



International Adaptation Finance:

The Need for an Innovative and Strategic Approach

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Executive Summary

The Problem.

Although existing estimates of adaptation funding needs in developing countries are still very vague, they all indicate that they are and will be in the tens of billions €/ \$ per annum. At the same time, many developing countries presently do not have the relevant ‘absorptive capacity’ – the capacity to carry out the adaptation measures needed – even if the funding were available. Most will unnecessarily have to suffer adverse impacts of climate change that could be avoided under an improved adaptation regime. The responsibility for these avoidable adverse impacts – whether due to a lack of funding or of absorptive capacity – will fall squarely on industrialised countries.

Some stakeholders, mainly from the developed world, have been tempted to cite the lack of certainty about the adaptation funding needs of developing countries and their lack in absorptive capacity as reasons to postpone a debate of the thorny issue of international adaptation finance. This is short-sighted at best and disingenuous at worst. The two issues are intricately linked, and there is an urgent need to look into ways of *simultaneously* scaling up the provision of adaptation funds for developing countries of the appropriate kind, *and* the absorptive capacity to use these funds meaningfully. While this paper is about the former, the debate on how the funds are best spent on the ground is by no means of lesser importance.

At present, all international adaptation funding instruments – except the recently operationalised Kyoto Protocol Adaptation Fund – are replenished through ODA-type bilateral donations. The level of international funding for adaptation in developing countries is woefully inadequate to meet projected needs. The current bilateral donation instruments are unlikely to ever be able to generate the required levels of funding, especially as it is meant to be additional to ODA (viz. experience with the Monterrey 0.7% GNI commitment for ODA).

Moreover, adaptation funding is seen by most developing countries not as a matter of ‘donations’ but as one of costs imposed by developed countries, and as such as debt incurred by them. Accordingly, neither of the traditional ODA funding modes (grants or concessionary loans), are seen to be appropriate payment modes. Funding is expected, and must be ‘acceptable’, in the sense of being not only appropriate, but new and additional, predictable, equitable, and adequate.

International Adaptation Finance

Innovative Sourcing. Further innovative financing mechanisms apart from the CDM Adaptation Levy are needed to fill the adaptation ‘funding chasm.’ The only way to provide funding for developing country adaptation which is acceptable, in the above-mentioned sense, is through international levies on emissions from international maritime transport and aviation/air travel and/or through international auctioning of assigned amount units (i.e. an adaptation levy on the proceeds of international emissions trading).

Strategic Allocation. Internationally, funds for adaptation need to be allocated on a strategic basis and not involve international micro-management at the project level. The strategic allocation of international adaptation funds should not attempt to re-invent the wheel. It should use the existing international bodies and initiatives to allocate funding streams, and not try to duplicate them under a ‘climate change banner.’ Domestically, as mentioned above, there is a need to enhance ‘absorptive capacity’ not only at the project level, but more importantly – following the Paris Declaration – at the level of domestic policy (‘adaptation mainstreaming’).

Governance. The governance of the recently operationalised Kyoto Protocol Adaptation Fund represents a milestone in the evolution of international funding mechanisms, since for the first time developing countries have genuine ownership of such an instrument. In the case of adaptation funding, developing country ownership and public transparency of decision making is not only desirable but a prerequisite for success, particularly in the context of mainstreaming activities. Given this, the Adaptation Fund should be the main instrument for the purpose of raising and managing of international adaptation finance for developing countries.

A. Introduction

Any view on international finance for developing country adaptation – strategic or not – must deal with the question of how much adaptation to climate change impacts in developing countries does/will cost, and how much is/will be available under current conditions. While closing the expected funding gap – or, as some have called it ‘adaptation funding chasm’ – is not the only strategic adaptation finance issue, it is a core issue – if there are no funds, using them appropriately becomes rather like counting angels on pinheads. This does not mean that providing adequate funds alone will be sufficient to achieve adequate adaptation: there are equally difficult problems to be overcome at the potential recipient end, often characterised in terms of ‘(insufficient) absorptive capacity’. However, the present study focuses exclusively on the fundraising end of this spectrum of required activities.

As such it begins in Section A by looking into current estimates of funding needs for adaptation in developing countries, and current international adaptation funding, to illustrate the proportions of the ‘adaptation funding chasm.’ Section B discusses 11 proposals for adaptation funding which have been put forward by UNFCCC Parties and others, and ends with an evaluation of these proposals with regard to the criteria of being new and additional, predictable, appropriate, equitable, adequate. Section C is devoted to the question of how the money is to be disbursed at the international level, and the report concludes with a discussion of how such innovative international finance should be managed.

I. Current estimates of funding needs for adaptation in developing countries

- *Although existing estimates of adaptation funding needs are still very vague, they all indicate a level of funding needed for developing countries to adapt to the impacts of climate change in the tens of billions €/ \$ per annum.*
- *Many developing countries presently do not have the relevant ‘absorptive capacity’, i.e. the capacity to carry out the adaptation measures needed, even if the funding were available.*
- *Most will have to suffer adverse impacts of climate change that could be avoided under an improved adaptation regime.*
- *The responsibility for these adverse impacts – whether due to a lack of funding or of absorptive capacity – will be squarely put on industrialised countries.*

How much does and will climate change adaptation cost in developing countries? While the question seems to be straightforward enough, answers – not surprisingly, given the complexity and variety of adaptation – are very difficult. The World Bank guesstimates current needs of 9–41 billion US dollars (\$).¹ Although the base data for these figures have been disputed,² Table 1 – taken from the original source – is nonetheless interesting because it illustrates just how thin on the ground these estimates had to be because of high uncertainties associated with the methodology (guesstimates of global percentages).

Table 1. World Bank Preliminary Estimates of Annual Adaptation Needs Developing Countries

<i>Investment type</i>	<i>Amount</i>	<i>Climate sensitive</i>	<i>Adaptation costs (%)</i>	<i>Costs (2000 \$)</i>
ODA & Concessional Finance	\$100bn	40%	10 – 20%	\$4bn – \$8bn
Foreign Direct Investment	\$160bn	10%	10 – 20%	\$2bn – \$3bn
Total international costs				\$6bn – \$11bn
Gross Domestic Investment	\$1500bn	2 – 10%	10 – 20%	\$3bn – \$30bn
Total adaptation costs				\$9bn – \$41bn

Source: Table K.1, World Bank (2006a)

They were followed by figures put forward by OIES (\$2–17 billion³), Oxfam (greater than \$50 billion⁴), UNDP (\$86 billion⁵) and UNFCCC (\$28–67 billion⁶). All these figures are very rough estimates, based on certain ‘top-down’ methodologies such as the World Bank estimates of the cost of ‘climate proofing’ current investment flows (see Table 1). They are also not generally comparable, since they are about different types of adaptation needs, such as:

- climate proofing Official Development Assistance (ODA) and other ‘business as usual’ investment flows;
- climate proofing of existing infrastructure;
- additional investments necessary because of climate change (e.g. dams, dykes etc.);
- costs on community level (community based adaptation, capacity building by NGOs etc.); and
- ‘mainstreaming’ adaptation into poverty reduction strategies and other relevant government policies.

As mentioned before, adaptation in developing countries is not just an issue of funding, but also of sufficient ‘absorptive capacity.’ Even if the funding were available, most developing countries would, at present, not have the capacity to spend it, to carry out all the adaptation needed.

The result would be an avoidable increase in what has euphemistically become known as ‘residual impacts,’ that is impacts that that happen despite the existing impact reduction measures (i.e. by mitigation and adaptation combined). As reported in the recent *Stern Review on the Economics of Climate Change*, the cost of these impacts could in future amount to two-orders of magnitude (*hundreds* of times) more than these adaptation funding needs estimates.⁷

2. Current international adaptation funding

- *At present, all international funding instruments except the recently operationalised Kyoto Protocol Adaptation Fund are replenished through ODA-type bilateral voluntary contributions/donations.*
- *The current level of international funding (even including the Adaptation Fund) is woefully inadequate to meet projected costs.*
- *The current bilateral donation instruments are unlikely to ever be able to generate the required levels of funding, especially as it is meant to be additional to ODA (viz. experience with the Monterrey 0.7% GNI commitment for ODA).*

As summarised in Table 2, the total of multilateral fiscal payments (i.e. non-reimbursable payments from general domestic fiscal revenue⁸) for international adaptation funding – be it through the Special Climate Change Fund (SCCF), the Least Developed Country Fund (LDCF), and the GEF Special Priority to Adaptation – until 2012 is presently estimated at around \$200m. Assuming that (most of) the money received has already been spent, this leaves an average of around \$13m per annum over the next five years.

Table 2. Multilateral Adaptation Funding: Fiscal Payments

<i>Instrument</i>	<i>Pledged</i>	<i>Received</i>
SCCF ⁽¹⁾	\$7.8m	\$49.3m
LDCF ⁽²⁾	\$57.1m	\$49.3m
SPA ⁽³⁾		\$50.0m
Total Grants	\$64.9m	\$148.6m

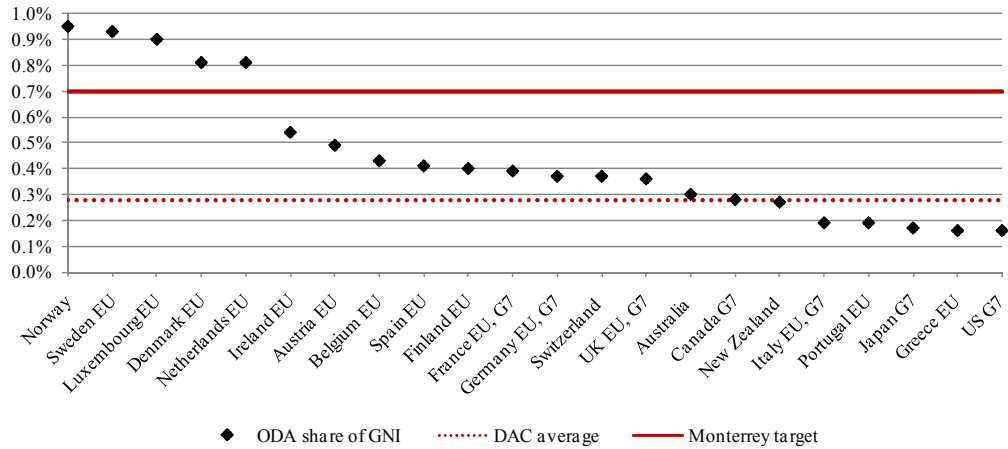
Sources: ⁽¹⁾ World Bank (2007) adaptation only, ⁽²⁾ World Bank (2007) total (incl. mitigation), ⁽³⁾ UNDP (2007),

Clearly these figures are orders of magnitude too small to cover even the most conservative estimates of the adaptation funding needs of developing countries (see above). This – and the fact that the situation is similar with respect to the expected developing country mitigation costs that would have to be met to reduce global greenhouse gas emissions to current levels by 2030 – has led to a number of proposals for a commitment by the richer countries of the world to increase their bilateral financial flows accordingly. Thus China has suggested (see Section B.2.2) that developed countries should commit to an additional 0.5% of GDP for climate change payments to developing countries – additional to the 0.7% Monterrey consensus⁹ ODA target (i.e. \$260 billion 2007)¹⁰ – which currently would amount to an additional annual contribution of around \$185 billion, albeit not all for adaptation.

While it would be a giant step forward in North-South relations if any such legally binding bilateral funding targets could be agreed, and while it is arguably¹¹ the only situation in which developing countries might consider to take on legally binding mitigation targets, current bilateral ODA flows show that it would be very difficult to deliver.

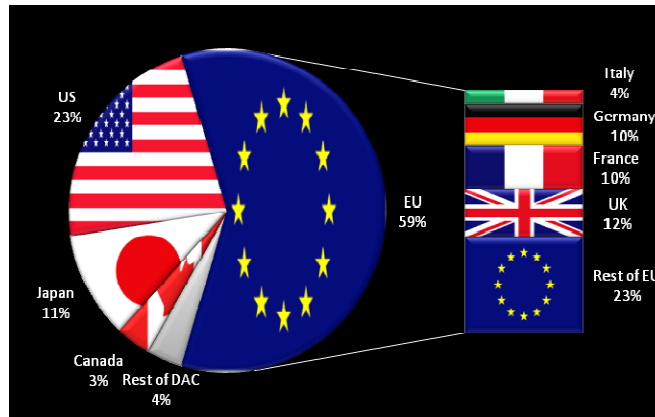
The OECD Development Assistance Committee (DAC) has been rather upbeat about the performance of its member countries with regard to the 0.7% of GNI Monterrey ODA target.¹² The fact is, however, that only small economies have reached or surpassed the 0.7% target (see Fig. 1). Any substantive increase in ODA would have to come from the G7 countries, since they amount for the lion's share of all ODA (73%, see Fig. 2). The problem is that at 0.23%, their performance was actually below the overall DAC average of 0.28%,

Figure 1: 2007 ODA as share of Gross National Income (GNI)



Source: OECD (2008)

Figure 2. G7 Grant ODA



Source: Author, based on OECD DAC online

which itself is not very encouraging, particularly in light of its falling trend over the last couple of years.

