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FACILITY FOR ADDITIONAL INCOME FROM LOANS AND OTHER SOURCES (DECISION 55/2)

Introduction

1. This concept paper considers issues associated with a special funding facility within the Multilateral Fund. It has been written pursuant to decision 55/2 of the Executive Committee that asks the Secretariat to consider potential uses for the facility currently amounting to US $1.2 million, for a use to be determined at the 57th Meeting, which was not part of the US $490 million replenishment budget. It is also prepared in the context of decision XIX/6 and the development of HCFC phase-out management plans (HPMPs) (decision 54/39). The agreement on an accelerated HCFC phase-out (decision XIX/6) has both ozone and potential climate benefits. Because achieving climate benefits is not currently an agreed incremental cost of HCFC phase-out, the purpose of the special facility could be to augment funding to cover non-agreed incremental costs associated with climate benefits, as well as other additional environmental benefits, which are not required for compliance with the Montreal Protocol. The facility could also be useful in the financing of destruction of ozone depleting substances (ODS), e.g., through carbon markets. Annex I presents decision XIX/6 of the Nineteenth Meeting of the Parties along with background information to this proposal as the topic has arisen in the context of meetings of the Executive Committee.

2. The Multilateral Fund already has considerable experience with co-funding, which has resulted in the leveraging of substantial funds, and could be used to help establish a special facility. Previous sources of co-funding include: the Global Environment Facility (GEF) (for projects in India, Brazil, Colombia and the Caribbean Region); carbon financing (for the global chiller project); electricity service companies (proposed for the chiller project in Brazil); international development agencies; and internal funds of implementing agencies. Other potential sources are the reimbursement of funds (such as those returned by the Thai chiller project) and additional pledges from governments or private entities. It should be noted, however, that the Thai chiller project is the only loan project undertaken by the Fund where the funds from the loan were reimbursed by the beneficiaries through the Government and implementing agency back to the Fund.

3. Within this broad framework, the Secretariat is suggesting four possible uses for a special facility that range from an initial option that could be implemented in the short term, to more ambitious suggestions that might warrant additional analysis by the Secretariat and discussion in the Executive Committee. Possible uses were discussed at the Interagency Coordination Meeting on 26-27 January 2009. In all cases, the goal is to establish a special facility that could contribute to the timely implementation of projects under the Montreal Protocol and adherence to its schedule for compliance, while promoting additional environmental benefits.

4. The financial issues associated with creating a special facility for additional funds are considered under each option. These issues relate primarily to how to account for this facility in relation to the Multilateral Fund, including exit strategies, and the level and complexity of oversight and management needed. In all cases, it is critical that financing from other sources should not interfere with the availability of funds for compliance measures within the existing mechanism.

5. The Executive Committee may wish to confirm the suggested purpose of the facility by deciding that funds within the special facility should be directed towards achieving environmental benefits in addition to those required for compliance with the Montreal Protocol. Furthermore that any funds received by the facility from interested parties (Montreal Protocol Parties and other private-public bodies) should be in addition to those amounts pledged to ensure compliance with the Protocol's control measures.

A. A special facility would make available the US $1.2 million that is currently available to undertake pilot projects for the packaging of co-financing arrangements.

6. One suggestion that has been made is that the existing additional resources could be used to package more elaborate co-financing arrangements. This scenario was referred to in the "Report on key issues from the assessment of the administrative costs required for the 2009-2011 triennium (decision 55/44)" (UNEP/OzL.Pro/ExCom/56/19) presented by the Secretariat to the 56th Meeting. The existing facility could initially be used to cover implementing agency costs related to packaging of co-financing arrangements with other institutions. This might involve employing the initial funds as "seed" money in an effort to leverage additional funds to achieve multiple environmental objectives including maximizing the climate change benefits of Fund projects through energy efficiency (as occurred in the chiller projects), or maximizing the resources available for HCFC phase-out management plans (HPMPs) and encouraging the early phase-out of HCFCs.

7. With respect to the US $1.2 million, and as a follow-up to decision 55/2, the Secretariat is introducing a separate line in the table on the status of the fund in the "Status of contributions and disbursements" document under the income component for the return of the loan from the Thai chiller project. The equivalent amount has been reflected as allocated to "unspecified projects with climate benefits", pending further discussion and decision by the Executive Committee on the facility. In effect, therefore, a facility has already been established under the Multilateral Fund to account for a new generation of projects with crosscutting environmental benefits, such as for the climate. Since the source of funds for the Thai project was the Multilateral Fund, a financial framework within the existing Fund could be established without modifying the existing arrangement. A project code could be assigned to the facility with the corresponding funding subject to all related projects approved by the Executive Committee against the US $1.2 million special facility.

8. UNDP, UNIDO and the World Bank included entries for resource mobilization to obtain climate co-benefits in their 2009-2011 business plans and submitted work programme proposals. These activities might establish methodologies, procedures and arrangements with other funding sources. Under this option, the Executive Committee could decide to allocate the existing funds to develop pilot projects that addressed the above, and possibly ODS destruction projects (decision XX/7). Those funds could be allocated as early as at the 57th Meeting of the Executive Committee.

