

CARBON TRADING

A Tearfund briefing paper



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Contents

Executive summary

- 1 Introduction
 - 1.1 Background
 - 1.2 Purpose of this paper

- 2 Analysis of current trading schemes
 - 2.1 EU Emissions Trading Scheme
 - 2.2 Clean Development Mechanism
 - 2.3 Joint Implementation
 - 2.4 Allowance trading

- 3 Analysis of the future of trading schemes

- 4 Conclusions and recommendations
 - 4.1 EU Emissions Trading Scheme
 - 4.2 Clean Development Mechanism
 - 4.3 Joint Implementation
 - 4.4 Allowance trading
 - 4.5 Conclusion

Bibliography

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Executive summary

To keep global temperature rise as far below two degrees¹ as possible and avoid catastrophe for poor countries, Northern industrialised nations must make huge efforts to de-carbonise their economies – and fast. At the same time, these industrialised countries must provide the finance and technology to enable poorer countries to access a clean energy path without compromising their opportunities to develop and alleviate poverty.

Tearfund believes that a global cap-and-trade system has the potential to provide part of the solution to global warming. However, current trading systems are failing to provide either large-scale emissions cuts or a sustainable clean development path in the South.

Carbon trading is based on the idea that emissions are capped at a certain level that is lowered over time to cut emissions. Countries or companies are then allocated permits for carbon emissions, which can be sold if a surplus exists or bought if more are required.

The EU Emissions Trading Scheme (ETS), the largest trading scheme to date, has been criticised for allocating too many credits to companies in its first phase. The market has been further undermined in its second phase by an increase in available credits through the Clean Development Mechanism (CDM) and Joint Implementation (JI). The result has been a minimal impact on reducing emissions.

Furthermore, there are fears that the current structure could be leading to a slow-down in domestic innovation and the creation of high-carbon infrastructure, while allowing developed nations to shift responsibility for emission reductions to developing nations.

The Clean Development Mechanism (CDM) has drawn criticism because it is not consistently delivering additional emissions reductions or sustainable development, and is inaccessible to the least developed countries. The credits generated through the CDM are not capped, and can therefore lead to an increase in the overall carbon 'budget'. JI faces similar challenges.

The global carbon market has the potential to make a significant contribution to reducing emissions if the recommendations below are implemented. However, blind faith in the carbon market's ability to provide answers is not enough. So far, trading systems have not delivered emissions reductions and sustainable low-carbon development on the scale necessary. Some countries and companies could seek to avoid making costly decisions about infrastructure in the North by exporting their obligations to the developing world, and continuing with business-as-usual reliance on fossil fuels. This must not be allowed to happen.

Therefore, other measures such as targets, regulations and green taxes will almost certainly have a key role in any future climate frameworks. Urgent consideration should be given to phasing out subsidies for fossil fuels and increasing incentives for renewables and energy efficiency. And while access to the CDM for the world's poorest countries is important, the carbon market alone will not deliver clean energy paths for poor people: large-scale development aid and other innovative financial mechanisms are also essential.

1 That is, two degrees above pre-industrial levels.

Recommendations

EU Emissions Trading Scheme

- The EU should set an overall 30% domestic reduction target by 2020 for the EU ETS (as compared with 1990 emission levels).
- The EU should use full auctioning as the default allocation method in the EU ETS from 2013, and at least 50% of revenue from auctioning should be used for adaptation to climate change in developing countries.
- CDM credits should only be eligible for use in the ETS if they meet the Gold Standard.
- The principle of supplementarity should be retained in full in the EU ETS Directive and should be clearly defined.

Clean Development Mechanism

- Specific mechanisms are needed to increase the penetration of CDM projects that deliver local poverty reduction and development benefits. Options such as quotas, targets and levies should be investigated.
- Tearfund supports the development of streamlined processes for bundling projects, and/or a sectoral-based target under the CDM. Further research on how to structure such an approach is needed.
- Capacity development must be intensified across all institutions involved in the CDM project cycle. International Financial Institutions (IFIs), donors and NGOs should intensify their capacity development efforts, and build on existing initiatives in this area.
- Whilst national sovereignty should not be challenged, there is a need to establish international-level principles and criteria that could guide national-level efforts to define sustainable development. A review of existing standards used in development should be conducted.
- Tearfund does not support the inclusion of Hydrofluorocarbons (HFC) /Nitrous Oxide (N₂O) projects in the CDM.
- The CDM Executive Board should strengthen guidance around civil society participation.
- Where afforestation/reforestation projects are included in the CDM, they should prioritise the needs of poor communities.

Joint Implementation

- JI should be subject to a 2% levy in the same way as the CDM. Finances generated from this levy should be paid into the Adaptation Fund.

Allowance trading

- Annex 1 countries should not rely on purchasing 'hot air' Assigned Amount Units (AAUs) to comply with their Kyoto targets.
- Allowance trading should be subject to a 2% levy in the same way as the CDM. Finances generated from this levy should be paid into the Adaptation Fund.

1 Introduction

1.1 Background

Climate change is a global problem that requires global solutions. The greenhouse gases (GHGs) that are responsible for climate change are released by all nations into the atmosphere. However, while developed nations are currently responsible for the vast majority of emissions causing climate change, it is the least developed countries which are feeling the greatest impact. It is widely acknowledged that a drastic cut in emissions of GHGs is required – to the tune of 50–80% globally by 2050.

