global emissions reductions. The 2007 Bali Action Plan called for strengthened efforts to move technologies from developed to developing countries. Negotiations at Copenhagen appeared close to success, but agreement over a new international mechanism for the development and transfer of technology was not finalised. Such a mechanism would have two parts – an executive committee that would provide coordination, and a climate technology centre made up of technical experts that could lead capacity-building in countries that need it.

Key challenges that need to be addressed to finalise a decision in Cancun are ensuring research capacity and supportive governance structures in developing countries; ensuring the advancement of greenhouse gas reduction technologies does not overshadow adaptation technologies; and ensuring adequate coordination between mitigation and adaptation and between decisions taken inside and outside the UN-FCCC.

Overall, the success of Cancun will be measured not only in terms of improving the existing financing mechanism and stimulating the creation of new ones, but also in terms of how to achieve mitigation through the deployment of new technologies and its feasibility in developing countries contexts.

References and useful link

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Climate Funds Update: http://www.climatefundsupdate.org/



Chart: Mitigation funding going through dedicated multilateral climate funds

Sources: www.climatefundsupdate.org; CTF Trustee Report of October 28, 2010.

HEINRICH BÖLL STIFTUNG

FINANCE



Climate Finance Fundamentals

Bird, Overseas Development Institute and Liane Schalatek, Heinrich Böll

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Mitigation Finance

To keep below a mean global temperature rise of 2°C, developed countries need to reduce their greenhouse gas emissions by 20% below 1990 levels by 2020 and 80% by 2050. This will require significant investment: around 1% of global GDP. Market-based climate change mitigation instruments that involve emissions trading between developed and developing countries exist, of which the Clean Development Mechanism is the most significant. Dedicated mitigation funds have also been created with public funding from industrialized countries to finance emission reductions in developing countries, but these have suffered from lack of transparency and limited consultation with local civil society. Both of these aspects are crucial for the successful implementation of mitigation projects on the ground. Currently, the existing mechanisms have tended to channel most funding for mitigation action to only a handful of emerging market economies, neglecting poorer countries. A more equitable distribution is needed. However, finance is not enough, climate change mitigation also requires technological transfer: a new mechanism was discussed in Copenhagen and could be finalised in Cancun if a number of challenges are addressed.

Global Mitigation Finance

Written by Alice Caravani and Neil

There is a global consensus that to safeguard against the most damaging impacts of climate change it is necessary to keep the mean global temperature rise below 2°C. This implies keeping atmospheric concentrations within the 450 - 550 ppm CO2e range. The IPCCC shows that to achieve such concentrations a reduction of global emissions of at least 50% compared to 1990 levels is necessary by 2050, with global emissions needing to peak by 2020. To allow developing countries room to grow, the implication is that developed countries need to reduce their emissions by 20% below 1990 levels by 2020 and 80% by 2050.

The 2006 Stern Review estimated that the annual costs associated with such a global mitigation effort would be equivalent to around 1% of global GDP. The UNFCCC suggests a figure of about \$200 billion would be required annually in 2030 to fund mitigation activities, which is compatible with Stern's earlier estimate. One third of the necessary mitigation can be gained through cost-saving measures that improve energy efficiency. Another third lies in the forestry and agricultural sectors, with the final third to be realised by implementing new and renewable energy technologies.

A central point of the Stern Review is that investing today to move the global economy onto a lowcarbon path, whilst expensive, will be far less costly than the potential bill associated with dealing with the economic consequences of the level of climate change resulting from 'business as usual'. Stern es-



timates that if temperatures rise by 7° C by 2200 this will cause a 2% to 5% global GDP loss. The longer the delay in making the necessary investments, the worse the problem becomes and the more expensive it will be to fix.

Existing finance available for mitigation

The most prominent market instrument involving developing countries has been the Clean Development Mechanism (CDM), established under the Kyoto Protocol. It is an emission trading (or cap and trade) market-based mechanism, which allows industrial countries with an emissions cap to reduce their overall emissions more cost-effectively in developing countries instead of at home (so-called 'offsetting'). Between 2001, the first year CDM projects could be registered, and 2012, the end of the Kyoto commitment period, the CDM is expected to produce some 1.5 billion tons of carbon dioxide equivalent (CO2e) in emission reductions. These will be achieved through renewable energy, energy efficiency, and fuel switching activities, and could raise around \$18 billion (depending on the carbon price) in direct carbon revenues for developing countries. This represents the largest source of mitigation finance to developing countries to-date.

However, CDM projects are not evenly distributed across all developing countries and regions, favouring a few emerging market economies (primarily China, India, Brazil and Mexico) over less developed countries. Only 2% of CDM projects are implemented in Africa, with few benefitting least developed countries. Furthermore, CDM projects involve considerable transaction costs and thus prioritize large scale over smaller, community-oriented projects. The exclusion of deforestation emissions from the CDM leaves the largest emission source of many tropical developing countries unused. Perhaps the biggest limitation with the CDM is that it has not moved developing countries onto low-carbon development pathways.

