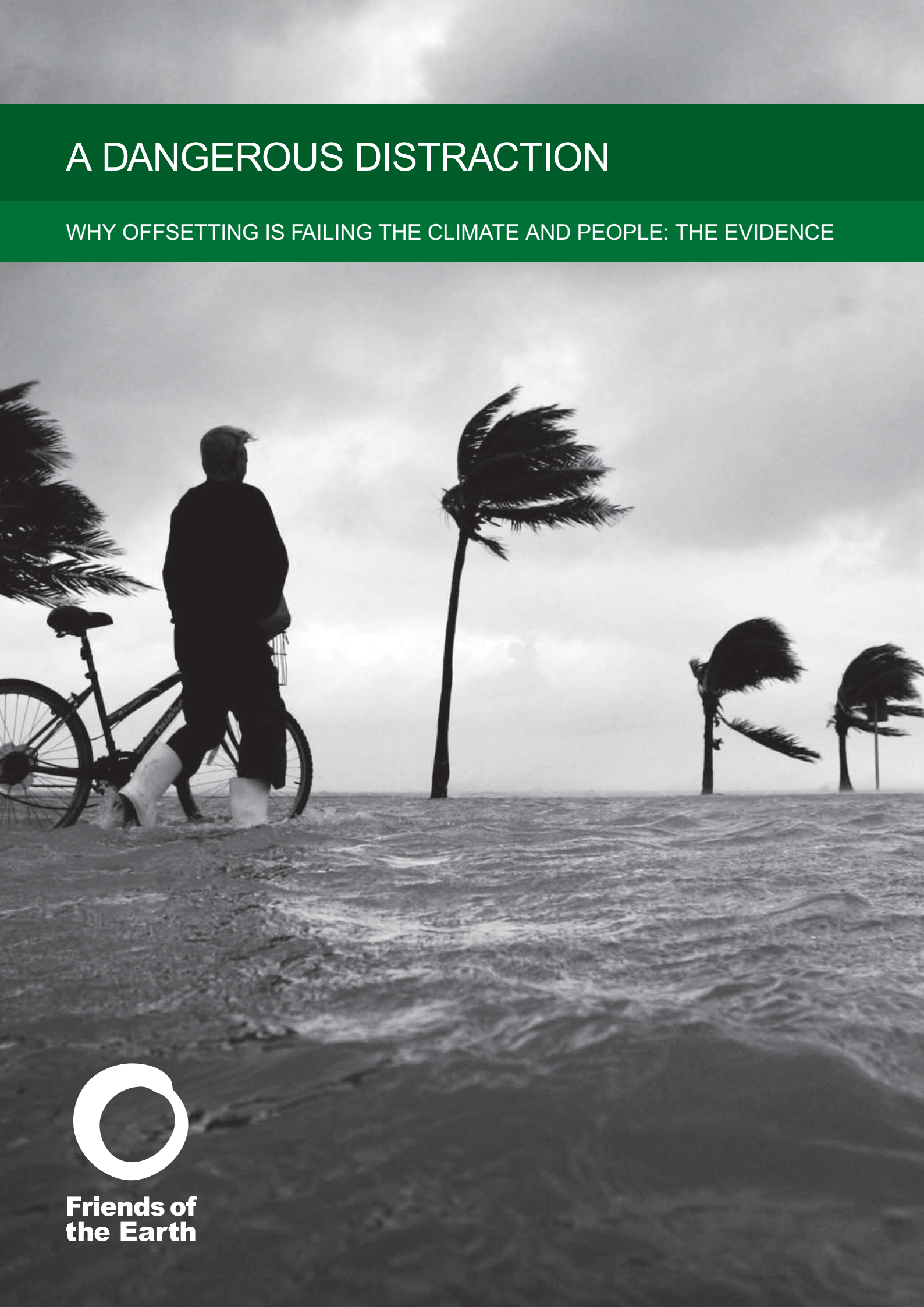
A DANGEROUS DISTRACTION

WHY OFFSETTING IS FAILING THE CLIMATE AND PEOPLE: THE EVIDENCE



Friends of the Earth

FOREWORD

Negotiations to prevent dangerous climate change are moving painfully slowly, despite the science demanding urgent carbon cuts. Developed countries are reluctant to set themselves reduction targets consistent with what the science demands and provide necessary financial flows to developing countries. To compound this failure, they are also seeking to continue and extend the use of offsetting.

This report provides the evidence to show that offsetting does not work and will not work. Offsetting does not lead to promised additional emissions cuts in developing countries; it delays essential structural change in developed-country economies; and it institutionalises the idea of cuts in either the north or the south, when science demands reductions in both.

As importantly, the report reveals the inequalities of the offset approach – an approach that allows people in rich countries to carry on polluting while requiring unfair reductions in developing countries.

"NEGOTIATORS MUST RECOGNISE THAT OFFSETTING DOES NOT WORK, WILL NOT WORK AND THAT IT MUST BE SCRAPPED."

Offsetting is now a dangerous distraction. Negotiators must recognise that it does not work, will not work and that it must be scrapped. Instead the world needs developed countries to cut their own emissions first and fast and pay up for adaptation and mitigation in developing countries. This course of action is not a threat to the well-being of people in developed countries; it is a vital step towards new jobs, new industries, a healthier global economy and a safer and more just world.

Andy Atkins
Executive director
Friends of the Earth England, Wales and Northern Ireland

ABOUT THIS REPORT

This report has been prepared for Friends of the Earth England, Wales and Northern Ireland's work on international climate justice. The report is for decision makers, media and campaigners thinking through robust, workable and fair solutions to climate change ahead of the UN talks in Copenhagen in December 2009.

There is a growing and credible body of evidence and opinion that offsetting is not working; that it is undermining efforts to prevent dangerous climate change and supporting sustainable development; that it is profoundly unjust, and that it cannot successfully be reformed.

This report draws together some of the key evidence to ensure this view is fully reflected in public debate and international talks. It focuses on the UK as an example, but the lessons are applicable to all developed countries.

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EXECUTIVE SUMMARY

Tackling climate change urgently requires major cuts in global greenhouse gas emissions. At Kyoto in 1997, as a step towards this goal, developed countries agreed targets to cut their emissions. Embattled negotiators introduced offsetting to offer some flexibility in the way these targets could be met.

The theory was that offsetting would allow developed countries to meet part of their targets by paying developing countries to deliver greenhouse gas reduction projects.

Since then offsetting has grown quickly, in particular in the form of the Clean Development Mechanism (CDM). Despite many well-publicised problems[1], CDM offsets are now predicted to deliver more than half of the European Union's planned carbon reductions to 2020.

Offsetting in general is poised for further expansion, potentially bringing onstream many more offset credits:

- into forests, through proposed offset-based REDD mechanisms (Reduced Emissions from Degradation and Deforestation).
- into sectors that the CDM does not currently cover, such as nuclear power.
- under new sectoral frameworks.

Offsetting has gone from being a minor, experimental idea to an approach which, although it has major negative impacts on countries' climate-change strategies, is set to expand further. Countries are clamouring for even more offsetting opportunities as the world prepares for crucial climate talks in Copenhagen at the end of 2009.

In practice offsetting is having a disastrous impact on the prospects for averting catastrophic climate change. It is vital that the inherent and systemic flaws in the approach are recognised ahead of negotiations. These problems cannot be dealt with by simply reforming CDM; instead completely new approaches are needed that are effective and just.

The five central arguments against offsetting are that it:

1 counts action in developing countries as part of the cuts promised in developed countries, although the science is clear that action is needed in both developed and developing countries.
2 cannot guarantee the same cuts as would have happened without offsetting.
3 is causing major delays to urgently needed economic transformations in developed countries.
4 does not ensure positive sustainable development in, or appropriate financial transfers to, developing countries.
5 is profoundly unjust, fundamentally flawed and cannot be reformed.

For these reasons offsetting must not be expanded at Copenhagen. New proposed offsetting schemes must be dropped from negotiations, and existing offsetting mechanisms need to be scrapped.

This report analyses offsetting, using mainly the example of the largest scheme, the Clean Development Mechanism (CDM). However, this analysis is largely applicable to the other types of offsetting as well.

OFFSETTING IS NOT REFORMABLE

Offsets are a swap of an emissions cut in developed countries for a cut in developing countries. But action in both is needed. Failure to cut in developed countries also results in delays in essential infrastructure changes necessary for deeper cuts in the future. Offsetting results in fewer emissions cuts. No amount of reform can alter this.

The problems of proving "additionality" – that the developing country project would not have happened without CDM – are inherent. The US Government Accountability Office says it is impossible to know with certainty whether a project is additional.

The problems of proving the offset project generates the same level of carbon cuts are inherent. Offsetting credits are created against hypothetical baselines – they are not and cannot be guarantees of the same level of cuts.

The report finds that:

1. Offsetting delivers lower greenhouse gas cuts than the science says are needed to avert catastrophic climate change.
The IPCC says that developed countries need to make major greenhouse gas cuts and **in addition** that developing countries need to make cuts on so-called business-as-usual baselines (emissions levels). But offsetting means that action in developing countries can be counted as part of the action needed in developed countries. Offsetting therefore institutionalises the idea of making cuts in one or the other, when the science and the IPCC are clear that action in both is needed. It is incompatible with the IPCC's recommendation, and leads to less emissions cuts. The climate loses.