9. Were the Executive Committee to allocate these funds to such pilot projects then, following the disbursement of funds, and the subsequent evaluation of the results achieved, the facility could be closed without further replenishment.

B. A special facility could solicit contributions from public or private entities (on an ongoing or "one-off" basis).

10. A second option might aim for an extension of the interim facility, where efforts are made to replenish the funds through voluntary contributions from specific contributors, partnerships, public or private entities to cover (partially or in full) any proposals received by the Executive Committee that have merit and the possibility of replicability and of mobilizing additional income. The facility could also be used to collect contributions towards the implementation of HPMPs. The extent to which this type of facility could be used depends on the extent to which additional resources are required to address climate benefits that are not already covered by the HCFC phase-out from pledged contributions.

11. According to the implementing agencies, leveraging funds from different institutional sources might require additional administrative resources (over and above existing levels of pledged contributions). The Executive Committee might wish, as early as the 57th Meeting, to give the Chairman a mandate to seek additional counterpart contributions from governments and other funding entities with the assistance of the Secretariat, to enable further funding opportunities to be secured. This kind of activity could be considered a medium term opportunity with duration of one or two years, whereby the funds are expended for a specific use.

12. In the event of such additional funds being secured during the initial phase, the Executive Committee would be considering projects with at least two sources of funds, i.e. the Multilateral Fund and the facility. Income and costs associated with the facility would be accounted for separately. If these funds in the facility are earmarked (requiring specific reporting for specific activities) this will result in an additional administrative burden. If there are additional burdens placed on the Secretariat then these funds may be charged as programme support cost (PSC) to provide some return in staff resources. PSCs would enable reporting obligations required by the donors to be met.

13. Another factor to consider is the size and occurrence of the expected contributions. A limited amount of funds might be accommodated without any PSCs or separate trust fund. However, if the volume of resources in the facility reaches significant levels of resources or complexity then a separate trust fund might be required with some PSCs to cover the costs of additional personnel needed for administrative and reporting requirements.

14. An exit strategy associated with this scenario could be to assess, at the first meeting of 2010, whether any additional funding had been secured, and to evaluate the impact of these efforts after one year in order to determine whether the facility should become more permanent.

15. The Executive Committee may wish to mandate the Secretariat to put in place a resource mobilisation strategy for additional sources of funding and request the Chairman with the assistance of the Secretariat to seek additional funds to augment the funds currently available for the special facility.

C. A special facility could be the basis for developing agreements with other funding agencies and bodies, through processes of parallel approval, for the implementation of projects that will provide benefits in areas over and above those required by the Montreal Protocol.

16. This scenario involves using the facility to develop agreements to provide a financing window for other entities to pledge funds to coordinate ODS resources with achieving climate co-benefits. Experience gained in the chiller projects identified a significant delay between the time that the Executive Committee

approved initial seed money for the projects and that to secure various approvals and develop methodologies with other entities necessary to secure the climate/energy co-benefits.

17. In order to avoid such delays a parallel approval process between the Executive Committee and other funding agencies needs to be developed and implemented. Executive Committee guidelines and decisions could be used to manage a one-stop review and approval process. This would involve pursuing agreements with other entities for parallel approval of components of a plan to address HCFC and HFC phase out. The approach used would build on existing agreements such as the Memorandum of Understanding that the Fund Secretariat already has with the GEF whereby the Secretariat reviews GEF projects that address ODS. A process of parallel approval has the advantage of helping to ensure that the approval of funds by the Executive Committee and the other entity occurs in a parallel process in order to avoid delays.

18. This option could be developed, subject to agreement with cooperating funding agencies, to enable the Facility to house funds that have been advanced for climate or other benefits, for use in association with the normal implementation of Multilateral Fund projects on ODS. Such a scenario could be explored through contacts with other institutions as sources of co-financing as per decision 55/43, paragraph (i).

19. In addition to reaching agreements with other international funding agencies, there is an opportunity to further the development of public-private partnerships through the facility. There is precedent for this following UNDP's partnership with electrical utilities in the chiller project in Brazil where project packaging generated funds over and above those provided by the Fund. A relationship could be established between the Executive Committee and specific enterprises and/or utilities to engage in a parallel approval process for funds to contribute to the global effort on climate change.

20. There is also a possibility of leveraging additional resources from in-house carbon/energy facilities such as, for example, within UNDP and the World Bank. In this respect, implementing agencies will need intra-agency coordination and cooperation in order to maximize the carbon/energy benefits associated with HCFC phase-out and ODS destruction activities of the Fund.

21. Option (c) implies increased involvement from the implementing agencies when preparing projects with costed activities to include climate and other environmental benefits, as project submissions should be prepared to take into account policy, procedures and guidelines of both the Executive Committee and the other entity.

22. An exit strategy associated with this option could be to ask the Secretariat to report to each meeting of the Executive Committee on its success in seeking agreements on both the development and approval processes. Agreements with additional funding agencies could be pursued in the short term pilot phase. Were the Multilateral Fund facility to store advanced funds, this option could have a longer term duration that merits additional consideration by the Secretariat in terms of the types of internal resources and agreements necessary to develop it further.

D. A special facility could seek, house and manage credits for climate change benefits or ODS destruction from the global carbon markets.

