COUNTDOWN TO
CO_2PENHAGEN
Time to make a difference

Setting the bar high at Poznań

Christian Aid's vision for urgent and equitable global action on climate change

The following material is based on information from Christian Aid's Countdown to Copenhagen campaign.

Alison Doig, December 2008

christian aid We believe in life before death

Introduction

Time is running out. The governments of the world must stop posturing and squabbling and instead come up with an effective, realistic and just agreement on how to collectively tackle and cope with climate change.

The United Nations Framework Convention on Climate Change (UNFCCC) holds its 14th 'conference of the parties' (COP 14) in Poznań, Poland, in December 2008. This summit will be a major stepping stone in negotiating the next phase of global action on climate change – due to be agreed at COP 15 in Copenhagen late in 2009.

At Copenhagen the industrialised countries – those included in Annex 1 of the UNFCCC – must commit to binding carbon emissions cuts to be introduced when the first commitment period of the Kyoto Protocol ends in 2012.[1]

Developed countries have already pledged to support mechanisms that will ensure that non-Annex 1 countries – including all developing countries – have the capability and resources to undertake low-carbon development, and to adapt to the growing impact of climate change.

It is essential that agreement both on emission cuts and support for the developing world is reached in Copenhagen as it is anticipated that governments will then need two years to ratify whatever deal emerges.

Although unlikely to deliver new agreements or commitments at this stage, Poznań must mark the point where the parties to the convention move beyond the grandstanding, rhetoric and idea-floating that has characterised climate talks in 2008, into the land of real negotiation.

It is a vital opportunity to agree a shared vision for the negotiations that will take place during 2009 in the run-up to Copenhagen. Such a vision should establish the level of ambition for deep global emissions cuts, and for the significant financing and technology transfer mechanisms that will enable the developing world to make cuts without compromising the right of poorer countries to develop.

Unless equity lies at the very heart of that vision, developing countries will rightly resist signing up to any agreement next year.

Christian Aid believes that Poznań should set the bar high for the negotiations. If the aims are not sufficiently ambitious, then the world will be set on a path to climate chaos.

Christian Aid's vision for an urgent and equitable outcome of the UNFCCC negotiations

Urgency and commitment to staying below 2°C

1. There must be recognition of the urgency of staying below a 2°C global temperature rise, and of the need to decarbonise the global economy.

2. Each country must recognise its own responsibility for global warming, and capacity for responding to the urgency of climate change.

3. Annex 1 industrialised countries must commit to cuts in their carbon emissions of 40 per cent by 2020 and at least 80 per cent by 2050, with all reductions to be achieved within those countries, not through carbon trading.

4. In addition, each industrialised country must support, through substantial financing and technology transfer, the equivalent emissions reductions in developing countries.

Financing climate change action in developing countries

5. Wealthy nations must support developing countries in achieving sustainable low-carbon development and implementing effective, pro-poor adaptation measures to counter climate change impacts.

6. Finance for developing countries must come from sources that are substantial, reliable, predictable and sustainable, and are additional to official development assistance (ODA).

Equitable access for poorer nations

7. Technology that may help low carbon development and adaptation must be shared with poorer nations.

8. The developing world must be supported by the delivery of low-carbon sustainable development.

9. Adaptation measures must be provided to enable communities to take charge of their future, and reduce their vulnerability to disasters.

Urgency and commitment

1. *The urgency of staying below a 2°C global temperature rise, and of the need to decarbonise the global economy.*

The ultimate objective of UNFCCC is the stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous interference with the climate system caused by human activities. Such a level should be achieved in a manner that allows ecosystems to adapt naturally to climate change, ensures that food production is not threatened and enables economic development to proceed in a sustainable manner.

The 1995 *Second Assessment Report* from the Intergovernmental Panel on Climate Change (IPCC), put forward evidence that the risk of severe climate change impacts would increase markedly beyond a temperature rise of 2°C above pre-industrial levels.

Current scientific opinion says that to prevent this, the global levels of CO_2 must peak by 2013 at the latest and then decline rapidly to stabilise at 350 parts per million (ppm)[2]. For this to be achieved, global carbon emissions must fall by 80 per cent over 1990 levels by 2050.

Figure 1[3] shows this emergency pathway, indicating that rapid carbon cuts will be required in both developing and developed countries.

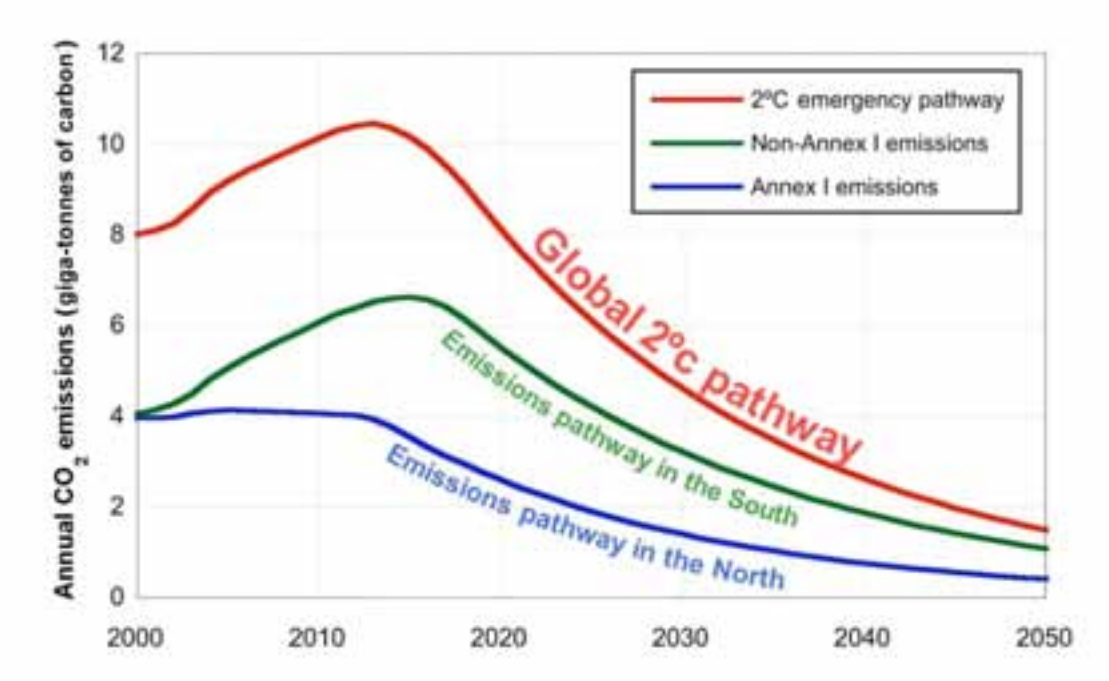

Figure 1: Emergency pathway for emissions reductions

The red line shows a 2°C emergency stabilisation pathway, in which global CO_2 emissions peak in 2013 and fall to 80 per cent below 1990 levels in 2050. The blue line shows Annex 1 emissions declining to 90 per cent below 1990 levels in 2050. The green line shows, by subtraction, the emissions space that would remain for the developing countries.