2. Offsetting cannot guarantee the same level of carbon cuts in the developing country as would have been made in the developed country.

i. It is almost impossible to prove that most offsetting projects would not have happened without the offset finance – ie that they are "additional". The US Government Accountability Office's (GAO) 2008 review of offsets said "it is impossible to know with certainty whether any given project is additional". Without this guarantee the net effect is that greenhouse gas emissions are increasing – because the CDM credit allows the developed country to continue polluting. The climate loses.
ii. Even if a project were additional, it is often impossible to calculate accurately how much carbon a project is saving. This is because credits are calculated by judging action against hypothetical futures – things that haven't happened.

3. Offsetting delays necessary infrastructure changes in developed countries. It weakens incentives to implement strong climate policies or prevent high-carbon investments. A switch to a low-carbon model in developed countries in time to prevent catastrophic climate change requires that they make major investments now and over the next 10 years. Yet offsetting means that, for example, EU countries can delay taking strong action until at least 2020. Locking in their high-carbon infrastructure will have severe consequences for the global climate and developed-country economies.

4. Offsetting is not delivering for developing countries.

i. In many cases offsetting is not helping developing countries take a low-carbon path. In fact a large proportion of CDM revenues are subsidising carbon-intensive industries, or projects building fossil-fuel power stations.
ii. CDM can create financial incentives for developing countries not to implement strong climate policies. This is because only projects that are not required by regulation are supposed to qualify as CDM projects.
iii. The financial flows involved are far lower than those required to adequately or effectively support low-carbon development. Developing countries must be given far greater support – not least because of the colossal historic debt owed to them by developed countries, which have overwhelmingly caused the climate change crisis. Offsetting, however, is not the tool for this job.
iv There are severe equity impacts for developing countries if developed countries offset even part of their targets. Offsetting deepens inequality in per capita carbon consumption between developed and developing countries.

In summary, CDM and other types of offsetting are flawed and highly problematic tools for tackling climate change. They are a dangerous distraction from the urgent business of decarbonising the world's economies. They are not open to reform (see box opposite), and should be scrapped.

Governments should:

1. Agree that developed countries must reduce their own emissions by at least 40 per cent by 2020, excluding offsetting.
2. Reject all forms of offsetting: proposals for new and expanded offsetting schemes must be dropped, and existing offsetting mechanisms need to be scrapped.
3. Reject plans to introduce REDD offsets, and instead negotiate effective and fair mechanisms to protect the Earth's forests that do not involve offsetting.
4. Negotiate a new financial mechanism under the authority of the UN Framework Convention on Climate Change (UNFCCC) to ensure adequate financial flows to developing countries to support their transition to a low-carbon future.

1 CLIMATE CHANGE: THE SCALE OF THE CHALLENGE

The need to reduce greenhouse gas (GHG) emissions is desperately urgent. Scientists tell us we are hovering at the edge of dangerous climate change tipping points. Despite the UN Framework Convention on Climate Change (UNFCCC) — signed as long ago as 1992 – global emissions of GHGs have continued to increase, and have even accelerated since 2000.[2]

All signatories to the UNFCCC (including the United States) have committed to the overall objective of the Convention as stated in article 2 – to prevent dangerous climate change. It is accepted that an average global temperature rise of more than 2 degrees compared to pre-industrial times would cause dangerous and even catastrophic impacts. Exceeding 2 degrees will create water scarcity for billions of people, put billions at risk of hunger, make hundreds of millions homeless because of flooding and threaten the very existence of low-lying island nation states through sea-level rise.

"CLIMATE CHANGE IS POTENTIALLY THE GREATEST CHALLENGE TO GLOBAL STABILITY AND SECURITY, AND THEREFORE TO NATIONAL SECURITY."

Mitigating the effects of climate change is also increasingly recognised as a security imperative. The UK National Security Strategy states: "Climate change is potentially the greatest challenge to global stability and security, and therefore to national security."[3]

Recent research on climate tipping points, which identifies the temperature rises after which for example the Greenland ice sheet melt is likely to become irreversible, suggests the 2 degrees target is prudent.[4] Maximising the chance of keeping well below 2 degrees is a moral imperative for all humanity.

A synthesis of climate models published in 2006 suggests that a concentration of 450 parts per million by volume (ppmv) of carbon dioxide equivalent (CO_2e) gives a 50 per cent chance of not exceeding 2 degrees. This should be regarded as an absolute maximum concentration: a 50 per cent chance is not good odds when the climate is at stake.

Research by the UK's Tyndall Centre for Climate Change Research has suggested that to achieve this requires global CO_2e emissions to peak in 2015 and fall by 4 per cent a year thereafter. The emissions cuts this trajectory involves should be seen as the minimum required.

The Tyndall research indicates the scale of overall reduction required: which countries will make what proportion of these cuts will be decided in negotiations.

Recent papers from the Inter-governmental Panel on Climate Change (IPCC) authors suggest that even 450 ppmv CO_2e will require a 25-40 per cent reduction in emissions from developed (Annex I) countries by 2020 and a 15-30 per cent reduction below baseline for developing (non-Annex I) countries by 2020.[5] The ranges summarised by the IPCC are "assumed to be achieved domestically by both groups of countries".

This allocation of responsibility is itself deeply unjust to developing countries, given historic contributions to cumulative greenhouse gas emissions.

Developing countries have called for greater ambition from developed countries in Copenhagen. The G77 and China say "much deeper reduction commitments are required and [...] must reflect their historical responsibility as well as evolving scientific evidence".[6] Least developed countries (LDCs) call on developed countries to accept targets of "at least 40 per ent by 2020"[7] and the Alliance of Small Island States (AOSIS) calls for reductions of "more than 40 per cent".[8]

2 POLITICAL CONTEXT: WHY DECISIONS ON OFFSETTING ARE IMPORTANT

Developed countries (those listed in Annex I of the UNFCCC) agreed targets to cut their carbon emissions up until 2012 as part of the Kyoto Protocol's first commitment period. There is a legal requirement for developed countries to set further targets for subsequent commitment periods after 2012. The Protocol allows developed countries to use offsetting as a way to meet those targets. The CDM runs to 2012 in its current form, and is set to continue beyond that date with amendments subject to further negotiations. The UNFCCC is deliberating proposed changes to the CDM and considering new offsetting schemes in the run-up to the Copenhagen climate talks in December 2009.[9]

The talks in Copenhagen are a crucial opportunity to forge a stronger global agreement to prevent catastrophic climate change.

It is widely acknowledged that there are many failings with the CDM (see sections 4 and 5): some concerns come from the problems in ensuring additionality or proving carbon reductions; some concerns stem from the fact that poorer developing countries are effectively excluded from any financial transfer through the CDM; and some concerns are about the lack of sustainable development benefits and the harm that some projects cause to local communities.

The focus of the CDM reform discussions, however, is to reduce regulation of the CDM and increase the supply of credits. Other proposals aim to create entirely new offsetting schemes. Consequently, the thrust of negotiations is creating space for even less real action on climate at a time when there must be more.

"NEGOTIATORS ARE CLEARLY INDICATING THAT THEY WANT TO SEE MORE OF THE CDM, NOT LESS. PARTIES TO THE KYOTO PROTOCOL ONLY RECENTLY AGREED THAT THE MECHANISM WOULD CONTINUE BEYOND 2012." YVO DE BOER, EXECUTIVE SECRETARY, UNFCCC, APRIL 2009[10]

The main offsetting proposals on the negotiating table involve:

- moving away from project-based CDM to larger sectoral approaches.
- lifting bans on types of projects that can be included, such as nuclear power.
- extending offsetting to forest carbon trading through REDD mechanisms.

The effect of such an increase in the supply of offset credits would be to further weaken the economic incentive to make real domestic emissions reductions in developed countries and transfer the responsibility of reducing emissions to developing countries, albeit with some financial recompense.

Offsetting has become one of the central parameters that inform developed countries in defining their ambition, with the expectation of avoiding much of the carbon-reduction effort. This abuse of the UNFCCC mechanisms threatens to make a mockery of science-based target setting.

Annex I Parties include the industrialised countries that were members of the Organisation for Economic Co-operation and Development (OECD) in 1992, plus countries with economies in transition (the EIT Parties), including the Russian Federation, the Baltic States, and several Central and Eastern European States.

EU strategy for increasing offsetting

- The EU climate and energy package established a framework to allow more than half of EU emissions reductions responsibility up to 2020 to be offset to developing countries.
- The European Commission strategy paper, Towards a Comprehensive Climate Change Agreement in Copenhagen, states that the EU seeks to align policy with other developed countries in "generating demand for offset credits".
- The EU has also proposed new sectoral offsetting mechanisms for agreement in Copenhagen.[11] Sectoral crediting is intended to allow whole sectors in certain developing countries to generate carbon credits through supposed reductions in their sector's emissions growth. This is in essence an expanded CDM, creating a higher volume of credits than project-based CDM against a hypothetical baseline.

The overall EU strategy is to shift around half of its own emissions reductions responsibility to developing countries through offsetting, thereby avoiding an equivalent domestic effort.

In addition to the offsetting strategy, the EU is also proposing a sectoral trading scheme. This would, for example, set a global cap on emissions from steel manufacture. Steel plants that make greater emissions cuts would be able to sell spare permits to plants that do not have enough permits to cover the pollution they have released.

In practice this scheme is likely to suffer the same problems that continue to bedevil the EU Emissions Trading Scheme:

- politicians setting the cap too high, leading to little or no reduction in emissions.
- an excuse for allowing development of more carbon-intensive infrastructure on the premise that cuts will be made elsewhere.
- huge windfall profits for polluting industries.