The ‘Domestic Revenue Problem.’ However it stands to reason, in light of the historic evidence, and on more general grounds that this or any other sudden significant increase in fiscal (bilateral/multilateral) funding is unlikely to materialise in any of the large DAC members due to a general psychological and political ‘domestic revenue problem’: money that is raised domestically, particularly through domestic taxation, is regarded to be nationally owned. Indeed, in the case of taxation, individual tax payers often see themselves as direct owners of the revenue raised. And the sums involved in ODA or any other tax expenditure are generally perceived in absolute terms, which can create problems, particularly if they are in competition with other (domestic) expenditures. While it may be acceptable to send one or two hospitals’ worth of tax-payers money abroad, this may no longer be the case for the equivalent of 100 hospitals.¹³ This problem is psychological because it is very much a matter of how the sums in question are perceived. It is political because the source of the revenue – particularly in the case of taxation – is also the source of political power (voters, businesses), which means that politicians may be at times less than forthcoming in showing the leadership required to overcome the problem.

Given then the less than satisfactory, not to say disappointing performance of the larger world economies (G7) with regard to achieving the Monterrey target, the question has to be: how could one raise the additional funding required to meet the developing world's adaptation needs?

B. How to raise the funding needed? The need for innovation

- *Further 'innovative' financing mechanisms in addition to the CDM adaptation levy are needed to fill the adaptation 'funding chasm'*
- *The only way to provide funding for developing country adaptation which is acceptable, in the sense of being new and additional, predictable, appropriate, equitable, and adequate is through international levies on bunker fuel activities and/or through international auctioning of assigned amount units (i.e. an adaptation levy on the proceeds of international emissions trading).*

While the drama of the negotiations of the Bali Action Plan¹⁴ ('Bali Road Map') played out during the final days and nights of the recent UN climate change conference was all about one paragraph (§1.b.ii) on developing country mitigation actions, for the present purposes the key paragraphs of the Bali Road Map are the ones referring to "improved access to *adequate, predictable* and sustainable financial resources ... and the provision of *new and additional* resources"[§1.e.i] and "*innovative means of funding* to assist developing country Parties that are particularly vulnerable to the adverse impacts of climate change in meeting the cost of adaptation"[§1.e.iii].

The developing country demand for 'new and additional' funds from developed countries, as well as for their 'adequacy' and 'predictability' is by no means new. It has been articulated again and again, not least in Article 4.3 of the UNFCCC.¹⁵ And, as has again been highlighted in the largely critical reactions¹⁶ to the recent World Bank proposal for a Pilot Adaptation Fund (now "Pilot Programme on Climate Resilience"), the funding of developing country adaptation in the form of loans – no matter how concessional – is generally rejected as *not appropriate* not only by developing countries:¹⁷ Given the patterns of differentiated (historic) responsibilities, the costs for developing country adaptation are seen as debts to be borne by the still largely responsible industrialised world, and debts cannot be repaid by loans, or even by 'grants' – if that notion is interpreted in terms of the provider of the funds doing the recipient a favour. Moreover, given this pattern of differentiated responsibilities, there are also very strongly held views on the importance of an *equitable* distribution of the burden of such funding.

Due to the stepped-up pace of the current UN climate change negotiations, there are host of new initiatives with regard to international adaptation finance, albeit not all of them completely satisfactory with respect these demands. The remainder of this Section will briefly introduce these proposals (Sections B.1-9) and then turn to evaluate them (Section B.10) with respect to these demands.

I. Conventional Funding

Foreign public sector investments/payments – whether bilateral or multilateral – have traditionally been in the form subscribed to by ODA, namely grants or (concessional) loans financed through the general budget of the donor country – i.e. based on revenue from conventional instruments such as income tax, cooperation tax, customs and excise duties, etc.

For the present purposes, this is referred to as ‘conventional funding,’ as opposed to funding which is raised through new, in particular, carbon-based instruments such as the auctioning of emission permits in the context of an emission trading scheme, which, as such, is genuinely additional to the conventional revenue and accordingly referred to as being ‘unconventional’.

Another key characteristic of these traditional payments – apart from their fiscal origin – is their fundamentally *discretionary* nature. Even though their overall level may be fixed and enshrined in the domestic law of the donor country, it is inevitably up to the ‘donor’ to decide who should get it. In short, developing countries are not taken to have a ‘right’ or ‘entitlement’ to such donations. This is something which does not fit easily with how funding for adaptation is perceived.

1.1. World Bank Pilot Programme for Climate Resilience (PPCR)

As mentioned, the launch of the World Bank ‘Pilot Programme for Climate Resilience’ (PPCR)¹⁸ has been – and, at the time of writing, continues to be – fraught with controversy. While initially the focus of contention was (i) on the appropriateness of establishing an ‘Adaptation Pilot Fund’ – as it was initially known – widely interpreted as a move to compete with the Kyoto Protocol Adaptation Fund which had only just been operationalised a couple of months before, and (ii) on its retrograde governance structure,¹⁹ is now mainly about the fact that most of the funding to be made available under the PPCR is to be in the form of loans, moreover, loans that are to be counted as ODA.

The main reason why many developing countries and NGOs object to adaptation funding for developing countries in the form of ODA loans is that, given the prevailing pattern of historic responsibilities for climate change, developing countries see themselves forced into carrying out adaptation measures largely imposed on them by the industrialised world. Accordingly, they expect to be compensated for the associated costs, and reject the idea that compensation can be in the form of grants or loans, and as part of ODA.

At the time of writing, the PPCR was earmarked to receive £250 million from the UK mostly in the form of concessional loans. Although the exact figure of how much of this funding will be in the form of grants is still uncertain, the latest figure available was that up to £13 million would be available as grants under the Strategic Climate Fund, the ‘mother fund’ of the PPCR.²⁰ This means £50 million *per annum* of concessional loans, and just over £2 million *per annum* in grants.

1.2 The Chinese +0.5 Percent of GDP Proposal

In their submission replying to the UNFCCC Secretariat’s call for views regarding the work programme under the Bali Road Map, China states that *strategies and mechanisms for adapting to climate change shall be developed to support adoption actions in developing countries and associated financing, technology and capacity building shall be provided. ... Sufficient financing shall be provided by developed countries to address climate change. In addition to existing ODA, developed countries shall annually provide financial support of no less than 0.5% of their total GDP to support actions by developing countries to address climate change in developing countries.*²¹ As mentioned earlier, this would currently amount to \$185 billion per annum. Unfortunately, nothing more is specified with regards to how much of that money would be spent on adaptation in developing countries, but since it is unlikely that adaptation is going to have a larger share than mitigation or technology transfer, \$46 billion (25%) would seem to be reasonable upper limit for adaptation.

2. The Mexican Multilateral Climate Change Fund (MCCF) Proposal

In Bali, Mexico put forward a proposal for a Multilateral Climate Change Fund of *predictable size, with contributions from developed and some developing countries ... toward expanding global mitigation efforts.*²² However, it also envisages an adaptation levy on its disbursements (destined for the Adaptation Fund), which is why it is of relevance to the present discussion. Moreover it does have an intriguing revenue mechanism worth mentioning here and discussing in Section B.10.

The size of the expected revenue is not explicitly specified. Initially, the MCCF is to be filled with some tens of billions of dollars annually, while ultimately, it is meant to be able to meet a significant part of the additional flows of finance required by developing countries to meet the costs of reducing their emissions, estimated²³ to be in the region of \$95billion in 2030. Assuming an adaptation levy of 2 percent, this would mean annual adaptation revenue of between \$0.2 billion and \$1.9 billion (in 2030).

According to the proposal, *the amount in the MCCF must be predictable and scaleable, thereby transcending both the 'official development assistance' model and simple voluntary contributions for specific ends. This predictability will result from objective and equitable criteria negotiated multilaterally to determine national contributions as functions of indicators such as (a) greenhouse gas emissions, (b) population, (c) ability to pay.*

In other words, industrialised countries are meant to be bound by contribution commitments – the relative share of which to be determined by a Responsibility-and-Capability (R&C) indicator. While the default for the source of these (mandatory) contributions appears to be the general country budget, the proposal leaves open the possibility of also using revenues from carbon auctioning for these purposes. As concerns the nature of the envisaged funding, the Mexican proposal is thus what might be called a ‘conventional/unconventional hybrid.’

As concerns the envisaged developing country contributions, Least Developed Countries (LDCs) are, from the outset, expected to have a certain quota of the revenue at their disposal without being themselves expected to contribute.

Other (‘emerging’) developing country economies – presumably defined in terms of the R&C index – will, however, be expected to provide some contributions, against the insurance that *they would then have the right to access amounts substantially larger than their own contributions The amount exceeding the level of their contribution would represent a positive incentive to expand the scale of the committed effort.* In contrast to industrialised countries – with their binding commitments – developing countries *which, in accordance with the criteria adopted, should contribute to the MCCF but which choose not to do so would be exempted from both the obligations and the benefits of the Fund, without being subject to any kind of penalty. Creating and operating the MCCF must not be detrimental for any developing country.*

Finally, *all contributing nations, whether developed or developing, will participate in the governance structure that will be established for the MCCF, a structure that will also be open to representatives of all beneficiaries.*

3. Bi- and Multilateral Carbon Auction Levy Funding

3.1 The US International Climate Change Adaptation and National Security Fund

Title XIII (“International Partnerships to Reduce Emissions and Adapt”) of the Lieberman-Warner Climate Security Act of 2008 proposed²⁴ an “International Climate Change Adaptation and National Security Fund” (‘the Fund’) to be established in the US Treasury, with the aim of financing an International Climate Change Adaptation and National Security Program (the ‘Programme’) from 2012 till 2050.

The first purpose of the Programme is *to protect the economic and national security of the United States where such interest can be advanced by minimizing, averting, or increasing resilience to potentially destabilizing global climate change impacts*. [Section 1344 (b)(1)]

To this end, the Programme shall *support investments, capacity building activities and other assistance, to reduce vulnerability and promote community level resilience related to climate change and its impacts in the most vulnerable developing countries, ... impacts that affect economic livelihoods, result in increases in refugees and internally displaced persons, or otherwise increase social, economic, political, cultural or environmental vulnerability*. [Section 1344 (b)(5)]

In order to raise revenue for the Fund, the Administrator of the US Environmental Protection Agency (EPA) would auction a percentage of the annual emission allowances of the proposed US emission trading scheme, starting with 1% in 2012, and raising gradually to 7% in 2050. According to Waskow (2008), this would amount to about \$1 billion in 2012, increasing to around \$2 billion by 2020 and \$6 billion by 2030.

Up to 60% of the funding can go to international funds, provided they are *created pursuant to the United Nations Framework Convention on Climate Change or an agreement negotiated under the Convention* and fulfil certain additional requirements, most of which clearly satisfied by the Adaptation Fund.²⁵

3.2 EU ETS Auction Adaptation Levies

3.2.1 The domestic scheme

The auctioning of emission permits to the private sector entities covered by the EU ETS is rapidly gaining ground and is likely to play a significant role in the post-2012 phase of the scheme, with revenues expected to be in the region of €75 billion per annum in 2020.²⁶ Moreover, it is envisaged that at least 20% should be used for a number of climate change related activities, among them *to facilitate developing countries' adaptation to the impacts of climate change*²⁷ with the proviso that *particular priority should be given to addressing the needs of Least Developed Countries*.²⁸

However, the adaptation needs of developing countries are by far not the only activity that is to be funded through this hypothecated share of the auction revenues. They are competing with other areas, most of them – in keeping with the above-mentioned domestic revenue problem – concerned with ‘domestic’ issues such as contributions to the Global Energy Efficiency and Renewable Energy Fund, to the development of renewable energy (to meet certain EU targets), to carbon capture and storage, to *address social aspects in lower and middle income households*, and to adaptation to climate impacts in the EU. Moreover, the funding that *is* meant for the developing world is not just for adaptation, but also for avoided deforestation. Accordingly, the assumption that one-tenth of this hypothecated money – the

equivalent of a 2 percent levy on the total auction revenue (or €1.5 billion/\$2.4 billion in 2020) – will be spent on covering the adaptation funding needs of developing countries may be somewhat optimistic.

