



## Financing for Development Series: Leveraging Private Investments in Climate Change Mitigation

Climate change is one of this century's most serious problems, and one that requires a quick and joint response from developed and developing countries. While developed countries are responsible for the bulk of accumulated emissions, developing countries' shares have been growing in recent years. This is especially true of such advanced developing countries as China, India and Brazil. At the same time, these countries claim their right to development and economic growth, which have hitherto been linked to rising emissions. Decoupling economic growth and greenhouse gas (GHG) emissions in developing countries will therefore be among the most serious challenges in the coming decades.

Transformation to a low-carbon economy requires a considerable increase in funding as well as quick and vigorous policy action. Public finance comes nowhere near to meeting the needs of climate change mitigation. However, it can and must play a catalytic role in promoting private low-carbon investments in develop-

ing countries. The bi- and multilateral financial institutions have a central role to play in this context. They can significantly improve the pipeline of bankable clean technology projects by reducing risks and increasing returns.

Scaling up public funds is important and necessary, but it is not enough in itself. International as well as national policies are required to set the frameworks and create the incentives for private investment in clean technologies. First, the creation of a carbon market with global supply and demand is central. Second, fossil fuel subsidies must be reduced and eventually phased out globally. Third, governments can support investments in clean technologies with targeted "long, loud and legal" national policies. Fourth, governments of developing countries must ensure favourable investment climates in their countries, including legal certainty and the protection of intellectual property rights.

### 1. The urgency of climate change mitigation

Virtually every aspect of economic activity results in greenhouse gas (GHG) emissions. Since industrialization began, the concentration of GHGs in the global atmosphere has risen from 280 ppm CO<sub>2</sub>e to about 430 ppm CO<sub>2</sub>e today. This in turn has led to a rise in the global mean temperature of 0.8 °C since 1900. A further rise of 0.5–1 °C is unavoidable in the coming decades. The impacts on ecosystems, sea levels and the frequency of extreme weather events are already visible today, but they are still within the bounds of common experience.

In the late 1980s, the World Meteorological Organization (WMO) identified a temperature increase of 2 °C relative to pre-industrial levels as a threshold beyond which the impacts of climate change would hardly be manageable. Staying within this range requires the GHG concentration in the global atmosphere to stabilize at 450–550 ppm CO<sub>2</sub>e. According to the British economist Nicholas Stern, global emissions would have to peak in the next 10–20 years and then fall at an annual rate of 6–10 % if this goal was to be achieved. However, global CO<sub>2</sub>-emissions grew by an annual average of more than 3 % between 1950 and 2002. Staying on this emission path may take the earth to a mean temperature rise of 5 °C or even higher. Climate change of this magnitude would probably lead

to a disastrous transformation of the planet, with hundreds of millions of people exposed to water stress and hunger, a loss of about 30 % of global coastal wetlands and more than 40 % of species at risk of extinction (IPCC 2007). Business as usual is not, therefore, an option.

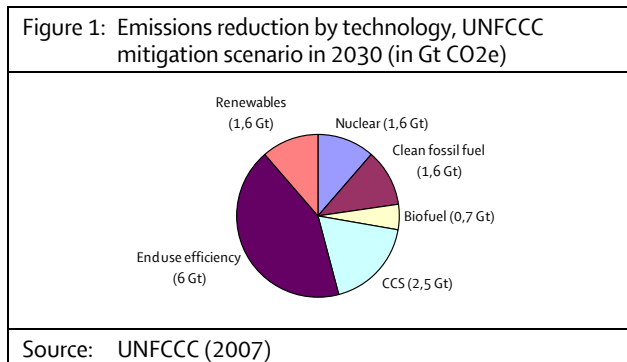
### 2. Reducing GHG emissions and alleviating poverty

Most past emissions have stemmed from high-income countries, less than 25 % of accumulated emissions being caused by developing countries (Stern 2006). However, over the past few years the developing countries' share of global emissions has been rising. In 2000, developing countries already accounted for about 55 % of yearly global GHG emissions. Estimates by the International Energy Agency (IEA) suggest continuously increasing emissions from developing countries. Developed countries have the financial and technical means and the historical responsibility a) to reduce their own emissions, b) to help developing countries to reduce their emissions and grow on a climate-friendly path and c) to help developing countries to adapt to unavoidable climate change.