Considering the EU's current proposed reduction target is only 20 per cent by 2020, securing a steady supply of offset credits would effectively halve an already dangerously low ambition and undermine an already weak policy framework. These problems are likely to be exacerbated by EU proposals to allow Member States to bank credits (ie buy credits now and use them later).[12]

3 OFFSETTING: WHAT IS IT AND HOW SIGNIFICANT IS IT?

Offsetting is the process whereby developed countries pay developing countries to deliver projects that purportedly cut carbon emissions – in effect making carbon cuts in developing rather than developed countries.

Offsetting emerged as a small-scale experimental idea agreed by embattled negotiators in the last hours of the Kyoto Protocol talks in 1997. It was intended to give developed countries some flexibility in meeting their targets. Offsetting would be delivered via two mechanisms – the Clean Development Mechanism (CDM) and Joint Implementation (JI).

Its proponents argued that offsetting would:

- be an economically efficient way of making carbon cuts globally.
- transfer money from richer to poorer countries.
- help with technology transfer and development in poorer countries.

In the subsequent 12 years CDM and other types of offsetting have, despite major and well-publicised problems, become much larger mechanisms. For example, the European Union's climate change strategy allows more than 50 per cent of its planned emissions reductions to 2020 to come from offsetting.

The CDM allows countries with binding targets under the Kyoto Protocol to buy credits from developing countries that do not have Kyoto targets and that are implementing carbon-cutting projects. The credits are given units of tonnes of carbon dioxide equivalent (tCO2e).[13] Rules have been established that are intended to ensure genuine emissions reductions – although this report shows that they do not work.

The current report draws heavily on the experience of the Clean Development Mechanism (CDM), for two reasons:

- First, the CDM is the world's biggest and most established regulated offsetting mechanism.
- Second, the CDM – and its smaller companion offset mechanism with other developed countries, Joint Implementation (JI) – are the only offsets allowed in the European Union Emissions Trading Scheme (EUETS); the latter is the world's largest carbon-trading scheme, accounting for around three-quarters of the value of traded carbon in 2008.[14] A summary of other types of offsetting appears in the table on page 12.

What types of offsetting are there?

CDM is the largest offset mechanism, accounting for more than four in every five tonnes of carbon offsets traded. Table 1 shows the volume of offset carbon traded in 2007.[15]

Table 1: Breakdown of carbon offset trading market, by volume of transactions[16]

Market	Transaction volume (million tonnes CO_2e) 2007
Voluntary	65
Primary CDM	551
Secondary CDM	240
Joint Implementation	41
Total	**897**

Note: Proposals for mechanisms such as forest offsetting like REDD and sectoral offsets would lead to major additional future sources of offset credits.

What project types are there?

There is a variety of different offset project types, such as:

- **Sequestration:** projects that trap carbon – for example forest projects. Only a limited range of forest projects are currently allowed under CDM rules.
- **Greenhouse gas destruction:** for example capturing nitrous oxide (N_2O) or hydrochlorofluorocarbons (HCFCs) emitted from factories, and turning them into more benign molecules.
- **Energy efficiency:** for example fuel switching and upgrades to power plants.
- **Energy projects:** for example wind, biomass, solar, coal, gas, and hydro-electricity schemes.

Table 2 shows the six biggest categories of projects predicted to be in the CDM in 2012. [17]

Table 2: Origin of CDM projects expected by 2012

Type of project	Percentage of all CDM credits (CERs) (%) *
Hydrofluorocarbon (HFC) destruction	17
Hydro-electricity	17
Electricity from waste gases or energy	10
Energy from landfill gas	9
N_2O destruction	9
Energy from wind power	9
Other	29

Note: Solar power is predicted to be generating 0.1 per cent of CERs.

* Percentage of all credits from the start of CDM up to 2012.

Who hosts the projects and who buys the credits?

The four countries predicted to be generating the most CDM credits in 2012 are shown in Table 3. [18]

Table 3: Biggest generators of CDM credits predicted for 2012

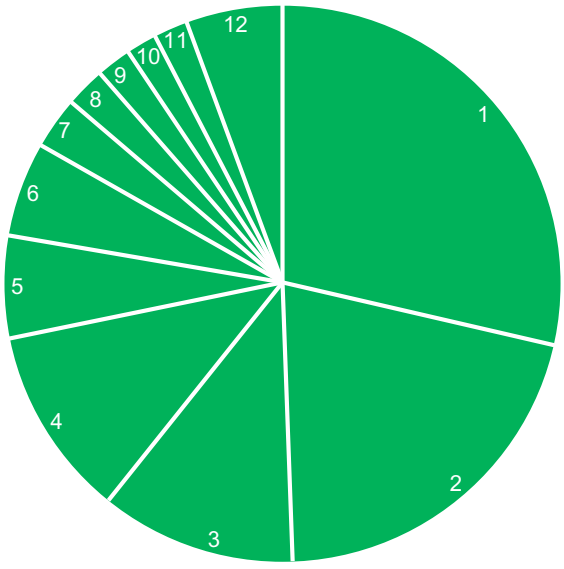
Country	Percentage of all CERs
China	53
India	16
Brazil	6
South Korea	3

Note: Africa is predicted to be generating 3 per cent of all CERs by 2012.

UK companies are the top buyers for CDM projects, according to the official CDM statistics, with more than 1,223 projects. These projects are not necessarily offsetting UK emissions, however, but the UK is the host country for the purchase of the emissions; the credits may be sold on to emitters in other countries. The next biggest buyers are Switzerland (544 projects) and Japan (480). [19] The UK is therefore at the centre of the multi-billion-dollar offset market.

The chart below shows the main buyers of offsets.

1 United Kingdom of Great Britain and Northern ireland (29%)
2 Switzerland (21%)
3 Netherlands (11%)
4 Japan (11%)
5 Sweden (6%)
6 Germany (6%)
7 Spain (3%)
8 Canada (2%)
9 Italy (2%)
10 France (2%)
11 Austria (2%)
12 Others (6%)



Source: http://cdm.unfccc.int/Statistics/Registration/RegisteredProjAnnex1PartiesPieChart.html

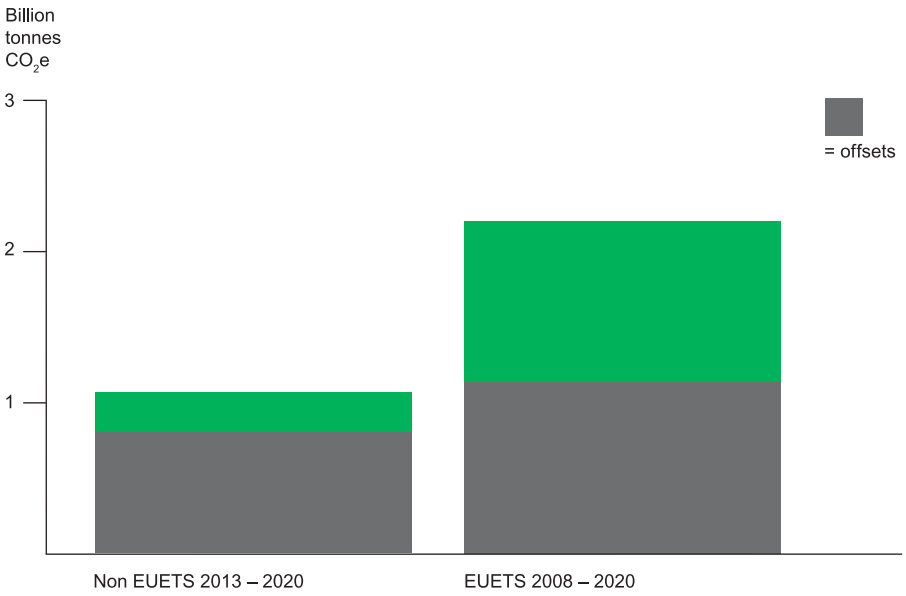
CDM: how significant is it?

The use of CDM is growing rapidly and is predicted to account for a significant proportion of overall carbon reduction targets up to 2020. The UN Environment Programme (UNEP) estimates that 5.2 billion CDM credits (CERs)* will be issued between 2009 and 2020.[20]

In the EU climate package agreed in December 2008, sectors outside the EU Emissions Trading Scheme (EUETS) – such as surface transport – can meet 73 per cent of their carbon reductions required for 2013-2020 by buying CERs. Some 781 million of the total reduction effort of 1.07 billion tonnes CO_2e can be met by buying CERs (see chart, right).

THE EU HAS COMMITTED TO REDUCE ITS EMISSIONS BY 20 PER CENT BY 2020; IN PRACTICE, HOWEVER, WITH OFFSETTING IT IS CUTTING ITS OWN EMISSIONS BY ONLY 10 PER CENT.

Proportion of EU emissions allowable through offsetting



Sectors in the EUETS can meet 50 per cent of the effort from 2008 to 2020 with CERs, representing 1.6 billion tonnes CO_2e. It is extremely likely that all these credits will be used if available, as CERs are cheaper than EUETS credits (known as EUAs).

The EU has committed to reduce its emissions by 20 per cent by 2020; in practice, however, with offsetting it is cutting its own emissions by only 10 per cent. In summary, the high volume of CERs heavily reduces the effort required of developed countries to reduce their own emissions. Probing the effectiveness of CDM credits is therefore crucial to determining whether offsetting mechanisms are in fact a successful strategy for preventing dangerous climate change.