One proposed solution for the mitigation of GHGs is carbon trading, one of the mechanisms established by the Kyoto Protocol. This allows countries which have taken on emission reduction targets to meet part of that target by acquiring emission units or credits (worth 1 tonne of carbon dioxide equivalent) from other countries which have taken on targets – or from the other flexible project mechanisms created by the protocol: the Clean Development Mechanism (CDM) and Joint Implementation (JI).

In the case of JI/CDM, Annex I countries² can earn 'carbon credits' by developing low-carbon projects in other countries (non-Annex I developing countries in the case of CDM, and other Annex I countries in the case of JI). These credits are then considered as contributing towards their emission targets.

The EU has transferred a proportion of responsibility for the delivery of its Kyoto target to industry through the EU regional Emissions Trading Scheme (ETS). This 'cap-and-trade' scheme is based on the idea that participating countries' emissions are capped at a certain level (and the cap is lowered over time to cut emissions). Companies are allocated permits for carbon emissions, which can be sold if a surplus exists, or bought if more are required.

A key feature of trading is that it is geographically and temporally flexible, and hence can help to achieve both emission reductions and economic efficiency, achieving environmental goals more cost-effectively. Furthermore, by establishing a carbon price, it forces companies to internalise the cost of carbon in their decision-making, and should therefore help to drive a low-carbon future.

However, many perceive the idea of carbon trading as a method for more wealthy developed countries to avoid their obligations to cut emissions within their own borders and to shift their responsibilities onto the developing world. While there is no doubt that there needs to be a massive shift of technology and finance to the developing world to facilitate sustainable development, not everyone is convinced that carbon trading is the best approach.

In reality, trading through these mechanisms has raised a variety of significant concerns. The design of the current EU ETS has been criticised for allocating too many credits to companies in its first phase, and allowing access to too many CDM/JI credits in the second phase – limiting the domestic emission reductions that will occur through the scheme. The CDM has been criticised because it is not consistently delivering additional emissions reductions or sustainable development, and is inaccessible to the least developed countries. Furthermore, the credits generated through the CDM are not capped, and therefore can lead to an increase in the overall carbon 'budget'.

1.2 Purpose of this paper

This paper critically assesses the EU ETS and CDM/JI, highlights the strengths and weaknesses of these mechanisms as they are currently structured, and identifies key concerns for their future implementation.

2 Those developed nations that have taken on emission reduction targets under the Kyoto Protocol.

Specifically, this paper examines how these mechanisms are currently failing to contribute to sustainable development and hence poverty reduction, and are further contributing to increased carbon emissions in industrialised nations. The report outlines key recommendations for improving these mechanisms and reducing their impact on poor people and development in particular, while also ensuring that developed countries de-carbonise their own economies rather than relying on a business-as-usual approach.

In this paper, the term sustainable development is used to refer to a wide range of benefits to local populations, including poverty alleviation, environmental and health improvements, technological innovation and economic growth.³

2 Analysis of current trading schemes

2.1 EU Emissions Trading Scheme

The first phase of the EU ETS ran from 1 January 2005 until 31 December 2007. Phase II is running from 2008 to 2012, and initial draft plans have been announced for how the scheme will be implemented in Phase III, beginning in 2013. The first phase covered the power sector and energy-intensive industrial sectors, representing about 46% of European emissions. Phase I only covered carbon dioxide emissions, whereas during the second phase member states can request to include other gases such as nitrous oxide.

Strengths

The EU ETS has been the most sizeable attempt to date to create a company-based carbon market that uses cap-and-trade to reduce emissions in a cost-effective manner. The EU ETS provides a financial incentive for cutting carbon emissions, by creating a price for carbon that is incorporated into company financial decisions, thus 'internalising' the cost of emissions. As such, it has helped to kick-start carbon trading, with several countries outside the EU beginning to follow suit. Australia and some states in the

BOX 1

Examples of other carbon trading schemes

New South Wales (NSW) Abatement Scheme (Australia): In 2003, the NSW government introduced an emissions trading scheme that requires electricity retailers to reduce annual emissions. All six GHGs are included in the scheme, and participants can achieve their targets by offsetting their liability with credits created from renewable energy and low emission generation, tree planting and energy efficiency.

Canadian Emission Trading Scheme: In the process of drafting regulation for reducing GHGs.

Regional Greenhouse Gas Initiative (RGGI): RGGI is a multi-state regional cap-and-trade programme for the power sector in the north-east United States. This scheme aims to start in 2009 and to stabilise emissions at current levels (an average of 2002-2004 levels) by 2015, followed by a 10% reduction in emissions between 2015 and 2020. Some reductions will be achieved outside the electricity sector through emissions offset projects.

Western Climate Initiative (WCI): The WCI, launched in early 2007, is a collaboration of five western US states and British Columbia in Canada. The initiative set a goal of reducing greenhouse gas emissions by 15% from 2005 levels by 2020, requiring partners to develop a market-based, multi-sector mechanism to help achieve that goal.

Sources: International Energy Trading Association: www.ieta.org/ieta/www/pages/index.php?IdSiteTree=85
WWF: http://assets.panda.org/downloads/vcm_report_final.pdf

3 For further discussion, see IISD's work on the 'development dividend' – www.iisd.org/climate/markets/dividend.asp

US have begun to develop their own trading schemes (see Box 1), and California and the UK have had discussions to explore the possibility of California joining the ETS.

