requested the Executive Board to investigate the possible options and modalities for a loan scheme that would finance CDM project development costs in countries with fewer than 10 registered project activities.

8. This annex constitutes Phase I of this work. It identifies and assesses the main structuring options for this loan scheme, both inside and outside the UNFCCC secretariat, against several criteria. It concludes with recommendations on the best options to be implemented both internally and externally to the UNFCCC. Following review by and guidance from the Executive Board, Phase II will consist in developing the detailed modalities of the loan scheme for consideration and approval by CMP.6.

9. A concessional loan scheme to pay for the main upfront transaction of developing a CDM carbon asset would help unlock CDM projects, although it would clearly not remedy the main hurdles to CDM market development in the target countries.

10. What can a loan scheme do? A loan scheme would require four main functions to be performed: project origination, project appraisal, disbursements (and other flows of funds), and loan administration. This annex discusses three management models for the loan scheme based on an analysis of how, and by whom, these functions can be performed: (a) An "in-house" model where the UNFCCC secretariat would perform all functions; (b) a "full-outsourcing" model where all functions would be carried out by third parties; and (c) a "hybrid" model where UNFCCC secretariat would outsource some of the functions to third parties, in particular project origination and appraisal.

11. The UNFCCC secretariat can only perform part of the required functions, and lacks the local presence that would be key to run a global scheme. On the other hand, full outsourcing would be neither necessary nor even advisable. Therefore, the hybrid model is recommended.

12. To leverage the strengths of various institutions that have a climate mitigation mandate, a possible architecture could involve the UNFCCC secretariat working with UN agencies and Regional Development Banks[1] in project origination and project appraisal. The UNFCCC secretariat would act as secretariat to an Evaluation Committee, sign the loans, and disburse the funds. A small, dedicated, unit would be established within the UNFCCC secretariat with no reporting lines to the EB to mitigate potential conflicts of interest (between the UNFCCC as lender and regulator of the CDM market). A small team of qualified staff would need to be created for that purpose.

13. The Executive Board is requested to consider the following in order provide clarity to start Phase II:

(a) Consider and agree on the recommended hybrid model, and proposed role of the UNFCCC secretariat in this model;

[1] This does not exclude cooperation with other development financial institutions.

(b) Consider that in the proposed hybrid model or any other model, repayment of the loans will only be due if CERs are issued;

(c) Consider that CERs will be "withheld" by the UNFCCC secretariat pending loan repayment as no other loan security is being contemplated;

(d) Provide guidance on the tentative project eligibility criteria and loan terms and conditions (Section VIII), which will be refined and possibly expanded in Phase II.

(e) The Executive Board to note that there are legal implications and that the secretariat will provide legal advice in Phase II.

III. Rationale

14. ***The vast majority of developing and some transition countries are not taking advantage of the CDM.*** A total of 130 countries (April 2010) from Africa, Latin America and the Caribbean, Asia and the Pacific and Eastern Europe have fewer than 10 CDM projects registered, sometimes even zero. In total 123 projects have been registered in these countries, that is on average less than one per country in the group, and about 6% of the total number of CDM projects registered (2165 as of 28th April 2010). 85 countries have not registered a single CDM project (see Table 1 below). Africa, whose constituent countries account for 40% of the group, stands out as the continent with the weakest CDM project development with close to half of the countries with zero transaction, and only 20% of all projects registered within the group. 47 of the 130 countries are Least Developed Countries (LDCs), and together they account for only 16 registered CDM projects. The full list of the 130 countries is in **Appendix 1.**

Table 1: Countries with fewer than 10 registered CDM projects as of 28th April 2010

	Number of countries with fewer than 10 registered projects	%	Number of countries with zero project	%	Number of registered projects	%
Africa	51	39%	40	47%	24	20%
Latin America and Caribbean	25	19%	13	15%	35	28%
Asia and Pacific	45	35%	28	33%	51	41%
Eastern Europe	9	7%	4	5%	13	11%
Total	130	100%	85	100%	123	100%

Source: UNFCCC secretariat

The cost of preparing a CDM project activity is arguably a significant barrier to carbon asset development.

CDM transaction costs; nature and amount

15. The CDM carbon asset development process involves a number of steps and costs. External costs (third party costs) are paid to mostly four types of agents:

(a) Consultants, for e.g. PDD;

(b) DOE, for e.g. validation;

(c) UNFCC secretariat, for e.g. registration fee.

(d) DNA/host government for assessment of a CDM project, e.g. in the Philippines and Thailand.

16. Recent estimates of typical cost ranges for the three cost items referred to in the 2/CMP 5 decision (to be covered by the loan scheme) are as follows[2]:

(a) PDD: $50,000-100,000 in LDCs and countries with no domestic CDM consultancy industry, i.e. not India, and depending on the methodology;

(b) Validation: $25,000-60,000 depending on the scope of the methodology;

(c) First verification: $20,000-25,000.

[2] Note that 2/CMP 5 (#47) decided to defer the payment of registration fees until after first issuance for countries with fewer than 10 registered CDM projects.

17. Most of these costs are upfront, and while modest relative to investment costs, these may be regarded by project owners[3] as too high relative to the risks of securing CDM revenues in the future, especially in countries where access to capital is difficult and in the case of small-scale projects.

18. It is useful in this regard to look at who pays for these costs in the most active CDM markets.

Carbon asset development models in the CDM market

19. There are three broad models in the market:

(a) **Model I. The project owner itself:**

(i) Develops the PDD with its own resources, or hire a consultant to develop the PDD;

(ii) Pays DOE and UNFCCC for validation and registration respectively.

20. Large, sophisticated, project owners typically choose this model. They have the human and financial resources to develop a carbon asset, want to keep all the credits for themselves, and sell them directly on the spot market after issuance to maximize carbon revenues. There have been cases however where the project owner realized that they could not handle themselves all the complexities of developing carbon projects and switched to Model II below.