* CDM credits are called CERs; 1 CER is deemed equivalent to 1 tonne of CO2e

Table 4: Summary of types of offsetting

Offset (existing and proposed)	Description	Negative impact on climate	Conclusion
CDM	UN regulated projects based approach	Very high. Prevents emissions cuts in developed countries.	Reject
CDM gold standard	As above, with stronger criteria on allowed projects.	Very high. Improves CDM's sustainable development problems, but still a major brake on developed-country emissions reductions. A distraction.	Reject. More effort is made on sustainable development and additionality than other CDM projects, but basic problems of CDM unresolved.
Joint Implementation (JI)	Capped developed countries make efforts to reduce emissions in other developed countries.	High. Scheme is small and cap exists in both countries, but the over-allocation of emissions for Eastern European states due to economic contraction in the 1990s reduces impact of real cuts in EU economy as a whole.	Reject. Delays infrastructure changes in country buying offset, creating carbon lock-in.
offset-based REDD	Offsetting through avoided deforestation	Very high. Same problems as CDM, but magnified by even more uncertainty over carbon guarantees. Possibly a huge scheme.	Reject. Forests could turn into sources of carbon rather than sinks within 100 years; deforestation shifted rather than prevented; social justice problems.
Sectoral	Cuts in a specific developed-country sectors are offset by cuts in the same sector in developing country.	Very high. Pitched as a reform of CDM, but suffers most of the same problems, and creates potentially far greater get-outs for developed countries.	Reject. Could create regulatory chill; same problems with additionality and guaranteed cuts as CDM.
Voluntary	Includes schemes where individuals or companies can choose to offset their emissions.	High. Quality of schemes even lower than CDM. Creates societal [21] pressures and excuse for inaction.	Reject. Even worse quality than CDM.

4 WHY OFFSETTING DOESN'T WORK

This section outlines three structural reasons why offsetting mechanisms are flawed and unreformable. It also sets out the impacts of relying on offsetting.

4.1 LESS CARBON IS CUT: REDUCTIONS IN ONE PLACE, NOT BOTH

The IPCC has said[22] that keeping global greenhouse gas concentrations low enough to offer the greatest chance of avoiding dangerous climate change requires major emissions cuts in developed countries **in addition** to deviation from baselines in developing countries. It estimates that meaningful progress towards preventing dangerous climate change would mean by 2020 a 25-40 per cent cut for developed countries, and a 15-30 per cent reduction on business-as-usual baselines for developing countries. These cuts are likely to be inadequate because, according to research by the UK's Tyndall Centre for Climate Change Research, the IPCC data on recent emissions were underestimates[23], and in practice they are not being delivered – for example the EU has only a 20 per cent 2020 target.

Even this inadequate progress is further weakened by the use of offsetting. The IPCC is clear that action is needed in **both** developed and developing countries. But offsetting means that action in developing countries can be counted as part of the action needed in developed countries. Offsetting therefore institutionalises the idea of making cuts in one or the other, when the science and the IPCC are clear that action in both is needed. Offsetting is incompatible with the IPCC's recommendations.

The US Government Accounting Office states that carbon offsets are "inherently uncertain" and "involve fundamental tradeoffs and may not be a reliable long-term approach to climate change mitigation".[24]

The issue of distribution of effort is central to the UNFCCC negotiations. Taking into account the historical emissions and relative wealth of developed countries – the basis of the UNFCCC's "common but differentiated responsibilities and respective capabilities" – there is a strong argument that developed countries should take greater emissions cuts than those modeled by the IPCC.

There is a deeply unequal distribution of responsibility for cumulative global greenhouse gas emissions between developed and developing countries. Inadequate commitments from developed countries are an unjust response to that historic responsibility – in practice offsetting exacerbates the inequality by further diluting developed-country commitments (see section 5).

CDM is supposed to be a way of making the same levels of carbon cuts as would otherwise happen, but more cost-effectively. At best it shifts a carbon cut in a developed country to one in a developing country. But in practice it does not even do this.

4.2 MANY PROJECTS IN DEVELOPING COUNTRIES WOULD HAVE HAPPENED ANYWAY

Before they can be CDM-registered, project proponents have to justify that their scheme would not have happened anyway – ie that it is additional. Otherwise, the net effect would be that carbon globally is increasing (as the CDM credit allows the developed country to continue polluting).

In practice there are three reasons why CDM projects cannot be proved to be additional:

i) Schemes are already part of that country's development

Some schemes are not additional because they use technology that is widely available, or they are already common practice. In China more than 200 large-scale hydro plants are progressing through CDM validation.[25] They are all claiming that the projects would not have gone ahead without CDM revenues – for example, because a coal-fired station would have been cheaper to build. This ignores the fact that the Chinese Government is a strong supporter of hydro-electric development, that hydro is a major component in its five-year plans, and that the Chinese hydro-electric industry is expected to grow from 132-154 gigawatts (GW) of capacity in 2010 to 191-240 GW in 2020 – growth equivalent to around 20 large coal-fired power stations. Hydro growth in China is continuing at previous trends, and there is no evidence that removing CDM would stop China continuing its strategy of building more dams.

These hydro stations are already big revenue earners; CDM revenue is a bonus, not the deciding factor. Developers stand to gain many extra millions from applying to CDM, as does the Chinese Government, which taxes CERs.[26]

LUCRATIVE COKE OVEN

A coke oven project in Lingxi is highly economically attractive (saving on electricity costs); many of the steps justifying its claim to be financially unattractive are missing. It had already attracted 70 per cent funding from the China Development Bank before gaining CDM registration. It is difficult to demonstrate that this project would not have happened anyway – ie that it is additional.[27]

Other sectors too are looking to offset opportunities to generate extra finance. Indian government officials say India's rapidly expanding sugar industry should seek offset credits, as its ethanol production is displacing petrochemicals. As the industry has expanded at 35 per cent a year for the past five years, this activity cannot be deemed to be additional.[28]

International Rivers states:

> "… of 370 Chinese hydropower projects submitted for CDM validation, 77% are expected to start generating within 12 months of their validation comment period...Normally hydropower plants take at least several years to build, confirmed by P[roject] D[esign] D[ocuments] that provide a construction start date. This means that most of the Chinese hydropower projects in the CDM pipeline started construction prior to beginning the CDM validation process[…] Since construction began well before CDM registration, it is clear that these projects still would go ahead even if they were not successfully registered as CDM projects."[29]

Wara and Victor analyse the Chinese hydro, wind and gas sector. They state that the Chinese Government has recently introduced strong policies to support these technologies, to relieve the economic and pollution impacts of heavy reliance on coal in its massive increase in power-generation capacity. They also show that "essentially all" new hydro, wind and natural gas fired capacity is applying for CDM credits.

Wara and Victor argue:

> "taken individually, these claims may make sense – because individually any particular power plant utilizing non-coal sources probably faces greater hurdles than new coal-fired generation […] taken collectively however, these individual applications for credit amount to a claim that the hydro, wind and natural gas elements of the power sector in China would not be growing at all without help from the CDM. This broader implication is simply implausible in light of the state policies described above."[30]

GANSU HYDRO PROJECT

International Rivers cites the example of Xiaogushan, Gansu, hydro project: an Asian Development Bank report into the project in 2003 said it was the cheapest option for expanding generation in Gansu, regardless of CDM revenue, and a priority for the local and provincial government. Yet in 2006, two years after construction started, the developers claimed that without CDM support it was too risky "to reach financial closure and […] commence the project construction". It was CDM approved in August 2006.[31]

The US GAO says assessing additionality will become more complex "as host countries begin to factor the CDM into their planning efforts and it becomes more difficult to identify what would have happened without the program".

ii) Proofs of financial viability are thin

To get CDM support projects have to prove that without CDM revenues they would not be financially viable. The usual method for doing is this is to show that the project generates a lower Internal Rate of Return (IRR) than is standard for projects in the region, and a higher IRR with the CDM revenues. But there are wide discrepancies in how different projects clear this hurdle.

For example, India's Tanjavur natural gas power plant claims that the IRR without CDM is 15.3 per cent, stating that "all power projects in India are considered viable only if the guaranteed returns of 16% on the capital are ensured".[32] This project was registered on 29 May 2007. Yet the Kalyani Steels electricity generation project registered on 29 September 2006 states: "In the Indian power sector a 16% return on equity has been an established benchmark for a long time […] this has recently been revised downwards to 14% by the Central Electricity Regulatory Commission."[33]

If the Tanjavur project had used 14 per cent it would have not needed the CDM revenues to clear the IRR benchmark. Tanjavur is not

an additional project.

It has been widely reported that hydro-power developers routinely underestimate the amount of power their dams will generate, which has the effect of reducing projected revenue streams, making such projects appear less financially attractive without CDM revenues. International Rivers argues that a typical hydro-power

86 PER CENT OF THEM AGREED THAT "IN MANY CASES, CARBON REVENUES ARE THE ICING ON THE CAKE, BUT ARE NOT DECISIVE FOR THE INVESTMENT DECISION".

load factor[34] is around 50 per cent. But citing Michaelowa[35] International Rivers says that as of 1 March 2008 the CDM project pipeline contained 82 hydro plants in China with a load factor below 40 per cent and seven with a load factor below 30 per cent.