The EU ETS has established the Linking Directive, which allows CDM/JI credits to be used to help meet the emission caps set by the scheme. This may bring long-term benefits by helping to create a global market for carbon, and importantly provide an opportunity for developing nations to play a role in carbon trading. (See Section 2.2 for a discussion on CDM.) It is important to highlight that there are also some significant concerns about the use of CDM/JI credits in the EU ETS, which are discussed in greater detail in the next section.

Weaknesses

The EU ETS made a minimal contribution to abatement in Phase I. In 2007, prices bottomed out as trading in Phase I allowances ground to a halt. This was largely due to an over-allocation of allowances to participants.⁴ As a result, estimates suggest that the EU ETS, at best, made a very minimal contribution to abatement in the final year of Phase I.⁵ Consultancy Point Carbon estimates Europe's emissions actually rose by 1.1% last year.⁶

There are fears that the current structure could be contributing to a slow-down in innovation in the EU, and the potential for a 'lock-in' to high carbon investments. The Kyoto Protocol specifies that the use of its flexible mechanisms must be in addition to domestic action to reduce emissions.⁷ While the rule is not clearly defined, it specifies that domestic action should constitute a significant part of the effort made – generally taken to mean more than 50%. In Phase I, the trading scheme failed to have an impact on EU emissions due to an over-allocation of allowances. In Phase II, the caps have been tightened up but access to large volumes of credits through CDM and JI may make it cheaper for EU nations to buy credits from overseas, rather than introducing new low-carbon technologies at home. This, in turn, could lead to investment in high-carbon infrastructure such as coal-fired power plants, locked in for the lifetime of the plant, with no subsequent cut in emissions in the EU.

This issue also raises concerns that developed nations will effectively transfer responsibility for tackling climate change to developing nations. In 2007 WWF assessed nine of the National Allocation Plans for Phase II and estimated that between 88 and 100% of emissions reductions required could theoretically take place outside the EU.⁸

Further, there is a risk that emissions from sectors covered by the ETS could actually increase as a result of the large volumes of carbon credits that will be available through the CDM and JI in Phase II. CDM and JI credits are not capped, and so increase the overall budget of carbon emissions. The Oko-Institut estimates that emissions could increase by 145 million tonnes of CO₂ over their 2005/06 levels – equivalent to the annual emissions from approximately 30 coal-fired power stations.⁹

The European Commission appears to have recognised that Certified Emissions Reductions (CER) volume is too high in the second phase and is proposing in the draft revised EU ETS that no additional access to CERs by ETS participants should be allowed in the third phase, with an economy-wide emission reduction target of 20% by 2020. For example, participants will only be able to use CERs *'up to the remainder of the level*

4 Over-allocation occurred because allocations presented in National Allocation Plans (NAPs) were based on estimates of business-as-usual emissions projections.

5 www.triplepundit.com/pages/eu-ets-phase-i-emissions-abate-002995.php

6 www.businessweek.com/globalbiz/content/apr2008/gb20080428_384849_page_2.htm

7 'In accordance with the relevant provisions of the Kyoto Protocol and Marrakesh accords, the use of the mechanisms should be supplemental to domestic action and domestic action will thus constitute a significant element of the effort made.' Source: WWF, 2007a.

8 WWF, 2007a

9 Oko-Institut, 2007

which they were allowed in the 2nd trading period'.¹⁰ However, it is far from certain whether this provision will remain in the draft proposal as it progresses through the political process in Brussels.

Allocation of credits has resulted in windfall profits for many power companies. To date, the EU ETS has allocated most allowances for free, rather than auctioning them. Free allocation or 'grandfathering', which is based on past or predicted emissions, is inefficient and rewards polluters. Auctioning, by contrast, awards allowances based on the price that installations are willing to pay, and hence raises valuable revenues for the government. The allocation of free allowances has enabled many power firms to make windfall profits by passing on the cost of the allocations to consumers. WWF commissioned Point Carbon, a world-leading provider of information and analysis on carbon markets, to carry out a study assessing the potential and scale of windfall profits to the power sector in the UK, Germany, Spain, Italy and Poland. Over the second phase of the scheme, which is set to run until 2012, the report shows that overall profits to the power sector in these countries could be as high as €71 billion.¹¹

2.2 Clean Development Mechanism

The CDM was designed with two purposes: the first to provide Annex I countries with a cost-effective option to help meet a proportion of their emissions reduction target, and the second to deliver sustainable development benefits through the transfer of resources and green technologies to non-Annex I countries. (See Box 2 for a brief overview of the CDM project cycle.) The CDM also generates financing for the UN Adaptation Fund via a 2% levy on all credits.

Unlike allowance trading, in which participants trade under a set cap, the CDM is project-based and generates new certificates, which are added to the overall GHG 'budget'. The purchase of CERs by capped entities (e.g. countries or companies in the EU ETS) allows them to emit above the level of their cap. As such, the current CDM does not lower GHG emissions globally: instead, it provides least-cost options for Annex I countries to offset their emissions. Hence, it is imperative that each project is in fact resulting in additional carbon reductions,¹² as well as advancing sustainable development.

BOX 2

The CDM project cycle

An Annex I country that wishes to get credits from a CDM project must get consent from the developing country host. The developer then prepares a Project Design Document (PDD). In addition to describing the key elements of the project design, this document must establish a baseline estimating what the future emissions would be were the project not to proceed, and make the case that the project would not have happened otherwise (establishing 'additionality').