23. Carbon credits might be used as a recurring source of income and to provide additional incentives for ODS phase-out activities. A facility which is able to access funds generated by carbon credits might ultimately act as a type of revolving fund to cover climate activities that the Montreal Protocol may not cover. Annex II provides additional information on the possibilities of generating additional income under the Clean Development Mechanism (CDM) and from other carbon markets.

24. Under this scenario, which is the potentially most lucrative and complicated, the facility would seek, possibly with partners, CDM credits and credits from the voluntary carbon markets to cover climate

benefits secured through ODS projects (e.g., for HFC emission reductions in the HCFC phase-out and CO_2 reductions in particular projects through increased energy efficiency) or to finance ODS destruction. The benefits for climate change of such projects extend beyond those currently required for compliance with the Montreal Protocol.

25. If all credits received are sold, the emission decrease achieved through that particular project will likely offset a comparable emission increase somewhere else. Therefore, the Executive Committee might consider retiring some portion of the credits to ensure a net reduction in global emissions.

26. Although ODS destruction would not be eligible for credits under the CDM since this mechanism is limited to the six Kyoto gases and ODS phase-out is mandated by the Montreal Protocol and therefore is not additional, it could be financed through the voluntary carbon markets. The main issue with respect to ODS destruction is the need to guarantee the climate benefit to secure a market value. The strong monitoring systems established in the Multilateral Fund, together with the Fund's reputation for cost-efficient and timely implementation, might facilitate a market for this activity with potential climate co-benefits.

27. Should HFCs ever become controlled substances under the Montreal Protocol, the facility could possibly seek to qualify for carbon credits also for the reduction of emissions of HFCs from voluntary carbon markets, rather than the CDM.

28. This option could generate substantive funds additional to the Fund as is evident by the India chiller project where US $1 million seed funding and an additional US $7 million from the GEF, generated US $13 million worth of CDM credits. An inventory of CDM HFC-destruction projects will be presented to the 57th meeting in the context of the Production Sector Sub-group's consideration of guidelines for the HCFC production sector.

29. In this respect, depending on the size of the Fund and volume of activity, additional administrative support beyond that identified in option B could be required, to address not only the reporting requirements, but also the difficulties associated with managing the sale/encashment of credits associated with the financial requirements.

30. If the Executive Committee were to further explore scenarios associated with the international carbon markets, it should, at the appropriate time, consider an exit strategy that takes into account the long-term duration of revolving funds. It is also important to take into account any uncertainty with respect to the future of the CDM.

Discussion

31. The Multilateral Fund has been a successful example of an environmental financial mechanism based on pledged contributions, and has been able to meet the agreed incremental costs to facilitate countries to comply providing almost entirely grant-based funding. The Executive Committee might take this fact into account when considering any modifications to the current *modus operandi*.

32. Although the legal authority of the Executive Committee, that enables the payment of agreed incremental costs, the clearinghouse function, and secretariat services, allows also for the receipt of additional income, the Executive Committee might consider using additional income to fund non-agreed incremental costs as it has done by allowing enterprises benefiting from Fund resources to use counterpart funding to cover non-agreed incremental costs.

33. With respect to potential funding from carbon markets, opportunities to both maximize benefits and at the same time to over compensate the costs needed to obtain both the climate and ozone benefits

simultaneously exist.[1] There is much uncertainty concerning the funding of high GWP (global warming potential) chemicals through carbon funding mechanisms and this uncertainty is likely to continue until a post 2012-agreement can be reached. More recently, there have also been discussions of possible modifications to the Montreal Protocol to cover the HFC phase-down that could have an impact on the extent to which the Executive Committee might wish to declare climate benefits as incremental costs. Nevertheless, when this paper was prepared, the Executive Committee had not yet determined to what extent it would pay for co-benefits for climate change but, as demonstrated through the chiller projects, the opportunity for climate co-benefits exist.

34. At the 57th Meeting, the Executive Committee will consider proposals for resource mobilization to attempt to maximize climate benefits that might use the US $1.2 million currently in the facility. The Committee might alternatively maintain the US $1.2 million pending a decision on the extent to which climate co-benefits would be covered by the Multilateral Fund, or declare resource mobilization as an incremental cost and return the US $1.2 million to the Fund for re-programming.

35. If the Committee chooses to maintain the special facility for the purpose of funding non-incremental costs, it might also choose to seek additional funding for the facility that could be used for more resource mobilization or other non-incremental costs to be determined by the Committee. This would enable the Secretariat to develop the initial financial and legal arrangements that might also be needed for options (c) and (d) in this paper.

36. Parallel approval processes and/or procedures for approval should be pursued especially initially with the GEF, the Inter American Development Bank, the Fonds Français pour l'Environnement Mondial (FFEM) and the World Bank's Carbon Finance Unit since these entities have expressed an interest in cooperation. Agreements with other entities can also be made with a priority given to those responding favourably to the request of the Executive Committee in decision 55/43 (i).

37. Similarly, additional work with respect to carbon funding could continue to be pursued as a longer term opportunity to maximize climate co-benefits, given the uncertain nature of carbon funding for high GWP gases such as HCFCs and their HFC alternatives.