(a) **Model II. A specialized carbon asset development hous:**

(i) Normally bears these costs itself and takes care of the whole process leading to issuance;

(ii) Shares in the risk of the project achieving registration and issuing CERs. Its interest is thus aligned with that of the project owner (no issuance, no money);

(iii) In exchange it typically asks for a free share of the CERs. But this share can be unreasonable, and there are known instances in the market where some such companies have abused market power and the naivety of project owners to extract an exorbitant share of the CERs.

(b) **Model III: A buyer of carbon credit:**

(i) Sometimes bears these costs itself, e.g. the World Bank Carbon Finance Unit has the in-house expertise and staff to write PDDs, and can advance funds to pay for other external costs such as validation costs; a variant is that the buyer asks a carbon asset manager to develop the transaction up to a certain stage, e.g. registration;

(ii) In exchange it asks for the exclusive right to buy the CERs on a forward basis at a discount price, and may also (World Bank) deduct these sums from its carbon payments to the seller.

21. In practice Models II and III are often one and the same, e.g. a number of carbon asset development houses also sign an Emission Reduction Purchase Agreement (ERPA) with the project

[3] In this report the terms “project owner”, “project proponent”, and “project participant” are used interchangeably.

owner, and resell the credits onto the market. The distinction aims to stress the fact that in Model III the ultimate buyer of the credits is the direct purchaser (via a fund).

22. A UNFCCC loan scheme will not be neutral vis-à-vis these three models. It would imply an implicit preference for Model I by making project developers less dependent on the upfront cash assistance received from a carbon asset developer or a buyer. A UNFCCC loan scheme will enable project proponents to retain more of the carbon asset value for themselves, since in Models II and III developers and buyers ask for a free share of CERs or a lower CER primary price, respectively, in return for defraying all or part of the transaction costs and taking the transaction cost risk.

23. However, the scheme should not be restricted to project owners developing their carbon asset on their own or with limited assistance from a consultant. There is a strong case in many of these countries for strong external assistance from competent and experienced service providers, including specialized carbon asset development houses, provided their interests are aligned with those of the project owner, they assume substantial risk (e.g. of non-registration), they incorporate a substantial local input (wherever possible), and their returns are "reasonable". This model ensures that an expert partner will fight tooth and nail to make the project successful, which may not be the case if payment is not tied to success (registration, issuance). However, the loan borrower (obligor) would be the project owner in all circumstances (see Section VIII below).

24. There are other barriers to CDM projects, which a loan scheme will not overcome. The cost of developing a CDM carbon asset is clearly not the only barrier to CDM development in those countries. Others may include[4]:

(a) High country risk;

(b) Poor policy environment (in general, and/or specifically for CDM);

(c) Difficult access to finance or lack of suitable investment finance (short tenors, high interest rates, etc.);

(d) Lack of low-cost GHG mitigation potential;

(e) Availability of competent (and affordable) service providers;

(f) Complexity/difficulty of the project (including prevailing practice, lack of understanding/acceptance of new technologies)

(g) Investment cost;

(h) Lack of a well-functioning DNA, etc.

25. A key obstacle when it comes to financing is the higher cost of capital in many developing countries, particularly LDCs. For a given project internal rate of return (IRR[5]) this boosts the CDM

[4] For a good overview, see "Overcoming barriers to clean development mechanism projects", by Jane Ellis and Sami Kamel, OECD, 2007. <http://www.oecd.org/dataoecd/5/60/38329554.pdf>.

[5] Five main factors determine the contribution of carbon finance to project profitability: (1) Investment cost. (2) Abatement yield of investment (tCO_2 per dollar of investment). This varies across technologies, e.g. the destruction of industrial gases usually necessitates only a small investment. (3) Existence of revenue streams. For some projects the carbon revenue is the only revenue and the only reason to undertake the investment: e.g. LFG, N_2O, HFCs. But many projects, comprising all energy efficiency and renewable energy projects, combine carbon revenue and a non-carbon stream: e.g. sale of electricity from a

additionality (the cost of capital is higher than the IRR), but also calls for higher CER prices to fill the gap (reach the "benchmark", in CDM parlance). Current CER prices are not sufficient to fill that gap, and numerous projects are not undertaken for this reason.

26. A loan mechanism will not by itself overcome these barriers, and should not be expected to do so. However, carbon asset developers interviewed in the course of this assignment have indicated that a UNFCCC loan scheme could help unlock a number of transactions.

IV. Source and amounts of funds available

27. Resources for the mechanism are expected to consist of: (a) the interest accrued on the principal of the Trust Fund for the Clean Development Mechanism, and (b) voluntary contributions from donors.

28. The secretariat indicated that the amount of funds available for this mechanism currently stands at approximately $3 million from current interest accrued from CDM trust fund[6], and that an amount of at least $1.5 million can reasonably be expected in subsequent years.

29. After a few years (4 or 5), these resources will be supplemented by reflows from the gradual repayment of original loans.

V. Criteria for the design of a loan scheme

30. **10 key criteria should guide the design of the scheme and selection of options. A number of them may imply trade-offs.**

(a) **Legal considerations**: The scheme should comply with UN and UNFCCC rules and regulations, and other legal requirements at national/international for the secretariat to act as a financial institution.

(b) **Expertise and tools**: Operating a global loan scheme requires specific expertise and tools, e.g. the analysis of the credit risk (ability to service the loan) of prospective borrower, or likelihood that the project activity will be registered by the Executive Board, managing disbursements to dozens of borrowers in very different jurisdictions, etc. If the UNFCCC does not have the requisite expertise and tools to deal with e.g. credit risk analysis, then the question is whether it can cost-effectively acquire them, or outsource part or all of the scheme management to a third party. This point is discussed in Section VIII below.