At the same time, poverty and lack of energy access are major global challenges. According to the World Bank, China and India were still home to over 50 % of the global

poor in 2004. Economic growth in these countries is essential if global poverty is to be reduced. However, economic growth has always been linked to rising emissions.

If the goals of both poverty reduction and climate protection are to be achieved, economic growth and emissions must be decoupled. This can be done only through the global deployment of low- or no-carbon technologies on a massive scale. As power generation is one of the largest sources of CO<sub>2</sub> in China and India, the two largest polluters among the developing countries, technologies that increase end-use efficiency and renewable energies are of the utmost importance.



As today's investments determine emissions for decades to come, it is crucial that clean technologies be deployed as soon as possible. This will require a considerable increase in funding as well as quick and vigorous policy action.

### 3. Climate finance and ODA – in addition to what?

The question whether climate financing should be eligible as official development assistance (ODA) is still controversial. Article 11 of the Kyoto Protocol stipulates that "(...) *the developed country Parties (...) shall provide new and additional financial resources (...)*" to meet the costs incurred by developing countries for the implementation of existing commitments and the transfer of technology. The phrase "new and additional" refers to public financial flows from developed to developing countries. However, the Kyoto Protocol does not define a baseline. Donors have long promised to give 0.7 % of their gross national product (GNP) as ODA, but have always lagged behind this figure. As climate funds (from emission certificate auctions, for example) may provide the opportunity to increase ODA without burdening public budgets, industrialized countries have a strong interest in climate finance being regarded as ODA. One of the main arguments they advance is that climate change is a core developmental issue and climate financing should therefore be part of ODA. It may indeed often be difficult to distinguish climate projects from development projects. This is especially true of climate change adaptation, but also of mitigation (e.g. rural electrification using renewable energies). Furthermore, as development organizations have regional expertise and experience in the implementation of development projects, they may be appropriate agents for the implementation of climate projects in developing countries.

On the other hand, the developing countries and many Non-Governmental Organizations (NGOs) claim that the primary aim of ODA is the promotion of development. Climate financing, i.e. adaptation financing, must be seen, on the other hand, as compensation rather than development aid. It should therefore be provided in addition to the promised 0.7 % of developed countries' gross domestic product (GDP). China proposed a climate financing goal for all developed countries of 0.5 % of GDP in addition to ODA. This was supported by the G5 countries during the G8 summit in Japan in July 2008. Developing countries may not agree to any climate negotiation result that includes climate financing in ODA.

On the other hand, the fact that most developed countries do not even achieve the 0.7 % ODA goal casts doubt on additional commitments. The burden on public budgets of the current financial crisis may further exacerbate the situation. Then again, the crisis may be a chance for fundamental change. The "Global Green New Deal" proposed by the United Nations Environmental Programme (UNEP) is based on this idea – the replacement of the old, failing system with a global green economy. As a beginning, "greening" the crisis response funds may provide an opportunity for a substantial and rapid increase in environmental funding.

However, public funding alone will not meet the full financial requirements of climate change mitigation. The United Nations Framework Convention on Climate Change (UNFCCC) estimates an additional annual USD 200–210 billion will be needed for mitigation in 2030. While public resources fall short of the total requirement, private investment may make a major contribution to meeting the challenge in the coming decades. According to the UNFCCC, 1.1–1.7 % of global private investment would cover additional estimated needs in 2030. Nevertheless, public finance has an important role to play: combined with adequate policies, it must facilitate and leverage private investment to restructure the global economies. It may also fill a transitional financing gap since policy frameworks and incentives need some time to take effect. Another financing gap for climate investments may arise from the credit crunch during the current financial crisis. Public investment support thus becomes all the more important.