3.2.2 The aviation scheme

The EU has decided to include aviation in the EU ETS. And while this would have been a perfect opportunity to overcome at least some of the domestic revenue problem, at least with respect to the level of the member states, that opportunity was unfortunately not realised, since it is member states who will carry out the auctioning of airline emission allowances, and it is member states who will be determining the use to be made of the revenue generated in these auctions,²⁹ albeit again within a certain range of options, namely *to mitigate greenhouse gas emissions, to adapt to the impacts of climate change in the EU and third countries, [...] The use of auctioning proceeds should in particular fund contributions to the Global Energy Efficiency and Renewable Energy Fund, and measures to avoid deforestation and facilitate adaptation in developing countries.*³⁰

According to the recent UNFCCC Background Paper on investment and financial flows to address climate change, auctioning of international aviation and shipping allowances could raise significant revenues (\$22 billion in 2010 at \$23.6/tCO₂),³¹ which means the EU scheme should yield a not insignificant amount of revenue, but again, as far as covering the cost of adaptation in developing countries, it is still not really predictable, because the EU member states can decide to have other priorities among the options mentioned, priorities which lie closer to home.

4. The Swiss Proposal Global Carbon Adaptation Tax Proposal

During the high-level segment of COP12 in Nairobi (December 2006), the Swiss Environment Minister proposed a global carbon tax to cope with the adaptation financing gap that became more and more apparent at the time. Since then, the idea has been fleshed out through a number of projects commissioned by the Federal Office for the Environment, the latest of which (Schwank & Mauch 2008) was presented at SB28 in Bonn.

The revenue for the Swiss Proposal (the Proposal) is to be raised through a *uniform* global carbon tax of \$2/tCO₂ on all fossil fuel emissions, with a basic tax exemption of 1.5tCO₂ per inhabitant. The introduction of a *per capita* based basic tax allowance, of course, means that *de facto* there is a differentiated tax rate between countries/regions. For example, most of the Sub-Saharan African countries will have their emissions covered by their exemptions and thus have a zero tax rate. Indeed all countries will have their implied tax rate reduced below the \$2/tCO₂ nominal value. Under the chosen parameter values (tax level and exemption level), the scheme is meant to raise a global total of \$48.5 billion per annum (in 2010), 48% from developed and 52% from developing countries (see Figure 3). The collection of this tax is to be carried out by the appropriate domestic agencies.

The disbursement of the revenue is to be partly domestic through ‘National Climate Change Funds,’ and partly multilateral into a ‘Multilateral Adaptation Fund’ (MAF). According to the Proposal, the function of MAF would initially be taken on by the Kyoto Protocol Adaptation Fund (AF) until such a time as a *significant number of countries have joined the scheme*³² at which point the function is meant to be taken over by a new international institution, complementary to the AF, because the remit of the AF is (mistakenly) taken to be solely to *operate in a project mode.*³³

Interestingly, particularly in the context of the Section on “How to spend the money raised” below, the funding is to be spent on two different themes (‘Pillars’), namely³⁴

- (i) *Prevention Pillar*: Climate change impact (risk) reduction.
- (ii) *Insurance Pillar*: Climate impact response: relief, rehabilitation, recovery.

This clearly corresponds to the idea of adopting a more ‘hands-off’ strategic approach that will be advocated below, but it also needs to be emphasised that the authors’ narrow view on the remit of the AF – and thus on the necessity to introduce a new institutional set-up for their MAF – in unwarranted. After all, the main aim of the proposed World Bank Pilot Programme for Climate Resilience (PPCR)³⁵ is precisely to prepare the AF to be able to undertake the sort of ‘mainstreaming’ activities which the Proposal sees as the mainstay of Prevention Pillar.

One potential problem with the Swiss Proposal – as illustrated in Schwank and Mauch (2008) – concerns the principle of common but differentiated responsibilities. While nominally, the

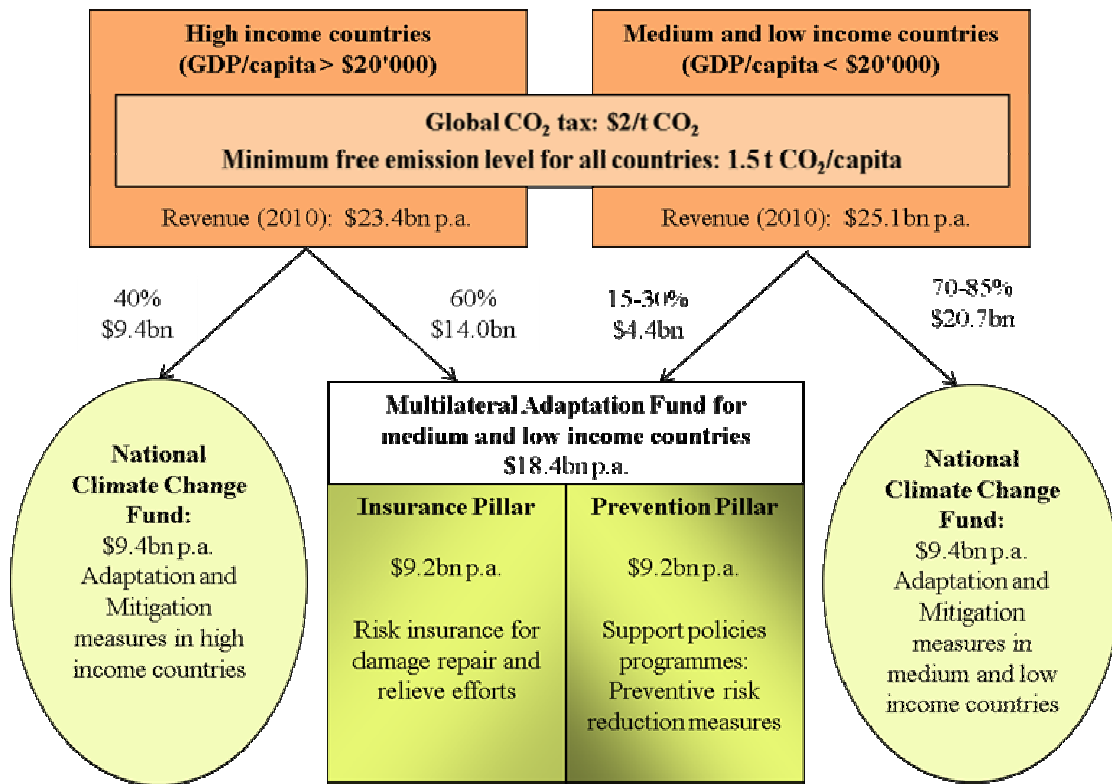


Figure 3: The Swiss Proposal

Source: Schwank (2008)

Proposal uses an undifferentiated tax rate (\$2/tCO₂), compliance with the principle of common but differentiated responsibilities is meant to be ensured through the basic tax exemption of 1.5tCO₂ per capita, together with the differentiated payments into the Multilateral Fund is meant to ensure the scheme adheres to the principle of common but differentiated responsibilities. The problem is that the fairness of the disbursement, in this context, cannot be assessed in the absence of adaptation cost figures.³⁶ The sharing of the tax-burden, in turn, is most likely going to be judged against historic responsibilities, according

to which Annex I should shoulder two-thirds (65%),³⁷ and not (less than) half the burden, as would be the case in the scenario discussed in Schwank and Mauch (2008).

Even if mitigating circumstances – such as historic ignorance of the effects of emissions – are admitted in the calculation of responsibility, it is unlikely that the absence of an explicit acknowledgment of the different economic circumstances resulting in more differentiated implied tax rates would be acceptable. The ‘basic needs’ allowance of 1.5tCO₂ *per capita* of the Proposal reflects economic levels only indirectly, insofar as low per capita GDP, in general, goes together with low per capita emissions. But not always, as the case of Brazil and South Africa, finding themselves at the upper end of the tax scale in the company of Japan and the US, clearly demonstrates (Figure 4). Having said this, it should be straightforward to address these problems by introducing additional subsistence allowances per poor inhabitant, as used in Müller *et al.* 2007, to calculate limited responsibility proportions.

A more serious problem for the Proposal may be what we referred to as that of ‘domestic revenue,’ i.e. that it may be politically impossible to convince, say, the American tax payer to send an additional \$6.9 billion –the figure quoted in Schwank and Mauch (2008) as the expected 2010 US contribution to the proposed MAF– of “*their*” tax money abroad, keeping in mind the current (2007) US ODA figure of \$22 billion.³⁸

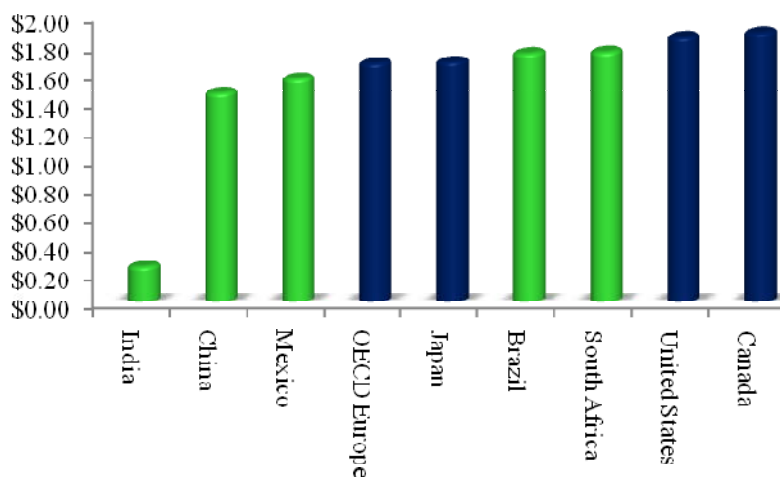


Figure 4: Implied CO₂ Tax Rates under the Swiss Proposals, \$/tCO₂

5. The EU Global Climate Financing Mechanism (GCFM)

During the 2008 Spring Meeting of the World Bank/IMF Development Committee, the European Commission announced that they – and the World Bank – were exploring *the possibility of using the capital markets by launching a bond that would constitute a Global Climate Financing Mechanism. The funds generated will be used as grants to finance ongoing initiatives aimed at helping the poorest developing countries deal with climate change.*³⁹

The GCSM is based on an idea the idea of an International Financing Facility (IFF), proposed initially in 2003 by the then UK Chancellor of the Exchequer Gordon Brown as a model to frontload aid commitments by borrowing from private capital markets. It was first applied in practice in 2005 as *International Finance Facility for Immunisation*⁴⁰ (IFFIm) to provide

resources for the *Global Alliance for Vaccination and Immunization* (GAVI) campaign to rapidly expand worldwide child vaccinations.

The IFF concept is based by two key ideas, namely (i) to ‘frontload’ funding (spending money *now* for critical investments), and (ii) using future annual commitments for repayment. IFFs are targeted at problems that are urgent and larger in scale than the domestic revenue problem would allow to finance. An IFF is a legal entity that issues bonds to the international capital markets against legally binding pledges/assurances for future repayment from (donor) countries. As such IFFs provide a platform for substantial funding commitments that remain off-budget until actually paid to the IFF.⁴¹ They are innovative insofar as they can overcome the domestic revenue problem, although traditionally, they are being used to frontload ODA, which in the climate change context would not constitute the *new and additional* resources envisaged in the Bali Road Map. However, the Commission also envisages payback guarantees other than pledges of future ODA, such as *revenues generated through the carbon market*⁴² – for instance, auction revenues – which would clearly make IFF funding ‘new and additional,’ and overcome the domestic revenue problem of EU ETS auctioning scheme discussed earlier.

As the predicted future flows of the AF may rise significantly after 2012, the GCFM could be set up as a bridging finance facility for a period of 5 years until the AF can function at a sufficient scale. Taking into account a minimum period for setting up an IFF, there are thus good arguments for a frontloading period of 2010-2014. For a disbursement of, say, €1 billion per year for five years (2010-2014), and an interest rate of 4%, the annual repayments over 20 years would amount to €380 million.⁴³ These annual repayments could come from future ODA, from carbon linked revenue or from another innovative source like the airline ticket levy.

