EXECUTIVE SUMMARY

ASSESSING THE ALTERNATIVES

Financing climate change mitigation and adaptation in developing countries

A report for Stamp Out Poverty
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Executive summary

The global climate is changing, fast. And this is the direct result of human activity. It is broadly accepted that we need to restrict global temperature increases to as far below 2°C as possible if we are to avoid triggering runaway, irreversible and catastrophic climate change. This is very probably the greatest challenge and danger that mankind has ever faced, and evidence is mounting that time is rapidly running out if we wish to "preserve a planet similar to that on which civilization developed and to which life on Earth is adapted." (Hansen, et al, 2008)

The science is clear: the process of industrialisation has caused the concentration of greenhouse gases in the atmosphere to steadily increase. By the middle of 2008 CO_2 equivalent concentration levels had reached 420 ppm and emissions continue to rise at a rate of 3% every year. Whatever else happens, we will need to adapt to the climate change that is already 'in the system'. At best this will be a 1.5–2.0°C increase, and the impacts will be felt hardest by the least able to cope: the poorest countries in the world and the poorest people within these countries.

Moreover, the tragic fact is that those who stand to lose most through the effects of climate change have little or no responsibility for creating it: it is the cumulative impact of industrial activity in the developed world that has created this problem, and it is these **developed** countries, therefore, that need to shoulder the burden of dealing with it.

Indeed, not only do developed countries face a clear moral obligation to finance the costs of adaptation in developing countries, they have already accepted this as signatories to the UN Framework Convention on Climate Change (UNFCCC) where this obligation is explicit.

The need to rapidly and urgently reduce CO_2 emissions also means that, particularly for the larger developing economies, fossil-fuelled development is a seriously questionable long term option. To ensure that their development is genuinely sustainable, countries ought to embark upon a low-carbon path. Unlike their developed country counterparts, who grew their economies generating energy at low cost and without particular environmental consideration, the responsible trajectory now asked of developing countries will require significantly greater investment. As with adaptation, there is therefore a degree of moral obligation for developed countries to finance this process. As well, there is practical necessity. Developing countries simply do not have the capacity to address poverty and human development while simultaneously adapting to and mitigating climate change.

In this paper we consider the framework required for mitigation to be achieved and examine proposals for how both mitigation and adaptation in developing countries could be financed. Although we conclude with a recommendation, it ought to be emphasised that the role of this paper is more to establish clear principles and criteria upon which current and future proposals can be assessed. Our intention is to develop a way of thinking about the issues inherent to climate change financing. We undertake this by assessing the prospective mechanisms on three occasions through different lenses. A broad scoring system is introduced to differentiate the financing instruments. We conclude with a suggestion of a cluster of mechanisms that could generate in the region of £80 billion a year to finance adaptation.

Responsibility and capacity to pay

It is essential that decisions on climate change financing be made on a **fair and equitable basis**, using clear principles, and that national contributions should vary to reflect responsibility and capacity to pay. One of the recognised systems by which to assess **which** developed countries ought to shoulder **what** proportion of financial responsibility, in respect of both mitigation and adaptation, is the **Greenhouse Development Rights** (GDR) framework.[1] Fundamental to the GDR approach is firstly the need for emergency measures to reduce global carbon emissions rapidly to avoid a global temperature rise of 2°C; and secondly the overriding need for poverty reduction in developing countries.

Under the framework[2], **Responsibility** is calculated by taking each country's total 'cumulative' emissions per capita, and **Capability** is calculated using per capita national income data, adjusted to reflect differences in purchasing power and inequality from one country to another. As well, the rights of poor people to develop are safeguarded through the use of an **income threshold**; the greater the proportion of a country's population that falls below this poverty line, the less that country is required to invest. Finally, proportionate responsibility can be determined through the use of a **Responsibility and Capacity Index**.