(c) **Accountability**: The Parties may wish to retain a high degree of control and oversight over the operation of the loan scheme, and thus be disinclined to outsource any or part of the management of the scheme to third parties (i.e. other than the UNFCCC secretariat). This annex does not contain a discussion on what constitutes accountability, as there is no hard and fast rule. Where it recommends some degree of outsourcing, it also indicates how the UNFCCC secretariat would retain key decision rights.

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wind farm to the grid, or cost savings from an energy efficiency project. The grid electricity price is key. All other things equal, the higher this price, the lower the relative contribution of carbon finance. (4) Cost of capital. All things equal, the higher it is (in riskier countries in particular), the lower the relative contribution of carbon finance; and not least (5) carbon prices.

[6] Established in 2008, following a request by CMP 3 (Bali, 2007).

(d) **Do not reinvent the wheel**: A new loan scheme should to the extent possible build on mechanisms that exist and operate successfully, and on the various strengths, assets and expertise of other institutions, particularly development institutions (other UN agencies and Regional Development Banks.)

(e) **Replicability**: The decision 2/CMP5 (paras 49-51) is a response to the existing gap - that the market does not currently provide finance for CDM development transaction costs in many developing countries. A new loan scheme should ideally help fill that gap and address the market failure by showing that well-prepared CDM transactions can be successful and repay the loans. This should encourage local financial institutions to develop similar (commercial) products of their own. The scheme should have realistic ambitious though, given the scale of the problem and the modest amounts of funding at hand. It is expected that the scheme will initially have an impact on the market through its demonstration effects.

(f) **Simple, fast and lean**: To be effective a scheme must be reasonably simple, fast (UN procurement rules could be a hindrance), and low-cost given the relatively modest amount of funding.

(g) **Conflicts of interest**: If the UNFCCC secretariat becomes a lender, it may find it difficult to reject registration (or issuance of CERs) of project participants it has lent money to (as loan repayment is tied to issuance of CERs). Third parties that could be involved in running the scheme may also be conflicted in their capacity as buyer of credits, or project financier etc. Once potential conflicts have been identified, mitigating measures can be designed. For example, this report argues that the UNFCCC secretariat can make loans notwithstanding the potential conflict with its role as regulator of the CDM market (see Section VIII).

(h) **Leverage**: While the decision 2/CMP5 decision asked the secretariat to investigate a loan mechanism, other financing instruments such as a loan guarantee scheme exist that could help the UNFCCC achieve a higher leverage effect for its own funding, i.e. disbursing more loans than under a conventional loan scheme. This point is discussed in Section VIII.

(i) **Mitigate risks**: By making loans the repayment of which would be tied to issuance of CERs the UNFCCC would be taking the CDM transaction development risk. This risk is substantial given the high "attrition rate" of CDM projects, but can be mitigated to an extent through rigorous selection of projects and creating the right incentives.

(j) **Selectivity**: Given the very large number of target countries, and the relatively modest amount of funds available for the scheme, it may be necessary to introduce selection criteria in addition to the (quite typical) eligibility criteria proposed in Section VIII. Three difficult issues raised: (a) Should the facility (at least initially) be limited to a subset of countries, e.g. Least Developed Countries (LDCs), These countries arguably need support and concessional funding the most; in addition only these countries have a guaranteed outlet in the EU ETS after 2012 for the CERs originating from their projects registered after that year[7]. However, the decision 2/CMP5 does not differentiate among

[7] See Directive 2009/29/EC of the European Parliament and of the Council of 23 April 2009 amending Directive 2003/87/EC.

countries with fewer than 10 registered CDM projects, and selecting LDCs as exclusive beneficiaries of a UNFCCC-sponsored loan scheme would be politically controversial[8]. (b) Should the facility only target projects and project participants that have a "*demonstrated need*" for it (as does UNEP's ACAD – see Section VI), that is projects whose sponsors can prove they cannot bear these costs? It would seem fair, but then it may suggest the project is likely not financially viable and will never be financed. (c) Should the facility target the larger projects, because they will generate enough CERs to repay the loan? But a lot of projects in these countries are likely to be small-scale.

VI. Existing facilities supporting carbon asset development in developing countries

31. In the recent period several schemes aimed at supporting the development of carbon credit transactions in "under-developed" countries from a CDM point of view have been established by UN agencies or regional development banks. This section reviews three of those established by UN agencies in the broader context of capacity development and preparing the enabling environments in host countries for implementation of CDM projects. These have been pursued cooperatively under the Nairobi Framework[9] (see Table 2 below):

(a) UNDP's Millennium Development Goals Carbon Facility (MDGCF)

(b) UNEP's Carbon Finance for Agriculture, Silviculture, Conservation and Action against Deforestation (CASCADe)

(c) UNEP's Africa Carbon Asset Development (ACAD)[10]

Geographic focus

32. Of the three facilities, only MDGCF has a global reach. ACAD targets Sub-Saharan Africa, and CASCADe 7 French-speaking Sub-Saharan African countries.

Nature of project development support and financing

33. MDGCF provides the full range of carbon asset development services through UNDP staff with some outsourced activities, as well as facilitating offtake for the ensuing CERs from a Financial Service Provider (in phase I the FSP was Fortis bank.)[11]

34. UNDP charges for its services a Cost Recovery Fee (CRF), but the CRF is effectively lent at zero interest by Fortis to the project proponent, and paid to UNDP upon three milestones: (i) Signing ERPA (25%); (ii) Registration (50%); and (iii) First issuance (25%).

35. The CRF is repaid by the project proponent from first issuance of CERs. In this way UNDP is taking on some but not all of the development risk.

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[8] IADB also took issue with this criterion as the Latin American and Caribbean region comprises a relatively small number of LDCs.

[9] See <http://cdm.unfccc.int/Nairobi Framework/index.html>.