The funding from the proposed GCFM would be primarily targeted at the countries of the EC’s Global Climate Change Alliance (GCCA), i.e. poor developing countries that are most affected and that have the least capacity to deal with climate change. As such, the GCFM would focus on providing grants for adaptation action in Least Developed Countries and Small Island Developing States, although it might also be used to finance mitigation action where this contributes to the relevant domestic poverty reduction strategies.⁴⁴

6. An Adaptation Levy on International Emissions Trading

6.1 The Template: CDM Adaptation Levy

The one key advantage of the 2 percent levy on the proceeds of the CDM that makes it truly innovative is that fact that it is collected from private sector actors by an international body, the CDM Executive Board. Its collection is completely independent from national treasuries and other domestic agencies which could make it liable to domestic revenue problems. The money that will be raised for developing country adaptation through the Kyoto Protocol Adaptation Fund depends on the evolution of the CDM, both in quantity and in price terms. According to the UNFCCC (2007b), World Bank (2006b), and UNDP (2007), the total proceeds from selling the 2% of issued CERs up to 2012 would be between \$80 to \$300 million, \$100 to 500 million, and \$160 to 950 million, respectively (depending on price and volume scenarios), while GLOBE International puts the figure at \$0.4 to \$1.5 billion.⁴⁵ According to the expectation of the CDM EB, the range would be \$1.8 billion up to \$3.4 billion (at current prices)⁴⁶.

6.2 Issues

In some ways the most ‘natural’ extension of the existing innovative financing mechanism – i.e. the 2% levy on the proceeds of the CDM – is to extend to scope of that levy to the other flexibility mechanisms of the Kyoto Protocol, i.e. Joint Implementation (JI) and International Emissions Trading (IET). It does indeed seem somewhat anomalous that the one mechanism that (i) benefits developing countries, and (ii) already has the highest transaction costs should be given the additional competitive disadvantage of a levy on proceeds. Indeed, it can and has been argued that mitigation activities such as the ones carried out under the CDM (or JI, for that matter) should really not have been discouraged by a levy in the first place. But since it exists and is unlikely to be repealed in the absence of a viable alternative, it is important to avoid additional perverse disincentives in attempts to extend it to the other mechanisms, in particular to IET.

IET is the system of trade in Assigned Amount Units (AAUs) established as one of flexible mechanisms under the Kyoto Protocol. It is based on the International Transaction Log, administered by the UNFCCC Secretariat which records and approves the transactions of AAUs reported by national registries. International trades are those which involve an exchange between national transaction logs.

The debate on extending the 2% adaptation levy to IET under the Kyoto Protocol has so far mainly been focused on where the levy should be applied. Should it be at the ‘point of value creation’ (i.e. at the point of issuance of AAUs⁴⁷) – as in the CDM – or should each subsequent individual trade be levied? Should it be an ‘issuance’ or a ‘transaction levy’?

Transaction Levies. The main objection, particularly by the EU, to a ‘market-transaction levy’ which would apply to individual transactions or trades is that it would interfere with the efficiency of the market. It would discourage market participation and possibly encourage informal trading/secondary markets. From adaptation funding point of view, a levy on domestic transactions – which are settled domestically by the national registries – would in all likelihood also face the domestic revenue problem. International trades, however, are settled by the International Transaction Log (ITL) itself, and it should hence be possible to levy a percentage of the AAUs transferred across national registries and kept in a holding account for monetization, as happens in the issuance levy on the CDM.

Issuance Levies. Unlike in the case of CERs, levying AAUs at the point of issuance does not introduce a perverse disincentive, since AAUs are permits to emit – an activity that should be discouraged – and not certificates of mitigation efforts.⁴⁸ The problem with an issuance levy is that, in general, issuance of AAUs for the purpose of trading between sub-national entities would be through national institutions as in the case of the EU ETS, leading to the sort of domestic revenue problems discussed above.

6.3 The Norwegian Proposal

However, there is one type of issuance that is genuinely international, namely the allocation of the country Assigned Amounts (AAs) themselves. And therefore it would seem that the one option of extending the (2 percent) adaptation levy to IET which would not fall foul of either objections with regards to market interference or to domestic revenue problems is the proposal in Norway’s recent submission to the UNFCCC Ad Hoc Working Group on Long-Term Cooperative Action under the Convention that *at the international level, a small portion of permits could be withheld from national quota allocation, and auctioned by the appropriate international institution. The resulting revenue could then be placed in a fund to*

be used on adaptation actions or other specified purposes such as technology development.⁴⁹ To be a truly international levy, the AAUs could be pooled in a holding account at the ITL – prior to issuance of the (appropriately reduced) Assigned Amounts to the country registries – to be monetised by the Adaptation Fund like the CERs collected through the CDM levy which are kept in a holding account of the CDM registry. Assuming the level of such an international IET issuance levy would mirror the 2 percent of the CDM adaptation levy, the annual revenue at current prices would be in the region of \$14 billion.⁵⁰

6.4 Party Submissions on Extending the Adaptation Levy to other Mechanisms

Following a call by the UNFCCC Secretariat, Parties have recently made submissions regarding the current (‘Art. 9’) review of the Kyoto Protocol in general, and the issue of “Extending the Share of Proceeds (SoP) to assist in meeting the costs of adaptation to Joint Implementation (JI) and emissions trading,” in particular. Ten of the fourteen Submissions are addressing this issue,⁵¹ equally split between Annex I and non-Annex I. As illustrated in Fig 5, all non-Annex I Party submissions were in favour of an extension, most of them giving strong support or considering it as essential to the Kyoto Protocol review.

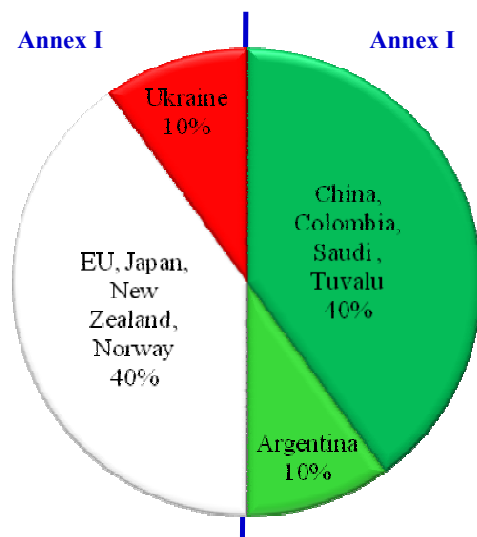


Figure 5: Submissions on Extending the Adaptation Levy to JI and IET

The only outright rejection came from the Ukraine which, focussing on the relative immaturity of JI (a concern shared by the EU⁵²), rejects an extension of the adaptation levy to that mechanism. All remaining (Annex II) submissions welcome an opportunity to discuss the issue, albeit with certain *caveats*.

New Zealand, Norway, and the EU put forward that the discussion on adaptation finance under the Kyoto Protocol in general – and on the extension of the levies in particular – need to be coordinated with the Bali Road map negotiations, and require more certainty about the adaptation cost scenarios. Opinions differ on other issues. For example, while Japan seems to contemplate a transaction based IET levy,⁵³

the EU rejects “transfer-based levies” as inefficient and adversely impacting the transparency and liquidity in the carbon market and potentially limiting its expansion.

And while Japan insists that since *JI and Emission Trading are Kyoto Mechanisms which do not involve developing countries ... a certain justification is required if the share of proceeds to assist adaptation costs in developing countries should be extended to JI and/or Emission Trading*, Saudi Arabia argues on grounds of common but differentiated responsibilities that precisely because *the current financing for adaptation through share of proceeds from CDM is mainly coming from projects in developing countries ... the financing through share of proceeds from joint implementation and emission trading is essential for the future elaboration of the Kyoto Protocol*.

In the larger perspective, it is interesting that while most of the Submissions recognise the *need for increasing the scale of funding*, as New Zealand put it, the views on the nature of such funding appear to differ. While most of the developing country submissions focus on the

additionality (over and above ODA) of such funds,⁵⁴ the feature that is stressed in the developed country submissions is that the funds must be ‘predictable’.⁵⁵

7. Burden Sharing Mechanism (Tuvalu Adaptation Blueprint)

A few months earlier, during the recent UN climate change conference in Bali/Indonesia, Tuvalu submitted “An International Blueprint on Adaptation”⁵⁶ for discussion both under the review of the implementation of the UNFCCC commitments and the Kyoto Protocol Adaptation Fund negotiations. The principal aim of the Blueprint is to *provide predictable and adequate international funding arrangements such that the most vulnerable to the impacts of climate change have the resources and know-how to adequately prepare for and to cope with these impacts and to continue to strive towards a path of sustainable development* [Art. 2.a]. For this purpose, the Blueprint proposes *inter alia*⁵⁷ a new *Burden Sharing Mechanism* under the UNFCCC, with the aim of providing innovative financing to the Least Developed Country Fund and the Special Climate Change Fund (both under the Convention and operated by the GEF).

Specifically, the Blueprint envisages that a special ‘collection authority’ be created that would be under the guidance of the UNFCCC COP and collaborate with ICAO⁵⁸ and the IMO⁵⁹ in collecting a number of levies on a levy on international aviation and maritime transport, namely:

- a) a 0.01% levy on international airfares and maritime transport freight charges operated by Annex II nationals;
- b) a 0.001% levy on international airfares and maritime transport freight charges operated by Non Annex I nationals;
- c) exemptions to (a) and (b) would apply to all flights and maritime freight to and from LDCs and SIDS (irrespective of whether the airlines or freight are owned by Annex II or Non Annex I nationals).

The proposal itself does not include any estimates of the level of revenue that might be expected from this type of levy, but based on the total (air and maritime) UNCTAD 2007 freight cost data for 2005, the expected annual revenue at these proposed levels would be \$37m from Annex I, and \$2.6m from non-Annex I,⁶⁰ indicating that the levy would clearly have to be very significantly increased to be meaningful, say by a factor of 100, in which case it would yield \$4bn annually, 40% of which earmarked for the Adaptation Fund (i.e. \$1.6bn, the figure used in Summary Table 3).

An issue that might backfire though introducing the domestic revenue problem by the back-door, however, is the attempt in the BSM proposal to introduce the sort of sovereign distinctions reflected in conditions (a), (b), and (c) above. The essential feature of all such levies on international transport is that they can be designed to deliver genuinely international revenues: moneys that cannot readily be tied down to belong to a country, or, to be more precise, to its fiscal revenue system. This indeed was one of the chief motivations behind the IATAL idea, to which we shall turn shortly. All efforts should be taken to retain this international character, in order to avoid domestic revenue problems to ruin the potential of the source for international adaptation funding.

8. International Air Travel Adaptation Levy (IATAL)

The IATAL idea was launched in 2006 as a means to raise an estimated \$4 to \$10 billion per annum of genuinely additional and innovative international funding for developing country adaptation efforts.⁶¹ As a solidarity levy, it has since been discussed at the Second and Third Plenary Meeting of the Leading Group on Solidarity Levies to Fund Development⁶² (Oslo, 6–7 February 2007, and Seoul, 3–4 September 2007). While there was strong support from the Norwegian Presidency at the first meeting, the proposal was seen by many countries as a threat to the purpose of the Leading Group levy, namely to fund development, and, in particular, action ‘against poverty and hunger.’ The main obstacle was that, despite the continuing support by the Norwegian government, most of the key delegations of the Group – wishing to keep the purpose of the Levy to remain developmental – unfortunately still see ‘adaptation to climate change’ as a purely environmental problem, and not as a developmental one.

However, as the Leading Group prepares itself to expand the scope of its solidarity levy to the sphere of finance – including a Currency Transaction Development Levy (CTDL)⁶³ – the idea might sink in that (i) adaptation to the impacts of climate change *is* a development issue, and (ii) the solidarity of levies on polluting activities – such as air travel – should in a first instance be with those who are being polluted, i.e. those most vulnerable to climate change.

Apart from being genuinely innovative, in the sense of being new and additional to ODA, as well as international, predictable, and grant-based, IATAL has the one further interesting equity feature, namely that it levies funds from polluting individuals who are better off to help the less well-off victims of their pollution purely on grounds of individual capability. It is a truly international solidarity levy.

A recent report by the GLOBE International Adaptation Working Group, recognising the argument *that a levy on aviation will have a double positive effect. Firstly, for demand-elastic short-haul flights, demand for aviation will be reduced, resulting in fewer flights and fewer greenhouse gas emissions. Secondly, for demand-inelastic air travel (long-haul business flights), significant funds will be raised* – recommends that *the IATAL proposal be given serious consideration by legislators from the G8 and +5 as a meaningful way for the aviation (and potentially maritime) sector to contribute to combating climate change.*⁶⁴

9. International Maritime Emission Reduction Scheme (IMERS)

The IMERS idea was launched in early 2006 as a scheme based on the idea of establishing a ‘maritime greenhouse gas fund’ directly under the auspices of the International Maritime Organisation (IMO) with revenue from an upstream fuel levy, and a key aim of spending an estimated \$2 billion of the annual revenue for adaptation in developing countries.⁶⁵ The idea was taken up in discussions at the IMO and UNFCCC *fora*.