Recommendations

38. The Executive Committee may wish to consider whether to:

(a) Confirm that the funds from the special facility should be directed to achieving environmental benefits in addition to those required for compliance with the Montreal Protocol, and that any funds received by the facility should be in addition to those amounts pledged to ensure compliance with the Protocol's control measures;

(b) Specifically designate the funds for the first phase of the facility for the purpose of timely implementation of HCFC phase-out management plans (HPMPs) by packaging financial arrangements to maximize available resources by receiving additional contributions for the climate benefit brought by Multilateral fFund projects;

(c) Mandate the Secretariat to put in place a resource mobilisation strategy for seeking additional sources of funding including financial and programme partnership with regional and global funding mechanisms and request the Chairman, with assistance of the Secretariat, to seek additional funds to augment those currently available for the special facility;

(d) Request the Secretariat to continue its efforts to develop arrangements with other funding

[1] See "Cutting out the chemicals", Nature, 29 January 2009, volume 45.

mechanisms for a parallel approval process, and the possibility of enabling funds to support parallel approval, where necessary, to be advanced to the special facility;

(e) Request the Secretariat to continue collecting information on the possibilities for seeking, housing and managing credits for climate change benefits from the global carbon markets.

Annex I

BACKGROUND

1. In the Meeting of the Parties (MOP) decision XIX/6 the Parties agreed to "encourage Parties to promote the selection of alternatives to HCFCs that minimize environmental impacts, in particular impacts on climate…", and "agree that the Executive Committee give priority to cost-effective projects and programmes which focus on, inter alia substitutes and alternatives that minimize other impacts on the environment, including on the climate…"

2. At the 55th Meeting of the Executive Committee, US $1.2 million which had been returned from the Thai chiller concessional loan project was considered to be additional income that could be used to create a special facility that would provide additional project support to Article 5 countries. Further to this, the Committee decided "to consider at the 57th Meeting a facility for additional income from loans and other sources to be maintained and the potential uses of those funds" (decision 55/2, paragraph b). That request built on several instances, at past meetings, where the Committee had mentioned issues related to additional project support through co-financing.

3. At the 54th Meeting, the Committee considered the issue of additional project support in the context of the guidelines for HPMPs. As part of the development of HPMPs (decision 54/39, paragraph h) the guidelines encourage Article 5 countries and implementing agencies to explore potential financial incentives and opportunities for additional resources (through inter alia co-financing) to maximize the benefits from HPMPs, pursuant to paragraph 11(b) of MOP decision XIX/6.

4. At the 55th Meeting, the Executive Committee requested the Secretariat to approach other institutions with the objective of identifying bilateral, regional or multilateral funding mechanisms that might be suitable and compatible as sources for timely co-financing to top up Multilateral Fund ozone funding to achieve additional climate benefits. The Secretariat has been requested to provide a further report to a future Meeting (decision 55/43, paragraph i).

5. At the 56th Meeting, discussions on chiller projects also emphasized the merits of co-financing. The Executive Committee noted that resources from the Multilateral Fund with respect to the World Bank's India chiller programme had been enhanced up to 20 fold through co-financing. This suggested that using Fund resources to leverage additional funding and provide greater benefits was a viable option.

6. Discussion at the 56th Meeting also emphasized the need to take into account benefits for both ozone protection and climate change, the need for the timely implementation of projects (to adhere to the compliance schedule of the Montreal Protocol), and the need to develop an exit strategy.

Annex II

POSSIBILITIES OF COOPERATION BETWEEN THE FUND AND THE CLEAN DEVELOPMENT MECHANISM AND THE VOLUNTARY CARBON MARKETS

Introduction

1. Carbon markets traded 4 billion tonnes of carbon dioxide equivalent (CO2e) at a value of US $118 billion in 2008.[2] Despite the world-wide economical decline, this represents an increase from 2007 of 84% in volume and 42% in value. Carbon markets represent a substantial economic force that some analysts predict will keep growing.

2. This paper is written in the light of the request to the Fund Secretariat to provide a summary of information publicly available on relevant elements of the operation of the clean development mechanism (CDM) and the amounts of HCFC-22 production available for credits,[3] and, as such, it complements the chart on CDM HFC-destruction projects in the paper being considered by the Production Sector Sub-Group at the present meeting (UNEP/OzL.Pro/ExCom/57/62). It also complements the paper outlining options for a special facility for additional income.[4] UNEP/OzL.Pro/ExCom/57/64) This paper may also be helpful in developing HPMPs, as the guidelines encourage Article 5 countries and implementing agencies to explore potential financial incentives and opportunities for additional resources to maximize the benefits from HPMPs, pursuant to paragraph 11(b) of MOP decision XIX/6.[5]

3. The carbon markets consist of both compliance schemes and voluntary, project-based trading. Participants and other market actors will trade in assigned allowances, project-based offsets or both. The compliance markets are often designed as cap-and-trade systems, such as the Kyoto Protocol where states trade in Assigned Amounts Units (AAUs) and the European Union Allowance market (EU-ETS) where members trade in European Union Allowances (EUAs). The voluntary markets enable individuals and private or public entities to purchase carbon offsets, or credits, on a voluntary basis. Participants in a regulatory system may also purchase project-based credits to meet their targets by "off-setting" emissions.