Mitigation

Estimates of the cost of mitigation vary hugely, but all the numbers are very large, running into the hundreds of billions of dollars every year for decades to come. That said, these figures are dwarfed by estimates of the cost of failing to act, both in economic and in human terms.

In developing countries alone, we are looking at costs in excess of the entire global aid budget today: we need to find 'new and additional' sources of funds, which ideally should be derived from a new framework to achieve mitigation financing at the global level.

In this regard there are two main options: quantity-based or price-based. That is, to shift to a sustainable, low-carbon trajectory we argue that either the **quantity** of global emissions can be **restricted**, or the **costs** of these emissions can be **increased** to achieve the same result. In policy terms these two options equate to a global limit, or 'cap', with national allocations and some form of trading; or to a global carbon tax with redistributive transfers.

From the perspective of pure economic theory these two options are equivalent. In practice this is not quite the case. In reality, we can either have certainty over quantity or over price. If we set a particular 'cap', we cannot say accurately what the price of carbon will be. Similarly, for any given tax rate, we cannot say what the reduction in physical emissions will actually be.

Partly for this reason, a global cap may be the best means of ensuring that global emissions remain within scientifically determined levels. An issue, however, is that developing countries are – quite rightly – extremely reluctant to sign up to a physical limit on their carbon emissions – indeed the Bali Action Plan only includes the notion of caps or "quantified emission limitation and reduction objectives" in the next commitment period for *developed* countries. While it is entirely possible to imagine an effective global cap that smaller developing countries – and those at low levels of development – are excluded from, it is likely that at least the larger middle-income countries would need to join this framework at some

1 The Greenhouse Development Rights Framework: The right to development in a climate constrained world. Paul Baer, Tom Athanasiou, Sivan Kartha, and Eric Kemp-Benedict. Published by the Heinrich Böll Foundation, Christian Aid, EcoEquity and the Stockholm Environment Institute. Revised second edition. Berlin, November 2008. Available at: www.ecoequity.org

2 The GDR framework is one option amongst a number of alternatives for assessing responsibility and capability while taking into account development needs. In this paper we do not seek to establish a definitive framework.

point during a later commitment period if the required reduction in global carbon emissions is to be achieved.

Part of the difficulty – and the devil really is in the detail here – turns on how national carbon 'budgets' would be allocated within any overall cap. At one extreme, this could be determined simply on the basis of current emissions – so called 'grandfathering'. This would be inherently unfair, however, and would lock in the huge current disparities of wealth around the world. At the other extreme, national allocations could be based on population size rather than wealth, with equal emission rights for every person on the planet.

A consequence of such an arrangement is that it would require rich countries, which were allocated far fewer permits than they needed, to purchase the surplus permits held by poorer countries, where current emissions would be below their allocations. As a result, much of the vast annual transfers needed to fund mitigation in developing countries would be 'hard-wired' into the system.

Emission rights could also be allocated according to **Responsibility** and **Capability** under the GDR framework described above, which would also bring about significant transfers from developed to developing countries as a result of the greater historic emissions and wealth of the former.

A further point in respect of a cap with national allocations and some form of trading is that we do not currently have a functioning international carbon market. What we have instead are a number of national and regional markets – with sub-optimal performance in terms of achieving substantial low-carbon transformation or reducing emissions – and the beginnings of an international market, which is far from universal in coverage. As well, if a cap and trade scheme of some kind were to be acceptable it would require the system to have scientifically determined caps – rather than be subject to lobby interests and exemptions. Moreover, it would have to ensure there was no leakage through offsetting.

Even if this could be achieved, however, developing countries might still argue that they should not be constrained by any global cap, as they should not be penalised for the problems created by the developed world (which should sharply reduce its own emissions before asking anything of the developing world). This is of course reasonable, and it is likely that today's developed economies would have to proceed with a post-2012 agreement in the first instance, with larger middle-income countries eventually joining such a scheme, but only if the terms were fair and compatible with development objectives, and that sufficient financing was committed and in place to enable this participation.