The 57th session of the Marine Environment Protection Committee of the IMO in Denmark, for example, proposed *a global bunker levy as a way forward to achieve Green House Gas Emission reductions throughout the maritime industry.*⁶⁶ However, while funding for adaptation is still one of the objectives, the revenue, according to the Danish proposal, should *primarily be applied for the ... purchase of CO₂ credits.* The Danish proposal also envisages a national collection of the levy, *to be channelled to an independent international maritime greenhouse gas (GHG) emission fund, managed by parties/organizations yet to be determined.*

Under the original IMERS proposal, however, the levy is meant to be collected through a supra-national approach modelled on the existing International Oil Pollution Compensation Funds which are envisaged to provide some of their collection instruments. The levy is driven by the sectoral long-term emission reduction goal and carbon price. In 2012 it is estimated to be \$30 per ton of maritime fuel (equivalent to 5% of current fuel price of \$600/ton) generating in the region of \$ 4 billion for adaptation in developing countries, 30% of which is reserved for LDCs. The contribution to adaptation to climate change in developing countries is estimated to reach \$15 billion in 2020 assuming (for CO₂ price of \$60/tCO₂).⁶⁷

10. Evaluation of Proposed Revenue Instruments

As mentioned in the introduction to this section, the key to the acceptability of international adaptation funding is whether it is

- ***new and additional***: in particular, over and above ODA;
- ***predictable***: in particular, not subject to the ‘domestic revenue problem’;
- ***appropriate***: in particular, neither (voluntary) grants, nor (reimbursable) loans;
- ***equitable***: in particular, reflecting the principle of common but differentiated responsibility and respective capabilities (UNFCCC, Art. 3.1)
- ***adequate***: in the tens of \$/€ billions.

In discussing which, if any, of these proposals satisfy these criteria, it is useful to introduce a few distinctions relating to what earlier has been called the ‘domestic revenue problem’, i.e. the problem of ‘exporting’ funds that have been raised in a domestic context that allows them to be identified as ‘*national*’ money. The archetypal use of such national funds in the present context is Official Development Assistance (ODA), be it ‘bilateral’, or ‘multilateral’ (such as GEF Trust Fund replenishments). Money which, by contrast, is raised through an international organisation/body in a manner which does not allow them to be easily, if at all, identified as belonging to a particular country/treasury, is here referred to as ‘*international*.’ The only money which, at present, is international in this sense is the revenue to be realised through the monetisation of the two-percent levy on the proceeds of the CDM, collected by the CDM Executive Board on behalf of the Kyoto Protocol Adaptation Fund.

10.1 New and Additional

International funds are, by definition, additional, and given that none of them touches the source of the only existing international mechanism (i.e. CERs), they all constitute ‘new funding.’ Bilateral and multilateral schemes, by contrast, are not so straight forward. The ‘additionality’ of payments drawn from conventional fiscal revenue, in particular, is notoriously difficult to be ascertained, and clearly it is not a new source. That does not mean that national money will always fail to be new and additional: carbon based revenue clearly will be additional (to conventional funding), and it is likely to be ‘new,’ at least for some time being.

10.2 Predictable

The main obstacle to any scheme which is national – in the above-mentioned sense – is that it is seen by the domestic tax-payers/voters to be ‘their money,’ and for which domestic spending will have priority (the ‘domestic revenue problem’)

Of course, the domestic revenue problem is not necessarily fatal for multilateral finance proposals. For one, it is likely to be less relevant for unconventional funding – such as the

national levies proposed on EU ETS auction revenues – than for conventional funding taken from traditional fiscal revenue. Moreover, proposals such as that by Mexico, with its initial \$10 billion scale, could well be below the domestic revenue pain threshold. China’s proposal of an additional 0.5 percent of GDP, by contrast, would clearly not be below that threshold, whether funded through fiscal commitments (general domestic taxation), or commitments with regard to unconventional (carbon-based) funding.⁶⁸ The point is that, even though carbon-based funding may be less susceptible to the domestic revenue problem, at the level suggested by the Chinese proposal, people are likely to remember the ‘national’ origin of the funds and insist that they stay in the country and be channelled into the general domestic budget.

The effect is that international transfers of national funds – whether conventional or unconventional, bilateral or multilateral – are unlikely to be really predictable. Indeed, chances are that if governments were to take on some form of targets concerning regular/predictable transfers abroad, they would sooner or later be forced to withdraw from the agreement by their electorates. Given this risk, countries will simply not sign up to such commitments in the first place.

The domestic revenue problem, in other words, is the key to why governments resist at all cost to enter into binding regular foreign funding commitments of any type and any scale. The problem with proposals such as those by China and Mexico is therefore not even primarily that they would not be predictable, but that they are simply not viable propositions, that they ‘will not fly’.

International funds are therefore the only genuine predictable source of funding for adaptation in developing countries, and it is important not to compromise their international character by distinctions which could be regarded as providing the means for a national identification, such as may be the danger with the differentiation of the levy proposed by Tuvalu.

10.3 Appropriate

‘Appropriateness,’ as used here, refers to the form in which the money in question changes hands. There are a number of different formats that could be used, such as that of a loan, a grant, or a simple straightforward payment. As mentioned earlier, many developing countries see adaptation costs as being imposed on them by the industrialised world, and as such (largely) a responsibility of developed countries. This, of course, means that payments in the form of loans and even grants are not seen to be appropriate. Debts are not settled in that manner.

This thinking may strike one as not sufficiently pragmatic, or even as ‘outdated’ as UK Ministers recently put it in an editorial letter.⁶⁹ After all, are not highly concessional loans, with practically no interest as well as almost infinite repayment schedules for all practical intents and purposes the same as grants? Well, if that were indeed the case, then why are these loans not simply given as grants? Clearly there is a significant difference given the reluctance of having the UK contributions to the World Bank Pilot Programme for Climate Resilience transformed from loans into grants, given the considerable pressure from the NGO sector. As it happens, none of the other financing proposals discussed above involve loans, or (ODA) grants.

10.4 Equitable

Raising revenues will impose burdens, which – to be acceptable – need to be shared equitably. In the context of climate change, the key burden sharing principle is that of ‘common but differentiated responsibilities and respective capabilities’ enshrined in Article 3.1 of the UNFCCC.

National Funding

As concerns the sharing of national burdens, a recent study⁷⁰ has estimated the current share of historic responsibilities for climate change of developed countries to be twice that of developing countries, while the capability of developed countries – as reflected in per capita GDP – is five times that of the developing world. If, following Aristotle, one assumes that burdens are equitable (‘just’) if they are proportional, in this case to (historic) responsibility and capability, then the industrialised world must shoulder the lion’s share of any climate change burden, namely anywhere between 65% and 85%,⁷¹ depending on how much weight is given to responsibility and capability, respectively.

Ultimately, the one burden sharing problem that does count in the present context is that of sharing the *costs* of adaptation, the fairness of which is obviously difficult to assess in the absence of more precise ideas on how much the adaptation that is and will be needed will actually cost. In the absence of these figures, the burden that is likely to be scrutinised is that of raising the revenue in question. All of the national schemes discussed above – apart from those from within the Environmental Integrity Group (EIG) members (i.e. the Swiss and the Mexican proposal) – envisage funding to come only from developed countries, which means they are clearly not unfair to developing countries, as far as the revenue burden is concerned. However, they can, and in most cases would nonetheless lead to an unfair distribution of the incurred adaptation *costs*, simply because they are very likely to be inadequate to cover the costs for developing country adaptation over and above what these countries can in fairness be expected to cover themselves.

The two proposals that do envisage contributions by developing countries are interesting in different respects. Switzerland envisages a uniform carbon tax of \$2/tCO₂ for all countries, with a per capita tax allowance of 1.5tCO₂, which does imply a *de facto* differentiated tax rate (Figure 4). All the same, the developing world would still be envisaged to contribute 52% of the revenue to this tax, which would be difficult to defend as being fair in the context of the above mentioned responsibility/capability shares. It has been argued⁷² that this is not the correct way in judging the fairness of the proposal; that one really should consider only the proportion of the tax revenue which would be destined for international transfers – through the proposed Multilateral Adaptation Fund – in which case the developing country share would drop to 23% (Figure 3). Yet, while it has to be emphasised that the ultimate fairness of such adaptation finance proposals can only be judged in the context of whether they deliver a fair distribution of adaptation costs, it would be unwise for developing countries to disregard domestic funding in this way, for otherwise they might well be expected to pay considerably more than their fair share.⁷³ If, however, their share in tax contribution is the same (or less) than the share they can in fairness be expected to pay, then this is unlikely to arise, which is why the Swiss proposal would have to be modified, say by increasing the personal tax allowance.

Turning to the Mexican proposal, the issues are slightly different, as no developing country is actually meant to be committed to contribute. The problem is really with the incentive structure which is meant to get certain developing countries ‘with emerging economies’⁷⁴ to

take on such commitments ‘voluntarily’, as it were, namely that they would be excluded from the benefits if they don’t. According to the proposal, *this novel approach would make it possible to increase participation and empowerment of non-Annex I countries within the climate regime, without compromising the fundamental principle of shared but differentiated responsibilities while taking each country’s capacity into account.*⁷⁵

However, given that the sharing of climate related burdens – mitigation or adaptation – is indeed determined by responsibilities and capabilities, one’s entitlement to receiving funds for these activities should not be dependent on whether one is willing or not to pay into some fund. Indeed, the proposal by Mexico, in this respect, is quite similar to what has become known as the ‘Russian Proposal’ under which developing countries were meant to have been incentivised to take on ‘voluntary commitments’ by giving them special access to technology transfer and adaptation funding. And it stands to reason that it will therefore be equally ill-fated. Moreover, it is doubtful whether empowerment of developing countries within the climate regime should be tied to their being willing to pay something, whether it is for a fund or anything else.

International Funding

International funding can have similar characteristics as the national variety. For example, the reason why the Norwegian proposal (section 6.3) is unlikely to give rise to accusations of unfairness from the developing world is that it is based on contributions only from Parties that will take on binding emission caps in the next commitment period, which is unlikely to be anyone from the developing world, particularly as represented by the G77+China..

However, international funding can also introduce a significantly different perspective concerning equity, or, to be more precise, concerning the type of responsibility/capability involved. The sharing of the burden of national funding is generally judged in terms of country responsibilities and capacities. In international funding, this can – and some (including the author) might argue *should* – change. The level of responsibility/capability addressed in judging the fairness of international funding should correspond to the agents who are being asked to pay. In the case of the proposed IATAL, the individuals who would be asked to pay would be individual passengers, and the fairness of the levy should hence be determined with regards to personal responsibilities for climate change and individual capability to pay. In other words, the levy should primarily be paid by people who have a large carbon footprint and who can afford to pay. Both conditions seem to apply to air passengers quite generally: subsistence farmers from rural India are generally not found on airplanes, and people who do fly will generally have a significant carbon footprint.⁷⁶

In other words, the fairness of funding scheme such as the ones we are considering here, when judged in terms of sharing the revenue burden, depends on the responsibilities/capabilities of who pays – countries, firms, individuals – and it is important to be mindful of these distinctions, if one wishes to avoid losing income because of equity grievances by those who are asked to pay.

10.5 Adequate

‘Adequacy’, in the present context is meant to refer to being sufficient to cover the relevant costs. If we define adequacy, for these purposes, as \$10 billion or more, then we have four proposals, as listed in Table 3, which are adequate, namely the Chinese +0.5% GDP proposal, the Swiss Carbon Tax, the IATAL, IMERS and the Norwegian proposal to for an international auction of assigned amount units. However, the Chinese and the Swiss proposal

Table 3. Finance for developing country adaptation: Examples of proposed multilateral and international funding instruments

<i>Multilateral</i>	
<i>Conventional</i>	<i>Projected (per annum)</i>
World Bank: Pilot Programme for Climate Resilience (loan/grant)	\$0.1bn/\$0.002bn
China (0.5% GDP fiscal commitment, 25%)	\$46bn
<i>Unconventional (carbon-based)</i>	<i>Projected (per annum)</i>
US International Climate Change Adaptation and National Security Fund (1% in 2012 / 4% in 2030)	\$1bn/\$6bn
EC: EU ETS auctioning (2%-levy)	\$2.4bn
Switzerland: Global Carbon Tax(\$2/tCO ₂)	\$14bn
<i>Hybrids</i>	
<i>Conventional/Unconventional Hybrid</i>	
Mexico: Multinational Climate Change Fund MCCF (fiscal commitment or auctioning, 2% levy on disbursements)	\$0.2bn to \$1.92bn
<i>Multilateral/International Hybrid</i>	<i>Projected (per annum)</i>
EC: Global Climate Finance Mechanism	\$1.5bn
<i>International</i>	
	<i>Projected (per annum)</i>
CMP: CDM Levy (Kyoto Protocol, 2%-levy)	\$20 – \$100m, \$32 – \$190m, \$80 – \$300m, \$360 – \$680m
Norway: IET-AA Levy (2%-levy)	\$14bn
International Air Travel Adaptation Levy (IATAL, flat fee or %-levy)	\$4bn – \$10bn
International Maritime Emissions Reduction Scheme (IMERS)	\$4bn – \$15bn
Tuvalu: Burden Sharing Mechanism (international airfares and maritime transport levy)	\$1.6bn

Sources: mentioned in text.

are unlikely to be viable, primarily because of their reliance on national funding. This leaves the Norwegian proposal and IATAL/IMERS (or something like it, based on international travel/transport).