The International Energy Agency (IEA) has recently calculated that if 'business-as-usual' policies are adopted – that is, no significant action is taken in response to climate change – there would be 'shocking' consequences, with global temperature rises of up to 6°C[4]. The IEA has calculated that $45 trillion (1.1 per cent of annual

global gross domestic product)[5] of investment will be required to deploy technologies that will bring global emissions down by 50 per cent by 2050. The IPCC *Fourth Assessment Report* states that this situation requires governments, the global energy industry and society as a whole to collaborate on an unprecedented scale. Policy intervention is required to address the security of energy supply, to remove structural advantages – such as subsidies – for fossil fuels, and minimise the related environmental impacts. There is also a body of evidence emerging which shows that the longer the developed countries wait to take urgent action to cut carbon emissions, the higher the incremental cost for reaching emission cut goals will become.[6]

It is clear that the emergency pathway will require a rapid de-linking of the global economy from fossil fuels. One inevitable result of this is that coal-based industrialisation and power systems (which currently account for more than 37 per cent of all carbon dioxide emissions[7]) can no longer be acceptable without huge investment in safe and reliable carbon capture and storage. Massive deployment of energy efficiency and renewable energy technologies will be at the heart of achieving long-term low-carbon futures.

Impact of going beyond 2°C

It is the experience of Christian Aid and our partners that people in developing countries are already suffering considerable impacts from changes to the climate caused by man-made greenhouse gas emissions.

The consequences of not keeping the rise in global temperature below 2°C would be even more devastating, particularly for the poorest people in the world's poorest countries. Projected climate impacts will hurt developing countries most because their economies are more reliant on climate-sensitive sectors, such as agriculture, fisheries and forests.

Without urgent action on mitigation the IPCC has predicted a number of impacts across a range of sectors:[8]

Food security

- In countries with a vulnerable climate, even a small temperature change (1-2°C) could reduce crop productivity and increase the risk of hunger.
- In Africa, the area suitable for agriculture, the length of the growing season and crop yield would all be reduced.
- In Asia, a 30 per cent drop in crop yield would occur in central and south Asia by 2050.
- In Latin America, drier areas will have a significant drop in crop and livestock yields.
- A temperature rise of over 2°C will diminish fish stocks by causing acidification of the sea and decline of coral reefs.

Freshwater access

- Around 50 per cent of the world's surface will be liable to drought by 2100.
- In Africa by 2020, 75 to 250 million people will be affected by water stress.
- In Asia, freshwater in large river basins will decrease, affecting over one billion people by 2050.

Health

- Malnutrition will rise.

- A greater number of deaths, diseases and injury will result from extreme weather events (heat waves, floods, storms, droughts and so on).
- The incidence of diarrhoeal diseases, primarily associated with floods and droughts, will increase.
- Changes in spatial distribution of some infectious diseases, including malaria, could reduce deaths in some areas while increasing risk of infection in others.

Forests

- Increased frequency of forest fires and pests will impact on forestry.
- By 2050, tropical forest will be gradually replaced by savannah in the eastern Amazon area, with some predictions of much more severe degradation of the Amazon rainforest by 2100.

Developing countries are more vulnerable than industrialised countries because they are more limited in their human, institutional and financial capacity to anticipate, respond or adapt to climate change and natural disasters. They are also economically vulnerable.

Even after examining such impacts, the full extent of the problems that would result from allowing global warming to continue unchecked remains unclear. One unknown factor is the extent to which environmental changes triggered by global warming will in turn cause further climate change. It is likely, for instance, that the melting of the polar ice caps will cause further heating of polar seas, and the disappearance of the Amazon rainforest will release even more carbon emissions, both contributing to further climate change, but it is not known to what extent that would happen. Such factors threaten to multiply the speed and seriousness of climate change and transform our planet beyond recognition.

2. *Each country must recognise its own responsibility for global warming, and capacity for responding to the urgency of climate change.*

It will be essential for countries to agree a new means of sharing out the cuts that have to be made to keep global warming below 2°C. Christian Aid, with its partners, has developed a framework called Greenhouse Development Rights (GDRs)[9], which shows a way in which this could be done fairly.

- GDRs uses the UNFCCC's core principles of common but differentiated responsibility and capability to work out how much each country should contribute towards the global effort.
- It combines the running total of each country's emissions since 1990 (responsibility) with its wealth (capability). An annual income threshold of $7,500 is applied to both responsibility and capability, which affects countries' position in the index; the greater the proportion of a country's population that falls below this line, the less of the effort that country is required to take on.
- Using this data, GDRs places all 192 nations in the UNFCCC in an index of responsibility and capability to show what share of the effort each should accept.

GDRs exposes the need for countries high on the index – those that have done most to cause the problem, and that have the greatest wealth – to contribute towards the cost of emission cuts overseas as well as at home, thereby freeing up the poorest countries, who are least responsible for climate change, to channel money into anti-poverty initiatives.

Greenhouse Development Rights explained

GDRs is a means of sharing out the global 'effort' needed to meet the demands of the emergency pathway in Figure 1 (see above), according to the principles of equity in the UNFCCC.

Countries are indexed to decide what percentage share of the global effort they should take on. Each country's place in the index is determined according to clearly explained measures of responsibility and capability.

One factor taken into account would be a country's relative poverty. Those with greater proportions of their populations with incomes below $7,500 per annum will face a smaller percentage share of the global effort to be made.

Responsibility is calculated by taking each country's total 'cumulative' emissions since 1990, when the UNFCCC was first drawn up, and the first IPCC assessment report published. For each country a share of its emissions – identified as 'basic survival emissions' below the development threshold – are taken away from the total burden of responsibility. 'Basic survival emissions' refer to emissions from activities such as cooking and heating, which provide a basic minimum standard of living.

Capacity is arguably the more important factor in determining the amount of effort a country must take on. In GDRs, it is calculated using per capita national income data, adjusted to reflect differences in purchasing power and inequality from one country to another. It reflects the ability of a country to pay for climate mitigation and adaptation. This data is used to give a total capacity but, again, only above the development threshold.