[10] In addition, UNEP is running a Capacity Development for the Clean Development Mechanism (CD4CDM) Program - a comprehensive Program to support CDM institutional enhancement and individual capacity development enabling countries participation in the CDM. The program is global and includes the development of a national CDM portfolio (including PINs and PDDs). This is a multi-year Program, implemented in more than 30 developing countries.

[11] MDGCF started in June 2007, and is entering a second phase in 2010. There will be some operational changes, but overall objectives and services will continue.

36. CASCADe provides carbon asset development services up to PDD stage (exceptionally till validation for which it can pay on a selective basis) through three international consulting firms selected by UNEP through a competitive process. These services are paid for by a bilateral donor (FFEM.)

37. ACAD supports CDM project development costs through partial to full reimbursement (sometimes advances) of eligible costs. The project proponent can engage the consultant or carbon asset manager of its choosing.

38. These facilities thus differ in three main respects: (i) the range of development services provided or financed (very broad in MDGCF, narrower in CASCADe); (ii) the relationship between the agency and the service provider (own agency staff in MDGCF; pre-selected by the agency in CASCADe; selected by the project proponent in ACAD) and (iii) the nature and degree of the concessional financing provided (zero interest, unsecured, loan whose repayment is tied to success (issuance) in MDGCF; grant to finance free development services in CASCADe; grant to reimburse development services paid for by the project proponent in ACAD).

Table 2: Main UN existing development agency facilities supporting CDM development

	MDG Carbon Facility	CASCADe	ACAD
Agency	UNDP	UNEP	UNEP & URC (UNEP Risoe Centre)
Date of creation	June 2007	Dec. 2007	Oct. 2009
Facility amount	Depends on CER buyers willing to pay UNDP (for the transaction costs)	€2.7mln	€1mln
Funding source	Donors (initially): Norway and UN Foundation; buyers of CERs	French GEF (FFEM)	German Federal Ministry of the Environment, Nature Protection, and Nuclear Safety (BMU)
Scope of transaction cost items financed/supported	CDM documentation, validation, monitoring plan, host-country approvals, first verification report, marketing of credits	PIB, PDD for all projects selected; validations on a selective basis	PIN, PDD, baseline study, feasibility studies, EIA, validation, registration fees, host country fees, etc
Eligible countries	Under-represented developing countries and economies-in-transition that have ratified the Kyoto Protocol and established a DNA	7 Sub-Saharan countries: Benin, Cameroon, the Democratic Republic of the Congo, Gabon, Madagascar, Mali, and Senegal	Sub-Saharan countries, with an existing and operational DNA
Service provider	UNDP	3 international consultants engaged by UNEP	The "market": Consultants / Carbon asset managers
Involvement of a bank?	Fortis Bank (purchase of CERs and loans to project owners) till June 2009 (phase I). Similar arrangement for engagement of FSP for phase II	n/a	Standard Bank (screening, credit analysis, disbursements)
Financing instrument	Fortis loans the UNDP cost recovery fee but repayment is conditional upon 1st issuance	Free development services or direct payment of third-party services (for validation)	Grant: reimbursement between 33-100%, up to $100,000 per transaction
Modalities of payment	Fortis loan is disbursed upon milestones to UNDP	Regular payments to international consultants with bonus upon validation	Ex-post but advance payments possible
Project focus/Exclusions	All but: LULUCF, nuclear, large-scale hydropower, geo-sequestration (including enhanced oil recovery), shifting of electric power loads, and capture and destruction of industrial gases	LULUCF and bioenergy only	All but: Carbon sink, afforestation and reforestation
Other key eligibility criteria	*Contribution to MDG	*Likelihood of generating credits (CDM feasibility;	*Demonstrated need for ACAD support

	*Financial viability *Likelihood of generating credits *Minimum volume of carbon credits must be generated	available methodology; land availability) *Likelihood of project being completed (capacity of project developer, advancement stage, financing availability, financial viability) *Potential for replicability in the country	*Projects will be innovative or otherwise contribute to capacity building, learning processes, and knowledge/experience development *High social and other local sustainable development impacts *Bankability *Likelihood of generating credits within 3 years *Reasonable amount of credits generated over project lifetime

VII. Legal considerations

39. The Executive Board to note that the secretariat will advise on the legal implications on all aspects during Phase II.

VIII. Possible options for a loan mechanism

Core functions

40. In essence, a loan scheme as contemplated requires 4 key functions to be performed. Note that these are not necessarily sequential (there is overlap between F3 and F4; e.g. if a disbursement is a function of a milestone achieved, verification of the latter (F4) must precede the former (F3)) nor need to be located in distinct units or performed by distinct staff.

(a) Project origination (F1), including the following tasks:

(i) Market the facility (dedicated website, conferences, etc.);

(ii) Collect and acknowledge receipt of application forms;

(iii) On the ground screening of projects

– Check whether all requested supporting documentation (e.g. PIN, etc.) is attached;

– Perform CDM eligibility analysis (likely emission reduction volume, additionality, etc.)

– Check compliance with host country CDM eligibility criteria, if any at this stage

– Seek clarifications, ask for additional information, perform site visits if need be to check reality of projects, and identity of project proponents;

(iv) Enter eligible projects into a dedicated project database;

(b) Project appraisal (F2), including the following tasks:

(i) Perform due diligence on eligible projects

– Perform credit analysis (financial viability and bankability of project), including site visits if need be.

– Additional CDM analysis, including site visits, if need be.

(ii) Take a decision on whether to extend a loan;

(iii) Negotiate and sign loans;

(c) Fund flows (F3), including the following tasks:

(i) Disburse funds to project proponent or service provider, as the case may be;

(ii) Collect repayment upon first (and subsequent if appropriate) issuance of CERs;

(iii) Distribute issued CERs once the loan has been repaid;

(d) Loan administration (F4), including the following tasks:

(i) Monitor project progress: preparation of PDD, validation, etc. till repayment. This is crucial as loan disbursements (F3) should be linked to milestones (see Section VIII);

(ii) Give instructions to F3 staff for disbursements;

(iii) Monitor compliance with loan covenants, if any;

(iv) Troubleshooting and litigation if need be.

