

# Greenhouse Development Rights

Explained in four, easy steps

*'Countries will be asked to meet different requirements based upon their historical share or contribution to the problem and their relative ability to carry the burden of change. This precedent is well established in international law, and there is no other way to do it.'*

**Al Gore, former US vice president<sup>i</sup>**



## Introduction

The climate is changing in a world of poverty and inequality. There is no option but to face the climate crisis with urgency and resolve. This must be done in the midst of a development crisis in which more than one-third of the world's people are poor, hungry, short of water, denied basic health care and access to adequate education.

At the 2007 Bali meeting of the UN's Framework Convention on Climate Change (UNFCCC), a decision was reached to start negotiations on a post 2012 agreement (as the first phase of Kyoto ends in 2012). It was also decided that these negotiations should conclude in 2009, allowing time for countries to ratify and enact domestic laws required to fulfil the terms of the new agreement.

Negotiations are divided into two strands. A group of industrialised countries that have ratified the Kyoto Protocol are discussing how, post 2012, a second phase of Kyoto will see them committed to far deeper cuts in their emissions. The United States, where Kyoto has not been ratified, is not involved in this strand of the negotiations.

The second negotiating strand is taking place more broadly under the UNFCCC's original mandate of avoiding dangerous climate change. This part of the negotiations involves all 192 signatory countries, including the US, and is addressing how cuts in emissions can be extended beyond the industrialised world and into India and China and other rapidly developing countries.

But, in spite of the decision to negotiate, there remains a dangerous impasse in the international climate change talks. Poor people's future opportunities are at the heart of this because unless negotiations address how they can escape poverty without adding further to the climate crisis, it is difficult to imagine how poorer nations can be persuaded to sign any new agreement.

Greenhouse Development Rights (GDRs) aims to break this impasse. It addresses the development crisis as well as the climate crisis. And while its inner workings, assumptions and calculations are complicated, the principles behind it are simple and designed to address the politics of the current impasse by revisiting the original text of the UNFCCC, a document which all 192 countries involved in the talks support.

GDRs is a means of sharing out the global 'effort' needed to avoid climate catastrophe in a way that is fair. It works according to principles of equity – 'common but differentiated responsibilities and respective capabilities' – in the UNFCCC. These equity principles are often incanted rhetorically by politicians and climate officials, but they can quite easily be quantified and used to illustrate how a fair responsibility or 'effort' sharing might look.

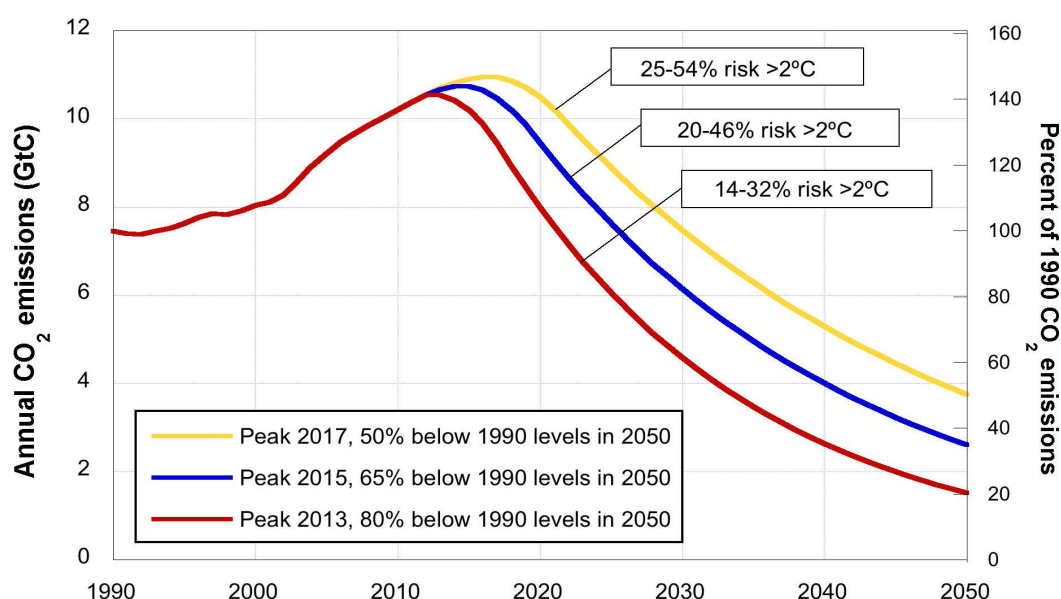
This 'effort' is simply the difference between what would be emitted in the future if no action was taken to 'mitigate' or cut emissions and what can feasibly be emitted if humanity is to keep global warming below levels that are likely to precipitate irreversible changes. This is generally thought to be a maximum of a 2 degrees Celsius increase in global average temperatures over pre-industrial levels.