These are not isolated examples. Analysis by Haya[36] suggests that three-quarters of registered CDM projects were already complete at the time of approval. Developers counter that expectation of CER revenues was critical for the decision to go ahead with the project. Such a claim is not provable in most cases. Indeed, a survey of CDM professionals found that 71 per cent agreed that "many CDM projects would also be implemented without registration under the CDM"; and found 86 per cent of them agreed that "in many cases, carbon revenues are the icing on the cake, but are not decisive for the investment decision".[37]

An Asian Development Bank senior official said in 2008:

> "When the CDM was introduced 10 years ago, there was much expectation from the developing countries that it would provide the necessary upfront financial and technical support for new sustainable development projects that would reduce greenhouse gas emissions. Today [. . .] it is mostly functioning to provide additional cash flow to projects that are already able to move forward with its [sic] own financing."[38]

The US GAO's recent review of the CDM and interviews with CDM participants found:

> "Several representatives from the cement and auto industries said they would pursue clean energy projects regardless of the CDM, describing the CDM credits as more of a 'bonus' than a driver of investment."[39]

iii) Exaggerated claims

There are structural reasons in the design of CDM approval that mean carbon benefits are likely to be exaggerated, additionality claims abused, and sustainable development problems ignored.[40]

Wara and Victor write:

> "The host governments and investors that seek credit have a strong incentive to claim that their efforts are truly additional. The regulator – in this case, the CDM Executive Board – can't in many cases gather enough information to evaluate these claims. These problems of asymmetrical information are compounded in the CDM, to be sure, because the CDM Executive Board is massively under-staffed and the CDM system relies on third-party verifiers to check the claims made by project proponents. In practice, these verifiers, who are paid by the project developers, have strong incentives to approve the projects they check. Further, there is scant oversight on the integrity of the verification process and no record of punishing verifiers for misconduct. Lacking any other source of information about individual projects and facing pressure from both developing and developed country governments, the CDM Executive Board is prone to approve projects. Asymmetries of information are rampant; the incentives mostly align in favor of approval.
>
> "This challenge is made all the more formidable by the sheer number of projects upon which the Board must decide. The CDM EB, on average, registers about one project every day as eligible to generate CDM credits. Thus the Board cannot afford to spend large amounts of time evaluating the complexities of financial data presented to justify a project's eligibility for CDM credits nor can it delve into a project's relationship to state energy policy. Furthermore, the CDM EB faces a financial limit on the costs it can reasonably impose on individual offset projects. In order to remain viable, relatively small carbon offset projects cannot afford the cost and uncertainty that would accompany truly extensive scrutiny. Indeed, there is strong pressure from CDM investors to limit such transaction costs and speed up approval."[41]

4.3 NO GUARANTEES OF EMISSIONS CUTS

CDM projects cannot guarantee carbon cuts, and often exaggerate claims about the amount they will cut. This is an inherent problem. Any system of credits for reductions against a hypothetical business-as-usual scenario, is inherently prone to questionable claims of certainty.

The US GAO reports that

> "the use of carbon offsets in a cap-and-trade system can undermine the system's integrity, given that it is not possible to ensure that every credit represents a real, measurable, and long-term reduction in emissions".[42]

Because offset cuts are created against a hypothetical business-as-usual baseline, it is impossible to ensure that offset credits guarantee carbon cuts. Not only can it not guarantee carbon cuts, in some cases it can increase them.

TANJAVUR NATURAL GAS COMBINED CYCLE POWER PLANT, TAMIL NADU, INDIA

Registered in May 2007, this project claims to reduce carbon emissions by 180,000 tonnes by being cleaner than existing power plants in the region, displacing dirtier power from the grid. Although it is cleaner, it is still a new fossil-fuel power station, average by western standards. In this case CDM is helping India to copy and lock in to a high fossil-fuel, western development path, rather than take a low-carbon path.

Developing countries need to bypass this western stage of development, not mirror it.

In addition, the plant is not displacing dirty power plant; it is an additional plant to meet increasing electricity demand in the region. Claims that the project will result in overall lower emissions from the region are refuted in the project's design document itself which states that a benefit of the project is that it will "make coal available for other important applications".[43]

NEW COAL-FIRED POWER STATIONS

In September 2007 the CDM board ruled that super-critical coal-combustion plants could receive CERs. This is more efficient than older technology, but is still highly carbon-intensive (produces high levels of carbon per unit of electricity generated). It is not particularly new or expensive technology that requires CDM help. Even by 2004, over half of orders for new coal plants in China were for the super-critical type.

The International Finance Corporation is supporting the development of the Tata Ultra Mega coal-fired power complex in Gujarat India[44] – a mammoth 4 GW series of five power plants – stating that its approach involves investment focus on "leveraging Kyoto Mechanisms (Clean Development Mechanism), to enhance the attractiveness of less GHG intensive energy generation and delivery approaches". David Wheeler, Senior Fellow at the Center for Global Development says: "instead of supporting critical zero-emissions energy investments, scarce international resources are sweetening a private sector project that will emit over 700 million tonnes of CO_2 during its operating life".[45] To put this into perspective, the entire targeted savings announced in the first three UK carbon budgets, from 2008-2022, are 800 million tonnes.

In practice, any fossil fuel project that offers even marginal improvements can claim CERs. Yet as International Rivers put it, "[…] technological advancement means that a power plant entering construction today can be expected to be more efficient than one built five or ten years ago".

20 MW COKE OVEN GAS PROJECT IN LINGXI, CHINA

Registered in February 2009 this CDM project claims to reduce carbon by using waste gas from a coke oven plant to generate electricity. The project says that this "will displace grid power generated by coal-fired power plants". But electricity use is growing rapidly in the region. It will not displace grid power – the coal will still get used.[46]

HYDRO AND WIND PROJECTS

Other schemes exaggerate the amount of carbon saved. For example wind and hydro projects in China routinely claim to be saving carbon because they are displacing dirty fossil fuel from the grid, and compare these projects with historical averages of carbon intensity of electricity. Yet these projects are not displacing fossil-fuel stations, but are additional stations to meet growing electricity demand. It would be more accurate to compare the wind project with the projected carbon intensity of the region's electricity. These projections would include wind and hydro projects, as they are an agreed part of the Chinese Government's strategy for electricity generation, which gives "priority to renewable power when transmitted to the state power grid". The Chinese Government also says: "China will continue to promote the comprehensive cascading development of water-power-rich river valleys. It will quicken the pace of constructing large hydropower stations."[47] It is almost impossible to know what the wind project displaces. As International Rivers puts it: "If Windfarms R Us hadn't built their project, would MegacarbonCorp have sold more coal-fuelled power, or would Standard Wind have gone forward with their project instead?"[48]

Two impossibilities: Proving additionality and proving carbon cuts

International Rivers says:

"While baseline-and-credit trading may have made sense as a theoretical concept to the sleep-starved negotiators in Kyoto, applying it in the real world has shown it to be fatally flawed. The concept depends on being able to give accurate answers to two inherently unanswerable questions.

"To know a project is eligible, one must know whether it is being built only because the developers will be able to sell offsets (ie it is additional). To know how many offsets to grant to the project one must know what would have happened had the project not been built (ie what would the business-as-usual, or "baseline" emissions be).

"English Journalist Dan Welch gives a neat summary of the difficulty of determining the 'right' quantity of avoided emissions: 'Offsets are an imaginary commodity created by deducting what you hope happens from what you guess would have happened.'"[49]

The US GAO states:

> "[…] because additionality is based on projections of what would have occurred in the absence of the CDM, which are necessarily hypothetical, it is impossible to know with certainty whether any given project is additional."[50]

4.4 OFFSETTING DELAYS NECESSARY INFRASTRUCTURE CHANGES IN DEVELOPED COUNTRIES

Offsets weaken emissions-reduction targets in developed countries, and this in turn eases the pressure on polluters both to invest to cut emissions and to avoid investments that are high carbon. Polluters are more willing to make high-carbon investments if they feel that they can buy cheap offsets to cover them in forthcoming budgets.

Long-term climate stability will require developed economies to move away almost entirely from technologies that emit carbon dioxide, which requires huge changes in their infrastructure — starting now. Decisions on the mix and relative carbon-intensity of a wide range of power stations will be made in the coming few years, and these stations will last 40 years. The UK Climate Change Committee said: "A policy of relying too much on purchased credits in the initial years could make a stretching 2050 domestic target unachievable."[51]

Allowing offsetting will have a major negative impact. For example, the UK's Climate Change Commitee argued in December 2008 that "any path to an 80% reduction by 2050 requires that electricity generation is almost entirely decarbonised by 2030".[52]

The Committee also said that electricity demand is likely to increase heavily. This means there is a huge job to do to transform the electricity system. Given lags in putting new infrastructure in place, the next five to 10 years are critical in achieving the 2030 goal.[53]

This analysis holds for other countries within the EU ETS. So decisions taken in the next 10 years are crucial. The massive amount of offsetting via CDM allowed in the EU is perhaps the biggest single barrier to decarbonising electricity generation.

The EUETS allows 50 per cent of all the emissions reductions in Phase 2 and Phase 3 (2008-2020) to be made via offsets[54], covering major electricity generation. The recently agreed EU Effort Sharing Directive, covering the EU's climate strategy to 2020, allows 73 per cent of all the emissions reductions from 2013-2020 in the non-EUETS sectors to be made via offsets.[55] This covers the housing, transport and commercial sectors, which could be poised for a revolution in the generation of decentralised renewable energy and electricity.

"ANY GROWTH IN AVIATION EMISSIONS FROM THE EXPANSION OF HEATHROW WOULD BE FULLY OFFSET BY A REDUCTION IN EMISSIONS ELSEWHERE […] IT IS SIMPLY WRONG TO SAY THAT MORE PLANES AT HEATHROW MEANS THERE WILL BE MORE CO2 EMISSIONS OVERALL". UK TRANSPORT MINISTER

"A POLICY OF RELYING TOO MUCH ON PURCHASED CREDITS IN THE INITIAL YEARS COULD MAKE A STRETCHING 2050 DOMESTIC TARGET UNACHIEVABLE."