10.6 Conclusions and Recommendation

To be acceptable, adaptation funding for developing countries must be (i) *new and additional*, (ii) *predictable*, (iii) *appropriate*, (iv) *equitable*, and (v) *adequate*.

National funding schemes – that is schemes based on revenue generated and collected nationally – are unlikely to be acceptable in this sense, primarily because of a lack of predictability due to the domestic revenue problem (see Section A.2).

All of the international schemes discussed in this Section satisfy all of the mentioned acceptability *desiderata* except adequacy. Indeed, relative to the funding demand levels mentioned in Section A.1, none of the discussed international funding proposals would yield adequate adaptation funding on its own (see Table 3). The most promising candidates with

regard to generating significant levels of (international) revenue are the Norwegian proposal of an international auction of assigned amount units, and some form of solidarity levy on bunker fuel activities, such as IATAL/IMERS, possibly under the Tuvalu Burden Sharing Mechanism (Section B.7).

Apart from having the potential to deliver adequate, new and additional, appropriate, and predictable funding for adaptation in developing countries, a combination of the Norwegian proposal and (something akin to) IATAL would have the additional benefit of addressing a fundamental equity problem, in that it would reflect the principle of common but differentiated responsibility and respective capability not only at the national, but also at the personal level.

Having said this, it is important to keep in mind that ‘equity’ is not only a distributional (‘burden sharing’) concern. It is equally a matter of fairness in procedures, which will be addressed in Section D on the proper management of adaptation funding.

C. How to spend the money raised: The need for strategic spending

- *Internationally, funds for adaptation need to be allocated on a strategic basis and not involve international micro-management at the project level.*
- *The strategic allocation of international adaptation funds should not attempt to re-invent the wheel. It should use the existing international bodies and initiatives to allocate funding streams, and not try to duplicate them under a climate change banner.*
- *Domestically, there is a need to enhance ‘absorptive capacity’ not only at the project level, but more importantly – following the Paris Declaration – at the level of domestic policy (‘mainstreaming adaptation’).*

One thing that is abundantly clear about the distribution of adaptation funding which is ‘adequate,’ – i.e. which covers the estimated funding needs of developing countries – through international agencies: it has to change! At present, the international mode of spending adaptation funding – be it through the GEF or the Adaptation Fund (AF) – is predominantly meant to be through “concrete adaptation projects”⁷⁷, to use the formulation in the remit of the AF. But given that the funds to be channelled through are meant to be in the tens of billions of dollars, clearly this sort of micro-management would be beyond the capability of small bodies such as the Adaptation Fund Boards.⁷⁸ The proposal for a Pilot Programme for Climate Resilience (PPCR) by the World Bank, for example, acknowledges that *there is an urgent need to go beyond assessments of vulnerability and small scale projects and to gain more experience in integrating climate resilience routinely into development plans and activities. ... The proposed PPCR has been designed to explore adaptation actions at a scale not yet feasible under any of the existing funds.*⁷⁹

Yet, in the longer term, even this sort of domestic mainstreaming activities may prove to be too hands-on a format for disbursing *international* adaptation funding. After all, there are many different types of international activities – including technology transfer, disaster preparedness assistance, risk insurance – which clearly cover aspects of adaptation assistance, which are not covered (at least not at the scale required) by the present project-based disbursement vehicles, or by domestic mainstreaming.

At the same time, it is equally clear that it would not be desirable to create new institutions or programmes for the purpose of addressing these issues (at scale), if there are existing international instruments which could perfectly well carry out the required activities, even if they are not dedicated solely to climate change adaptation. To have a dedicated new international agency dealing with reducing climate change induced natural disasters alone would clearly not make sense given that there already is a UN agency that deals with disaster reduction – the International Strategy for Disaster Reduction (ISDR) in Geneva.⁸⁰ The same is the case for many other adaptation activities. For example, climate change impact risks could be addressed through insurance-related instruments – these might be strictly climate related, or more general, such as the proposed European Commission/World Bank *Global Index Insurance Framework*.⁸¹ Economic shocks due to whether related disasters could be dealt with through the Exogenous Shock Facility of the IMF,⁸² and the funding of relief efforts connected with climate/weather related disasters is probably best dealt with through the Central Emergency Response Fund (CERF),⁸³ administered by the UN Office for the Coordination of Humanitarian Affairs (OCHA).⁸⁴

In short, while there is a strong case to centralise the collection of (innovative) international adaptation funding through a single international agency – say the Adaptation Fund – it makes no sense to have this agency micro-manage the disbursement of these funds, be it

through specially created sub-agencies, or, worse still, on its own. The remit of such an “international adaptation revenue agency” must be that of an international adaptation treasury, namely to make sure that there are sufficient funds available, and to disburse the collected funds as core funding to other agencies to undertake adaptation activities in their field of expertise.

D. How to manage innovative international financing

- *The governance of the recently operationalised Kyoto Protocol Adaptation Fund represents a milestone in the evolution of international funding mechanisms, as for the first time developing countries have taken genuine ownership of such an instrument.*
- *In the case of adaptation funding, developing country ownership and public transparency of decision making is not only desirable but a pre-requisite for success, particularly in the context of mainstreaming activities.*

The fact that adaptation to climate change is becoming more and more urgent, and that a project by project approach will not be sufficient to tackle the problem, is becoming widely recognised. After all, it was the realisation that climate change needs to be incorporated at all levels of decision making which led the IBRD (World Bank) and a number of donor countries to propose the idea of what has is now called the ‘Pilot Programme for Climate Resilience’ to be housed under a ‘Strategic Climate Fund.’ Although the design of these instruments is still ongoing – they are meant to be formally launched at the forthcoming G8 meeting in Japan – the debate that has already led to significant changes in the design of these instruments is instructive, if only as illustration of what should be avoided in attempts to set up financial instruments for the purpose of funding climate change activities, in general, and adaptation, in particular.

Climate change funding for developing countries is fundamentally different from other types of development related funding. In light of the significant differences in historic responsibility for climate change,⁸⁵ most developing countries see costs for mitigation, adaptation and impact response not as their costs, but as debts by the industrialised for having largely created the problem in the first place. Consequently, they have begun to reject the donor dominated governance structures of traditional multilateral funding – in the climate change context paradigmatically represented by the governance of the GEF – and have instead opted for an architecture which they see as more appropriate for the purpose of this sort of ‘debt collection.’ The credit agency philosophy of “those-who-pay-have-the-say” simply does not apply to debt collection, where the recipients are the ones who see themselves as legitimately calling the shots.

This trend manifested itself initially in the negotiations of the Kyoto Protocol Adaptation Fund, which led to a governance structure not only with a majority of developing country representatives but also with decision-making based on a one-member-one-vote rule. Although the detailed modalities of how the AF will be managed have at the time of writing not yet been finalised, there are signs that the Board of the AF will conduct its meetings with the same openness and transparency as that of the other UNFCCC bodies, such as the Executive Board of the Clean Development Mechanism, which is open to all UNFCCC accredited observers and has its meetings webcast. The AF, as it emerged, has managed to harness widespread ownership among developing countries, who see it as genuinely their fund.

This is why the original World Bank proposal for an ‘Adaptation Pilot Fund,’ when made public, generated a considerable amount of controversy – not only because it was seen as a competitor to the AF, but also because the proposed donor-only governance.⁸⁶ This has led to a number of significant changes in the design of this instrument – now called the ‘Pilot Programme on Climate Resilience’ – not least of which the introduction of a 2012 sunset clause to avoid competing with the Adaptation Fund, and North-South parity on the Programme’s governing body, the PPCR Sub Committee. While there is still room for improvement in the governance of the super-ordinate SCF Trust Fund Committee,⁸⁷ the fact that – in stark contrast to the initial consultative documents – the latest draft designs for these instruments are not only publically available on the internet, but can be commented on online, constitutes a major breakthrough for the openness and transparency of the process which can only be welcomed and must be encouraged!

In sum, to be not only politically acceptable but effective, the governance of international financial instruments for climate change must genuinely be democratic, indeed give the recipients the dominant voice in the decision-making. And the procedures must not only be transparent but public. The former is essential for the political acceptability, while the latter is a *sine qua non*, particularly if the funding is used for activities such as ‘mainstreaming’ of adaptation into development policies, since that will ultimately require the buy-in not just of governments, but of stakeholders at all levels of domestic decision making.

E. Annex: The UNFCCC Workshop on Investment and Financial Flows to Address Climate Change (5 June 2008), by Martin Khor

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Selected Workshop Presentations⁸⁹

Developing countries have put forward concrete proposals for establishing a new financial mechanism and “architecture” under the UN Framework Convention on Climate Change (UNFCCC) to take charge of the transfer of financial resources to assist the developing countries to address the climate change challenge.

Many countries, including Bangladesh (for the LDCs), China, India, Barbados (for small island developing states), Argentina, the Philippines, Malaysia and Saudi Arabia, called for a new financial mechanism and new funds relating to various areas (adaptation, technology, mitigation, etc), which would be under the authority and guidance of the UNFCCC’s Conference of Parties (COP)..

It was the first time in recent years that so many developing countries and their groupings had put forward such concrete and systemic proposals on the Convention’s financial mechanism, said a long-time participant of the UNFCCC process.

Several of the countries referred to the large amounts of funds which are being planned for organisations outside the UNFCCC, particularly the World Bank, and said that these funds should instead be placed under the Convention, which is the body in charge of climate change negotiations and the implementation of the outcomes.

China notably stated that funds provided to organizations outside the Convention would not be counted as being in fulfilment of the developed countries’ commitments under the UNFCCC to provide financial resources to developing countries to help them take action on climate issues. India concurred with this view.

The Philippines said climate-related funds should be placed in the Convention and not other institutions, and if we are not serious (in making outside funds comply with the Convention’s principles and priorities) it did not see what future there would be for the Bali Action Plan.

The proposals of developing countries were made on 5 June at a workshop on investment and financial flows, which is an official part of the meeting of the ad hoc working group on long-term cooperative action (AWG-LCA) under the Convention. The group is tasked with implementing the Bali Action Plan and coming up with a decision by the end of 2009.

Besides the members of the G77 and China, other countries providing proposals included Mexico, South Korea and Switzerland, while Japan, the EU and US also spoke.

G77 and China

The first workshop presentation was by Bernarditas Müller of the Philippines, on behalf of the G77 and China. She said the G77 and China had identified basic principles under which they would like to work in the context of enhancing financial resources (a major element of the Bali Action Plan).

Müller (who is coordinator of the G77 and China in the AWG-LCA) said that at the first AWG-LCA meeting in Bangkok, members of the group had spoken about establishing various funds, such as an adaptation fund, a technology fund and a risk insurance fund. The G77 and China believed that this enhanced action should be guided by the following principles:

- Operate under the authority and guidance of and by fully accountable to the Conference of Parties of the UNFCCC.
- Have an equitable and balanced representation of all Parties within a transparent system of governance.
- Enable direct access to funding by the recipients.
- Ensure recipient countries' involvement during the definition, identification and implication of the actions.
- Müller said Group is developing a proposal based on the above principles, which take into account various provisions of the Convention, including Articles 4.3, 4.4., 4.7, 4.9 and in accordance with article 11.

Least Developed Country (LDC) Group

Bangladesh on behalf of the LDCs, said the investments of today determine the extent of climate change tomorrow. It put forward “principles and an architecture of a future funding mechanism.” These included: (1) Adequacy of funds, to meet the needs of adaptation, mitigation, and technology transfer; (2) The equity principle; (3) Likely sources of funding should be from developed countries in implementing their commitment under Article 4.3, and other possible sources include a levy on airline travel, an international fuel levy, an extension of the Adaptation Fund’s levy to other mechanisms, venture capital and the carbon market.