4. The Multilateral Fund, its implementing agencies and other partners could possibly generate additional income through CDM projects, the voluntary market, or both.

5. It is important to bear in mind that carbon prices fluctuate and revenues may be difficult to predict. Market prices for the Certified Emission Reductions of the Clean Development Mechanism of the Kyoto Protocol (CER's), and to a lesser extent the Voluntary Carbon Credits of non-compliance markets (VERs),[6] follow the fossil fuel market, weather conditions, and to some extent economic trends. The price of a CER went from US $22 in January 2008 to US $13 in January 2009.[7] The price of VERs at the voluntary, OTC (Over-the-Counter) market increased from its 2007 average of US $6.10 to US $8.7 in September/October 2008, but declined and landed at US $7.5 at year's end.[8] At the same time, the

[2] These numbers include transactions in both the compliance and the voluntary markets, see Press Release "Carbon market up 84% in 2008 at $118 billion", New Carbon Finance, available at www.newcarbonfinance.com.
[3] Decision 56/64, paragraph c.
[4] Decision 55/2, para. b.
[5] Decision 54/39, para. h.
[6] Voluntary or Verified Emissions Reductions.
[7] OTC, brokered price at www.newcarbonfinance.com and www.pointcarbon.com. The prices on these sites were given in euro and were calculated at a rate of 1.5 for January 2008 and 1.26 for January 2009.
[8] *Voluntary Carbon Index,* November/December 2008, available at www.NewCarbonFinance.com.

Chicago Climate Exchange (CCX) saw a near collapse of prices last year and traded at US $1.7 by the end of 2008. Another important factor for carbon market prices is the uncertainty of post 2012.[9]

6. It is also worth remembering that carbon offsetting is not likely to improve climate change. Although possibly as much as 70% of purchases in the voluntary markets are made with the intention of retiring credits,[10] voluntary markets only make up a fraction of carbon markets at large. Companies under compliance schemes, such as the dominating European market, use project-based credits to offsets their own emissions. A project developer concerned with the environmental impact may consider a broker or retailer that caters to "green" consumers.

The Clean Development Mechanism

7. As of January 2009, 250 million CERs had been issued by the CDM board. Those CDM-projects that have reached at least the validation stage, leading up to registration, may generate as much as 2.9 billion CERs up to, and including, 2012.[11] With an average price of US $12.6 per CER,[12] this volume equals a market value of over US $36 billon.[13]

8. The CDM gives industrialized countries some flexibility in how to meet their emission targets and contributes to the objective of the Kyoto Protocol in a cost-efficient manner. An additional purpose is to provide sustainable development to host (non-Annex 1) countries.[14]

9. Whereas the CDM system is designed for States, i.e., Parties to the Kyoto Protocol, private and public entities may participate as proponents in specific projects. The Multilateral Fund has such legal capacity as is necessary for the exercise of its functions and the protection of its interests, including entering into contracts, acquiring and disposing of movable and immovable property.[15] In principle, the MLF or one of its Implementing Agencies could be designated a project participant and generate CERs to be contracted at any stage of the process.

10. There are several ways that an approach involving the CDM might work in practice, which may to a varying degree require funding from a special facility of the MLF. For example, the Multilateral Fund or one of its agencies could:

(a) Enter into a unilateral CDM project in an Article 5 country, have the facility finance the

[9] Price information given in this paragraph reflects prices at the secondary or retail market, which generally yields higher prices than the primary market, i.e., contracts between project developers and their buyers that usually concern CERs not yet issued.

[10] *Forging a Frontier, State of the Voluntary Carbon Markets 2008*, Katherine Hamilton, Milo Sjardin, Thomas Marcello, Gordon Xu, Ecosystem Marketplace & New Carbon Finance, p. 27.

[11] UNEP Risoe CDM/JI Pipeline Analysis and Database, February 1st, 2009, at www.cdmpipeline.org. Data also available at www.cdm.unfccc.int

[12] Carbon prices decreased substantially towards the end of 2008 and early 2009 and were still falling at the time of finalizing this paper. As of January 22, 2009, OTC-price was €10 at www.pointcarbon.com, which translated to US $12.6 at that time. The World Bank stated prices for primary forward CERs in the range of €8-13 in 2007 and early 2008, where projects at an early stage of preparation transacted around €8-10 and registered projects with streamlined technology such as HFC with storage options transacted at €11-13, see State and Trends of the Carbon Market 2008, Karan Capoor and Philippe Ambrosi, World Bank, p. 32. The average price for primary CERs was €11.61 in 2008 and €9.25 in early 2009, according to IDEACarbon as of 12 February 2009.

[13] The CERs are eligible for compliance against the emission targets under the Kyoto Protocol, the EU-ETS (merely a "bubble" within the Kyoto scheme) and under limited circumstances under the Regional Greenhouse Gas Initiative (RGGI) in the Northeast US. CERs are also traded in the voluntary markets.

[14] Kyoto Protocol, Article 12, para. 2. Projects have, however, often been reported to fail in delivering sustainability.