41. Table 3 below provides the answers which, based on the analysis conducted thus far, can be given to two key questions:

(a) Does the UNFCCC secretariat currently has the possibility to dedicate resources, for all or some (or part) of the functions? If not, can these resources be acquired, e.g. by hiring experts, or should some or all of these functions be outsourced?

(b) Can the function(s) be performed centrally (by the UNFCCC secretariat from Bonn) or should it be done locally?

Table 3: Main functions in a loan scheme

Function	Does UNFCCC have the resources?	Can these resources be acquired?	Should the function be outsourced?	Can the function be performed centrally?
F1. Project origination	No	No	Yes	No, local relays imperative
F2. Project appraisal	Partly	Yes	To an extent	Yes but local visits/checks advisable
F3. Flows of funds	Yes	n/a	No	Yes
F4. Loan administration	No	Yes	No	No

42. Preliminary conclusions from this analysis are that the UNFCCC secretariat:

(a) *Have* some of the required resources in-house for part of F2 (CDM eligibility analysis) and F3 (payment infrastructure and accounting systems appropriate to run a loan scheme);

(b) *Could acquire* resources that it does not have for F2 and F4: e.g. experts to carry out the financial due diligence on projects (is the borrower creditworthy, will the project be viable?), and loan administration (which should be very template driven);

(c) *Should outsource* the origination function (F1), that needs for the most part to be performed on the ground, and part of project appraisal (F2) to organizations that have local presence and relevant capabilities.

Management modes

<u>In-house model</u>

43. As revealed by the functional analysis above, a pure "in-house" model whereby the UNFCCC secretariat would perform itself all of the above 4 functions would not be feasible. There are three main issues with this model:

(a) The secretariat does not possess all the expertise and tools required to operate a loan scheme. Some degree of outsourcing is unavoidable, and indeed advisable given that mechanisms, teams and infrastructure have already been created by other development agencies (for example, see Section VI on existing facilities);

(b) There is a significant potential conflict of interest, as UNFCCC-lender will be inclined to maximize the success of the projects thus supported, at the time of registration and issuance. There is a risk that some projects get preferential treatment they would not be getting otherwise. Mitigation of the risks is achievable, though. If the UNFCCC secretariat were to engage a team of expert staff to perform some of the functions listed above, this team should be not report to the Executive Board or any department

associated with the regulatory function of the EB, registering CDM projects and issuing CERs;

(c) The potential for replicability (by the market) would be at the lower end of the spectrum. This model would have the least demonstration impact on local commercial financial institutions.

Full outsourcing model

44. Another option would be to outsource the entire management to third parties. This is not necessary, as UNFCCC can perform some of the functions, with its own or acquired resources. This would decisively solve the conflict of interest between UNFCCC regulator and UNFCCC lender, but could raise objections from the Parties on account of the lesser accountability to it of a model where third parties are running the entire scheme. Most UN agencies and RDBs are not candidates to the role of actually extending and disbursing the loans themselves. This model could also be more costly, although at this stage no detailed costing of any options has been undertaken.

Hybrid model

45. In this model, the secretariat would perform some of the functions, and outsource others to parties that have the right expertise, experience and local presence.

How the scheme could work

46. The UNFCCC secretariat would enter into a Memorandum of Understanding with a number of potential institutions that are interested to collaborate in implementing the scheme and meet UNFCCC criteria in terms of development mandate, requisite expertise, local presence, etc. ("Partner Institutions"). These criteria will be developed in Phase II.

47. Partner Institutions would source projects (although it is expected that some loan applications will be sent directly via a dedicated website or webpage on the UNFCCC website[12], or brought to the UNFCCC secretariat's attention by service providers, DNAs, etc.), and play a key role in screening (F1), and project appraisal (F2). The UNFCCC secretariat would appoint the sourcing Partner Institution, or if the project was brought directly to it, the most appropriate Partner Institution given the geography and other circumstances, to assist with the performance of functions F1 and F2[13].

48. The UNFCCC secretariat would perform the CDM eligibility analysis, sign the loans with the project proponents (part of F2), disburse the funds (F3), and administer the loans (F4).

49. There would be two decision-making points:

(a) On project eligibility at the end of the screening phase, which would trigger due diligence (Initial Review.);

(b) On whether to extend a loan at the end of the due diligence process (Final Review).

50. The intention is to minimize the amount of due diligence (F2) carried out on each project. First, to avoid a lengthy process which would defeat the purpose of the mechanism and generate additional costs, second because the amount of the loans is small, third because to the extent possible the scheme

[12] Partner institutions should also create a link to the facility website or a page on their own website.
[13] There may be instances where the project is so well prepared that there is no need to involve a Partner Institution.

will rely on existing due diligence (e.g. of RDBs), and fourth because proxies for a sound project can be used, e.g. the degree of risk assumed by the project proponent or CDM advisor, or the existence of a bank interest or commitment to finance the project. The quid pro quo for a lighter due diligence is higher risk, an inherent feature of a facility designed to stimulate a market.

51. Decisions at the two stages would be made by an "Evaluation Committee", the exact composition of which would be determined in Phase II but would include the following competencies: CDM expertise, emission reduction project development, credit skills, legal. The Evaluation Committee would not need to meet physically.

52. The UNFCCC secretariat would create a dedicated unit reporting directly to the Executive Secretary, with no reporting lines to the EB, to mitigate conflicts of interest. This unit would be staffed with 2 professionals possessing a CDM project analysis, project development, and/or project finance background.

53. The dedicated unit would act as secretariat to (and sit on) the Evaluation Committee, enter projects in a dedicated database, would prepare the agenda and draft minutes of the Evaluation Committee "meetings" and decisions, would sign loan agreements, and issue instructions to the UNFCCC secretariat's Finance department for disbursements. The UNFCCC secretariat's legal department would draft (based on a template) loan agreements. It is however expected that loan agreements would be simple, and would allow for no or few (and minor) deviations to the template.