Larger developing countries, such as India, where there are still large numbers of poor people and yet increasing pockets of wealth, would have to pay for some of their own measures both to reduce emissions and to adapt to climate change. It is for this reason that the calculation of capability includes an adjustment for inequality within countries; largely, the more unequal a country is, the more it has to pay in recognition of its available wealth.

By combining the calculation of responsibility and capacity it is possible to develop the responsibility and capacity index (RCI), as detailed in Table 1.

It is Christian Aid's firm belief that very poor countries – such as those falling into the UN's 'least developed' category – should focus their attention and resources on meeting the needs of their people, especially as climate change impacts increase. In the GDRs proposal, they would not be asked to pay significantly for tackling climate change.

Of course the GDRs approach takes something of a snapshot based on the data for a particular moment in time. This can be projected forward to show how a country's position on the RCI might change following predictions of growth and emissions. Table 1 shows the calculation of the RCI for 2010, 2020 and 2030**.**

In 2010 it shows the responsibility for action on global climate change is 33.1 per cent for the US and 25.7 for the EU. Overall, 77.4 per cent of the responsibility to act lies with wealthy nations and 22.4 per cent with middle-income countries. Low-income countries have almost no responsibility for climate change.

For industrialised countries, their high rating in the index sends a very clear message about what they must do. They must not only cut domestic emissions

dramatically, but must also contribute to what is required globally, taking on a share of the effort that those lower down the index can ill afford. This is also the case when it comes to paying for the costs of adapting to climate change.

GDR results for representative countries and groups							
	2010					2020	2030
	Population	GDP	Capacity	Responsibility	RCI	RCI	RCI
United States	4.5	20.9	29.7	36.4	33.1	29.1	25.4
EU (27)	7.3	22.4	28.8	22.6	25.7	22.8	19.6
Germany	1.2	4.2	5.6	5.3	5.5	4.7	4.0
China	19.7	11.7	5.8	5.2	5.5	10.4	15.3
India	17.2	4.9	0.7	0.3	0.5	1.2	2.3
South Africa	0.7	0.7	0.6	1.3	1.0	1.1	1.2
LDCs	11.7	1.5	0.11	0.04	0.07	0.1	0.12
Annex 1	18.7	58.3	75.8	78	76.9	69.0	60.9
Non-Annex 1	81.3	41.7	24.2	22	23.1	31.0	39.1
High Income	15.5	56.9	76.9	77.9	77.4	69.3	61.1
Mid Income	63.3	39.7	22.9	21.9	22.4	30.4	38.5
Low Income	21.2	3.4	0.2	0.2	0.2	0.3	0.5
Global Total	100%	100%	100%	100%	100%	100%	100%

Table 1: Percentage shares of total global population, gross domestic product (GDP), capacity, responsibility, and RCI for selected countries and groups of countries, based on projected emissions and income for 2010, 2020 and 2030. (High-, middle- and low-income country categories are based on World Bank definitions. Projections based on International Energy Agency, *World Energy Outlook,* 2007.) (LDCs: least developed countries.)

Sequencing – the China and India question

Part of the difficulty of achieving a global agreement has been a focus on the level of commitment newly emerging economies such as China, India and South Africa must show. Much of the deadlock in UNFCCC negotiations, particularly from the US, has been over their demand for large, newly industrialising developing countries to take on responsibility for emissions cuts alongside Annex 1 countries. Conversely, the large developing countries have been very reluctant to discuss any mitigation of their own increasing emissions levels while industrialised countries, notably the US, have failed to make any significant cuts in their own emissions or deliver sufficient levels of finance or technology transfer to support mitigation in the developing countries as laid out in the UNFCCC commitments. This is known as the sequencing problem – that is, who should act first?

There remains a high level of political mistrust between the large industrialised countries and the newly emerging economies within the negotiations.

It will be necessary to manage a process of trust building to bring the two sides together, with each required to take steps to instil confidence in the other that they are committed to the success of the negotiations.

GDRs provide a simple, equity-based framework within which the level of effort sharing between wealthy, middle income and poor countries can be compared. This shows that larger developing countries should take on some responsibility for climate change action. For example, Table 1 clearly shows that between 2010 and 2030,

under the GDR analysis, China will become responsible for an increasing portion of emissions cuts, moving from an RCI of 5.5 per cent in 2010 to an RCI of 15.3 per cent by 2030. By the GDR calculations, China will, over time, have to take on increasing obligations for mitigation. This would make a significant change in how the UNFCCC has managed non-Annex 1 countries, including China, which currently have no binding targets.

However, the GDRs analysis shows that, in the near term, industrialised countries have the greatest historic responsibility, and capacity, to respond to climate change. They must put forward truly ambitious mitigation targets/ measures as well as significant financial and technology cooperation proposals to enable clean development and decarbonisation in developing countries.

3. *Annex 1 industrialised countries must commit to cuts in their carbon emissions of 40 per cent by 2020.*

The Bali Action Plan – adopted during the UNFCCC COP 13 in Bali in 2007 – called for targets for emissions cuts to stay below a 2°C global temperature rise. Annex 1 countries are expected to cut emissions by 25-40 per cent below 1990 levels by 2020 and by 80-95 per cent by 2050.

Based on current scientific knowledge, as expressed above, Christian Aid believes that only achieving the higher end of these targets will ensure that the rise in global temperatures stays below 2°C.

The EU 2020 Climate Change package could result in global temperatures rising more than 3°C.

The Europe Union is currently discussing a package of measures to tackle climate change, measures which are seen as leading the way for commitments from industrialised countries at the UNFCCC. The aim of the EU is to reduce greenhouse gases by at least by 20 per cent (363m tonnes) by 2020. This will be raised to 30 per cent if other developed countries agree to undertake comparable action. The package currently allows a significant portion of emissions cuts to be 'bought in' from developing countries through the clean development mechanism (CDM)[10] which, under the Kyoto Protocol, allows Annex 1 countries to meet their emissions target by paying for emissions reduction projects in developing countries.This means that domestic (within the EU) cuts could be as low as 10 per cent or 15 per cent, with the rest being bought from overseas.

However, it is clear that this supposedly world-leading package of measures will be woefully inadequate in keeping the global temperature rise below 2°C (an objective to which the EU says it is committed).

Analysis carried out by the European Parliament[11] has stated: 'It seems clear that even the 20 per cent or 30 per cent reduction targets for the EU-27 that can be achieved partly through CDM as proposed by the commission are not sufficient to reach a stabilisation of the atmospheric greenhouse gas concentration that is in line with the pronounced 2°C target if they are not supplemented by additional efforts to reduce emissions in developing countries.