New international mitigation funds

Recently, several dedicated funds in support of mitigation efforts in developing countries have been established. Prominent amongst these funds are the Clean Technology Fund and the Scaling-Up Renewable Energy Program for Low Income Countries, both administered by the World Bank, and the Global Energy Efficiency and Renewable Energy Fund, an initiative of the EC.

The Clean Technology Fund (CTF) was established in 2008 and is one of two multi-donor trust funds (along with the Strategic Climate Fund) within the World Bank administered Climate Investment Funds (CIFs). The Regional Development Banks act as implementation partners in the CIFs. The CTF invests in projects and programmes that contribute to the demonstration, deployment and transfer of low carbon technologies with significant potential for long-term greenhouse gas emissions savings and transformational change. Agreed disbursements by the CTF to-date total \$750 million, but it has secured pledges from eight industrialized countries of \$4.4 billion, making it the largest international multilateral fund.

Scaling-Up Renewable Energy Program for Low Income Countries (SREP) is a programme under the Strategic Climate Funds that was started in 2009 and is still under development. It aims to support investments in a small number of low-income countries for energy efficiency, renewable energy and access to modern sustainable energy. To-date, six pilot projects in Ethiopia, Honduras, Kenya, the Maldives, Mali, and Nepal have been approved, with approximately \$20 million earmarked for disbursement.

The Global Energy Efficiency and Renewable Energy Fund (GEEREF) was proposed in 2006 by the European Commission. It is a Public-Private Partnership (PPP) designed to maximise the leverage of public funds. Structured as a Fund-of-Funds, GEEREF invests in private equity funds that provide equity finance to small and medium-sized project developers and enterprises. The fund is administered by the European Investment Bank. To date, €22 million has been approved in two commercial renewable energy investment funds: one in Asia and one in South Africa.

Shortcomings of the new funds – A major concern with the CTF is the kind of technologies supported by current CTF investment rules as contributing to transformational change. For example,

supercritical coal plants, not a 'clean technology', could be funded under the CTF if found to have a transformational impact on a country's GHG emissions. This raises serious questions about the best use of public climate funding for mitigation.

Other important concerns include inadequate transparency and limited participation of observers. For example, CTF investment plans are only disclosed after approval, making it difficult for observer organizations such as the GEF or the UNFCCC Secretariat to ensure that programmes supported by other multilateral institutions are complementary. If the CTF's goal is to contribute to global understanding about the opportunities and challenges that countries face when they seek to deploy clean technology, all official observers should have access to the CTF investment plans.

Mitigation projects require a deep knowledge of the local factors of the recipient country such as geographic conditions, labour force availability and domestic market prices. Therefore local actor participation is indispensable. However there is limited evidence to-date of engagement with stakeholders outside of government.

New instruments? – A major challenge for mitigation funding is how to attract commercial capital, and in particular, private venture capital for energy efficiency and renewable energy projects. The current venture capital requirement of developing countries and economies in transition is put at over €9 billion, which is far above existing available levels.

In 2004, the European Commission launched the Patient Capital Initiative. It aimed to provide equitylinked capital to local entrepreneurs and project developers on a basis that was affordable, where there was either no such capital available before, or if it were available was not on affordable terms. The GEEREF design followed this initiative by making 'patient capital' public investments in three sub-funds (of high, medium and low risk). It is hoped that such financial commitment would subsequently attract private investors by offering to subordinate capital repayments and/or dividends until private investors have received an attractive return, i.e. the so-called 'hurdle' rate, currently estimated to be around 8%. As a result, projected low returns are converted into attractive returns for private co-investors.

The High-Level Advisory Group on Climate Change Financing has also grappled with this question, addressing both the role of carbon markets and new financing instruments as possible solutions. It highlighted how higher carbon prices could feed into multiple sector instruments, into carbon offset markets, and into effective prices for carbon abatement which would influence investment patterns in developing countries. However, it has not specified whether this should be achieved through regulation, taxes or carbon markets – or a combination of two or more of these instruments.

The need for new and additional sources of finance could be fulfilled by revenues from carbon taxes or from a global Financial Transaction Tax (FTT). The latter has recently gained some prominence as much for its revenue generating capabilities as for its potential role in stabilizing global financial markets in the wake of the global financial crisis. However, it raises problems of international coordination and feasibility in the current political climate. Furthermore, a precise allocation of how much of the globally generated revenue would go respectively to development and climate change actions could be problematic.

CDM post-2012 – Different proposals have been brought forward for a new design of the CDM. The main one, strongly supported by the EU, is a transition from a project to a sector approach. Such an approach should promote the long-term mitigation of GHG emissions in developing countries, and could make projects with larger sustainable development benefits viable under the CDM. However, such a transition would also bring a number of challenges: sectoral credits could flood the carbon market, depressing the price of carbon, and sectoral crediting mechanisms may exacerbate the existing geographical inequity of the CDM.

From Copenhagen to Cancun

Beyond the need for monetary resources climate finance should also support the transfer to developing countries of the technology required to facilitate