### 4. Public finance leverage

Public finance can address two of the decisive factors for private investment directly: risk and return. Risk can be lowered by traditional financing instruments, e.g. guarantees and insurance products, where the guarantor (for example, a development bank) agrees to cover payments which a project fails to make. Return can be influenced by lowering project costs, e.g. through subsidized loans or grants. These products form part of the portfolios of national and international financial institutions. They may act as a significant stimulus to local bank participation and private investments in GHG-reducing technologies in developing countries. However, the introduction of subsidies and risk mitigation instruments may also

lead to market distortions. They must therefore be linked to regular project finance activities.

The instruments described above are used to cover the basic investment costs of any project. It is a strategic decision of development banks now to place greater emphasis on “climate-proofing” their lending processes, by reducing support for coal-fired power plants and instead promoting renewable energies, for instance. The World Bank is moving in this direction, having collected over USD 6.1 billion from donor countries for its Climate Investment Funds (CIFs). The CIFs are the Clean Technology Fund and the Strategic Climate Fund. When they were first announced, there was much talk of the World Bank’s activities prejudicing the UNFCCC negotiations on the climate financing architecture by creating a *fait accompli*. As a consequence and after consultation with stakeholders, the seats on the decision-making committees were shared equitably between potential recipient and donor countries to guarantee balanced governance. Furthermore, the classical conditionality criteria for the access of funds will not apply. To reflect the primacy of the UNFCCC, all CIF funds and programmes are subject to a sunset clause. With the CIFs, the World Bank is attempting to bring together the many initiatives for addressing climate change that have recently emerged and so ensure coherence.

However, many developing countries do not approve of the CIFs. In addition to their perception that the World Bank is dominated by developed countries, regardless of the constitution of the funds’ boards, the donor countries’ contributions to the CIFs are expected to count as ODA. The developing countries would prefer climate financing to be entirely under UNFCCC auspices. The Global Environment Facility (GEF), a primary source of grant financing for actions under the UNFCCC, is an established mechanism. However, its existing resource levels, experience and funding strategies may not be sufficient for it to handle the large funds required for climate change issues. The international financial institutions, on the other hand, could utilize their existing capabilities, skills and decades of experience to deal with these issues.

**Box 1: The Clean Development Mechanism**

The Kyoto Protocol offers an innovative instrument for lowering additional project costs of mitigation projects in developing countries: the Clean Development Mechanism (CDM). A registered CDM project is awarded certificates that can be sold in the market. However, the transaction costs caused by complex registration, verification and approval procedures are substantial. A CDM approval, for example, requires proof of a project’s financial additionality. To satisfy this criterion, proponents have to prove that their project would not have been financed in the normal course of events. This has turned out to be problematic in practice. In addition, the trade in credits resulting from CDM projects is restricted in the biggest carbon market, the European Emissions Trading Scheme (EU ETS). The total value of CDM credits traded under the EU ETS grew, however, from around EUR 2 billion in 2005 to EUR 12 billion in 2007. The market is expected to grow further.

## 5. The role of policy

Public financing instruments are necessary for the leveraging of private investment, but they are not enough in themselves. They need to be accompanied by appropriate and quick policy measures.

First of all, the stimulation of private investments requires appropriate market incentives. Activities that emit greenhouse gases are subject to an economic externality: the prices of such activities do not reflect the full social costs they cause. GHG emissions are therefore too cheap, making clean technologies less attractive. Although such carbon markets as the European Emissions Trading Scheme (EU ETS) seek to correct this market failure on a regional level, there is so far no predictable, adequate or globally effective price of greenhouse gas emissions. As greenhouse gases have the same effect on the atmosphere wherever the emitter may be, a carbon market with global supply and demand is needed to correct the market failure on a global scale. The creation of the right price signal is a core responsibility and must form the main element of any climate policy portfolio.