A world of poverty and inequality, that is also facing a climate crisis, needs a fair, comprehensive, international agreement to deal with the threat. Without this, it is Christian Aid's belief that humanity will fail to deal with either crisis. Politicians face some tough decisions and in taking them, they require policy that is demonstrably fair. GDRs is, if nothing else, demonstrably fair.

## Step 1: The scale of the climate challenge

All calculations in the GDRs framework are made against the backdrop of one environmental assumption; that negotiators need to choose a low risk approach to cutting greenhouse gas emissions and so the pathway to big emissions cuts by mid century is likely to be a tough one.

Figure 1<sup>ii</sup> shows three such pathways. GDRs uses the red line 'emergency programme' pathway with the lowest risk of exceeding +2 degrees C. The current negotiations, while not yet having settled on a 'long term vision' for reducing emissions (i.e. how much global emissions will be cut, by when and in relation to which baseline year), are centred on a pathway represented by the yellow line in Figure 1. This carries an unacceptably high risk of exceeding +2 degrees C.



**Figure 1:** GDRs uses a stringent trajectory for global emissions reduction because the risk of exceeding +2 degrees C must be limited.

The emergency programme requires:

- a peak in global emissions by 2015
- a return to 1990 levels by 2020
- reductions of around 80 per cent by 2050.

Annually, this requires reductions of around 6 per cent per year from 2015 onwards, but the effort must begin right away in industrialised countries as it will take longer for emissions to begin reducing in developing countries due to the significant gap they mostly experience between energy demand and energy supply.

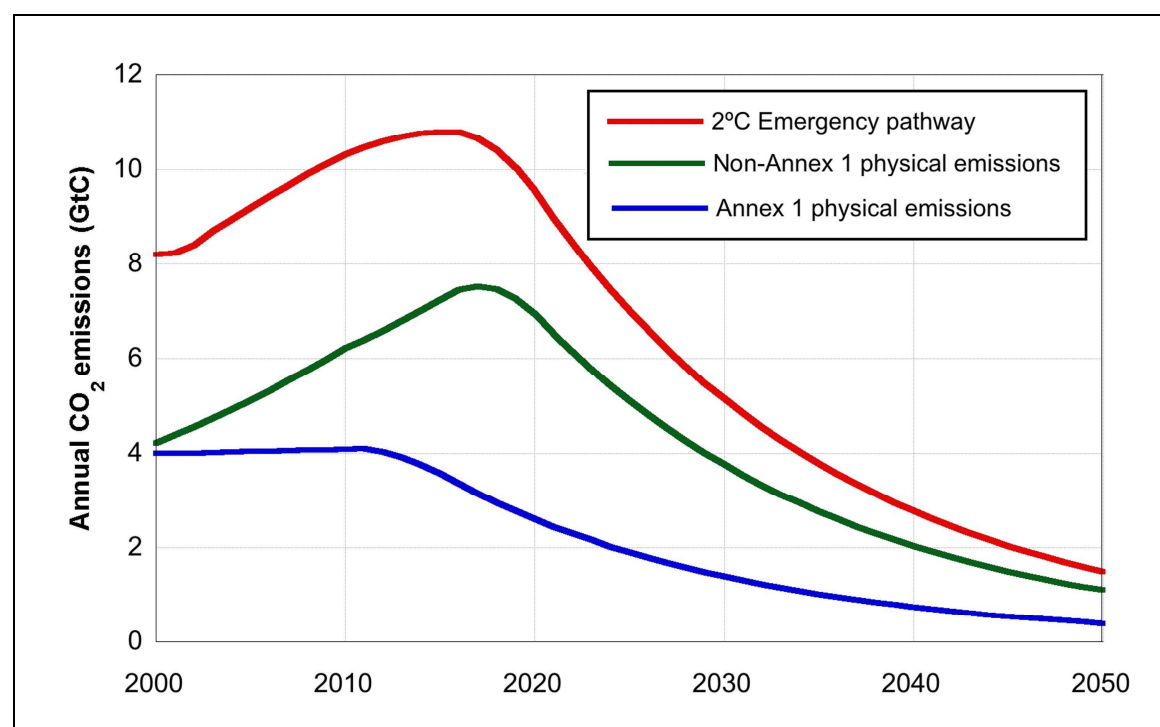
This kind of trajectory is supported by much of the scientific literature and is reflected in the Fourth Assessment Report of the UN's Intergovernmental Panel on Climate Change, published in 2007. It is challenging, but there seems little point in assuaging politicians with softer yet inadequate messages. While precision is not yet the watchword of climate modelling, something of this order currently appears necessary.