'To reach the 2°C goal, the EU needs to adopt a reduction target of at least 30 per cent below 1990 levels in 2020 and [take] additional action to reduce emissions in developing countries.'

In fact, it can be shown that if a similar effort was made across Annex 1 (industrialised) countries as is laid out in the current EU 2020 package, then there could be global temperature rises of above 3°C [12].

It is the view of Christian Aid, based on analysis using the GDRs approach, that the EU should take on emissions cuts of at least 40 per cent by 2020, and commit to financing a similar level of reductions overseas, as shown in Figure 2.

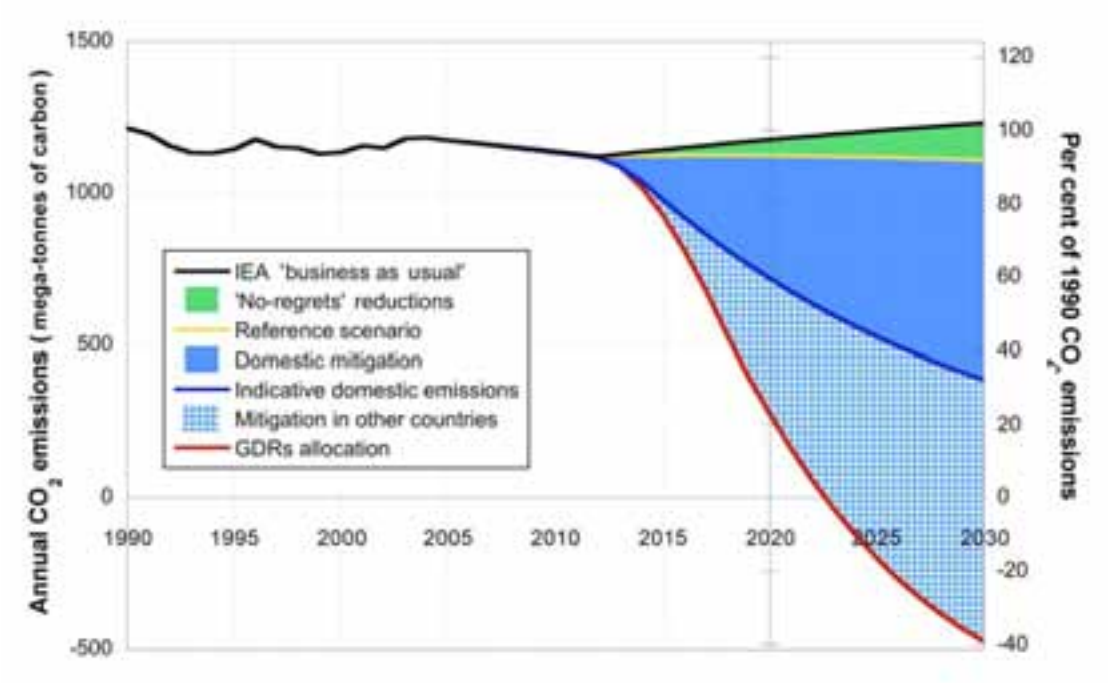

Figure 2: The EU's mitigation obligations, as calculated by the Greenhouse Development Rights framework under a 2ºC emergency stabilisation pathway (shown in red). An indicative domestic reduction effort is shown for comparison purposes.

In essence, this would mean that mechanisms such as the CDM would have to be additional to the domestic target. The GDRs analysis also demonstrates the need for CDM projects to achieve emissions cuts in developing countries that are truly additional, and would not have happened without CDM support.

4. *Each industrialised country must support, through substantial financing and technology transfer, the equivalent emissions reductions in developing countries*

From the analysis above it is clear that significant cuts in emissions will have to take place in the larger and more industrialised developing countries. Figure 1 shows that the emissions from developing countries must peak by about 2018, and then decline rapidly. This is not only a significant deviation from the business-as-usual approach for these countries, where emissions have been rising rapidly over recent years, but also implies actual cuts in emissions in the not too distant future.

Some of this mitigation effort can be undertaken by the countries themselves, notably the 'no-regrets' options[13], such as energy efficiency, which would have almost no costs, or even net benefits in the long term. In addition, there will have to be considerable support for the least developed countries to reduce poverty levels and to industrialise in a low-carbon manner.

This transfer of funds and technology must not be seen as part of overseas development aid, but as the cost for industrialised countries of meeting their responsibilities for global climate change. Additionally, it is essential that both climate mitigation funding and actions by developing countries should be measurable, reportable and verifiable (MRV) through the UNFCCC. Funding that operates outside the UNFCCC's authority, through other sources, such as the recently created Climate Investment Funds at the World Bank, should not be considered as part of a nation's contribution.

Overseeing the provision, disbursement and utilisation of climate funding

The Bali Action Plan highlighted the importance of ensuring that what happened with climate funding should be measurable, reportable and verifiable. It stated:

'Enhanced national/international action on mitigation of climate change, including, *inter alia*, consideration of:

> '(i) Measurable, reportable and verifiable nationally appropriate mitigation commitments or actions, including quantified emission limitation and reduction objectives, by all developed country parties, while ensuring the comparability of efforts among them, taking into account differences in their national circumstances
>
> '(ii) Nationally appropriate mitigation actions by developing country parties in the context of sustainable development, supported and enabled by technology, financing and capacity-building, in a measurable, reportable and verifiable manner.'

The concept of MRV actions is important because it enables us to measure and report progress towards meeting commitments. It would be applied to national levels of emissions cuts by Annex 1 countries, as well as the provision and delivery of financial assistance and technology transfer to developing countries.

Verification or assessment of 'compliance' with commitments, actions and comparability of effort is then possible.

Without using an MRV approach it will be impossible to assess national and global progress on emissions cuts, and to ensure that financial transfers and technology transfer achieve the required net emissions cut.

Financing climate change action in developing countries

5. *Wealthy nations must support developing countries in achieving sustainable low-carbon development and implementing effective, pro-poor adaptation measures to counter the impact of climate change.*

Estimates of how much it is going to cost to counter climate change effectively vary, but are uniformly large. The UNFCCC has calculated that just to return global emissions to 2007 levels in 2030 would cost US$380 billion annually. In 2007, economist Sir Nicholas Stern said that it would cost about one per cent of world domestic product to respond to climate change. In 2008 he revised this figure upwards, based on new scientific evidence, to two per cent – in the region of US$1,200 billion every year. However, the logic of the Stern review puts these enormous sums into context, for Stern estimated the cost of not dealing with climate change would be between 5 and 20 per cent of global GDP or more. In the words of UK Prime Minister Gordon Brown[14], that would be a cost 'comparable to the economic effects of a great depression combined with world war'. Dealing with

climate change will be expensive, but it will be affordable and will cost only a fraction of not tackling the problem.