The project is then validated by a third-party agency, called a Designated Operational Entity (DOE) to ensure the project results in real, measureable and long-term emissions reductions. DOEs must be accredited by the Executive Board (EB). The DOE is responsible for verifying that the project is additional and contributes to sustainable development. The DOE is also responsible for soliciting consultation on the PDD.

The PDD is then submitted to the CDM's Executive Board, with a validation report from the DOE. The EB conducts a review of the validation report and, if accepted, it registers the project. Once registered, the project can be implemented. The project performance has to be monitored and results submitted to a DOE responsible for verification and certification. The DOE certifies the GHG reductions accruing to the project, and EB issues Certified Emissions Reductions (CERs, or carbon credits).

¹⁰ http://ec.europa.eu/environment/climat/emission/pdf/com_2008_16_en.pdf (page 11)

¹¹ www.wwf.org.uk/filelibrary/pdf/ets_windfall_report_0408.pdf

¹² Often termed 'additionality' – showing that a project would not have taken place in the absence of the carbon market. This is crucial as non-additional projects may actually allow global emissions to increase.

However, there is concern that the CDM is not delivering on these objectives. This section briefly describes the key strengths and weaknesses of the CDM.

Strengths

The CDM has introduced a new market mechanism for implementing emissions reductions in developing nations and facilitating transfer of resources. By 1 October 2007, 803 CDM projects had been registered with the aim of delivering emission reductions of about 168 million tonnes of CO_{2e} per year.¹³ About 2,500 projects are in the pipeline, which could deliver emission reductions of about 400 million tonnes of CO_{2e} per year.¹⁴

In addition to emissions cuts, the CDM has delivered some sustainable development benefits. The CDM has largely delivered climate- and employment-related dividends, through the additional projects that have been implemented as a result of the market. Furthermore, some projects have demonstrated that

BOX 3

CDM and sustainable development: case studies

The Vanilla Jatropha Project, Kenya, undertaken through the Kenya Small Project Facility, provides an example of the sustainable development benefits that can result from a small-scale CDM project that has generated interest from buyers. Local farmers will cultivate jatropha trees whose seeds will be harvested to produce jatropha oil. The raw jatropha oil will go through a process to produce bio-diesel and glycerol. The jatropha oil will replace kerosene for lighting and cooking, and the bio-diesel will provide an alternative fuel for combustion engines such as generator sets. By-products include seed cakes that can be used as organic manure and glycerol that can be used to produce soap. Benefits to local families and farmers include both financial savings and income-generating opportunities, improved health benefits from using a clean fuel, and the additional benefit of organic fertiliser and glycerol production.

The Kuyasa Low-Cost Urban Housing Energy Upgrade Project, South Africa, was registered with the CDM Executive Board in August 2005. The project is a joint initiative between SouthSouthNorth (SSN) and the Cape Town City Council to provide energy-efficient lighting, solar-powered hot water and insulated ceilings for 2,400 buildings in Kuyasa township. The project is expected to deliver a saving of 2.8 tonnes of carbon dioxide per year per household. It was the first CDM Gold Standard project to be registered.

Source: Brunt and Knechtel, 2005

BOX 4

The Gold Standard

Initiated by WWF, SouthSouthNorth and Helio International, the Gold Standard for CDM projects was launched in 2003, after a wide-ranging stakeholder consultation among key actors in the carbon market as well as governments. A methodology for voluntary offset projects was launched in May 2006.

The Gold Standard Foundation offers a quality label to CDM/JI and voluntary offset projects, fetching premium prices. Renewable energy and energy efficiency projects with sustainable development benefits are eligible. The Gold Standard is endorsed by over 50 non-governmental organisations worldwide. Gold Standard projects are preferred by a range of government and private actors.

The Gold Standard adds extra screens for quality control, which are added into the regular CDM and JI project cycle, and verified by DOEs.

Source: www.cdmgoldstandard.org

13 CO_{2e} stands for carbon dioxide equivalent, that is, total emissions reductions from all greenhouse gases, in equivalent tonnes of CO₂.

14 Oiko-Institut, 2007

CDM is capable of delivering local benefits that contribute to poverty reduction (see Box 3). These efforts have been further enhanced by the Gold Standard, an NGO initiative that offers a quality label to CDM/JI projects that deliver sustainable development benefits (see Box 4).

The CDM has been an effective tool for engaging developing countries in the Kyoto Protocol. In addition to being a market-based tool, the CDM is also a political tool, and as such has been very successful in engaging the developing countries in Kyoto.¹⁵

Weaknesses

The CDM has resulted in uneven benefits, with the poorest regions registering the least number of projects. The majority of projects have been approved in China,¹⁶ India and Brazil, whilst Africa has gained little, with only 4% of projects to date.¹⁷ The lack of projects in poorer regions of the world has been linked to a lack of capacity and skills in these areas. Further, the CDM process is complex and hence many small-scale developers do not have the resources to apply for CDM credits. As rapidly industrialising countries have the most opportunities to cut emissions, they tend to dominate the CDM market.

The CDM has fallen short on delivering sustainable development benefits. A number of factors have contributed to a significant lack of projects with sustainable development benefits:

- Host governments hold responsibility for setting and ensuring that sustainable development criteria are met for CDM projects (through the Designated National Authority or DNA). However, these criteria can differ significantly between nations, and are often tied to economic growth targets (and resulting GHG emissions). Furthermore, governments may face a conflict of interest between the desire to attract foreign investment and sustainable development priorities. Yet, it is difficult to set standardised targets at an international level because nations argue that this impinges on their sovereignty.
- Projects with significant sustainable development benefits tend to be those that are smaller and more local. The transaction costs of CDM are often too high to make these projects viable. Box 6 highlights areas where CDM poverty benefits will be greatest.