Alliance of Small Island States (AOSIS)

Barbados, on behalf of the small island developing states (**SIDS**), represented by Selwin Hart, said the funds for adaptation were inadequate. Any resources must be additional to traditional ODA. Referring to financing that is market-based, it said that markets don’t work well in small economies. Financing for mitigation is more readily available and easier to access than for adaptation (for example the private sector is not interested to build a seawall or restore coral reefs).

Barbados put forward a shared vision on adaptation financing in the UNFCCC: (1) New and additional funds above the current commitments on ODA and 0.7% target; (2) Predictability: and stability in funding, which should be sourced from assessed contributions from

developed countries and levies of carbon markets; (3) The funds should be in the form of grants rather than loans (as SIDS have to adapt to climate problems caused by emissions and lifestyles of other countries). This should also be consistent with the polluter pays principle; (4) Priority access should be given to the most vulnerable countries; (5) The governance should be under the UNFCCC.

The SIDS also advanced these specific proposals: (1) Establish a Convention adaptation fund. The aim is to implement Convention articles including 4.3 and 4.4, in line with the polluter pays principle. Access to recipients should be direct. Governance should be under the authority of the COP; (2) Establish an insurance mechanism; (3) Set up a Technology Fund; (4) We also support a Mitigation Fund.

The SIDS also stated that there are many bilateral and other instruments, but they are not under UNFCCC. These should be channelled through Convention process.

China

China made a formal presentation, putting forward a proposal on the elements and structure of multilateral funds operating under the Convention.

Represented by Ms. Huang Wenhong of the Finance Ministry, China said the Convention and the Bali Action plan require developed countries to commit to give financial resources that are new and include grants. Existing funding is very limited, with \$3.3 billion by the GEF in 1991-2010, \$90 million in the Convention's special climate change fund, \$180 million in the Convention's LDC fund including new pledges and an estimated \$37 million in the Kyoto Protocol Adaptation Fund.

These compare with the estimates of finance needs, including \$65 billion in 2030 for mitigation estimated by the UNFCCC secretariat, and an Oxfam estimate of \$50 billion per year for adaptation. There is a huge gap between needs and available resources, said China.

China added that scaling up of funding is needed. If it remains at the same level, it will not meet the future requirements for adaptation and mitigation.

China then proposed the establishment of a set of new funds under the UNFCCC. The new financing would have the following elements: (1) The source of funding is the implementation of developed countries' commitments under UNFCCC; (2) The scale of funding should be a certain percentage of the GDP of developed countries, for example 0.5% of GDP, in addition to existing ODA; (3) The funds would be used to enhance mitigation, adaptation, R&D in technology, and technology transfer; (4) Any funding pledged outside the UNFCCC shall not be regarded as being in fulfilment of commitments by developed countries under article 4.3 of the Convention.

China also proposed the following coordinated funding arrangements: (1) In the design, there would be the establishment of a number of specialized funds, including an Adaptation Fund and a Multilateral Technology Acquisition Fund; (2) On Governance, (a) The Fund would be established under the authority and guidance of and fully accountable to the COP, (b) There

would be equitable and balanced representation of all parties in the governance, (c) There would be easy access and low management costs.

Japan asked China to explain its statement that any funds outside the UNFCCC cannot be counted as part of developed countries' implementation of their Article 4.3 commitment. Would this mean China wants to make UNFCCC an aid agency?

China responded that the UNFCCC is not an aid agency, but it is the most appropriate forum to discuss climate change. The developed countries have an obligation to developing countries in the Convention. If Japan wants to pledge its money outside the Convention, that should not be counted as fulfilling part of its commitment under the UNFCCC.”

India

India, represented by Mr.Surya Sethi, presented a comprehensive analysis of the status of climate financing, which he showed fell far short of financing needs, such as the Stern estimate of 1% of world GDP which in 2007 translates to \$540 billion.

He said the World Bank group is not in a position to handle the funds required. Any funding structure of the international financial institutions will remain outside of the UNFCCC. The funding mandate of the IFIs is economic development and the capacity of these should not divert to climate change. The IBRD disbursement in 2007 is minus \$6.2 billion, which means they receive more than they disburse. No wonder the World Bank wants to expand to climate change, he said.

India said that alternative means for predictable resource flows is needed. We need a new global fund, capitalised by developed countries at a level of 0.3% to 1% of GDP, said India.

India proposed the establishment of a new financial architecture in the UNFCCC. It should have the following elements:

- It must operate under the guidance and must be accountable to the COP.
- There would be balanced representation in the governance.
- Direct access by parties to the funds.
- It should be demand driven, with recipients involved in definition of needs.
- It should be funded by developed countries and may accept other resources from the market and other sources.
- It should be organized in functional windows for technology, venture capital for emerging technologies, and a fund for research and development.
- Other funds should be integrated under the Convention.
- A Board would govern, and there should be a professional secretariat, aided by technical committees. This design was achieved under the Montreal Protocol, and under the Kyoto Protocol's adaptation fund.
- The unifying force of the various funds to be set up is a common governing architecture which is under the control of COP. Each window will grow under this architecture.

Discussion

Argentina proposed the establishment of a multilateral fund, as a framework and an umbrella system. It can cover various areas including adaptation and technology. It will develop financial resources of existing funds that exist and that may come up in future. It can include elements mentioned by China and other countries.

Malaysia welcomed the idea of establishing a new funding mechanism. It should be under COP. It should also enable direct access by recipients. This mechanism will be assisted by expert or technical panels. Funding will be by Annex I parties to fulfil their commitment in accordance with Article 4.3, and additional sources can be determined. The fund should complement the existing funds. Competing mechanisms outside the UNFCCC poses a serious challenge to the Convention and this is cause for concern.

Philippines said the finance commitment was not being implemented, there has been inadequate funding and the agreed full incremental cost has not been given to developing countries. The Convention's parties had also decided that consistency must be ensured between the principles and priorities of the COP with bilateral and other funds on climate operating outside the Convention and that they must not impose new conditionalities.

Referring to recent initiatives outside the Convention to set up new climate funds, she remarked that if we are not serious about this issue, she did not see what future there would be for the Bali Action Plan. There are funds out there. They should not be put in bodies that impose conditionality on developing countries. They should be put in the hands of the parties of the Convention.

South Africa, on behalf of the Africa Group, emphasized the group's support for the G77 and China's principles presented by Philippines. The scale of funding for adaptation must be scaled up 2 or 3 times. There is need for assessing costs, planning, NAPAs, implementation for adaptation, mitigation technologies, wider deployment of existing technologies and R and D for new technologies.

Brazil said there was a need for funds to be in compliance with UNFCCC. It stressed the need for a fund with a governance structure that is fair and transparent and reinforces the COP's capacity to guide climate change.

Saudi Arabia said there was a need to bring all the ideas of the funds together. There is need for a solid structure in UNFCCC where all the initiatives can be put together in a structure, as laid out by the G77/China principles. The goal is to bring under one umbrella a solid new architecture. It would operate under the authority and guidance of the Convention and be fully accountable to the COP.

Mexico pointed to the unpredictability of current funding and the need to overcome the atomization of current financing in many funds. The current financial system is totally insufficient to sustain the scale of actions needed.

It proposed a World Climate Change Fund covering mitigation, adaptation, and technology. All countries would contribute to it, with contributions to be agreed multilaterally and could be determined by criteria like Greenhouse gas emissions, population and GDP size, as well as the polluter pay principle, equity and efficiency and each country's capacity. The Fund should mobilize no less than \$10 billion a year, with \$200 billion by 2030.

Mitigation activities to be supported should yield measurable, reportable and verifiable mitigation results. Activities to be funded include forest, agricultural soils, biofuels, energy, green buildings, lower-emission vehicles.

Korea, represented by Raekwon Chung, advanced a proposal on carbon credit for NAMA (nationally appropriate mitigation actions) by developing countries, supported by finance that is measurable, reportable and verifiable. In this scheme, mitigation can be initiated by developing countries even without finance and technology, similar to a unilateral CDM.

He suggested that Annex I countries undertake a deeper emission reduction target to facilitate more funds. Instead of developed countries offering to contribute to funds, they could instead buy credits for NAMA.

Switzerland presented a proposal on a "funding scheme for Bali Action Plan". It proposed a global carbon dioxide levy of \$2 per ton of carbon dioxide, in accordance with common but differentiated responsibilities. There would be three pillars in the scheme. Overall revenues would be \$48.5 billion, with \$18.4 billion to a multilateral adaptation fund or MAF (with a \$9.2 billion prevention pillar and a \$9.2 billion insurance pillar), and \$30.1 billion going to national climate change funds.

High income countries will transfer 60% of their levy to the MAF, medium income countries 35% and low income countries 15%. Countries with below 1.5 ton of carbon dioxide emission are exempted from payment; Switzerland said these would mainly be LDCs.

Brazil commented that the Swiss proposal had taken current emission rather than historical responsibility on board when choosing who to tax. Switzerland replied historical responsibility was counted if the future emissions is counted but not so in relation to past emissions.

Germany, for the European Union, said the challenge is to stabilize greenhouse gases at 450 ppm, restrict temperature rise to 2 degrees and to reduce emissions. Finance is required for a transition to a low carbon economy. Most funds for mitigation will be from the private sector and this won't change in future, but public funds are still needed to catalyze and leverage private investments.

In mobilizing financial flows, the main tool is the price of carbon as the carbon market is delivering a significant part of the flows. On innovative financing, the EU can discuss auctioning of carbon allowances and a levy on bunker fuel.

Norway proposed a scheme for “financing adaptation by auctioning” in which a small percentage of asset value can be auctioned or sold to finance adaptation. The task can be given to an international bank.

The United States, commenting on other countries’ remarks on the World Bank climate funds, said that the clean technology fund under this is not meant for unmet contributions under the Convention. It will be supportive of the objectives of the Convention. It is hosted at the World Bank as it will provide rapid disbursement of funds and leverage other funds.

As the private sector gives most investments, the issue is how governments can encourage private sector flows to clean technologies. Countries with an enabling environment, open markets and respect for IPRs will attract more clean technologies.

Surya Sethi of India, responding to Japan and US relating to the World Bank climate funds, said that the funds to developing countries for climate must come in the form of resource transfer or grant. “If I borrow money I have to return it and it is not funding my full additional cost,” said India. “Any mechanism must ensure the full incremental cost must be met and it won’t be met by loans even if these are concessional.”

The Chair of the AWG-LCA, Luiz Machado of Brazil, said the discussion had been rich, there were some areas of convergence and some new and innovative ideas. This was a very valuable brainstorming, which could be used for discussing future work. A contact group of the AWG LCA will further take up the finance issue.

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F. Endnotes

¹ World Bank (2006a).

² According to UNFCCC (2007b), the figures for ODA, FDI and GDI used in the World Bank estimates are incorrect (see Table 3, Annex V p. 212-213). The Bank's ODA figure of \$100bn is for all ODA, not the investment component, which was about \$16bn in 2000. FDI into developing countries was about \$397bn in 2000 and total investment was \$1,654bn, so the domestic portion was \$1,241 bn.. With those figures, the total is a little lower, namely \$7 to \$35 billion for 2000, but given the vast uncertainty in the methodology, this is not really a problem.

³ Current needs, based on extrapolations of LDC National Adaptation Programmes of Action (NAPAs, see <http://unfccc.int/adaptation/napas/items/2679.php>). For extrapolations, see Müller and Hepburn (2006b:14). Note the range quoted here is that for non-Annex I (and not the one for G77+China, referred to in the explanations).

⁴ Current needs, Oxfam 2007a:3

⁵ Needs in 2015, UNDP 2007

⁶ Needs in 2030. UNFCCC 2007

⁷ The figure here is based on the estimates of the Stern Review of climate change impacts under 'business as usual' assumptions, i.e. with no mitigation or adaptation measures. According to Stern *analyses that take into account the full ranges of both impacts and possible outcomes – that is, that employ the basic economics of risk – suggest that BAU climate change will reduce welfare by an amount equivalent to a reduction in consumption per head of between 5 and 20%. Taking account of the increasing scientific evidence of greater risks, of aversion to the possibilities of catastrophe, and of a broader approach to the consequences than implied by narrow output measures, the appropriate estimate is likely to be in the upper part of this range.*[Stern 2007:x]. Multiplying these percentages with the current Annex I GDP of \$(PPP) 21.5 trillion [Source: Climate Analysis Indicators Tool (CAIT) Version 5.0. (Washington, DC: World Resources Institute, 2008)] gives a conservative range of impact costs between \$1 and \$4 trillion.

⁸ Note: the term 'grant' may seem inappropriate in light of the fact that most of the recipients will see these payments as a matter of debts. I use the term here simply to distinguish them from loans.