While much of this expense will be investment within the rich world towards its own mitigation and adaptation efforts, a significant portion of this resource will have to be transferred from rich to developing nations.

Estimated adaptation costs in developing countries alone (from the UN, Oxfam, Stern and other sources) are in the region of US$50- 100 billion each year. These substantial financial resources must come from the developed world in addition to existing commitments from rich countries to provide 0.7 per cent of their GNP for overseas development aid. Of course, the more slowly we act on mitigation of global carbon emissions, the higher the cost of adaptation will be in years to come.

Total committed funding from multilateral and bilateral donors for adaptation by 2007 was in the region of US$450 million, a small fraction of what is required.

GDRs analysis not only relates to the effort for mitigation, but also to how the responsibility for paying for the battle against climate change should be shared between countries globally. According to the formula **the US is responsible for about one-third and the EU for one-quarter of global mitigation and adaptation efforts, requiring significant transfers of financing to countries in the southern hemisphere.**

6. *Financial flows to developing countries must come from sources which are substantial, reliable, predictable and sustainable, and are additional to ODA.*

The EU recently affirmed that[15]: '*In order to support developing countries in their transition to low carbon, climate resilient development paths, the EU recognises the need to develop in conformity with [the] Bali Action Plan an architecture to optimise and mobilise predictable, sustainable and new, additional and adequate investment and financial flows from various sources (including the private sector, the carbon market, [the] public sector and innovative instruments) and to deliver financing efficiently, effectively and equitably*.'

While the carbon market may be an appropriate tool for financing some elements of the required action on climate change, it is not appropriate for them all. A market-based mechanism is unlikely to fully finance technology transfer or capacity building in developing countries. Similarly, funds for adaptation and low-carbon poverty reduction – which need to be focused according to demand, not efficiency – are unlikely to be funded properly through market processes. Alternative funding mechanisms must be developed to provide support in these areas.

It is essential that new funds for climate change action are not taken from extra money allocated to ODA for pursuing the Millennium Development Goals and poverty-reduction measures. Diversion of such money to climate change would reduce funds available for essential development work. Climate change is an additional challenge for development that further increases the vulnerability of millions of poor people; this implies additional effort will be required to cope with the impacts of climate change on top of ongoing poverty-reduction activities.

A number of proposals have been put forward as a way of generating substantial climate change financing on a global scale, both for mitigation and adaptation.

Proposals have included the following:

- The Norwegian government recommends a levy on the Kyoto Protocol system of tradable emission allowances – these are termed assigned amount units or AAUs[16]. The suggestion is that a proportion of national AAUs should be withheld and auctioned by either a dedicated or existing international body,

with the proceeds forming the basis of a fund to finance adaptation-type activities as well as to finance clean and sustainable development in the developing world. Details of how this proposal will be applied and managed are still unclear, but this proposal has generated considerable interest from governments and civil society alike

- The G77-plus-China group of developing countries has put forward a proposal that central government budget support equivalent to 0.5 per cent of GDP from developed countries should be transferred for climate change action in poorer countries. China has recently commented that this should rise to one per cent of GDP, given the increasing urgency of climate change
- There has been a call for the ring-fencing of some of the revenue from auctions of national carbon allowances from the EU Emissions Trading Scheme (ETS). Countries such as the UK have been against designating ETS auction revenue at a national level – a process known as hypothecation[17] – to date. However, there is a strong argument that auction revenues should be recycled back into the mitigation and adaptation funds to compensate developing countries
- Mexico has presented a proposal that combines elements of the G77-plus-China with national developed country commitments being based on greenhouse gas emissions, population size and national income. It would also ask middle-income countries to contribute to the fund. In addition, part of the funding could be supplied through a levy on the auctioning of national carbon permits, such as the ETS
- There have been longstanding calls for an extension of the current two per cent CDM levy to all flexible mechanisms under the Kyoto Protocol, which allows signatories to meet targets in different ways. This would generate significant finance for climate protection
- The Swiss have proposed a global tax on all carbon emissions, which would be universally applied to both developed and developing countries
- There have been calls for a levy on shipping and on air travel to contribute to the fund. It should be noted that a shipping levy would have to safeguard vulnerable small island states from the cost of this levy, as they are completely dependent on imports by sea.

The Norwegian proposal of earmarking the auctions of AAU has gained greatest favour so far. Auctioning AAUs[18] meets most of the criteria, in that it is substantial, reliable, predictable and sustainable. It is gaining favour as an internationally imposed levy (as opposed to ring-fencing nationally generated revenue), and for its potential for generating considerable climate change funds, although it would not alone generate the full cost of climate change action in the developing world.

Christian Aid is recommending that a package of financing measures will have to be applied that combines the auctioning of AAUs with one or more of the other financing mechanisms, to meet the key criteria of substantial, reliable and sustainable financing flows and which, critically, would be additional to ODA.

Christian Aid is also calling for the EU to make the hypothecation of ETS auctioning revenue a priority in the lead it is taking on climate change.

Equitable access for poorer nations

7. *Technology that may help low carbon development and adaptation must be shared with poorer nations.*

Development, diffusion and transfer of technologies are fundamental, both to reach reduction targets and to make adaptation possible in developing countries. Furthermore, transfer of technology and capacities are crucial to ensure that, within the framework of a global climate agreement, developing countries have the continued possibility for development and industrialisation.

Many low-income countries face barriers that prevent them from taking advantage of technology transfer. These include a lack of know-how in planning for technology innovation, and a lack of scientific and engineering capacity. It is important to note, therefore, that technology transfer is a broad concept which, in order to be implemented, must include knowledge transfer, expertise and capacity building.

There must also be a broad definition of the technologies that are included in such a technology transfer deal:

- **Climate change technology** must be low-carbon, provide sustainable development and include technologies for both mitigation and adaptation

- The **scale** of technology should include: micro (village, community), medium (local grid, small and medium enterprises) and large scale (industrial, power grid).

Sectors should include (for mitigation and adaptation): power and energy; agriculture; water infrastructure; housing (and others). Transfer must be appropriate to the local context (wave power technology is of little use to a land-locked country to pick an extreme example).

All countries need technology, but the ability to attract foreign investment and new technologies greatly differ. Major developing countries are eager to initiate their own innovation and development, and they have no problem attracting both interest and investment from foreign and transnational actors. The situation is different in least developed countries and small developing countries where market-based mechanisms will not be enough to attract foreign companies or the transfer of technology.