BOX 5

Africa and the CDM

The lack of CDM projects in Africa has been largely attributed to a lack of awareness, capacity and skills in Africa to develop viable projects that attract investors, as well as poor development of the relevant institutions necessary to establish CDM projects. Of course, these characteristics are not specific to CDM projects, but rather highlight the broader issues around governance and regulation that act as barriers to wider investment in Africa.

In response to these issues, the Nairobi Framework was initiated at the 2006 COP/MOP in Nairobi, with the specific objective of helping developing countries, especially those in sub-Saharan Africa, to improve their level of participation in the CDM. The Framework was initiated by UNDP, UNEP, World Bank, African Development Bank and the UNFCCC, and consists of five objectives:

- Build and enhance capacity of Designated National Authorities to become fully operational.
- Build capacity in developing CDM project activities.
- Promote investment opportunities for projects.
- Improve information sharing/ outreach/ exchange of views on activities/ education and training.
- Inter-agency coordination.

Source: http://cdm.unfccc.int/Nairobi_Framework/index.html

15 Wara M, 2006

16 Forecasts suggest that China will capture the majority of projects, supplying up to 61% of emissions credits purchased since 2002 due to the relatively low cost of emissions abatement in China. (World Bank 2007, in Boyd et al, 2007)

17 Boyd E et al, 2007

BOX 6

Potential win-win CDM projects

Small-scale rural renewable energy projects appear to offer the best prospect for poverty benefits in the CDM. According to a recent DFID research study (Troni et al, 2002), poverty benefits will be highest where rural households are connected with new energy sources, for example, via grid-connected biomass electricity production. The poverty benefits from this type of project can include increased income from enterprise development, access to clean water, improved health services and sanitation, security, education and benefits relating specifically to women and children (as they spend less time collecting firewood and water). Improved wood stoves and micro-hydro power generation are other energy options with high poverty benefits. But the study observes the need for 'dedicated purchasing programmes' to ensure such benefits are obtained.

Another high-potential area, according to a recent study by the Centre for International Forestry, is community-level forestry, even though forestry 'sink' activities in the first phase of the CDM have been limited to afforestation and reforestation. There is scope for community-based restoration of degraded and deforested areas through multiple-species reforestation and agroforestry. But such projects will have higher transaction costs and lower biomass productivity compared to industrial plantations. There are also uncertainties over forest definitions and sink project modalities.

Source: Richards, 2003

BOX 7

HFC and N₂O projects

Hydrofluorocarbons (HFCs) are typically created through the production of refrigerants, while N₂O typically arises in the manufacture of nylon feedstock and fertilisers. The case of HFC-23 is a good example of the difficulties associated with these types of projects. While carbon dioxide is the most common GHG, the global-warming potential of HFC-23 is 11,700 times greater. HFC-23 destruction projects currently account for the vast majority of CDM credits – refrigerant companies install an incinerator to burn HFC-23, and can make more money from selling the carbon credits than they do from selling their refrigerant products. Furthermore, Nature reports that it would cost around Euro 100 million to install scrubbers into existing factories producing HFC-23 in the developing world, yet the same factories look set to make €4.7 billion from the sale of credits in the carbon market.¹⁸

- Along similar lines, investors logically support least-cost abatement projects that generate credits quickly. This preference draws investors to high volume projects such as HFC and N₂O reductions (at the expense of longer-term renewable energy or energy efficiency investments), which in turn make very little or no sustainable development contributions (see Box 7). Furthermore, by generating large numbers of cheap credits, these projects may in fact delay innovation by allowing developed nations to buy credits more cheaply rather than introducing cleaner technologies at home.
- Finally, the sale of carbon credits is often brokered by middlemen who bring potential CDM projects to the attention of companies. These middlemen bring an added cost to the project cycle, and could reduce the direct monetary benefit to a local developer.

The inherent difficulty in establishing baselines and project additionality¹⁹ is compromising the environmental integrity of Kyoto. Each CDM project has to establish an emissions baseline and prove that the project is additional to what would have occurred without the CDM. However, establishing defensible baselines depends on very good data being available (which is often not the case). Determining additionality

18 'Is the global carbon market working?' *Nature*, Vol. 44518, February 2007,

19 The current approaches for demonstrating additionality mostly use three elements: a barrier analysis to demonstrate that barriers exist which would prevent the proposed project, an investment analysis to demonstrate that the proposed project activity is economically less attractive than another alternative, and a common practice analysis which requires an assessment of the extent to which the proposed project type has already been deployed. (Oko-Institut, 2007, p.8)

relies on an assessment of what might have happened without the CDM (which is subjective at best). This has significant consequences: if a project is not additional (ie: it was going to happen anyway) and receives credits which are used to offset capped emissions in a developed country, it results in a net **increase** in global emissions. The Oko-Institut's main finding is that 40% of registered projects, accounting for 20% of CDM credits, may have happened without CDM financing.²⁰

Furthermore, the additionality criteria can create a perverse incentive – if a country institutes a renewable energy obligation, then one can argue that CDM projects are not additional and therefore they do not qualify for CDM finance flows.