⁹ Adopted during the International Conference on Financing for Development, held in Monterrey, Mexico, from 18 to 22 March 2002.

¹⁰ Based on the fact that 2007 DAC ODA of \$104bn amounted to 0.28% of DAC GNI. Source: OECD (2008).

¹¹ For more on this, see Müller (2008)

¹² [Para. 8] *Five DAC countries currently meet the target of 0.7 per cent of GNI as ODA and a further seven countries have committed to reaching the target by a specific date. Fulfilments of these commitments would further increase aid volumes from \$78.6 billion in 2004 to \$115 billion by 2010.*[OECD 2005]

¹³ Indeed, this may in part explain the difference between Luxemburg with an ODA of \$365m (0.9%) = 1 to 2 hospitals, and the US: \$21.7bn (0.16%) = 100 hospitals. However, this is not an excuse, but merely a reflection of the fact that the US is in need of some genuine political leadership in this context.

¹⁴ UNFCCC (2007c).

¹⁵ UNFCCC Art 4.3. The developed country Parties and other developed Parties included in Annex II shall provide new and additional financial resources to meet the agreed full costs incurred by developing country Parties in complying with their obligations under Article 12, paragraph 1.

¹⁶ The large majority of the funding made available by the UK Treasury for these activities were designated to be (concessional) *loans*, while the remaining 10% had to be *counted as ODA*.

¹⁷ See, for example: "British climate aid has to be repaid" *The Age*, 18 May 2008, (<http://www.theage.com.au/articles/2008/05/17/1210765250666.html>); "UK demands repayment of climate aid to poor nations" *The Guardian*, London: 17 May 2008; "Anger over climate change loans" *BBC News Website*, 18 May 2008, (http://news.bbc.co.uk/1/hi/uk_politics/7407528.stm)

¹⁸ See World Bank (2008).

¹⁹ See Müller and Winkler (2008).

²⁰ DEG (2008).

²¹ UNFCCC (2008):19.

²² Section headings in Mexico (2007). All quotations in this section are from that document

²³ UNFCCC (2007b).

²⁴ On 6 June, the Bill fell 6 votes short of the 60 votes required in the US Senate to 'invoke cloture'(See <http://www.pewclimate.org/analysis/l-w>)

- ²⁵ The one possible condition which could create a problem for the AF to receive funding from this source is *more than 10 percent of the amounts available to the fund be spent in any single country in any year* [Section 1345(i)(4)].
- ²⁶ CEC 2008b:10. Based on an expected permit price of €40.
- ²⁷ Article 10, CEC 2008a
- ²⁸ Para. 24 of Preamble, CEC 2008a.
- ²⁹ Art 3(c)(4), CEU (2007)
- ³⁰ Preamble Para 14, CEU (2007)
- ³¹ UNFCCC 2007b.
- ³² Schwank and Mauch (2008).
- ³³ Schwank and Mauch (2008).
- ³⁴ The authors are using the terms ‘preventive adaptation’ and ‘curative adaptation’, but for reasons of terminological non-proliferation and comparability with the disaster management language I prefer to use ‘adaptation’ *tout court* or ‘impact reduction’ for the former, and ‘impact response’ for the latter.
- ³⁵ See World Bank (2008).
- ³⁶ To judge the fairness of the disbursement of such adaptation funding in terms of the principle of common but differentiated responsibilities, one needs to consider the effect these payments would have on the relative size of adaptation costs, which to be fair should be in proportion to the respective responsibilities.
- ³⁷ The strict responsibility figure of 65% for Annex I is calculated with the model used in Müller 2007, under the assumption a basic allowance of 1.5tCO₂ per capita, and excluding LULUCF emissions.
- ³⁸ Source: OECD (2008).
- ³⁹ Development Committee (2008), *Statement by Mr. Louis Michel, Commissioner for Development and Humanitarian Aid, European Commission, Seventy-Seventh Meeting, DC/S/2008-0006, Washington, DC, 13 April 2008*. <http://siteresources.worldbank.org/DEVCOMMINT/Documentation/21728167/DCS2008-0006-EC.pdf>
- ⁴⁰ <http://www.iff-immunisation.org/>
- ⁴¹ An IFF pledge is a contingent liability, only annual expenditures made under the multi-year pledges are treated as expenditures in the donor’s fiscal accounts
- ⁴² EC intervention at World Bank/IMF Spring 2008 Development Committee Meeting
- ⁴³ More precisely, the total payment to frontload €5 billion over the period of 2010 – 2014 would amount to €7.2 billion. Repayment would start in 2011 at €74 million, gradually rise to €380 million in 2015 and continue at that level until 2031.
- ⁴⁴ *The European Commission is proposing to build a new alliance on climate change between the European Union and the poor developing countries that are most affected and that have the least capacity to deal with climate change. Through this Global Climate Change Alliance (GCCA), the EU and these countries will work jointly to integrate climate change into poverty reduction strategies. The EU will provide substantial resources to address climate change in these countries. Measures will include better preparedness for natural disasters which are expected to become more frequent and intense through global warming.* [EC (2007), Press Release, Reference: IP/07/1352, 18 September 2007, <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/07/1352&format=HTML&aged=0&language=EN&guiLanguage=en>]
- ⁴⁵ GLOBE International 2008.
- ⁴⁶ As of 15 April 2008, the CDM EB expects to have issued altogether in the region of 2.7bn CERs by 2012 (see <http://cdm.unfccc.int/Statistics/index.html>), which at current CER and EUA prices of €13 and €25 [Point Carbon 14 April 2008] would generate total revenues for the 2% CDM levy of over \$1.8bn and \$3.4bn, respectively. The annual figures listed in Table 1 are simply the average over the five-year period 2008 to 2012.
- ⁴⁷ Be it for free (‘grandfathering’) or for a price, as through auctioning.
- ⁴⁸ Of course, once CERs are sold/exchanged for AAUs, they also become permits to emit, but at the point of issuance they are certificates of certain mitigation efforts that have been undertaken to generate them, and as such could be retired as opposed to being transformed into permits to emit.
- ⁴⁹ UNFCCC 2008:50f.
- ⁵⁰ According to WRI’s CAIT, 5.2% of 1990 Annex I CO₂ emissions = 17.2GtCO₂, 2% of which sold at the current EUA price of €25[\$40]/tCO₂ would bring in revenues of around \$14bn.
- ⁵¹ FCCC/SBI/2008/Misc.2: Argentina, China, Colombia, New Zealand, Norway, Saudi Arabia, Ukraine
FCCC/SBI/2008/Misc.2/Add.1: Japan, Slovenia (EC), Tuvalu
- ⁵² *A levy on the creation of Emission Reduction Units (ERUs) may adversely impact the demand for ERUs relative to Assigned Amount Units (AAUs)*
- ⁵³ *If Emission Trading will be levied, it is most practical to levy when credit transfers are recorded in the national registry. On the other hand, forward contracts without real transfers of credit are difficult to be levied,*

and this might lead to a low capture rate. (Negative impacts on transactions). Depending on the rate of levy, extending the share of proceeds to emission trading might discourage spot transactions. On the other hand, it might work as an incentive to increase derivative transactions.

⁵⁴ Argentina: *new and innovative mechanism*"; China: *new, additional and adequate funding*; Columbia: *new and additional financial resources*; Saudi: *additional resources*

⁵⁵ Norway: *needs for predictable means* EU: *predictable and secure means to provide funding*

⁵⁶ UNFCCC 2007a.

⁵⁷ The BSM is only one of the instruments discussed in the Blueprint, to do with financing under the UNFCCC. Kyoto Protocol Financing is addressed with the proposal to extend the adaptation levy ('share of proceeds' concept) of the CDM to ERUs and AAUs, as in the Norwegian Proposal.

⁵⁸ International Civil Aviation Organization (ICAO), <http://www.icao.int/>

⁵⁹ International Maritime Organization (IMO), <http://www.imo.org/>

⁶⁰ According to UNCTAD (2007), the total freight cost for 2005 imports into developed and developing countries was \$341.1bn and 259.9bn, respectively. Note that the Tuvalu proposal does not address Economies in Transition, and also that its aviation component is based on 'international airfares' (like IATAL) and not international air transport, as assumed in these calculations.

⁶¹ See Müller and Hepburn (2006)

⁶² *Leading Group on Solidarity Levies to Fund Development* (LGS): A 53-member group called on by France and Brazil established during the international conference on "Solidarity and Globalization: innovative financing for development and against pandemics" in Paris (Mar. 2006) to promote the establishment of international solidarity levy or innovative financing mechanisms. Eight (8) of its members have already enacted air ticket levy.

⁶³ The idea of a Currency Transaction Development Levy (CTDL), as it is currently discussed, [see Hillman *et al.* 2007] is an international currency levy of 0.005% on currency transactions to produce additional funds for ODA and to help reduce the burdens on national governments financing the ODA. In February 2007, the second LG Plenary Meeting held in Oslo decided to set up two taskforces to tackle the issues of tax haven/capital flight, and Currency Transaction Development Levy (CTDL). In September 2007, Norway volunteered to take on the Tax Haven & Capital Flight Taskforce. However, there have been no volunteers for the CTDL taskforce. In February 2008, a cross-party group of Japanese parliamentarians – *Parliamentary Group on International Solidarity Levy* (PGISL) in support of the proposal of an *international solidarity levy known as CTDL, or Currency Transaction Development Levy that allows procurement of funds for development assistance purposes by way of placing a levy on currency transactions*[PGISL (2008)]

⁶⁴ Globe International 2008.

⁶⁵ www.imers.org/buyin/achieve contains list of key meetings and submissions.

⁶⁶ IMO (2007)

⁶⁷ See www.imers.org/bonn

⁶⁸ To be fair to both the Chinese and the Mexican proposals, the former does not elaborate how the money would be raised, and the latter does envisage the possibility of carbon-based ('unconventional') finance.

⁶⁹ *If we cling to the sort of outdated thinking that implies that concessional loans aren't helpful for developing economies, we will get nowhere. We need shared, innovative approaches that will get money and investment to where it's needed most. We have no time to waste.* [Signed:] *Phil Woolas, Minister for the environment, Gareth Thomas, Minister for trade and development*[Thomas and Woolas (2008)]

⁷⁰ Müller *et al.* 2007.

⁷¹ The figure of 65% reflects the share in historic responsibility of industrialised countries established in Müller *et al.* 2007. That of 85% corresponds to 5/6ths, in turn reflecting the proportion in the per capita GDP figures (which, it has to be admitted, may be somewhat simplistic a measure!).

⁷² Schwank (2008b).

⁷³ Take the following scenario: The cost of adaptation in developing countries in 2010 is \$27.1bn, and consequently exactly covered by the domestic developing country revenue together with the transfers from the North. Assuming Northern adaptation costs to be twice that of the South, which would mean that a fair Southern share of, say, 15% would be 12.5bn. In this context, the Swiss proposal would be able to cover the adaptation costs of developing countries, but it would do so by asking them to pay \$25.1bn, twice as much as would be considered fair under the said assumptions.

⁷⁴ Mexico (2007).

⁷⁵ Mexico (2007).

⁷⁶ The reason for restricting the IATAL levy to international flights was simply to avoid the domestic revenue problem.

⁷⁷ *Funding shall be available for concrete adaptation projects and programmes in eligible countries*[Art. 2.d, Decision 5/CMP.2, FCCC/KP/CMP/2006/10/Add.1]

⁷⁸ To be fair, even the present remit of the AF acknowledges the possibility of funding programmatic activities, but even such programmatic activities will not be sufficient to achieve the required degree of adaptation in developing countries.

⁷⁹ World Bank (2008b).

⁸⁰ www.unisdr.org

⁸¹ See CRMG 2007

⁸² See IMF 2007

⁸³ See <http://ochaonline.un.org/Default.aspx?alias=ochaonline.un.org/cerf>

⁸⁴ See <http://ochaonline.un.org/>

⁸⁵ See Müller et al., 2007

⁸⁶ See Müller and Winkler, 2008

⁸⁷ According to the plans of 28 April, apart from the country representatives (of equal numbers from North and South), the SCF TFC will also include a senior member of the World Bank, as well as a member representing the Multilateral Development Banks (MDBs) represented on a separate MDB Committee. This, and the fact that the Bank's Vice President for their Sustainable Development Network is earmarked to be a permanent co-chair of the Trust Fund Committee – in contrast to the 'country co-chair, who is meant to rotate annually – still leaves the governance of the SCF far short of the Adaptation Fund model.

⁸⁸ <http://www.sunsonline.org/>

⁸⁹ Presentations are available at http://unfccc.int/meetings/ad_hoc_working_groups/lca/items/4427.php