[15] Decision VI/16 (a).

climate benefit up-front, and sell all or part of the resulting credits to generate additional income;

(b) Enter into a bilateral CDM project together with a co-funder (such as a Kyoto Protocol Annex I country or another entity), where the climate benefit is financed by the co-funder or jointly with the Fund, and credits shared accordingly;

(c) Facilitate CDM projects, so that a Kyoto Protocol Annex 1 country, a private entity from that country or a mix thereof finances the climate benefit through a CDM project. The CDM project would then merely be part of a MLF implementing agency's project with the Fund providing the preparatory costs as well as the costs for compliance with the Montreal Protocol.

11. An important requirement for a CDM project is that emission reductions are additional, in principle that the project is a sine qua non for the estimated reductions, and, inter alia, that the proposed activity is not the only available or decreed alternative.[16]

12. Although subject to some controversy, only projects reducing or avoiding emissions from the Kyoto gases are accepted.[17]

13. Project proposals have to be approved by a designated national authority (DNA) and validated by a Designated Operational Entity (DOE) before they proceed to registration. Registration is the prerequisite for verification and certification by a DOE that emission reductions are achieved, whereby the issuance of credits may be requested.

14. The project cycle can be long: from project screening and development to registration may take two years or more, depending on e.g., how fast a DOE can be engaged and whether the CDM board decides to review the project. If a new baseline or monitoring methodology is needed, an average of 300 days from submission of the methodology to its approval should be added to the estimate.[18] From registration to issuance of credits is probably another six months. However, CERs are usually sold before their issuance.

15. There are currently 112 approved methodologies of which some could possibly be used by the MLF in eventual projects with climate benefits.[19]

16. Joint Implementation (JI), the other project-based mechanism under the Kyoto Protocol, is likely not to be relevant here as it is carried out by Annex 1 parties to the Kyoto Protocol in countries that are not eligible for funding under the Montreal Protocol.[20]

16 See more on criteria for additionality at www.cdm.unfccc.int/Reference/tools/index.html.

17 Article 12 (2) of the Kyoto Protocol reads: "The purpose of the clean development mechanism shall be to assist Parties not included in Annex I in achieving sustainable development and in contributing to the ultimate objective of the Convention, and to assist Parties included in Annex I in achieving compliance with their quantified emission limitation and reduction commitments under Article 3." Although the reference to the Convention seems to leave some room for a more extensive interpretation, so as to allow projects reducing any CO_2e emission, the article should probably be read in its context and thus limiting CDM to the six Kyoto gases.

18 UNEP Risoe Pipeline Database.

19 For example, AMS III.N. Avoidance of HFC Emissions in Rigid Poly Urethane Foam (RUF) Manufacturing and AMS.III.X. Energy Efficiency and HFC-134a Recovery in Residential Refrigerators could, possibly with some modifications, be of interest to MLF projects. All approved methodologies can be found at www.cdm.unfccc.int/methodologies.

Other compliance based markets

17. There are several compliance-based systems other than the emissions trading under the Kyoto Protocol and the EU-ETS. These include the New South Wales GHG Abatement Scheme (NSW GHGAS), the Regional Greenhouse Gas Initiative (RGGI) and the Western Climate Initiative (WCI), and more are being developed. Some come with an associated baseline-and-credit programme. Most are, however, limited to offsets originating from within the state or region, and as such do not represent potential markets for MLF project offsets. But as these systems are generally young and some are still under development, they are nevertheless interesting in this context and the most prominent deserve a brief presentation:

18. The Australian NSW GHGAS, established in 2003, is a mandatory state-level programme aiming at reducing greenhouse gas emissions from the power sector. If a company exceeds its target, it can either pay a penalty or offset emissions against project based activities. It is the largest cap-and-trade market outside the Kyoto Protocol and the EU-ETS, but offsets are only allowed from projects within the state.[21]

19. The RGGI is a regional cap-and-trade system in the Northeast United States[22] for the power sector. It is scheduled to start in 2009. The permissible use of offsets is based on market prices: only with a rise above $10 per allowance (each equivalent to 1 US ton of CO_2) can emissions be offset against project activities based outside the United States (i.e., the CDM).[23]

20. The WCI, established in 2007, involves cooperation between US states and Canadian provinces.[24] Participants commit to a 15% reduction of GHG emissions reduction from 2005 levels by 2020. Plans are also being pursued for a cap-and-trade system.[25]

21. The Global Warming Solutions Act (AB 32) in California caps GHG emissions from major industries and penalizes non-compliance. Enforcement will begin in 2012. The development of market-based mechanisms to facilitate the achievement of targets is underway.[26]

The voluntary carbon markets

22. The voluntary markets traded at a value of $800 million in 2008. Compared to $330 in 2007, voluntary markets experience rapid growth. However, they still make up only 2.2% of the traded volume in compliance-based markets.[27]

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[20] Even if the MLF could co-operate with a Kyoto Annex 1–country in a JI-project, only two Article 5 countries, i.e., Croatia and Turkey, are also Annex 1-countries of the Kyoto Protocol, and Turkey lacks an emission reduction target.

[21] www.greenhousegas.nsw.gov.au

[22] Connecticut, Delaware, Maryland, Massachusetts, Maine, New Hampshire, New Jersey, New York, Rhode Island, and Vermont.