The CDM has been characterised by a lack of stakeholder engagement and civil society involvement in project design. The rules around the stakeholder engagement process are vague, and have led to selective involvement of stakeholders. Furthermore, Project Development Documents only have to be published on the internet for 30 days. Many stakeholders, particularly at the community level, are non-literate, unfamiliar with the subject, and do not have access to the internet and so are not able to participate.

2.3 Joint Implementation

Joint Implementation differs from the CDM in that projects take place in Annex 1 countries where emissions are capped, and thus it raises fewer concerns about additionality.

The JI faces similar difficulties to the CDM in terms of its interaction with the EU ETS. JI credits boost the total number of credits in the EU ETS, thus increasing the availability and reducing the cost of credits overall (and so cutting compliance costs). The JI also raises issues of supplementarity, giving nations the option of reducing emissions in other countries whilst locking in emissions at home. However, because the JI is specific to projects within Annex I nations, it does not have the same sustainable development implications as the CDM.

2.4 Allowance trading

It is as yet unclear how big a role allowance trading will play as the first phase of the Kyoto Protocol draws to a close in 2012. Under allowance trading, Annex 1 countries unable to meet their Kyoto obligations can buy any surplus allowances (called Assigned Amount Units or AAUs) from other countries. The economic collapse of Russia and the ex-Soviet countries has meant that their GHG emissions have substantially decreased since 1990 (the benchmark year for emission targets) so they have a surplus of emissions credits. These credits are often referred to as 'hot air' because they are not actually the result of emissions reductions. There is concern that countries worried about complying with Kyoto may seek to buy and use these 'hot air' AAUs towards their targets.

3 Analysis of the future of trading schemes

Carbon trading is evolving, as existing systems are reviewed and refined, and new trading schemes are created in various parts of the world. The first phase of the Kyoto Protocol ends in 2012 and there is much discussion over what the post-2012 framework may look like. Similarly, the EU ETS has just started its second five-year phase (2008–2012) and has a third phase scheduled to run from 2013. As new phases are negotiated and new mechanisms created, there is significant opportunity to learn from the lessons

20 Oko-Institut, 2007, page 9

of the past, and ensure that any future initiatives result in maximum emissions cuts while also delivering sustainable development.

Many different ideas have been put forward to address the flaws in CDM/JI and EU ETS. These range from doing away with carbon trading all together in favour of other mechanisms such as taxes, to substantially changing the face of these schemes so that they deliver greater domestic and international emissions reductions and bring real benefit to poor countries. It is not within the scope of this paper to describe all the alternative schemes²¹ but rather to present a summary of the key issues that are being discussed for the next phase of these schemes.

The following are key issues which Tearfund has identified as requiring further exploration and decision as the EU ETS enters its third phase and the CDM is developed. The lists are not exhaustive but rather highlight key issues relating to sustainable development and emissions reductions. Decisions are required on the following:

EU Emissions Trading Scheme

- The level at which caps should be set
- The percentage of permits allocated and the percentage of permits auctioned
- The percentage of CDM/JI credits allowed on the market including consideration of whether these should be limited to Gold Standard (see Box 4) credits to better ensure that credits traded in the EU ETS are additional and delivering sustainable development benefits.

Clean Development Mechanism

- At the most fundamental level, whether the CDM be streamlined to be simply a market mechanism that delivers emission reductions, or whether it retains its dual goal of emission cuts and sustainable development
- The mechanisms which could be introduced to increase the penetration of small-scale projects with greater local benefits. How the bundling of projects can be made more effective and whether sectoral or policy-based mechanisms should be introduced
- Similarly, how such mechanisms are used to enhance the geographic spread of projects, in particular ensuring that Africa benefits from CDM
- How the capacity of CDM institutions might be built. More specifically, how the CDM's Executive Board could be strengthened to improve project review and approval. Ways in which Designated National Authorities can be strengthened to incorporate sustainable development goals without threatening national sovereignty
- The treatment of HFC/N₂O projects and their potential inclusion in the CDM
- Improving stakeholder and civil society involvement
- Whether or not to include afforestation/reforestation projects and ways in which they might be incorporated most effectively
- How the CDM works if larger industrialised countries move to taking on national targets under the post-2012 framework.

21 Boyd et al group and summarise the key features of a range of proposals for the future of carbon trading. See Boyd et al, 2007, p.32.

4 Conclusions and recommendations

4.1 EU Emissions Trading Scheme

- A The EU should set an overall 30% reduction target by 2020 (as compared with 1990 emission levels) to be delivered within EU boundaries.** European governments must take concerted action to de-carbonise their own economies as a priority.
- B The EU should use full auctioning as the default allocation method in the EU ETS from 2013.** Furthermore, at least 50% of the revenues from auctioning allowances in the EU ETS should be used to help developing countries adapt to climate change. These funds should be channelled through the UN, more specifically the Adaptation Fund where possible, so they contribute directly to adaptation that benefits the poorest communities. The remaining revenues should be used in the EU to support the development and market introduction of greenhouse gas reduction instruments and technologies. These funds should be used by member states, but should be specifically earmarked for climate initiatives, and must not be absorbed into wider budgets used for other purposes.
- C Access to CDM credits should be additional to the 30% domestic emission reduction target, ie: access should be truly supplemental to domestic action. In addition, credits should only be eligible for use if they meet the Gold Standard.** This will help to ensure that projects are additional and have a positive sustainable development impact (see Box 4). It should be noted that the Gold Standard may require capacity support, as the credits under this scheme are hard to obtain (as demand is outstripping supply). Accreditation procedures may also need to be stepped up.
- D The principle of supplementarity should be retained in full in the EU ETS Directive and clearly defined.** The aim must be that the overwhelming majority of emissions reductions required by the ETS are achieved within the EU. The principle should be made operational by clear rules and a harmonised approach across the EU. European governments must take action to de-carbonise their own economies.