54. Remuneration of Partner Institutions would be based on achievement of critical milestone, such as validation, which would reward the quality of the selection and due diligence process to which Partner Institutions contributed. Remuneration of UN agencies and RDBs was not discussed with them at this early stage. It is however likely that even a very light structure will generate costs which will take up a significant proportion of the resources available for the loan scheme if the level of funding is not increased.

55. Financial expertise would be required for assessing the bankability (part of F2) of projects, unless the project has been originated by an RDB or a bank, or there is clear evidence that the project is financeable (e.g. letter from a bank). It is thus recommended that a seasoned banker with significant experience in project finance in developing countries participate in the Evaluation Committee.

Possible financing instruments

56. Although decision 2/CMP5 only refers to a conventional a loan scheme, an alternative could be the provision of partial credit guarantees (PCG), e.g. first-loss coverage up to a certain percentage of the loan principal amount, to third-party lenders, which would use their own funds to make the loans.

57. **Appendix 2** contains summary modeling of the two options. Conclusions (based on the assumptions discussed in Appendix 2) are as follows:

(a) Option 2 (PCG) supports the highest number of loans, 975 to 1,600 depending on the scenario, and at a cost per loan ($18,000-19,000) that is slightly under one sixth of the average loan amount, and lower than in Option 1. Option 2 thus achieves the highest leverage of UNFCCC funds. This is because UNFCCC funds are only utilized to cover losses incurred by third party lenders. The higher the losses, of course, the lower the leverage effect;

(b) However, in Option 2, unlike in Option 1 (as recommended below), interest would need to be charged to project owners. By providing a substantial first-loss cushion the PCG should result in a much lower interest rate and longer tenors than what local markets customarily offer.

58. This alternative is not proposed for inclusion in the scheme at this stage, but at a later stage.

59. The following two paragraphs outline what could be project eligibility criteria and loan terms and conditions. This list will be refined in the course of Phase II, and is not submitted for EB approval at this stage, but only for possible guidance.

Tentative project eligibility criteria

Countries

- 130 countries have fewer than 10 registered CDM project activities, but only those having a DNA would be eligible, currently 100.
- Regarding the potentially controversial issue of limiting access to the scheme to some subsets of countries such as LDCs, see discussion in Section V above. Guidance from the EB is sought on whether, and how to prioritize particular countries, in the context of a likely shortage of funds. One selection criterion in this regard could be the ratio between a country's share of the CDM market (expected CERs p.a. / total) (x) and its share of non-Annex I emissions (y). Countries where x / y < [0.5], i.e. countries which have a share of the CDM market lower than their share of non-Annex I emissions should arguably be given priority in accessing the loan facility.

Project and project proponents

- Integrity (criteria to be developed in Phase II).
- Minimum emission reduction potential [100] $ktCO_2$ over the crediting period[14].
- Financial viability (investment costs relative to benchmarks, existence and level of feed-in tariffs / off-takers, wholesale electricity prices, etc.)
- Likelihood of securing investment finance.
- Likelihood of being completed and commissioned (permits, licenses, political violence risk, etc.)

It is recommended not to include a requirement that there be a "*demonstrated need*" for the loan, as this would run counter in many cases to the requirement that the project be bankable.

CDM process

- Likelihood of registration.

[14] Too high a threshold might be too restrictive for a number of countries. A lower threshold would need to be compensated by a longer repayment schedule (see Section VIII.)

CDM track record of project proponent or quality of CDM advisor (consultant or carbon asset manager)

- Minimum track record (e.g. successfully validated at least one project of the same technology/methodology) and willingness to share in development risk (by accepting that payments (and loan disbursements) be tied to attainment of certain milestones, such as validation).

Eligible CDM transaction

- For the avoidance of doubt, Programmes of Activities (PoAs) would also be eligible to loans under the scheme. PoAs present great potential in developing countries, and would represent a good use of the loan scheme given the high upfront costs of developing PoAs.

Eligible Costs

- PDD (including methodology clarifications and revisions when needed).
- Validation.
- First verification.
- Methodology development. It is recommended to make this cost item (range: €100-200k) eligible under the UNFCCC loan scheme (an outright grant could be warranted if the methodology presents the attributes of a public good (i.e. is not tied to particular, proprietary technology that cannot be easily adapted to suit other technologies.)
- Other non-strictly CDM-related costs such as feasibility or environmental studies could be added in a later phase in light of the special needs and quality of the projects. Guidance from the EB is sought on this item, which some would regard as welcome, but may represent a drain on scarce resources. This could be considered at a later stage of the scheme.

Tentative loan terms and conditions

Obligor

- The project owner.

Loan terms

- Disbursement upon milestones: The key point is that payment should be tied to success. Most of the competent service providers in this market understand and accept that, and indeed for most already operate on this basis. Staggered disbursement will also mitigate risks to the UNFCCC funds.
- Tenor: Not fixed ex ante but linked to first issuance of CERs. Repayment would be in a maximum of [up to three] equal installments over a maximum of [up to three] issuance years, depending on the size of the project (the smaller the project, the longer the repayment period likely needs to be).
- Interest-free: Charging an interest would defeat the purpose of stimulating projects in difficult jurisdictions and tackling a market barrier, and would complicate the operation of the scheme.
- No arrangement, commitment or other fees.
- No security other than withholding issued CERs. Currently the UNFCCC secretariat has a mechanism whereby the CERs are placed in a pending account till all fees owed to it have been

paid. They can then be distributed. This mechanism could be applied to loan repayment as well. It would be difficult to extend this system (a lien on CERS) to third party lenders if the "full outsourcing" model were selected.