Nevertheless, reality looks different. Not only is there no price for GHG emissions in many countries, but some even encourage existing consumption patterns and discourage private-sector investments in clean technologies by providing fossil fuel subsidies. Globally, these subsidies total approximately USD 250–300 billion per year. They cause substantial market distortions and set wrong incentives. They should therefore be reduced and eventually phased out globally. However, the removal of energy subsidies often faces strong public opposition.

In addition to raising the price of fossil fuels and GHG emissions, governments can support investments in clean technologies by pursuing targeted policies. According to Bals et al. (2008), these measures must be “long, loud and legal” to be effective.

- Long refers to the duration of policy measures. Rules and incentives must be stable and sustained for a period that reflects the financing horizons of investments, especially for large infrastructure projects entailing considerable initial capital costs.
- In addition, the market signals and policy priorities must be *loud* and clear to attract capital and enable market partners, such as financiers, to join the long-term effort required to accomplish climate change mitigation.
- Relevant policies must be based on *legally* established regulatory frameworks entailing binding targets or implementation mechanisms that ensure long-term stability.

As debatable as public support for solar power in Germany may be, policies in this area are a good example of long, loud and legal measures. Between 1999 and 2003 the “100,000 Roofs Programme” provided soft loans through the state-owned Kreditanstalt für Wiederaufbau (KfW) for the installation of photovoltaic systems. In

2004 the programme changed to a fixed feed-in tariff for the electricity generated. A law guarantees the tariff for 20 years and thus creates a sound basis for long-term investments. As a result, Germany was the world's fastest growing photovoltaic market in 2003. In 2007, the industry grew by 23 %. This example demonstrates that appropriate policies may support clean technology industries through the expensive and risky early stage of market penetration. Seeing the success of the German renewable energy legislation, other countries have followed suit. Today, more than 40 countries worldwide have passed similar laws.

## 6. Conclusions

There is still a window of opportunity for mitigating climate change. But it is closing rapidly. The scientific evidence that the world is moving towards irreversible ecological catastrophe is now overwhelming, and there is less than a decade to change course.

The climate challenge can be tackled only with large-scale technology deployment, which in turn requires a considerable increase in funding. This was recognized during the climate negotiations in Bali and resulted in the Bali Plan of Action, with its building blocks *mitigation, adaptation, technology transfer* and *financing*. However, while multilateral agreements can influence funding, their direct influence on technology transfer is limited. Technology transfer is based on private-sector activities. Multilateral agreements can and must establish enabling frameworks and provide financial support, but they cannot do much more. Emission reduction commitments are among the most important requirements: to plan their investments, private companies need appropriate and long-term market signals and incentives. The growth of private investment in clean technologies presupposes incentives that foster demand for such technologies and so create reliable and strong markets. Furthermore, it is of the utmost importance that emission constraints extend to all major emitters. This will reduce carbon leakage, the increase in emissions in one country as a result of a reduction in another, as when the production of emission-intensive goods is moved elsewhere. The foundations laid in previous negotiations must be advanced in Poznan 2008 and set out in concrete terms in Copenhagen 2009, with developed countries accepting their responsibility to lead, but with developing countries also agreeing to emission restrictions and eventually emission reductions.

In return for these commitments developing countries will claim compensation and assistance. The design of funds and instruments created for this purpose must be carefully tailored to the accessors' needs. Where the private sector is involved, it is particularly important for

companies and investors to be heard and included in consultations. This also applies to the question of intellectual property rights: as most of these are owned by private companies, a top-down approach developed during the climate negotiations would not work.

To promote technology diffusion, climate policy may also focus on active and targeted technology promotion, including public support for research and development as well as technology demonstration and deployment in developed and developing countries. All these policy planks must be clear, reliable and sustained to permit the planning of private investment. They should be embedded in international consultations and negotiations to reduce global costs, promote international cooperation and take account of equity.



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