4.2 Clean Development Mechanism

Tearfund believes that the CDM could, in theory, be one of several mechanisms which contributes to emissions reductions and sustainable development in the developing world. However, it cannot be a substitute for massive investment to ensure that developing countries are able to develop sustainably along a low-carbon development path.

The key issues that must be urgently addressed are as follows:

- A Specific mechanisms are needed to increase the penetration of CDM projects that deliver local poverty reduction and development benefits.** Tearfund does not wish to exclude projects that are largely focused on emissions reductions as these contribute to the greater common good. But there must be a greater proportion of projects with sustainable development impacts, particularly in Africa which is currently deriving almost no benefit from the CDM. The complexity of the current system is a barrier to more small-scale and sustainable projects. At the same time, stringent requirements are necessary to ensure that projects are not approved unless they are additional. This potential contradiction between emissions cuts and additionality needs to be addressed.

BOX 8

Alternatives for establishing sustainable development requirements

Alternative 0 (current system): Nations determine their own sustainable development (SD) requirements effected by Item 40(a) of the Modalities and Procedures for a Clean Development Mechanism, as defined by Article 12 of the Kyoto Protocol adopted by the parties as Decision 3 of COP 11/MOP 1 in Montreal in 2005. Continuing this approach protects national sovereignty but risks the 'race to the bottom' of low expectations.

Alternative 1: Minimal global standards for SD benefits, so, for example, they should generate employment or at least 'royalties' for local or national government services. These could include employment generation, local development, tax revenues, energy infrastructure development, etc. These minimal standards could be similar to the 'Gold Standard' expectations of voluntary offset projects, or could be more carefully detailed.

Alternative 2: A global checklist of SD benefits, allowing nations to add or deduct certain types. This could be described as a system of 'global norms with local flexibility'.

Alternative 3: A global points system for different types of beneficial development aspects of CDM projects. More points could be allotted to the most desirable projects, but all projects would have to reach a minimum number of points for sustainable development benefits to be accepted. Certain elements could be made mandatory if they were considered too important to be left out.

Alternative 4: Policy-based adjustment to CERs to favour high SD projects and provide disincentives to those with high CERs but low SD or distributional benefits. That is, certain types of projects in key regions or sectors could gain double or triple CERs, while others creating few SD benefits would be awarded half or a third of the number currently awarded. This would be an intentional distortion of the market to favour high-benefit projects, but would require a balance of projects with low and high CERs.

Source: Boyd et al, 2007

It is recommended that:

- Options are investigated for using targets, quotas or incentive mechanisms to ensure a better geographic spread of CDM projects, as well as more projects that deliver local sustainable development and poverty reduction. This focus should not, however, detract from the priority of addressing additionality (see Box 8 with suggestions from Boyd et al, 2007).
- In support of these incentive mechanisms, further research is required on the specific factors that contribute to projects that deliver sustainable development objectives, particularly at a local level, so that these attributes/types of projects can be encouraged. Further case studies on CDM projects that deliver local benefits are needed.
- A 'development levy' could be placed on particular types of projects.²² This money could then be used for capacity development and enhancing projects' sustainable development benefits.

- B Tearfund supports the development of a streamlined process for the bundling of projects, and/or a sectoral-based target under the CDM.** Bundling can facilitate greater numbers of small-scale projects delivering local benefits. However, it is acknowledged that there are complexities and perverse incentives inherent in these approaches as well, and so Tearfund supports further discussion/research on how to structure such an approach.

Sector-Wide Approaches (SWAPs) and aggregation models have been used in a range of other sectors, such as water and sanitation and electricity, as a means of garnering finance for smaller-scale projects. Further research comparing similarities and differences with SWAPs/aggregation tools in other sectors, and examining lessons that can be learned for the CDM market, should be conducted.

²² For example, this is already done in China, where the authorities charge a project-type variable levy to encourage CDM projects in priority sectors which generate the greatest sustainable development dividends for the country. Hence, afforestation and reforestation projects are charged a 2% levy, N₂O projects 30% and HFC projects 65%. Boyd et al, 2007.

BOX 9

DNA Capacity Development: lessons learned by GTZ

German Technical Cooperation (GTZ) has supported both the establishment and operation of DNAs in Ghana, India, Indonesia, South Africa and Tunisia. The following key lessons have been learnt from this capacity building work:

- Broad participation of stakeholders in the establishment of the DNA and the role of CDM is crucial.
- An existing organisation should be designated as the DNA.
- Approval procedures should be transparent, and project developers should be given the opportunity to put forward a preliminary project submission, present their project verbally at DNA meetings, and appeal against DNA decisions.
- Sustainability criteria should be based on criteria that already exist in-country. Criteria should be categorised into environmental, social and economic aspects. Testing of draft criteria against real projects before finalisation has proved helpful.

Source: Schneider and Grashof, 2006

C Capacity development must be intensified across all institutions involved in the CDM project cycle.