## Step 2: The developing world's dilemma

The reason why developing countries – known in the UNFCCC as ‘non Annex 1 countries’ – are so reluctant even to begin negotiating on reducing emissions is because their overwhelming need is for cheap energy to meet the needs of relatively poor populations. Notwithstanding recent price increases, fossil fuels are still the cheapest for generating energy.

There is also little evidence yet from the industrialised world – ‘Annex 1’ countries – that decarbonisation of the global economy is inevitable. So with the upfront cost of low carbon development appearing more expensive, with large numbers of poor people to cater for and with little leadership from wealthier neighbours, developing countries have resisted making any commitments.

However, the environmental reality of the emergency programme is that countries either side of the global wealth divide must reduce their emissions. It is no longer enough for industrialised countries to cut emissions in order to allow for growth elsewhere. Figure 2 illustrates the developing world's dilemma.



**Figure 2: Truly inconvenient.** An emergency pathway (red) requires virtual decarbonisation in rich (Annex 1) countries (blue) but also demands cuts in the developing world too (green).

The red curve is the emergency programme seen in Figure 1. The blue curve is what industrialised countries must do – virtual decarbonisation by 2050. The green curve, then, is the sum of the red curve minus the blue curve and shows the remaining emissions ‘budget’ or atmospheric space available to developing nations.

This is the challenge that stands before those currently negotiating at the UNFCCC. The developing nations of the southern hemisphere, home to most of the world's poor people, must begin the process of decarbonisation before they've completed the process of development and at more or less the same time as industrialised countries. No amount of decarbonisation in industrialised countries can change this.

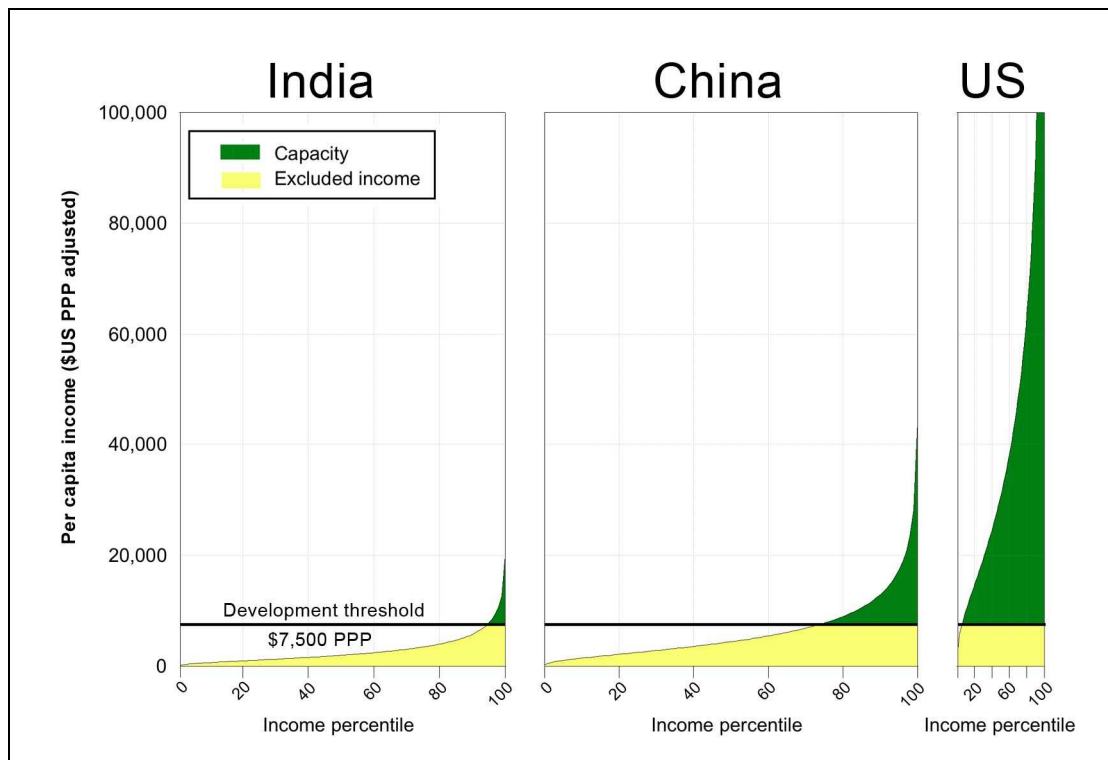
### Step 3: Calculating a fair shares index of countries