It is therefore important to include a fund within the new agreement that can facilitate technology transfer and innovation in low-income countries, for both mitigation and adaptation.

Where intellectual property rights (IPRs) act as a barrier to technology transfer, an approach is needed that maintains incentives for the technology advancement, but recognises the need for rapid and affordable diffusion of existing and new advanced technologies.

8. *The developing world must be supported by the delivery of low-carbon sustainable development.*

Less developed countries have so far benefitted very little from climate change financing mechanisms. For example, carbon projects in developing countries are funded through the CDM. To date, two-thirds of all CDM projects have been in the emerging economy countries (India, China and Brazil), with less than two per cent of

projects in sub-Saharan Africa.[19] There has been considerable concern over the lack of sustainable development benefits from the current CDM.

The world's poorest countries have been least responsible for causing climate change, but many are facing its worst impacts through drought, flooding or natural disaster. It is essential that these countries should start to gain the benefits from the rapidly increasing climate change finance flowing from north to south, so that they can set themselves on a path to low carbon development.

The example of the small-scale local use of jatropha as a biofuel in Mali (see box) is an example of type of development where both climate change and poverty reduction could benefit.

Jatropha in Africa: Mali's sustainable development approach

The November 2006 Green OPEC meeting in Dakar brought together a number of non-petroleum producing African countries, interested in exploring the potential of African soils for biofuel production to lessen their dependence on fossil fuel imports in future.

One of the crops that they are keen to promote is *Jatropha curcas*. African governments and biofuel companies – keen to sell biodiesel in Europe where targets for cleaner transport fuel blends have opened up huge markets – have hyped up the oil-producing potential of the jatropha plant. Given that the plant grows naturally in semi-arid and tropical areas, they claim that jatropha for fuel can be grown in soil and water conditions unsuitable for other forms of agriculture. Therefore, this fuel crop will not compete for water and land with food crops in the way that maize, sugar, cassava and other biofuel crops do.

However, there is growing evidence that the most economically viable large-scale production of jatropha will compete for soil and water with food crops and pastoralist lands. For example, in Senegal biofuel companies are growing jatropha in the more fertile areas of the country. Commercial pressure to maximise yields will in future certainly result in some of the best land being appropriated for jatropha. These monoculture plantations will enhance the danger of soil erosion, nutrient and groundwater depletion, and threaten biodiversity. They may also displace communities (as has already happened in Tanzania) and deprive them of their livelihoods without adequate compensation.

This 'hype' has seen a clamour for land by biofuel companies keen to acquire land-use rights to establish jatropha plantations in a number of African countries, including Tanzania, Mozambique, Ethiopia, Kenya, Burkina Faso, Senegal and Zimbabwe.

The Malian government has taken a different approach, which involves a combination of commitment and support for small-scale farming, local food systems (as opposed to a reliance on food imports), and resolving rural energy poverty through decentralised bio-energy. This approach is unique in Africa.

The Malian government is developing a National Strategy for Biofuel Development, with the eventual aim of replacing fossil fuel imports by locally transformed biofuels. The government has also been driving a national programme to popularise the energy uses of jatropha as part of its commitment to rural electrification through clean and decentralised energy provision. The Mali National Centre for Solar and

Renewable Energy, through its jatropha programme, has been supplying 700 communities, comprising 12,000 villages, with biofuel generators. At the same time, the government has adopted food sovereignty as its overall food and agricultural policy framework. This signals a commitment to small-scale farming and the promotion of local food systems – and explains why until now the Malian government has not been courting foreign investment in large-scale industrial jatropha mega-projects. It has also banned jatropha exports until the country is fully energy self-sufficient.

The use of a mechanism called 'sustainable development policies and measures' (SD-PAMs) has been proposed as a possible type of action or commitment by which some developing countries can engage in low-carbon development under the UNFCCC. These would provide a framework for official recognition of domestic action in countries without emissions targets, and also facilitate funding for undertaking such action. The definition of SD-PAMs is still open. It is not yet known whether these will directly relate to carbon credits, for example for carbon off-setting.

However, it is important that SD-PAMs should be domestically driven, cover a large range of national sectoral policies and have a development focus.

9. *Adaptation measures must be provided that will enable communities to take charge of their future, and reduce their vulnerability to disasters.*

Adaptation to climate change will require substantial investments in both human capacities and infrastructure. Some of the main measures will be: improvements to riverbank and sea defences; new water-harvesting and sustainable irrigation projects; better water supply management systems; the development of flood-, drought- and saline-resistant crops; changes to the times for sowing and harvesting crops; protection of vital infrastructure; actions to safeguard public health; and community-led afforestation projects. It will also require monitoring of weather extremes and developing disaster-preparation strategies. Impacts of climate change will include higher prices for agricultural inputs such as fertiliser, and water and food imports.

Smallholders and subsistence farmers will bear the brunt. Their livelihood systems, particularly in low latitudes, will undergo major changes because of climate change. Farming systems will be directly affected by changing weather patterns, sea level rise, and the increase in frequency and intensity of extreme events. The productivity of livestock and fisheries systems will also be affected, as will the potential income from non-timber activities in forests.

We must not forget that large cities are increasingly becoming victims of climate change, with increasing urbanisation and the exposure of growing 'megacities' such as Mumbai, Lagos, Kolkata, Rio and Lima to impacts such as reduced access to fresh water, increased frequency of hurricanes and sea encroachment.

There are also significant underlying justice and equity issues that increase peoples' vulnerability to climate change, degradation of natural resources and climate-related disasters. These need to be addressed through a holistic approach that looks at reducing both exposure and vulnerability to climate change and climate variability.

Bangladesh: why action to tackle climate change can't wait

As each year passes with too little action to reduce global greenhouse gas emissions, so the effects of climate change in Bangladesh – one of the poorest countries in Asia – become more evident. They include rising sea levels, greater frequency and intensity of storms and cyclones, salinisation of farmland, river and coastal erosion, floods, heavier monsoons, drought and a rise in temperature. This is what is happening now – not what is predicted for some future date.

Climate change poses a severe threat to the livelihoods and wellbeing of ordinary Bangladeshis, particularly small farmers and fishing and coastal communities. Just to take one example, the phenomenon of river and coastal erosion is getting worse owing to glacial melting in the Himalayas (which pushes more water downstream towards Bangladesh), heavier monsoon rains and rising sea levels. In coastal areas, where 35 million people live, strong tides combine with fast river flows to literally rip out large sections of land. The people uprooted by this process are forced to move to other parts of the coast (where they often become landless) or end up living in slums in larger towns and cities. It is estimated that each year 100,000 people are displaced as a result of river and coastal erosion in Bangladesh.