These institutions are responsible for ensuring sustainable development criteria are met, and verifying that projects are not additional, and so must be strengthened in these roles. More specifically:

- The Executive Board should be provided with more resources to intensify its review and approval of projects, particularly in light of additionality and sustainable development benefits;
- Designated National Authority's require capacity development to strengthen approaches to sustainable development (see Box 9);
- DOEs need to be strengthened to ensure that additionality issues are adequately addressed; and
- Small-scale project developers require capacity development to respond effectively and efficiently to CDM project application requirements.

Further, it is recommended that:

- IFIs, donors and NGOs should intensify efforts at capacity development, and should seek to build on already existing initiatives, such as the Nairobi Framework (see Box 5), and the Pembina Institute's Small Project Facility (see Box 10).

D Whilst national sovereignty should not be challenged, international-level principles and criteria that could guide national-level efforts to define sustainable development should be established. Many international organisations have already established social and environmental standards for development work that are applied in the countries where they are working.

BOX 10

The Pembina Institute's Small Project Facility

In 2002, the Pembina Institute launched the CDM Small Project Facility in India, and has since extended this successful training programme to Kenya (2004) and Nigeria (2006).

The Small Project Facilities help local project developers gain knowledge and experience in leveraging project financing through the CDM and other financing options. The resulting projects contribute significantly to the development of participating communities, resulting in improved energy services (lighting, hot water, refrigeration), income generation (small businesses, agricultural services), household savings (reduced fuel consumption) and improved health and educational opportunities (cleaner fuels, access to lighting for studying).

The CDM Small Project Facility in India also resulted in the design of a new baseline methodology for small-scale projects, helping pave the way for other project developers interested in leveraging CDM financing for similar projects.

Source: <http://communities.pembina.org/work/climate-change>

It is recommended that:

- A review of existing social and environmental standards used in development work is conducted, and a similar framework for the CDM is developed on this basis.

- E Tearfund does not support the inclusion of HFC/N₂O projects in the CDM.** While these projects are additional and generate high levels of emissions reductions, they do not contribute to sustainable development. They risk flooding the market and lowering the price of credits, they do not incentivise innovation towards low-carbon futures and they are not the most cost-effective method of reducing emissions from these facilities.
- F The CDM Executive Board should strengthen guidance around civil society participation.** The CDM guidelines need to have clearer and stronger mechanisms for civil society participation, as this will help to ensure that local voices are heard in the CDM process. Open and transparent stakeholder consultation needs to be verified to minimise selective consultation on projects. Lessons can be drawn from the requirements of international donors for NGO participation in development efforts.
- Review the processes and requirements of international donors in ensuring stakeholder participation in development planning, and use similar models to strengthen CDM guidance.
 - The CDM Executive Board should clarify what type of stakeholders should be consulted, and require all stakeholder comments to be made publicly available.
- G Where afforestation/reforestation projects are included in the CDM, they should ensure that the needs of poor communities are prioritised.**

The inclusion of afforestation/reforestation projects brings a whole host of issues. On the positive side, forestry projects can help to preserve a resource that is critical for many livelihoods in developing nations, and play a key role in halting deforestation. However, these projects also raise the following issues:

- They are a carbon sink and so are not a permanent carbon store.
- Forestry projects can simply displace deforestation to other areas.
- Land may be cleared and then reforested to be eligible for CDM projects.
- Forestry projects could flood the market with carbon credits, lowering the international price of carbon and so reducing compliance costs.
- The type of forest planted is important, with negative implications associated with monocultures and genetically modified species.

4.3 Joint Implementation

- A The JI should be subject to a 2% levy, like the CDM. Finances generated from this levy should be paid into the UN Adaptation Fund.**

4.4 Allowance trading

- A Annex 1 countries should not rely on purchasing 'hot air' AAUs to comply with their Kyoto targets.** Given that Kyoto targets are already weak, developed countries should make every endeavour to make domestic emissions reductions in the first commitment period, without resorting to buying credits that do not represent true emissions cuts.
- B Allowance trading should be subject to a 2% levy, like the CDM. Finances generated from this levy should be paid into the UN Adaptation Fund.**

4.5 Conclusion

While the classic economic model of carbon trading is intended to reduce global emissions at lowest cost, Tearfund has concerns that this approach will mean the lock-in of high-carbon infrastructure in the North. Industrialised nations must do everything possible to de-carbonise their economies and make reductions at home. The trading of credits should occur out of necessity, not simply because it is the cheapest option. Credits from uncapped schemes such as the CDM should not be allowed to flood markets, and critical thinking must take place around how the CDM should function as rapidly industrialising countries consider accepting mitigation obligations through the UNFCCC.

The global carbon market has the potential to make a significant contribution to reducing emissions if the recommendations above are implemented. However, blind faith in the carbon market's ability to provide answers is not enough. So far, trading systems have not delivered genuine emissions reductions and sustainable low-carbon development on the scale necessary. Some countries and companies could seek to avoid making costly decisions about infrastructure in the North by exporting their obligations to the developing world, and continuing with business-as-usual reliance on fossil fuels. This must not be allowed to happen.

Therefore, other measures such as targets, regulations and green taxes will almost certainly have a key role in any future climate frameworks. Urgent consideration should be given to phasing out subsidies for fossil fuels and increasing incentives for renewables and energy efficiency. And while access to the CDM for the world's poorest countries is important, the carbon market alone will not deliver clean energy paths for poor people: large-scale development aid and other innovative financial mechanisms are also essential.

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