- Maximum loan amount: the lesser of [90]% of eligible costs or $150,000. This provision will prevent inflated prices. Exceptions could be granted, e.g. if a new methodology is needed.

Disbursement modalities

- Direct payment to service provider.
- Advances to project owner (if the previous is not possible or impractical).
- Create an obligation or incentives for project owner to seek most competitive offer from service providers and DOEs. These will be developed in Phase II.

IX. Risks

60. The main risks to which a loan scheme as contemplated may be exposed are listed and discussed in Table 4 below.

Table 4: Risk matrix

Risk factor	Probability of risk occurring	Impacts	Mitigation
No/little demand for loans	Low/Medium	Loan scheme under-utilized	Marketing Multiple origination sources Highly concessional loan scheme
Loan is misappropriated	Low	CDM project is not developed	Rigorous project selection Payment to service providers is the rule
Project does not get validated / registered	Medium	Loss*	Rigorous project selection Additional capacity building if possible
Project does not get financed	Medium-High	Loss*	Rigorous project selection RDB involvement
Project is not completed (i.e. constructed)	Medium-High	Loss*	Rigorous project selection
Loan does not get repaid	Low	Loss	Issued CERs are not distributed until loan is repaid
Financial distress of Project after completion	Medium-High	Loss	Rigorous project selection RDB involvement Financial distress need not result in fewer CERs

* The amount of loss will depend on the disbursement schedule and milestones used.

Appendix 1
List of potentially qualifying countries

Region	Countries with <10 or none registered CDM project	Number of projects	DNA?	LDC (1)
AFR	Algeria	0	Y	
AFR	Angola	0	N	Y
AFR	Benin	0	Y	Y
AFR	Botswana	0	Y	
AFR	Burkina Faso	0	Y	Y
AFR	Burundi	0	N	Y
AFR	Cameroon	1	Y	
AFR	Cape Verde	0	Y	
AFR	Central African Republic	0	N	Y
AFR	Chad	0	N	Y
AFR	Comoros	0	N	Y
AFR	Congo	0	N	
AFR	Côte d`Ivoire	1	Y	
AFR	Democratic Republic Of Congo	0	Y	Y
AFR	Djibouti	0	Y	Y
AFR	Egypt	5	Y	
AFR	Equatorial Guinea	0	Y	Y
AFR	Eritrea	0	Y	Y
AFR	Ethiopia	1	Y	Y
AFR	Gabon	0	Y	
AFR	Gambia	0	Y	Y
AFR	Ghana	0	Y	
AFR	Guinea	0	Y	Y
AFR	Guinea-Bissau	0	N	Y
AFR	Kenya	2	Y	

Region	Countries with <10 or none registered CDM project	Number of projects	DNA?	LDC (1)
AFR	Lesotho	0	Y	Y
AFR	Liberia	0	Y	Y
AFR	Libyan Arab Jamahiriya	0	N	
AFR	Madagascar	0	Y	Y
AFR	Malawi	0	Y	Y
AFR	Mali	0	Y	Y
AFR	Mauritania	0	Y	Y
AFR	Mauritius	0	Y	
AFR	Morocco	5	Y	
AFR	Mozambique	0	Y	Y
AFR	Namibia	0	Y	
AFR	Niger	0	Y	Y
AFR	Nigeria	3	Y	
AFR	Rwanda	0	Y	Y
AFR	Sao Tomé And Principe	0	N	Y
AFR	Senegal	0	Y	Y
AFR	Seychelles	0	N	
AFR	Sierra Leone	0	Y	Y
AFR	Sudan	0	Y	Y
AFR	Swaziland	0	Y	
AFR	Togo	0	Y	Y
AFR	Tunisia	2	Y	
AFR	Uganda	2	Y	Y
AFR	United Republic of Tanzania	1	Y	Y
AFR	Zambia	1	Y	Y
AFR	Zimbabwe	0	Y	
ASP	Bahrain	0	Y	
ASP	Bangladesh	2	Y	Y

Region	Countries with <10 or none registered CDM project	Number of projects	DNA?	LDC (1)
ASP	Brunei Darussalam	0	N	
ASP	Bhutan	2	Y	Y
ASP	Cambodia	4	Y	Y
ASP	Cook Islands	0	N	
ASP	Cyprus	5	Y	
ASP	Democratic People's Republic Of Korea	0	Y	
ASP	Fiji	1	Y	
ASP	Iran (Islamic Republic Of)	1	Y	
ASP	Iraq	0	N	
ASP	Jordan	2	Y	
ASP	Kazakhstan	0	N	
ASP	Kiribati	0	N	Y
ASP	Kuwait	0	Y	
ASP	Kyrgyzstan	0	Y	
ASP	Lao People's Democratic Republic	1	Y	Y
ASP	Lebanon	0	Y	
ASP	Maldives	0	Y	Y
ASP	Marshall Islands	0	Y	
ASP	Micronesia (Federated States Of_	0	N	
ASP	Mongolia	3	Y	
ASP	Myanmar	0	Y	Y
ASP	Nauru	0	N	
ASP	Nepal	2	Y	Y
ASP	Niue	0	N	
ASP	Oman	0	N	
ASP	Pakistan	6	Y	
ASP	Palau	0	N	
ASP	Papua New Guinea	1	Y	