From a pure perspective of emissions reductions, a global cap could be the best outcome, but it is important not to make the perfect the enemy of the good. For a variety of reasons, it may be that neither developing nor even developed countries would accept such a framework, which would mean looking at other options.

For a comprehensive alternative to quantitative limits on emissions one would have to examine a global carbon tax of some kind. While this would not bring the same certainty as a cap, it may still be extremely effective. A problem, however, is that there are no North-South transfers 'hard-wired' into such a system, which would mean being reliant on the redistribution of tax revenues from the developed to the developing world to fund mitigation. There is a risk, therefore, of becoming entangled in domestic political cycles in developed economies. To accommodate this, it would be essential to establish a clear and binding (insofar as this would be possible) framework for redistribution. Furthermore, in order to remain equitable, this would have to evolve to reflect changing development outcomes over time.

Whether a cap and trade system or a carbon tax was used as the main means of achieving mitigation and financing the process in developing countries, it is unlikely that the level of transfers would either match what was required, or would reflect what was ethical in terms

of historical responsibility or contemporary capacity to pay. For this reason, additionally, a fund established along the lines of that proposed to the UNFCCC by the Mexican government is a good option. Contributions to this could come from the auctions of carbon permits in domestic or regional markets (such as the United States and European Union) augmented by direct national contributions. These national contributions could vary to reflect responsibility and capacity to pay, potentially using weightings such as those derived from the Greenhouse Development Rights (GDR) approach.

Adaptation

While it is important for any framework for mitigation to evolve over time to reflect changing national responsibilities and capacities, this is less true for adaptation financing. Here we are essentially talking about compensation payments for developing countries for the environmental damage caused by the process of industrialisation in the developed world.

A number of proposals have been submitted to the UNFCCC by national governments and other bodies regarding the funding of adaptation in developing countries. In this paper we review eleven of these propositions, as well as the Currency Transaction Tax that has been widely discussed as a substantial untapped revenue stream. The twelve proposals are:

- **The G-77+ China proposal (of more than 130 developing countries)** – developed countries provide funding of 0.5% of GDP mainly for mitigation.
- **The World Bank's Pilot Programme for Climate Resilience (PPCR)** – discretionary loans for adaptation given by developed countries as part of Official Development Assistance through the World Bank.
- **The Mexican Climate Change Fund (MCCF)** – countries are obliged to contribute to the fund on the basis of emissions, population and income, mainly for mitigation.
- **The US Auction Levy** – where a small proportion of the proceeds of auctioning carbon permits within the US are earmarked for funding adaptation activities in developing countries.
- **The EU Emission Trading Scheme (ETS) Auction Levy** – where a proportion of the proceeds of auctioning carbon permits within the countries of the European Union are earmarked for funding adaptation activities in developing countries.
- **The Swiss Carbon Tax proposal** – a global tax on all carbon emissions in all countries, but with a per capita exemption that would benefit some poorer countries.
- **The Global Capital Fund Mechanism (GCFM)** – bonds are issued on the international capital markets and the proceeds are invested in mitigation and adaptation.
- **The Norwegian 'Assigned Amount Units' (AAU) proposal** – the international auctioning of national carbon emission permits.
- **The Tuvalu Burden Sharing Mechanism (TBSM)** – a levy on air travel and freight shipping with different rates for developed and developing countries and exclusions for travel to and from Least Developed Countries.
- **The International Air Passenger Adaptation Levy (IAPAL)** – a levy on international air travel.
- **The International Maritime Emission Reduction Scheme (IMERS)** – a levy on international shipping.
- **The Currency Transaction Tax (CTT)** – a very small levy on international currency transactions as a long term funding stream for adaptation.