Because they are delaying these changes, offsetting is a major barrier to action to prevent dangerous climate change. Offsetting makes it far more likely that developed countries will continue on a high-carbon path, choosing to buy cheap permits rather than invest in low-carbon infrastructure.

This is not just a problem for developed countries. Investment in low-carbon technologies would make them cheaper and more widely available for developing countries to take up, and enable them to avoid following the same high-carbon development path as developed countries.

For example, rapid take-up of solar, tidal, wave and off-shore wind power opportunities will make it far more likely that developing countries will be able to use these technologies rather than follow the high-carbon path of hundreds of new gas- and coal-fired power stations.

Just as offsets weaken the incentives for industry to avoid high-carbon infrastructure investments, they also weaken the incentives for governments to take the radical and urgent action needed. Not investing in a low-carbon path has short- and medium-term economic costs, as well as long-term ones through lock-in.

UK GOVERNMENT USING TRADING TO JUSTIFY HIGH-CARBON INVESTMENT

Because high levels of allowed offsets weaken an already very weak cap in the EUETS, very high carbon developments are being deemed acceptable by EU governments. For example:

- The recent UK Government decision to allow expansion of Heathrow will result in an additional 180 million tonnes of carbon dioxide being emitted. The UK Government's transport Minister justified this by stating that aviation would soon be part of EUETS, and therefore "any growth in aviation emissions from the expansion of Heathrow would be fully offset by a reduction in emissions elsewhere […] it is simply wrong to say that more planes at Heathrow means there will be more CO_2 emissions overall".[56]
- A leaked Government document suggests one reason the UK Government in 2007 was reluctant to pursue renewable energy targets is that they would threaten the EUETS carbon price. In other word trading is used as an argument not to adopt a low-carbon strategy, when its ostensible purpose is to ensure that countries do.[57]

THE UK'S NEW CARBON BUDGETS AND OFFSETTING

Under the terms of the Climate Change Act 2008 the UK Government has set five-year carbon budgets. In doing so the Government has largely adopted the Climate Change Committee's (CCC) advice, but set out its intentions on offsetting for the first period 2008-2012 only. Offsetting is allowed within EU rules in the EUETS sectors, and not allowed in the non-EUETS sectors.

The CCC recommends two targets – an interim 2020 target of 34 per cent cuts in GHGs, and an intended target of 42 per cent if a "global deal" were done at the UN climate talks in Copenhagen in December 2009.

In the traded sector, for the second two budget periods the CCC recommends that offsetting be allowed up to EU agreed limits – which allow 50 per cent of the total EU effort to be made by offsetting.

In the non-traded sector for the second two periods the CCC recommends no offsetting under the interim target, unless a global deal is made – in which case the entire difference between interim and intended could be made via offsetting.

These proposals mean offsetting has a massive impact on the likely effort the UK has to make to cut carbon at home.[58]

4.5 OFFSETTING UNDERMINES LOW-CARBON DEVELOPMENT IN DEVELOPING COUNTRIES

In practice offsetting is not helping developing countries transform their economies to a low-carbon path. In many cases it is locking them in to a high-carbon, unsustainable path. There are four main reasons for this:

Offsetting does not help with new technology or innovation, because of its focus on cheapest options

The biggest source of CDM credits is in applying widely available technologies to clean up greenhouse gases like N_2O and HFC from chemical installations. The technology to strip N_2O from nitric acid plants – a secondary catalyst to convert N_2O to nitrogen and oxygen – is decades old. These are end-of-pipe, old-technologies with little other economic, social or environmental value. This is not to say that the projects have no value: it is important to prevent these gases from being vented. But using the CDM to do it prevents emissions reductions in developed countries, does nothing to move developing-country infrastructure away from a high-carbon path and distracts attention from many sustainable development projects in developing countries.

It is also an economically inefficient means of funding emissions reductions in developing countries. Wara estimates that HFC projects in the CDM as of 2006 would generate Euros 4.7 billion of credits for refrigerant manufacturers, but destroying the gases costs less than Euros 100 million. A similar situation occurs for N_2O projects, where the price of CERs is tens of times more than the cost of introducing the technology.[59]

For these end-of-pipe technologies, a different mechanism is needed that gives factory owners the cash they need to install the low-carbon technology, freeing up resources to spend on more projects helping developing countries, and requiring the developed country to address its domestic emissions. This would deliver these cuts at far lower cost.

It is likely that CDM is helping lock in developing countries to a high-carbon path. For example, the revenues going to the corporations fitting HFC and N_2O and fossil-fuel efficiency projects and new coal- and gas-fired power plants – which account for well over half of the total credits are not going to be spent on renewable or sustainable development projects. They are going to corporations that are building more fossil-fuel intensive industries.

Some big CDM projects are even for major new fossil-fuel power stations such as the Tanjavur plant (see page 16). It is claimed that these are more efficient than existing stations. Yet these projects are doing no more than ensure the new stations meet the standards of existing best-practice plants – and those are extremely inefficient, high-carbon intensity plants that might have been built anyway.

Hydro plants are a major part of the CDM portfolio. They too are not using radical new technology and in many countries are part of existing development plans. New technologies such as solar are expected to account for as little as 0.1 per cent of total CDM credits by 2012.

Offsetting can block new laws or practices

CDM rules can lead to a regulatory chill, creating an incentive for developing countries not to implement laws to cut carbon emissions.

A project can claim to be additional only if it can show that there are no laws compelling the introduction of the new technology. Companies will lobby for developing countries not to implement such new laws, so that they can continue to claim credits. There are also incentives for the government itself not to implement such laws. For example, the Chinese Government gets tax revenue from the sale of CERs. CDM registration documents for N_2O destruction projects in China routinely states that "there is no regulation or incentive to eliminate N_2O emissions for nitric acid plants". Nor would there be if both developer and Government benefit financially from the current situation. CDM project documents expect the current status to continue, saying: "In fact, many other companies in the Host Country are currently planning or developing similar CDM project activities".[60]

"THE ECONOMIC INCENTIVES OFFERED BY THE CDM APPEAR ACTUALLY TO BE ENCOURAGING THE BUILDING OF REFRIGERANT PLANTS IN THE DEVELOPING WORLD, SIMPLY IN ORDER THAT THE HFC BY-PRODUCTS FROM THE PLANT CAN BE INCINERATED, AND THE CREDITS GENERATED FROM THIS SOLD AT A LARGE PROFIT."

Offsetting could have a particularly undesirable impact for some types of project. For example a Joint Committee of the UK Parliament has said that:

> "the economic incentives offered by the CDM appear actually to be encouraging the building of refrigerant plants in the developing world, simply in order that the HFC by-products from the plant can be incinerated, and the credits generated from this sold at a large profit."[61]

Proposals under discussion for a REDD mechanism based upon a baseline of deforestation also risk creating the perverse incentive for countries with low current levels of deforestation to increase their level of deforestation in order to subsequently be able to claim greater amounts of finance on the basis of reduced deforestation, thus increasing carbon emissions in the short term.

GAS FLARING IN NIGERIA

The Kwale gas project in Nigeria intends to captures gas that is being illegally flared, and using it to generate electricity. The company applying to CDM has been flaring gas for years. The design document, in arguing that the project is additional because there are no laws to mandate companies not to flare gas, says: "Whilst the Nigerian High Court recently judged that gas flaring is illegal, it is difficult to envisage a situation where wholesale changes in practice in venting or flaring, or cessation of oil production in order to eliminate flaring will be forthcoming in the near term."[62]
In other words, there is a law, but the company apparently does not feel it should comply and will only comply if paid to do so. Companies are even less likely to comply with this law if they feel that by disobeying it the industry will be able to obtain CDM credits.

The United States Government Accounting Office concludes:

> "The CDM does not credit emission reductions that result from newly imposed policies or standards, in part because it would be difficult to demonstrate that emission reductions were a direct result of the law. This may pose a dilemma for host countries that want to implement low-carbon policies but also want to attract investment through the CDM."[63]

Offsetting doesn't deliver sustainable development

Many CDM projects have major negative environmental and social impacts, as documented by organisations such as International Rivers and Cornerhouse.[64] This is not to say that CDM is causing these problems: as argued earlier many projects would have happened anyway. But CDM is not only meant to help mitigate climate change but deliver sustainable development benefits. These benefits have not materialised.

An analysis in 2007 of a sample of CDM projects found that a mere 1.6 per cent of CERs were issued to projects with sustainable development benefits.[65]

Michaelowa and Michaelowa report that

> "projects addressing the poor directly are very rare and […] even small renewable energy projects in rural areas tend to benefit richer farmers and the urban population".[66]

Some CDM projects will actually harm existing projects with strong sustainable development benefits, as well as failing to deliver carbon benefits themselves.

The average cost of the CDM approval and monitoring process is an initial US$ 100,000-265,000, plus annual costs of US$ 15,000-25,000 in subsequent years.[67] This creates a bias towards large-scale projects, and against smaller ones that tend to work with local communities to deliver sustainable development.

The US GAO reports that

> "it may be possible to achieve the CDM's sustainable development goals and emissions cuts in developing countries more directly and cost-effectively through a means other than the existing mechanism".[68]

ENERGY FROM WASTE IN BALI

In Bali, Indonesia a new CDM-compliant waste-to-energy incinerator claims to avoid the release of methane from the breakdown of organic waste in landfills. Yet "most organic waste is fed to pigs; the project would take that waste from farmers to throw into landfill in order to purposefully increase methane generation. Some portion of these emissions would then be captured and burned in order to claim carbon credits."