[23] www.rggi.org

[24] California, New Mexico, Oregon, Washington, Arizona, Utah, Montana, British Columbia, Manitoba, Ontario and Québec.

[25] www.westernclimateinitiative.org

[26] www.solutionsforglobalwarming.org

[27] In 2007, voluntary markets (CCX and OTC) traded 2.2 % of the volumes traded in the compliance-based markets, at 0.5% of the value. See *Forging a Frontier, State of the Voluntary Carbon Markets 2008*, p.26. The relative value had increased somewhat in 2008, to 0.7%. See Press Release "Carbon market up 84% in 2008 at $118 billion", New Carbon Finance.

23. Voluntary carbon markets are often described as twofold: the Chicago Climate Exchange (CCX) and the larger Over-the-Counter-market (OTC). OTC is based on bilateral deals and, in contrast to the CCX, functions outside of an exchange.[28] Of the 65 $MtCO_2e$ transacted on the voluntary markets in 2007, 42 MtCO2e were at the OTC market and 23 MtCO2e at the CCX. The previous year, OTC transacted 14 MtCO2e and the CCX 10 MtCO2e.

24. Whereas voluntary markets have actually existed since 1988, years before the Kyoto Protocol entered into force,[29] it is only in the last couple of years that they have become significant players in the world of carbon trading. Part of it, or a result from this, is a change in their nature: the pioneers (i.e., the NGOs, non-profit organization and philanthropies) are giving way to the for-profit entities. The emergence of brokers, pre-compliance and for-profit buyers have increased the churn rate of a VER to 3.9 in 2007. Before 2006, a transaction usually meant retirement.[30]

25. The Chicago Climate Exchange (CCX)[31] is a voluntary but legally binding cap-and-trade scheme with an associated offset programme, with its own unit; the Carbon Financial Instrument (CFI)[32]. Eligible offset projects are primarily methane collection and carbon sequestration projects, but also energy efficiency, which could be of interest for MLF projects. Most importantly, however, ODS destruction was recently added to eligible projects. CCX issues destruction emission offsets based on CO_2e of the 100 year warming potential of the ODS less 25%. For example, one tonne of methyl chloroform destroyed equals 144 tonnes of CO_2e, and the project owner would be entitled to 108 tonnes of offsets (i.e., 144 tCO_2e*75%).[33]

26. The voluntary and regulated markets are not isolated from each other: About 17% of the offsets sold in the voluntary markets in 2006 came from CDM-projects, and some compliance programmes allow participants to buy offsets from the voluntary markets.[34]

27. The fact that the voluntary markets are unregulated and lack a common standard makes for rather fragmented and sometimes chaotic market places. Nevertheless, they serve as testing grounds for new technologies and methodologies, which can later be used in regulatory markets. Moreover, transaction costs are kept lower and smaller projects may be viable.

28. On the negative side is that the lack of common, agreed standards has allowed many low quality VERs (e.g., from projects without additionality).

Prices

29. VERs tend to be cheaper than their compliance market-counterparts. The reason is primarily the supply-capped feature of compliance markets versus the in principle endless supply in voluntary markets. The average 2007 price of a credit transacted on the OTC was US $6.10 per tCO_2e and

[28] There are also a number of voluntary government-instituted emissions reduction and offset programmes, such as the Japanese Keidanren Voluntary Action Plan on the Environment, which only allows offsets from the Kyoto-mechanisms, and the Australian Greenhouse Challenge Plus, which does allow VERs.
[29] The Kyoto Protocol was adopted in 1997 and entered into force in 2005.
[30] *Forging a Frontier, State of the Voluntary Carbon Markets 2008*, p. 27.
[31] See further info on CCX in UNEP/OzL.Pro/ExCom/55/45.
[32] One CFI represents 100 tCO_2e, and can be either an allowance-based credit or an offset credit from qualifying projects.
[33] www.chicagoclimatex.com
[34] *Making sense of the Voluntary Carbon Market, A comparison of Carbon Market Offset Strandards*, Anja Kollmus, Helge Zink, Clifford Polycarp, 2008, p. 6.

US $3.15 per tCO2e on the CCX,[35] while a CER sold for US $13.5 on the primary market and a CER spot transaction could yield as much as US $22.[36]

30. Voluntary buyers are still to a large extent buying for public relations, morality or philanthropic reasons rather than for resale, and will be more attracted to certain projects than others.[37] This is one major reason to the price variation between types of projects at the voluntary markets, especially the OTC.

31. Renewable energy and forestry projects resulted in the highest offset prices, $7-8/t in 2007, and these categories together with the growing categories energy efficiency and methane destruction dominate the OTC market. Industrial gas projects were among the least lucrative with an offset average of $3.7 in 2007.[38]

32. The market share of industrial gas destruction projects has dropped significantly over the past few years, from 20% in 2006 to 2% in 2007. The reasons may be the controversies surrounding HFC destruction, the lack of additional benefits such as sustainable development, and the fact that many balk at the idea of paying industry for destroying something they should never have produced in the first place. It may also have to do with supply and the fact that only a handful of US companies produce high GWP industrial gases.[39] However, the appeal factor would not explain why methane destruction projects are growing in demand. One explanation may be that methane projects are likely to be included in an eventual US federal compliance system so that many purchases are from American pre-compliance buyers. But it could also be an awareness and PR issue, which should also be a consideration in view of possible ODS projects.