Emissions must be cut in industrialised and developing countries alike if climate catastrophe is to be avoided. But this environmental reality has to be squared with the development reality; that many people remain very poor and cannot be asked to pay to tackle climate change.

Therefore, the costs of avoiding climate catastrophe must be divided up fairly and according to clear and transparent rules. GDRs attempts to outline what these rules should be and does so in relation to the UNFCCC principles of responsibility and capability.

First, GDRs sets a global **income threshold** of \$7,500 per year. This works rather like a personal allowance in income tax and is deliberately set at a level above a mere survival income. Below this level, people's priorities are likely to be focussed on their basic needs. They should not be asked to pay for solutions to climate change. This threshold is applied both to the calculation of responsibility that of and capability.

**Capability** is arguably the most important factor in determining the amount of effort a country can take on. This is especially so for Christian Aid; an organisation concerned with eradicating poverty. 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.

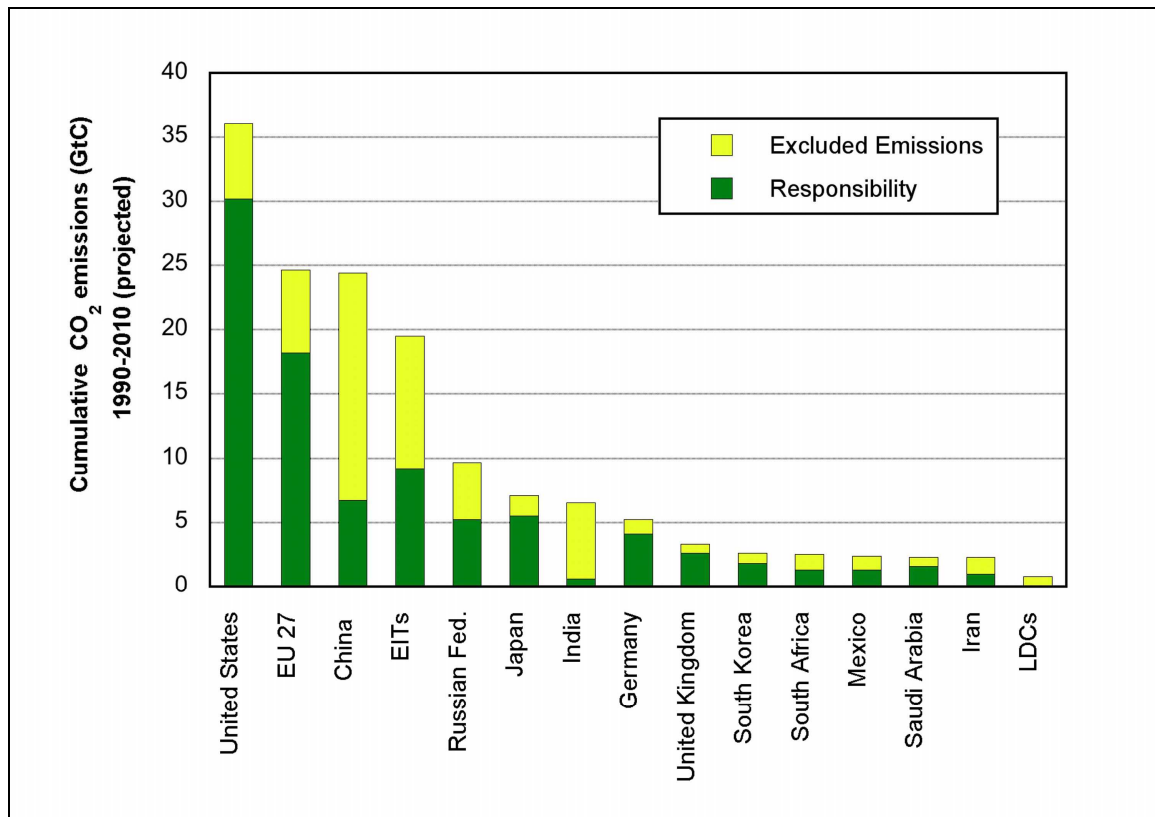


**Figure 3:** Differences in income from country to country are taken into account in the calculation of capability, with the threshold protecting those on less than \$7,500 per year.