The project is threatening the existence of an award-winning sustainable development recycling project employing 40 local residents.[69] The coordinator of the recycling project says "the local environment agency has told me that we need to shut down our recycling operation in order to send more waste to the landfill to generate CDM credits".[70]

HYDRO PLANT, INDIA

A large hydro plant on the Bhilangana river, India, is threatening to destroy an "ingenious, extremely low carbon system of agriculture" where local farmers run a finely-tuned terraced irrigation system to produce rice, wheat, mustard, fruit and vegetables – a "uniquely sustainable modern technology".*[71]

* Further case studies at http://www.internationalrivers.org/cdm_comments/date

Risks from REDD

Proposals for a market REDD mechanism pose significant risks to sustainable development. The definition of a forest under the Kyoto Protocol allows for the replacement of natural forest with plantations. If this definition were to be carried over into a REDD mechanism then REDD finance could well be used to fund conversion to plantation forestry which stores as little as 20 per cent of the carbon that intact natural forest does.

Proposals for a market REDD mechanism are likely to drive up the value of forest lands, which risks increasing the likelihood that forest lands will be wrested away from forest-dependent communities, who are likely to be marginalised already within their countries. The commodification of forest carbon is likely to be inherently inequitable as it discriminates against women and other marginalised groups who rely on free access to forest resources.

Denying local and indigenous communities access to forest resources could have severe impacts on poverty alleviation and the achievement of the Millennium Development Goals.

Cash flows from offsetting are not effective

Offsetting creates the idea in developed countries that such investment is a prime way to help developing countries move down a low-carbon path, and of discharging developed countries' responsibilities set out under the UNFCCC. But even if the many problems with offsetting could be ironed out, it is not an appropriate mechanism to achieve adequate and effective financial flows.

CDM revenues to developing countries from the EU are likely to be less than US$ 5 billion a year to 2020.[72] This is around a tenth of a fair EU contribution toward the global mitigation costs estimated by the UN.[73]

Proponents of offsetting argue that the CDM and other offsetting mechanisms need to expand massively to achieve larger financial transfers. But the root problems with swaps – proving additionality and proving carbon reductions – are not capable of reform. Expansion would worsen the impact of offsetting on climate change. Mechanisms of a completely different scale and nature are needed to support developing countries to pursue a low-carbon path. These mechanisms must not delay developed countries sprinting down their own low-carbon path.

5 OFFSETTING AND INJUSTICE

Any defined emissions cuts by developed countries as a whole have major implications for development and equity for developing countries, as analysis by the Third World Network (TWN) has highlighted.[74]

In particular, developing countries could be indirectly committing themselves to inequitable cuts if industrialised countries follow current ambition levels and seek offsetting supply credits.

Table 5 below is an indication of what per capita emissions scenarios might look like in 2050, based on publically declared emissions targets, current rates of offsetting, and UN projections of population growth to 2050. The table demonstrates the implications for developing countries' per capita emissions, with and without offsetting, if developed countries agree an 80 per cent reduction by 2050 under an overall global goal of 50 per cent by 2050.

Even under the scenario without any offsetting, 80 per cent emissions reductions in developed countries are not sufficient to ensure a levelling of per capita emissions in 2050.

Inadequate ambition from developed countries, combined with offsetting, equates to a steep relative worsening in inequality for developing countries. Whereas the current per capita carbon consumption in developed countries is at least three times that of developing-country per capita emissions, the offsetting scenario presented here would increase this inequality to a factor of more than eight. Such scenarios are morally unjustifiable, conflict with agreements under the UNFCCC, and would probably undermine other international treaties including the UN Declaration on the Right to Development.

The scenarios in this section have been concerned with equity issues of current and projected per capita emissions only. However, data on cumulative emissions from 1850 show that developed countries bear an even greater responsibility. Some 76 per cent of emissions from 1850 to 2002 came from developed countries; in 2002 developed countries had less than 20 per cent of the global population.[75]

This analysis is not intended to paint an impossibly bleak picture or to blame everything on developed countries. It is intended to demonstrate that the current negotiating positions of developed countries are inadequate and unfair, and need to change urgently. Even an 80 per cent 2050 target for developed countries as part of a 50 per cent global cut is not a fair distribution for developing countries, given historic contributions. Offsetting would deepen the injustice, as it is fundamentally a financial instrument to transfer the responsibilty to reduce emissions to developing countries.

Table 5: Total and per capita emissions implications under a global 50 per cent 2050 target.

Scenario	Total greenhouse gas emissions (billion tonnes)	Developed countries' emissions (billion tonnes)	Developing countries' emissions (billion tonnes)	Developed countries' per capita emissions (tonnes)	Developing countries' per capita emissions (tonnes)
1990 reference base year	38.6	18.2	20.4	15.3	5.0
2050 – Developed meeting 80 per cent target, no offsetting	19.3	3.6	15.7	3.0	2.0
2050 - Developed meeting 80 per cent target, using offsets for half of this total reduction	19.3	10.9	8.4	9.2	1.1

Inequitable and unjust outcomes can be avoided only if developed countries take on much greater cuts than currently agreed, and ensure these are achieved entirely domestically without any recourse to offsetting.

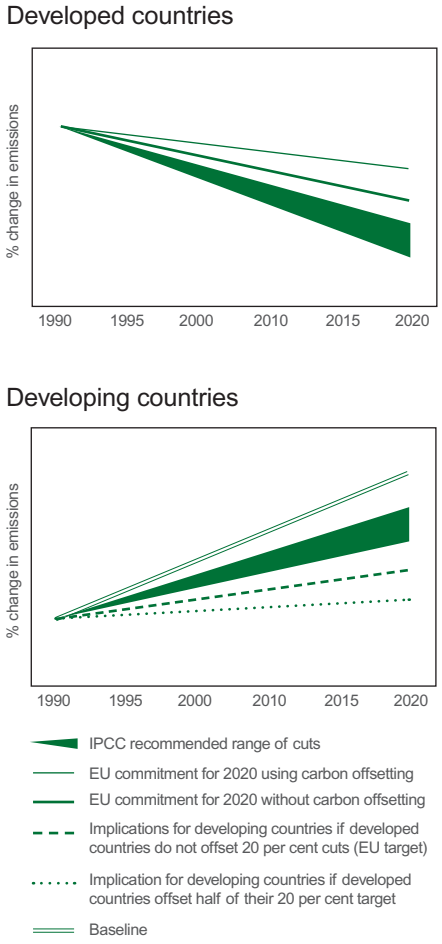
Just as crucially, developed countries must commit to additional finance and technology to enable energy efficiency and appropriate renewable technologies for clean sustainable development in developing countries.

Finally, the climate impacts on developing countries must be fully compensated by developed countries through adequate adaptation funding.

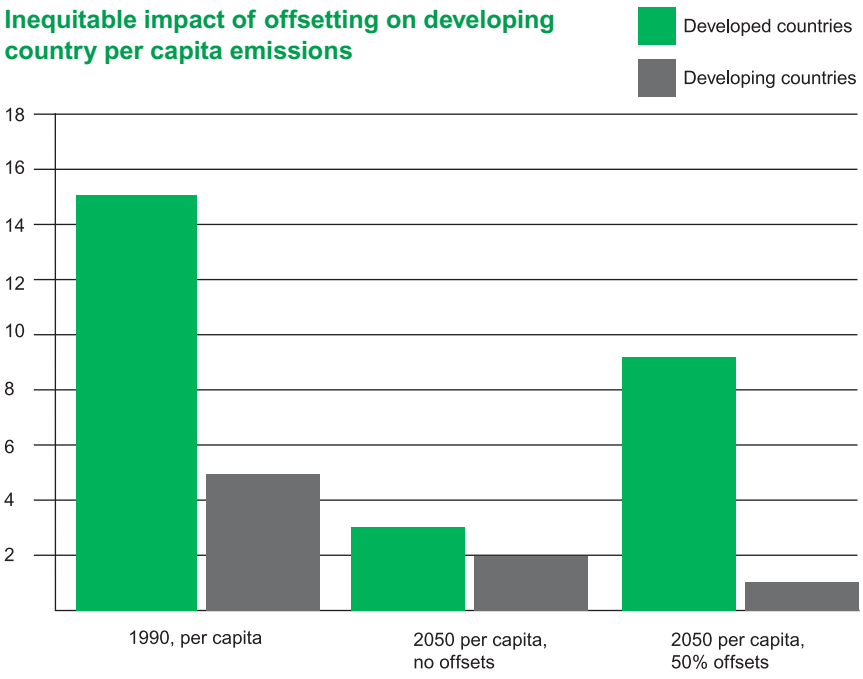
A fair global transition to a low-carbon future must be achieved through cooperation between developed and developing countries acting in good faith. The relentless finger-pointing by developed countries at total emissions from populous developing countries cannot mask the injustice of the developed countries' positions and the implied developing country emissions pathways in per capita terms.

Without assurance from developed countries that they will substantially raise their emissions reductions commitments, do so domestically, and ensure a radical shift in global financing toward the global good, it is highly unlikely effective collective action will be achieved.

Implications of developed-country offsetting



Inequitable impact of offsetting on developing country per capita emissions



6 WHY OFFSETTING CANNOT BE REFORMED, WHY IT SHOULD NOT BE EXPANDED, WHY IT SHOULD BE SCRAPPED

Summarising sections 4 and 5, offsetting suffers from the following problems:

- **It merely swaps action in developed countries for action in developing countries, when both are needed.**

As action is needed in both developed and developing countries, CDM – based on swaps – is at heart preventing this from happening. CDM means delays in developed countries. Reform cannot stop this.