33. Another important price factor lies in the supplier: project developers will naturally receive less than a broker or a retailer. With an average OTC price of US $6.10 in 2007, a project developer got $5.0, a broker $5.40, and a retailer $11.3.[40]

Market Standards

34. Because of the shortcomings of VERs, a range of voluntary standards, such as the Gold Standard or the Voluntary Carbon Standard, have been developed over the past couple of years. These have, to a varying degree, adopted CDM-like procedures and requirements, such as the additionality test or third-party verification, with the accompanying administrative burden and costs. Although ODS have a high Global Warming Potential, their phase-out or destruction does not necessarily contribute to a low-carbon economy. As potential buyers seem to become more concerned with quality and origin of offsets than with price, the various standards and their criteria should be considered at an early stage of an eventual project planning.

35. Most standards will accept baselines and methodologies approved under the CDM as well as review and potentially approve others. But they differ in the type of projects that they will accept, as well as in the price range that their certified VER will render. The more commonly used are presented briefly.

[35] *Forging a Frontier, State of the Voluntary Carbon Markets* 2008, p.24.
[36] *State and Trends of the Carbon Market 2008*, p. 3. The prices in euro given in that paper have been calculated to USD with the average rate for 2007 of 1.35 (according to www.di.se).
[37] CERs and even CFIs are more fungible in nature and compliance buyers are less likely to ask for credit origin.
[38] *Forging a Frontier, State of the Voluntary Carbon Markets* 2008, p. 39.
[39] United States used to be the dominating source of VERs; in 2006, 43% came from US-based projects. Although US-born credits actually increased by 58% in 2007, the US market share fell to 27%. Asia now holds the largest share with 39%. *Forging a Frontier, State of the Voluntary Carbon Markets 2008*, p.33 and 43.
[40] *Forging a Frontier, State of the Voluntary Carbon Markets* 2008, p. 30.

36. The Voluntary Gold Standard (VGS) was launched in 2006 by WWF-UK and is an NGO-supported certifier that uses CDM methodologies to quality label projects. It accepts renewable energy and end-use energy efficiency projects with strong sustainable development benefits.[41] The latter could be relevant for capturing climate benefits in potential MLF projects. The Gold Standard was first developed for CDM projects, to certify a sustainability attribute of a project and it is the only label on the compliance market to do so.[42]

37. The Voluntary Carbon Standard (VCS) was developed by the Climate Group, the International Emissions Trading Association (IETA), and the World Economic Forum in late 2005 and the current version was released in late 2008. The emissions reduction must include any of the six Kyoto gases but additional environmental attributes are not required. It excludes projects that can be assumed to have generated GHG emissions primarily for the purpose of subsequent reduction, removal or destruction (e.g., new HCFC facilities). The VCS also has a registry for registration, transfer and retirement of credits to be launched in 2009. It will also approve programmes, so far the CDM, JI and, most recently, the California Climate Action Registry (which is also limited to the Kyoto-gases).[43] Energy efficiency and HFC destruction or avoidance would possibly be eligible projects.

38. The Voluntary Offset Standard (VOS) was launched by the International Carbon Investors and Services (INCIS) in June 2007. It screens carbon offsets from other standards and is supported by some of the heavy weights in the industry. It currently accepts the VGS criteria and projects that use CDM procedures but that take place in non-Kyoto-Parties (and are therefore not eligible for CDM). It excludes substitution or destruction of HFCs where the production or use of ODS may be incentivised.[44]

39. VER+ was launched in mid 2007 by TUV SUD (a DOE of the CDM), and developed for project developers that cannot, or would like to wait to, have their projects registered by the CDM-board. It applies CDM-rules and methodologies.[45] Although it lacks the NGO or industrial support that the VGS, VCS or the VOS enjoy, the demand for VER+ seems to be growing.

40. Prices will differ between the various offset standards as well as between types of projects within the same standard. Whereas the VGS and the VOS will yield a premium to CERs and VERs with up to 25% for the VGS and lower for the VOS, the VCS and VER+ traded at US $8 to US $24 in late 2007.[46]

41. The Chicago Climate Exchange screens project proposals according to its own standardized rules. Once these initial screening criteria are fulfilled, projects may be submitted for approval. The CCX also require a third party verification before credits may be registered on the exchange.[47]

42. On a last note, as carbon markets are developing at a fast rate, any information given in this paper should be updated before considering a project, and prices are merely presented as indicative.

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[41] www.cdmgoldstandard.org
[42] Only 12 CMD projects have received the certification but those who do can count on higher profits. The highest priced primary carbon transaction in the World Bank's 2007 data was a GS project at € 16, See *State and Trends of the Carbon Market 2008*, p. 36.
[43] www.v-c-s.org
[44] www.carboninvestors.org
[45] www.tuev-sued.de/climatechange
[46] *Making sense of the Voluntary Carbon Market, A comparison of Carbon Market Offset Standards*, p. 44
[47] See www.chicagoclimateexchange.com.