Region	Countries with <10 or none registered CDM project	Number of projects	DNA?	LDC (1)
ASP	Qatar	1	Y	
ASP	Samoa	0	N	Y
ASP	Saudi Arabia	0	Y	
ASP	Singapore	1	Y	
ASP	Solomon Islands	0	N	Y
ASP	Sri Lanka	6	Y	
ASP	Syrian Arab Republic	2	Y	
ASP	Tajikistan	0	Y	
ASP	Timor-Leste	0	N	Y
ASP	Tonga	0	N	
ASP	Turkmenistan	0	Y	
ASP	Tuvalu	0	N	Y
ASP	United Arab Emirates	4	Y	
ASP	Uzbekistan	7	Y	
ASP	Vanuatu	0	N	Y
ASP	Yemen	0	Y	Y
EE	Albania	1	Y	
EE	Armenia	5	Y	
EE	Azerbaijan	0	Y	
EE	Bosnia And Herzegovina	0	N	
EE	Georgia	2	Y	
EE	Montenegro	0	Y	
EE	Republic Of Moldova	4	Y	
EE	Serbia	0	Y	
EE	The former Yugoslav Republic of Macedonia	1	Y	
LAC	Antigua And Barbuda	0	Y	
LAC	Bahamas	0	Y	
LAC	Barbados	0	Y	

Region	Countries with <10 or none registered CDM project	Number of projects	DNA?	LDC (1)
LAC	Belize	0	Y	
LAC	Bolivia	3	Y	
LAC	Costa Rica	6	Y	
LAC	Cuba	2	Y	
LAC	Dominica	0	Y	
LAC	Dominican Republic	2	Y	
LAC	El Salvador	6	Y	
LAC	Grenada	0	Y	
LAC	Guyana	1	Y	
LAC	Haiti	0	N	Y
LAC	Jamaica	1	Y	
LAC	Nicaragua	4	Y	
LAC	Panama	6	Y	
LAC	Paraguay	1	Y	
LAC	Saint Kitts And Nevis	0	N	
LAC	Saint Lucia	0	Y	
LAC	Saint Vincent And The Grenadines	0	N	
LAC	Suriname	0	Y	
LAC	Trinidad And Tobago	0	Y	
LAC	Uruguay	3	Y	
LAC	Venezuela	0	N	

Sources:

UNFCCC

(1) UNOHRLLS, www.unohrlls.org/en/ldc/related/62

Key:

AFR: Africa

ASP: Asia and Pacific

EE: Eastern Europe

LAC: Latin America and Caribbean

DRAFT

Appendix 2
Analysis of two financing instruments

1. This appendix models two possible options for the loan scheme.

   (a) Option 1: UNFCCC fully funds the scheme, and bears losses. Loans are interest-free;

   (b) Option 2: A third-party financial institution extends the loans. UNFCCC provides a portfolio-based, first-loss, partial credit guarantee (PCG) to the lender. It absorbs losses up to a certain percentage of the loan principal. Interest is charged by the lender to the borrower, however by mitigating the credit risk of the borrower the PCG enables banks to charge a much lower rate interest than would be the case without the guarantee.

Assumptions

Funding available:

Initial: $3mln

Additional, recurring, funding thereafter:

Scenario I: $3mln

Scenario II: $1.5mln

(This amount is augmented by reflows in y4 when the first loans start repaying.)

Time-frame:

15-year

Last new project financed in y10

Last disbursement (from Trust Fund and banks) in y10

All loans amortized in y15

Sub-project cost and disbursement assumptions:

PDD:	$90,000 in y0
Validation:	$20,000 in y1
First verification:	$20,000 in y3
Repayment:	50% in y4 (first issuance of CERs) and 50% in y5 (second issuance of CERs)

See Table 1 below.

Table 1: Indicative time-scale for loan disbursements and reflows

YEARS	0	1	2	3	4	5
Stage	PDD	Validation		1stVerification	1st Issuance	2nd Issuance
Disbursements	-90000	-20000		-20000		
Reflows					65000	65000
Outstanding balance	90000	110000	110000	130000	65000	0
Interest due	0	9000	11000	11000	13000	6500
Total interest @10%	**50500**					

2. A 20% loss is assumed on all loans, which is possibly at the lower end of the range. However, only 82% of projects submitted for validation have been validated and the EB is rejecting ca 6% of projects submitted for registration, which adds up to a total "attrition rate" of about 25% to registration. On the other hand, a new loan scheme will need to rely on rigorous due diligence procedures, in terms of both credit analysis and compliance with CDM criteria, in particular additionality. Opportunity cost of funds is assumed to be zero; however interest is earned (@ 3% p.a.) on un-disbursed Trust Fund monies in all options, which augments the "pot" available from time to time for the scheme.

Table 2: Scenario I - recurring funding of $3mln p.a.

	Key characteristics	Number of projects (% increase relative to Option 1)	Volume of loans (in $mln)	UNFCCC TF resources (in $mln)	Cost to UNFCCC (undiscounted, in $mln)	Cost to UNFCCC per project (in $)
Option 1: Fully-funded scheme	UNFCCC makes interest-free loans	462	60	33 (11x3)	10.7 (losses)	23,200
Option 2: partial credit guarantee	Third party makes loans; UNFCCC covers first 20% of losses on principal; interest is charged on loans	1600 (+246%)	208	33	30.2 (losses)	18,900

Table 3: Scenario II - recurring funding of $1.5mln p.a.

	Key characteristics	Number of projects (% increase relative to Option 1)	Volume of loans (in $mln)	UNFCCC TF resources (in $mln)	Cost to UNFCCC (undiscounted, in $mln)	Cost to UNFCCC per project (in $)
Option 1: Fully-funded scheme	UNFCCC makes interest-free loans	254	33	18 (3+10x1.5)	5.7 (losses)	22,500
Option 2: partial credit guarantee	Third party makes loans; UNFCCC covers first 20% of losses on principal; interest is charged on loans	975 (+284%)	126.7	18	17.3 (losses)	17,700

Conclusions:

1. Option 2 supports the highest number of loans, 975 to 1,600 depending on the scenario, and at a cost per loan ($18,000-19,000) that is slightly under one sixth of the average loan amount, and lower than in Option 1 and Option 2. Option 2 thus achieves the highest leverage of UNFCCC funds.

2. However, in Option 2, unlike in Options 1, interest would need to be charged to project owners. By providing a substantial first-loss cushion the PCG should result in a much lower interest rate and longer tenors than what local markets customarily offer.

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