The developing-country projects don't guarantee the same level of carbon savings as could have been made in the developed country:

- Usually it is impossible to say whether a project is additional – that it would not have happened without CDM support.
- In the absence of targets, there is no way of calculating accurately how much carbon equivalent is being saved – there are no guaranteed carbon reductions.

The swaps are not equivalent to cuts in a developed country and are therefore less beneficial for the climate.

These failings are routinely dismissed by advocates of a global cap and trade, who argue such problems would be overcome if developing countries also operated under a legally-binding cap. It is, however implausible that such a scheme could be established within the timeframes necessary to avoid dangerous climate change, even if it could be politically agreed or made operationally effective. The EU's Emissions Trading Scheme demonstrates the operational failings of over-allocation of allowances and corporate influence in achieving specific sector exemptions. Further, even an ideal cap and trade would in any case produce significantly worse equity outcomes in per capita emissions consumption as outlined in section 5 above. The most effective and fair alternative is to ensure developed countries agree on, and begin delivering, significantly deeper reductions at home, and provide the substantial financial and technology flows necessary to begin emissions deviation in developing countries.

Some people argue for reform of CDM to ensure that it does deliver guaranteed and additional cuts. As this report has illustrated, however, proving additionality is virtually impossible, and proving guaranteed cuts is impossible in the absence of agreed targets. On the grounds of swap, additionality and guaranteed emissions, CDM is not capable of reform.

In practice, creating a carbon offset market through CDM is not leading to more and more ingenious ways to cut carbon; it is creating more and more ingenious ways to count things as carbon credits (ie creating loop-holes). Examples of the creation of loopholes would include attempts now to broaden CDM and offsetting to forest sinks and so-called sectoral offset approaches. This is all a huge distraction from getting massive investment into new low-carbon technologies in developed countries.

On top of this, the extra benefits claimed for CDM are not being realised:

- **Sustainable development benefits are very low.**

Sustainable development benefits could potentially be improved by reforms such as better participation in decisions, or bans on certain types of project. However, these approaches would make the validation stage of the CDM process even slower than it is already. At present there is such high pressure to increase the flow of credits that it is likely that any such reforms would simply drive the expansion of offsetting into other arenas (such as forests). The problems of additionality, guaranteed reduction and failure to ensure sustainable development benefits that bedevil current offsetting schemes would apply to new offsetting mechanisms also.

- **Financial transfers are small, they are going to the wrong sectors, and they are not helping low-carbon development.**

The majority of financial transfers[76] are currently not going to activities that help developing countries move along a low-carbon path.

Even if CDM were reformed so that a higher proportion of funds went to low-carbon projects, the scale of CDM is such that it cannot be a main tool for getting the needed funds to developing countries.

Mechanisms are needed to help developing countries constrain their emissions growth, without leading to reduced effort from developed countries.

Finally, in practice CDM can hinder the development of laws and policies to deliver a low carbon path in developing countries, through "regulatory chill".

CDM should be scrapped, not reformed, and developed countries should honour their targets by making carbon cuts at home.

A new set of mechanisms is needed to deliver financial transfers and to aid sustainable development in developing countries.

7 RECOMMENDATIONS

Governments should:

1. Agree that developed countries must reduce their own emissions by at least 40 per cent by 2020, excluding offsetting.
2. Reject all forms of offsetting: proposals for new and expanded offsetting schemes must be dropped, and existing offsetting mechanisms need to be scrapped.
3. Reject plans to introduce REDD offsets, and instead negotiate effective and fair mechanisms to protect the Earth's forests that do not involve offsetting.
4. Negotiate a new financial mechanism under the authority of the UN Framework Convention on Climate Change (UNFCCC) to ensure adequate financial flows to developing countries to support their transition to a low-carbon future.

The scrapping of CDM and non-expansion of offsetting into other areas are clear policy demands.

How to protect forests in other ways is covered in other Friends of the Earth briefings* (see also Forests and offset-based REDD mechanisms, right). For more detail on financial tranfers see section 7.1.

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REJECT PLANS TO INTRODUCE REDD OFFSETS

Forest offsetting suffers from all of the problems with CDM, but with some important additions:

- Carbon reductions are even less guaranteed — forests could become a net source of carbon instead of a sink as the planet warms up.[77]
- Protecting forests is a complex socio-economic issue requiring policies that respect the land rights of indigenous peoples and forest communities.
- The complex pressures on forests (demand for forest products, illegal logging, displacement of people from other lands) demand complex governance arrangements not suitable to forest carbon trading.

Any mechanism intended to stop deforestation must be designed to fully address these issues for it to be effective and just. Further reading is available at the Friends of the Earth International website.[78]

For these reasons, proposals to link REDD finance to the offset market should be rejected outright.

7.1 FINANCIAL TRANSFERS TO DEVELOPING COUNTRIES

The Stern Review estimated that mitigation to stabilise at even 500 ppmv CO_2e (itself an extremely dangerous level) would cost around 2 per cent of global GDP annually – more than US$1 trillion; and that adaptation costs are likely to rise to hundreds of billions of dollars a year (depending on the scale of climate change).

The African Group of Nations in the UN climate negotiations argue that developing nations will need at least US$ 200 billion a year for mitigation, and US$ 67 billion a year for adaptation by 2020.[79] The size of revenues needed is very large.

Research undertaken by the UK's New Economics Foundation (NEF) [80] summarises the rationale and need for developed countries to fund the bulk of these costs:

> "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."

Not only is this a matter of moral and practical necessity however, developed countries have unfulfilled binding commitments under the UNFCCC relating to financing and technology transfer.

Although significant differences remain between developed and developing countries on the form and scale such a financial mechanism should take, it is widely accepted that current international financial flows are simply not working (as stated by the Chair of the UNFCCC working group on finance in plenary, Poznan December 2008).

Private capital flows through offsetting mechanisms are not sufficient or appropriate to address the root causes and solutions to climate change, as demonstrated throughout this report; new mechanisms must be agreed. Friends of the Earth believes a significant increase in developed country public sector funding is necessary to achieve the shared goal of avoiding dangerous climate change.

Such a mechanism can only effectively operate under the governance of the UNFCCC. To most developing countries, it is simply not acceptable to distribute climate funds through existing channels such as the World Bank, which have been and continue to be dominated by western governments. Further, the well-documented negative social and environmental impacts of their policies have effectively discredited them from holding any competent governance or regulatory role in international climate finance.

There are various financial mechanism proposals currently under consideration in the UNFCCC. It is likely no one single proposal will be sufficient, but rather a package of sources required.

Exactly what mix of sources countries agree to, what governance arrangements are in place, and what types of activities will be funded, will be a matter for critical negotiations leading up to the Copenhagen UN climate talks.

A new financial mechanism under the UNFCCC should have the following basic organising principles[81]:

- **Adequate levels and predictability of finance.** Finance must be obligatory and contributed on agreed responsibility indicators according to historical and current per capita emissions that meet the needs identified for mitigation and adaptation in developing countries.

- **Representative governance.** Developing countries should have strong, direct equitable representation in any fund's decision-making and technical bodies, with representation for civil society groups and indigenous people. The governance of any fund must be democratic, accountable and transparent.

- **Participatory planning and access for the most vulnerable.** People potentially affected by projects must be centrally involved in decisions around how and whether these projects are developed and implemented.

- **Capacity building and strengthening of rights.** People should be at the heart of financing proposals, with resources directed to building local capacity, and sharing of expertise. Key global agreements, such as the UN Universal Declaration of Human Rights and the UN Declaration on the Rights of Indigenous Peoples must be upheld, as well as the right to development, food and energy sovereignty, and gender justice.

Finally, in addition to new international climate finance, we propose major reforms to two existing financial flows which are currently major barriers to global clean sustainable development.

- **Stop carbon-intensive financial flows.**There are major public and private investment flows channelled into high-carbon infrastructure via multilateral bodies such as the World Bank and the European Investment Bank. The World Bank alone financed 26 Gigatonnes of CO_2 emissions (45 times UK emissions) between 1997 and 2007, and increased lending for coal, gas and oil by 94 per cent in the past year.[82]

- **Cancel debt.** At least US$ 400 billion of debt relief is immediately needed to enable developing countries to meet the United Nations Millennium Development Goals.[83] Developing countries pay more than US$ 30 billion a year in debt-interest payments.[84]

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A DANGEROUS DISTRACTION

Scientists tell us that taking action on climate change is more urgent than ever.

Since 1997 offsetting has been championed as a key tool to deliver cuts in greenhouse gas emissions, and financial and technological flows to developing countries.

This report examines the record of the main offset scheme, the Clean Development Mechanism (CDM). It asks what the effects are likely to be of expanding offsetting as proposed in the UN climate talks.

It finds that in practice offsetting is not leading to global emisssions reductions or benefits to deveoping coutries. Instead, it is simply leading to more ingenious ways to avoid cutting emissions.

The report finds that offsetting:

- is profoundly unjust, fundamentally flawed and cannot be reformed.
- counts action in developing countries as part of the cuts promised in developed countries, although the science is clear that action is needed in both.
- cannot guarantee the same level of carbon cuts as would have happened without offsetting.
- is causing major delays to urgently needed economic transformations in developed countries.
- does not ensure positive sustainable development in, or appropriate financial transfers to, developing countries.

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