Figure 3 illustrates how, with the threshold applied, the US possesses a great deal more capacity to act on climate change than China or India.

**Responsibility** is calculated by taking each country's total 'cumulative' emissions<sup>iii</sup> since 1990, when the UNFCCC was first drawn up and the first IPCC assessment

report published, and dividing these by the number of people in each country. It is important that the size of a country's population is taken into account as emissions equate closely with their opportunity to develop.



**Figure 4:** Responsibility is calculated by assessing each countries' cumulative, per capita emissions since 1990, while also excluding the emissions of those below the \$7,500 threshold.

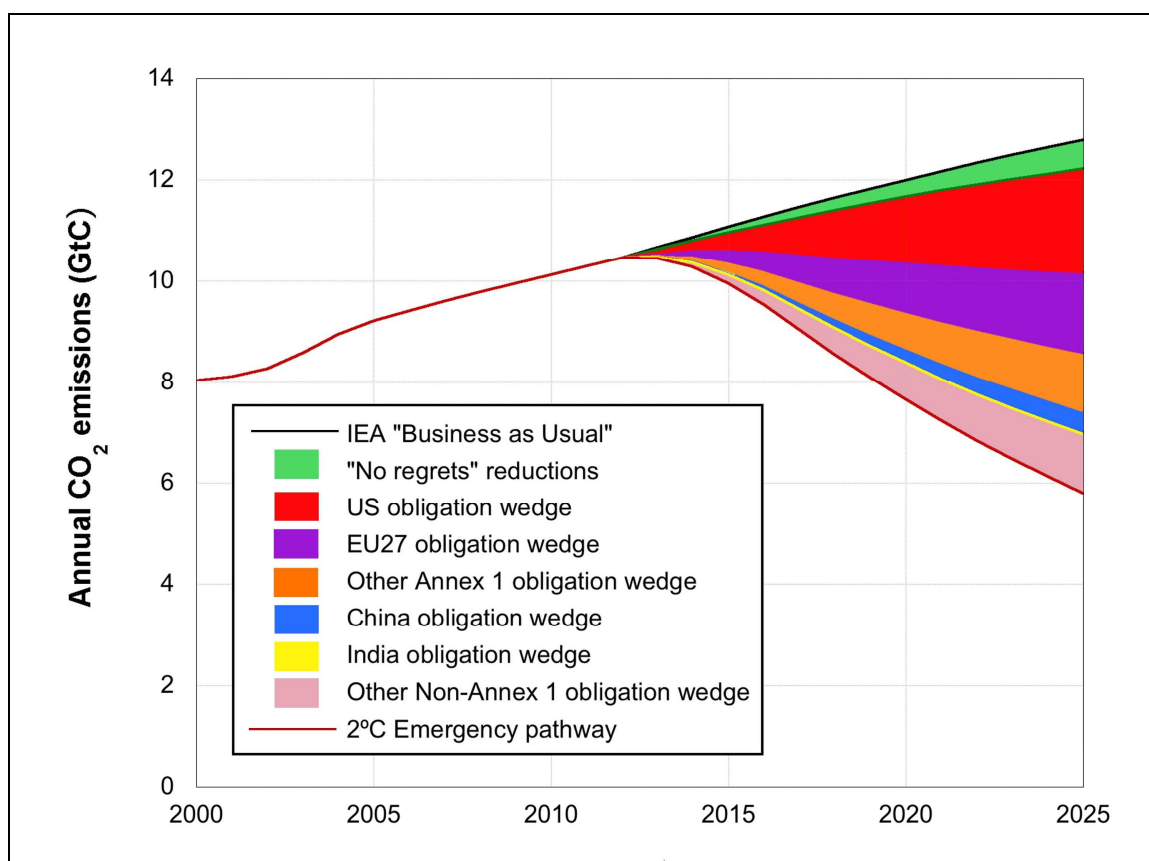
Figure 4 shows that while emissions in developing countries such as China and India have grown, the historical responsibility lies firmly with industrialised countries. Each bar is also split into green and yellow sections to illustrate the proportion of emissions excluded because they correspond to the numbers of people living below the £7,500 income threshold.