Two main steps are required to tackle climate change in Bangladesh. One is for industrialised countries to cut radically their greenhouse gas emissions. The other is for adaptive measures to be undertaken inside Bangladesh, so that poor people can cope better with the effects of climate change. Many actions are needed: the critical ones include the expansion, repair and maintenance of river embankments and sea defences; coastal tree-planting; improvements to drainage systems; better flood-warning systems; the upgrading of cyclone shelters; assistance to displaced people; and support to farmers to adapt crops.

These measures will of course require a major injection of cash (the Bangladesh government estimates the amount to be $US5 billion over the next five years). Money by itself will not be a guarantee of adaptation – other important factors will include improved government delivery, lower levels of corruption, an integration of responses to climate change into development plans for different sectors, and greater community participation in the design of projects.

Adaptation funding

A key mechanism for adaptation is the UN Adaptation Fund, which could become a beacon because of its innovative nature, including: a governing board containing a significant majority of representatives from developing countries, which is unprecedented in the history of development financing; the option of direct access to resources from the fund; and a source of resources independent of the donor contributions. The Adaptation Fund is currently resourced through a two per cent share of the proceeds from emissions reductions issued under the Clean Development Mechanism.

The Adaptation Funding Board is also developing an innovative streamlined project cycle for submission and approval, which will make the fund more accessible to low-income countries.

The funding of adaptation needs an international effort under the UNFCCC framework. Current initiatives through the World Bank are in contradiction to the primacy of the UNFCCC. Even more unacceptable is the use of loans by the World Bank for adaptation projects, which places the burden on the recipient countries and not those responsible for climate change

At present the UNFCCC Adaptation Fund has not developed any strict criteria for use of funds. The intention is to allow Annex 2 countries the power to decide how best the money can be used. However, a list of the type of activities which would be considered for funding is provided by the UNFCCC. Activities include 'traditional DRR (disaster risk reduction) activities' such as early warning systems, weather monitoring, capacity building and supporting technology. However, making more funding available does not necessarily mean that the money reaches the most vulnerable groups.

Most of the money in the UNFCCC Adaptation Fund is expected to be transferred direct to governments to implement adaptation work, in least developed countries through national adaptation programmes of action (NAPAs) (see box). **It is essential that adaptation grants must be fairly disbursed to poor communities through these nationally owned plans using a flexible and accessible financing mechanism.**

UNFCCC definition of NAPAs

The UNFCCC has called for the least developed countries (LDCs) to develop NAPAs (national adaptation programmes of action). The NAPAs provide a process for LDCs to identify priority activities that respond to their urgent and immediate needs with regard to adaptation to climate change. The rationale for NAPAs rests on the limited ability of LDCs to adapt to the adverse effects of climate change. In order to address the urgent adaptation needs of LDCs, a new approach was needed that would focus on enhancing adaptive capacity to climate variability, which itself would help address the adverse effects of climate change. NAPAs take into account existing coping strategies at the grassroots level, and build upon that to identify priority activities, rather than focusing on scenario-based modeling to assess future vulnerability and long-term policy at state level. In the NAPA process, prominence is given to community-level input as an important source of information, recognising that grassroots communities are the main stakeholders.

Developing an integrated approach to climate change adaptation

Over the period from 1995 to 2004, a total of 2,500 million people were affected by natural disasters, causing 890,000 deaths and US$570 billion worth of losses. Three-quarters of all recorded 'natural' disasters are related to weather extremes such as wind storms, flooding and drought. Of particular concern is the fact that the number of disasters and, in particular, climate-related disasters have been increasing over recent decades.

The main reasons for this include increased populations living in hazard-prone areas, unplanned settlements and environmental degradation. Climate change is increasing the strength of hurricanes and cyclones, the frequency of drought and flooding episodes, the occurrence of higher rainfall intensities and the frequency and severity of heat waves. However, it is also altering the face of risk management, not only through increased climate-related disaster risks but also through slower onset long-term changes in climate trends, such as changing seasonality, rising sea levels and temperature change, which cause increased vulnerability through incremental stresses on water availability, food security, health and ecosystems.

The scale and complexity of climate change and the multifaceted challenge it presents to development as a whole requires a paradigm shift in the strategic approach to poverty reduction and livelihood resilience. Climate change adaptation, environmental sustainability, disaster risk reduction and long-term sustainable development share common aims: reducing the vulnerability of communities and

achieving sustainable development. They are not competing ideologies and should not be separated into knowledge silos. There is a need for convergence and enhanced integration.

To make the best use of scarce resources and avoid duplication, adaptation to climate change and disaster risk reduction must converge more closely and become integrated into sustainable development planning in all sectors.

Measures to achieve this will include the following:

- Climate change adaptation requires a guiding framework for action to promote a coherent approach. This should draw on the experience and best practice gained to date from sustainable livelihoods, climate change adaptation, disaster risk reduction and humanitarian work. This framework should be developed and implemented under the auspices of the UNFCCC, and include consultation with all relevant stakeholders (including civil society in the developed and developing world) in its development. It should be implemented through the Adaptation Fund
- Promoting closer integration of sustainable livelihoods, climate change adaptation and disaster risk reduction teams in bilateral, multilateral and civil society organisations, and coordination and policy mechanisms such as the UNFCCC and Global Platform for Disaster Risk Reduction
- Establishing inter-ministerial committees (or other appropriate national coordinating mechanisms) to integrate climate change committees and national platforms for disaster risk reduction and so promote improved inter-sectoral, multi-stakeholder coordination
- Integrating climate change adaptation and risk reduction into the guidance and delivery of all appropriate bi-lateral funding mechanisms
- Linking climate scientists with engineers, risk reduction experts and development practitioners to ensure that tried-and-tested methodologies are used where appropriate, and to promote innovation where needed. Of particular importance is a reversal of the underinvestment in climate and meteorological departments in developing countries to ensure that these vital scientific capacities are a central part of an integrated approach to climate change adaptation, enabling the expansion and improved communication of seasonal forecasting, early warning systems and climate prediction
- Refining and scaling-up existing sustainable livelihoods and disaster risk reduction tools that have proved effective in dealing with climate-related events to meet the needs of climate change adaptation. These tools include climate change analysis, participatory vulnerability and risk assessments, early warning systems, risk-cycle management, community-based development/land-use planning, building code regulation and institutional and legal capacity building
- Ensuring that climate change adaptation is rooted in the livelihood priorities and needs of those most vulnerable to its impacts. This explicitly includes a recognition of the local knowledge of changing climate, its impact on livelihoods and appropriate sustainable responses
- Mitigation of greenhouses gases through extension of decentralised small-scale renewable energy sources to energy-poor communities has the potential to transform livelihoods. Thus an integrated approach should benefit both adaptation and mitigation.