Initially the proposals are described then located on two spectrums:

- **INTERNATIONAL** → **DOMESTIC**
- **DIVERSE** → **CONCENTRATED**

In respect of the first spectrum, it is suggested that there is distinct advantage if a mechanism is broadly **international** in form thus avoiding the 'domestic revenue' problem noted by Müller (2008), where politicians face difficulties convincing their electorates that very large sums should be transferred out of the country rather than spent at home, for example, on hospitals or schools.

In respect of the second spectrum, it is suggested that a considerable advantage accrues if a mechanism is **diverse** in its 'incidence.'[3] That is, that the burden of payment of revenue is not concentrated on one particular group, and thus potentially subject to lobbying for repeal, but more economically spread out.

Following this stage, the proposals are assessed against two sets of criteria and indicative scores assigned. The sets of criteria are divided into first-order (deemed essential) and second-order (deemed desirable).

In identifying the appropriate criteria we here draw on the considerable work carried out in this area by official agencies, NGOs and policy-makers. The **additionality** criterion is particularly worthy of elaboration. There is already insufficient financing available to fund the investments needed to meet the Millennium Development Goals (MDGs), even before the impact of climate change has been taken into account. Moreover the nature of climate finance is fundamentally different to that of aid and other financing for development – adaptation finance is compensatory in nature, whilst mitigation finance is an obligation on the part of rich countries, following from their disproportionate exploitation of the environment, to provide developing countries with the resources they need to alleviate poverty without bringing about catastrophic climate change. It is an essential requirement that funding for climate change must be distinct from and additional to finance pledged for Official Development Assistance.

The first-order criteria are:

- **SUFFICIENCY** – where the funds generated are equal to the scale of the task. We calculate this to be $100 billion per year based on the UNDP estimate of $86 billion (and recent evidence that actual costs are likely to exceed this).
- **PREDICTABILITY** – where funds are generated in as stable and predictable a way as possible.
- **EQUITY** – where contributions reflect both historical responsibility and capacity to pay.
- **ADDITIONALITY** – where funds are 'new and additional' to existing aid commitments.
- **VERIFIABILITY** – where funds are collected and disbursed in a transparent and verifiable manner.

Second-order:

- **EFFICIENCY** – where as much economic efficiency as possible should be achieved, but not to the extent that it conflicts with the first-order criteria, particularly that of **Equity**.
- **EASE OF IMPLEMENTATION** – where mechanisms that can be readily implemented are preferred, all other things being equal.
- **CO-BENEFITS** – where proposals are preferred that have positive developmental or environmental consequences.

3 'Incidence' is said to fall upon the group that, in the final analysis, bears the burden of a tax.

From the outset it is argued that a combination of mechanisms is preferable to one silver bullet solution and that various clusters of different instruments may be possible.

In conclusion, a permutation we recommend that could provide substantial funds for adaptation would be to apply the **Norwegian 'Assigned Amount Units' Levy** at 2%, raising around $14 billion pa, combined with the **International Air Passenger Adaptation Levy** raising $10 billion pa and the **IMERS levy on international shipping** raising $15 billion a year. All of these mechanisms score highly in our rankings and are 'international' and 'diverse'. Between them they would raise an annual total in the region of $39 billion. This is a considerable sum but short of the $100 billion target we have identified. However, adding in the **Currency Transaction Tax**, which could raise in the region of $40 billion pa, would increase the total generated from the four mechanisms to approximately $79 billion a year.

Closing remarks

In the final analysis, the main purpose of this paper is as a tool to better get to know the financing proposals currently on the table. We have set out, therefore, to assist in the navigation of what to many are still new and yet uncharted waters. However, the need to make advances in the field of mitigation and adaptation finance has reached a critical juncture. Time is not on our side. In the end, it will be political intention and feasibility that determine whether some or any of the instruments will be adopted. Yet the requirement is so great and the cost of failure so immense, that we hope there is a determination to agree a mix of mechanisms in Copenhagen and that this paper may in some way assist with that decision-making.

The full 56-page report by Dr Stephen Spratt is available at:
www.stampoutpoverty.org/climatefinancereport

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