It is important to note that while GDRs applies the threshold in order to calculate responsibility and capability while shielding people on low incomes, this only applies to the calculation and does not mean that the actual emissions of people living below this line are protected from being cut. This is done explicitly to place the burden of effort firmly on the shoulder of those who can afford to pay. So, everyone is obliged to tackle climate change, but those who can afford to pay and have contributed most to the problem foot the bill.

Using the calculations of responsibility and capability – combined in a 4:6 ratio, emphasising the importance of capability – all 192 countries in the UNFCCC process can be placed on a responsibility and capability index (RCI). This index is the beating heart of GDRs as it indicates how the 'effort' of cutting emissions and of meeting the costs of adapting to climate change should be shared out fairly.

## Step 4: Using the RCI to share out the burden

The RCI is used liberally in GDRs and can be applied either to the costs of responding to the climate challenge globally – both mitigation and adaptation – or in order to share out physical emissions reductions (i.e. in tonnes of CO<sub>2</sub> avoided). Figure 5 illustrates how this works when applied to the quantity of CO<sub>2</sub> that needs to be cut to follow the emergency programme.

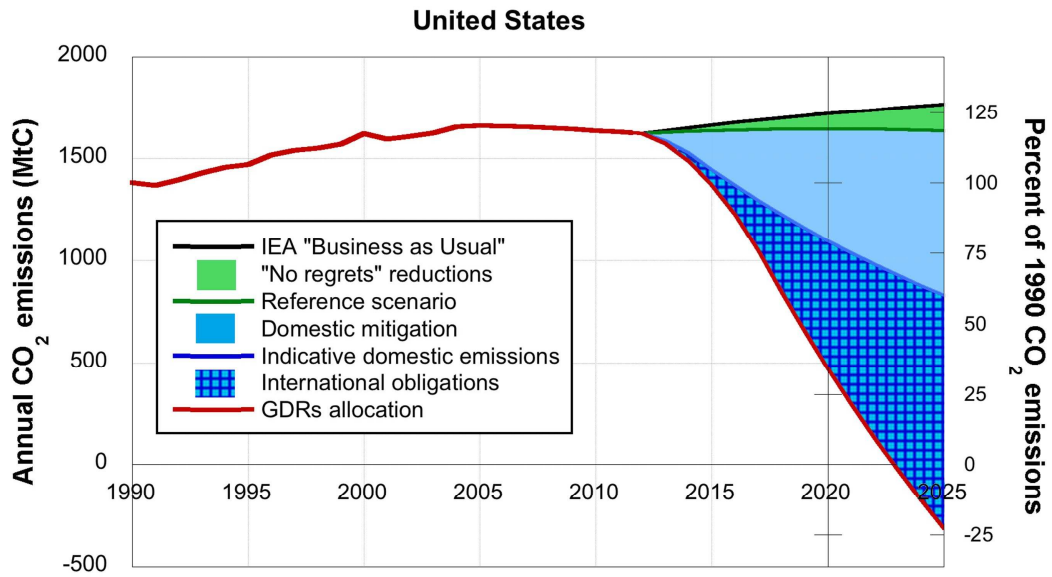


**Figure 5:** Obligations for different countries, groups of countries or regions when the RCI is applied to the physical cuts required in emissions.

The different coloured wedges in Figure 5 illustrate GDRs allocations using the RCI and are not simple domestic reduction obligations. The green 'no regrets' wedge at the top is an assumption based on several different pieces of analysis of emissions reductions likely to occur without cost and in many cases automatically, such as energy efficiency.