Participation of civil society

As with all international funding there is a need to promote greater civil-society participation into the decision-making processes as this is the only way the fund can be accountable to the most vulnerable populations that it is seeking to help.

Applicant governments will be expected to include mechanisms within their proposals to show how civil society/local organisations in their countries could access the Adaptation Fund obtained by the government.

Additionally, the global fund could set aside a percentage of funds for direct funding of local organisations/civil society groups to either implement community-centred adaptation work or to facilitate civil society participation in national project planning and design and hold governments and the Adaptation Fund to account.

Of utmost importance in achieving this will be fully resourced capacity building in communities particularly at risk, and for national, regional and local administrations.

The UNFCCC has taken steps towards this by making provision in the Adaptation Fund[20] for community-based organisations to be able to directly access the board and submit projects with the backing of governments.

Key to this will be strengthening the role of civil society (especially in the developing world) in the development and implementation of NAPAs (which up to now has been very limited) and the use of Adaptation Fund resources.

The Copenhagen pledge

Throughout 2009 Christian Aid, in coalition with our sister agencies and partners around the world, will be campaigning for an urgent and equitable outcome at the Copenhagen COP 15 in December 2009. Our Countdown to Copenhagen campaign, to be launched in Poznań, will see thousands of our supporters coming together as part of a global movement calling for climate justice. Setting the bar high at Poznań will be a first step to making this a reality.

Christian Aid is asking citizens to take the Copenhagen pledge to call for a world free from the poverty and injustice caused by climate change. Christian Aid supporters will be asking for a fair and just deal in Copenhagen so that the poorest countries can keep developing in the face of climate change and for rich countries to repay their carbon debt. They will be calling for leadership from their own governments and from the EU to lead the way in setting the bar high enough to avoid catastrophic climate change while delivering sustainable development in the south. Pledges collected from around the world will be presented to world leaders by campaigners in Copenhagen.

Poznań must take a large step towards the establishment of international governance architecture and establish financing mechanisms for urgent, effective and fair global action on climate change. The integrity and democracy of the UNFCCC, as the key operating body for climate change, must be maintained, and extended into finance mechanisms for mitigation, adaptation and technology transfer.

Many developing countries lack the capacity fully to engage in UNFCCC processes, with few dedicated staff and a lack of understanding of the complex and rapidly changing agenda. A priority for the UNFCCC has to be increased funding and capacity building so that developing countries can play a fair part in the negotiations process.

The road towards this fair deal will start from an ambitious and equitable shared vision set at Poznań.

For more information see: www.countdowntocopenhagen.org

Endnotes

1 The Kyoto Protocol, which establishes legally binding commitments for the reduction of six greenhouse gases, came into force in 2005. So far, more than 180 countries have signed up to it. The first commitment period, 2005 to 2012, sets reduction targets for developed countries, as well as an obligation to provide finance and technology to developing countries to assist them in undertaking climate-related responsibilities. Developing countries were exempt from making cuts, but undertook to collect and submit data and to formulate and implement mitigation and adaptation measures. The second commitment period, which will set further targets, will run from 2013 to 2016.
2 For more research on peaking and declining emissions concentrations, see Michel G J den Elzen, Detlef P van Vuuren, 'Peaking profiles for achieving long-term temperature targets with more likelihood at lower costs', *Proceedings of the National Academy of Sciences*, 7 November 2007.
3 Paul Baer, Tom Athanasiou, Sivan Kartha and Erik Kemp-Benedict, *The Right to Development in a Climate Constrained World: The Greenhouse Development Rights Framework*, Second Edition, EcoEquity and Stockholm Environment Institute, September 2008.
4 International Energy Agency, *World Energy Outlook*, Paris, IEA, 2008.
5 International Energy Agency, *Energy Technology Perspectives*, Paris, IEA, 2008,
6 J Edmunds et al, *Stabilizing CO2 Concentrations with Incomplete International Cooperatio*n, Pacific North West National Laboratory, University of Maryland, 2008.
7 Massachussetts Institute of Technology, *The Future of Coal*, MIT, Cambridge, Massachusetts, 2007; Available at: http://web.mit.edu/coal/The_Future_of_Coal.pdf
8 Intergovernmental Panel on Climate Change, *IPCC Working Group II Fourth Assessment Report*, 2007.
9 A full description of GDRs is found in: Paul Baer, Tom Athanasiou, Sivan Kartha and Erik Kemp-Benedict, *The Right to Development in a Climate Constrained World: The Greenhouse Development Rights Framework*, Second Edition, EcoEquity and Stockholm Environment Institute, September 2008.
10 The Clean Development Mechanism (CDM) is a flexible mechanism of the Kyoto Protocol. It is intended to contribute to the sustainable development of developing countries.
11 European Parliament, *The EU's Emissions Reduction Target, Intended Use of CDM and its +2^{o}C*, DG Internal Policies of the Union, Policy Department Economic and Scientific Policy, IP/A/ENV/INT/2008-14, Brussels, September 2008.
12 Calculations by EcoEquity predict a range for global temperature rise by 2100 of 2-3^{o}C if the EU package was to be adopted by all Annex 1 countries, 2008.
13 In Figure 2 'no regrets' reductions refers to emissions reductions such as energy efficiency, which would have no net cost or even a cost saving. IEA 'business as usual' refers to the scenario where no action against climate change is taken over the period. GDR allocation is the amount of CO_2 emissions reduction for which the EU is responsible under a GDRs analysis.
14 Speech on climate change by Gordon Brown, 19 November 2007, see http://www.number10.gov.uk/output/Page13791.asp
15 Council of the European Union, *Council Conclusions Guidelines for EU Participation in the International Conference on Financing for Development (Doha, 29 November - 2 December 2008,)* 2,903rd External Relations Council meeting, Brussels, 10 and 11 November 2008.
16 Emission certificate as defined by the Kyoto Protocol 1 AAU = 1 tonne carbon dioxide emissions, and relates directly to the Kyoto Protocol emissions cap for each Annex 1 country.
17 Hypothecation: to designate money, especially public revenue, to be used for a specific purpose.
18 Stephen Sprat, *Financing Climate Change Mitigation and Adaptation in Developing Countries: Assessing the Prospective Mechanisms*, New Economics Foundation, London, 2008.
19 UNFCCC statistics. Available from: http://cdm.unfccc.int/Statistics/Registration/NumOfRegisteredProjByHostPartiesPieChart.html
20 Available at: http://www.adaptation-fund.org/