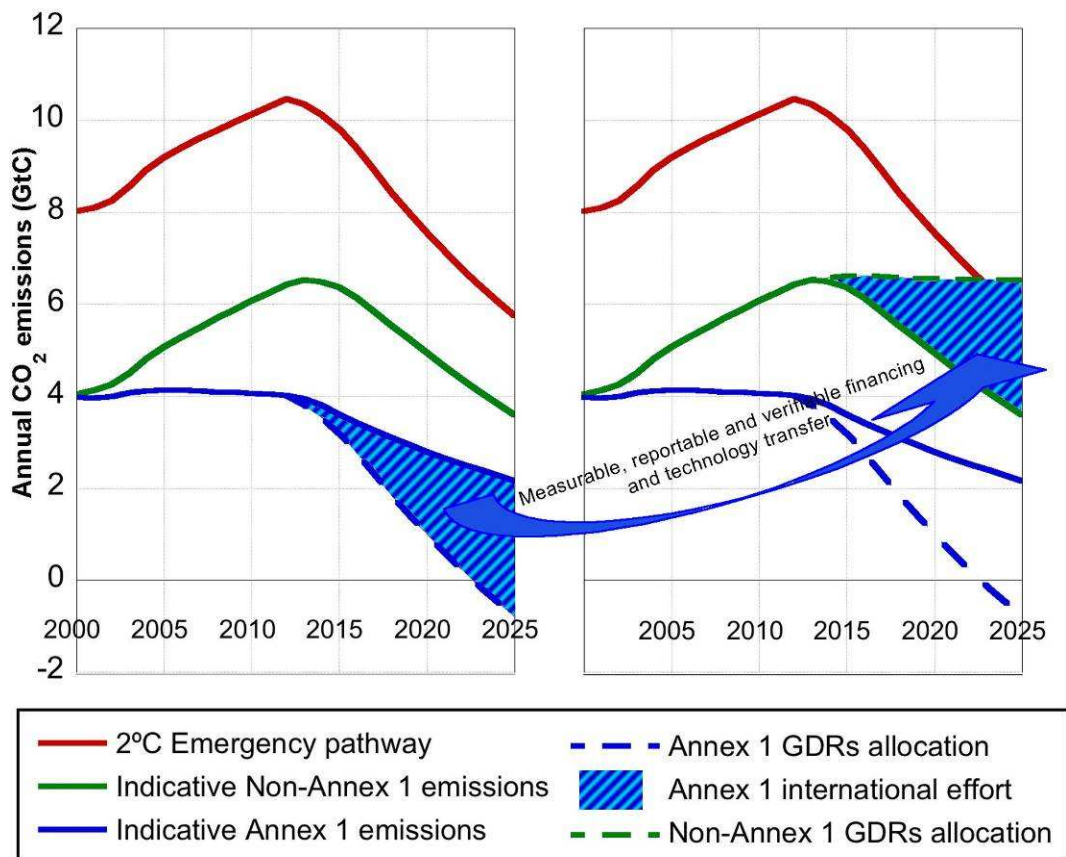
The largest share of the burden is allocated to the US, which tops the RCI. Figure 6, below, examines the US's obligation under GDRs in more detail. It shows how the US's share of the global burden effectively exceeds what it can hope to achieve domestically. The division between the light blue wedge – its domestic cuts – and the hatched blue wedge – those it must fund overseas – is a political one based on the assumption that industrialised countries must lead the way with big cuts at home. The light blue 'domestic' wedge corresponds to a cut of around 90 per cent by 2050.





**Figure 6:** According to GDRs allocations, the US must take on cuts which exceed its ability to cut at home, forcing it to purchase cuts overseas to fulfil its obligations.

Figure 7 shows how industrialised countries such as the US, by paying for international cuts in addition to cutting domestically, assist developing nations to cut their emissions and stay inside what is required by the emergency programme.

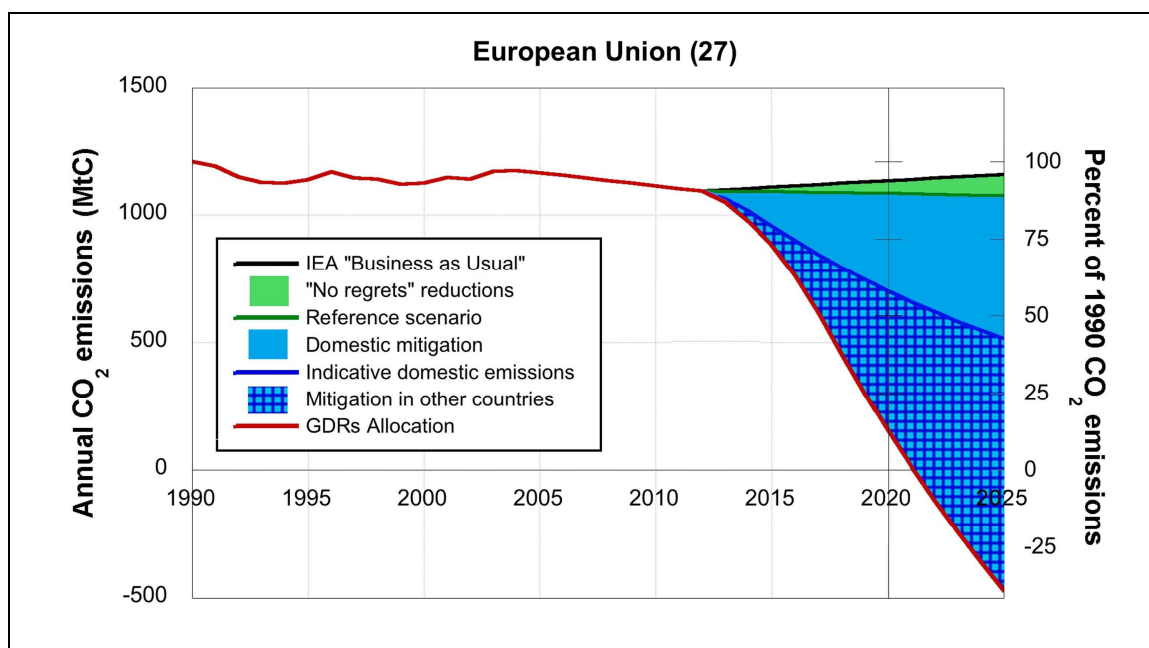


**Figure 7:** Industrialised (Annex 1) countries not only cut emissions domestically but also take on an additional obligation to finance cuts in developing (non-Annex 1) countries.



Note that the green line in the second graph in figure 7 is bent significantly (see the broken green line), but not decisively, by action taken by developing countries themselves; it is the additional effort taken on by industrialised nations according to their RCI that makes the real difference (see the solid green line).

The European Union must, according to the RCI, take on a 25 per cent share of the global 'effort' required to tackle climate change (as opposed to the US's 35 per cent share. In practice this means huge cuts in GHG emissions in the EU (also fairly shared according to the RCI) and an obligation to finance cuts in developing countries whose percentage share of the effort is significantly less.



**Figure 8:** The EU's (27) obligations in the Greenhouse Development Rights proposal. The distinction between domestic (plain blue) and international (hatched) reductions is political rather than scientific.

For the EU, the practical message is challenging. In Figure 8, the light blue wedge indicates what the it could feasibly achieve domestically; around 35 per cent reductions over 1990 levels by 2020. This leaves a further 40 per cent *international* reduction over its 1990 levels, which should be purchased from or financed in developing nations; this is what the EU must sign up to in Copenhagen.

By comparison, countries such as China and India, where emissions have grown dramatically in recent years and yet where large populations of poor people still live, will be receivers of finance to cut emissions. They will have to ensure they make their no regrets reductions and make some contribution to cutting their own emissions, depending on their place on the RCI, but much of what the global emergency programme requires them to cut will be funded by industrialised nations.

Significantly, GDRs leads to *allocations* based on the RCI which, in the logic of the UNFCCC, should become *obligations* in a new agreement. G8 nations are currently demonstrating their willingness to finance some clean energy in developing nations on an ad hoc basis, using the World Bank as the financial channel, but this would not be considered as a fulfilment of a GDRs allocation.

## **A manifesto for climate justice**

There is no escaping the urgency of the climate crisis. The body of scientific evidence is so strong as to be overwhelming; inaction now on the part of those in positions of power and influence is likely to be judged very harshly by future generations. However, tackling climate change in a manner that reinforces global injustice and entrenches poverty is equally iniquitous.

Something must happen, but what? A truly global crisis requires a truly global approach, but there is no precedent for such comprehensive and cohesive action. Positive examples, such as the Montreal Protocol to cut ozone-depleting gases, are by comparison very limited in their scope and had little if any impact on poorer people, negative examples, such as the World Trade Organisation, offer little by way of hope.

Worrying too is the paralysis that is currently gripping many of the politicians involved in negotiations whose pathway to agreement is obscured by concerns about economic competitiveness, jobs and domestic unpopularity if climate policies cause pain. It is, then, down to citizens to clear the way ahead for politicians to move into. Christian Aid is therefore calling on people to support its principles for an urgent but just solution to the climate crisis.

The onus is on industrialised countries that derive much of their wealth from their long history of fossil fuel use to act first and go furthest. Christian Aid calls on the UK, EU and leaders of industrialised nations to sign up to:

- Domestic cuts in emissions of at least 35 per cent by 2020 and in excess of 80 per cent by 2050 compared to what they were emitting in 1990.
- Paying for a similar level of emissions reductions in developing nations through an international mechanism based on clear equity principles
- Establishing a fighting fund to assist vulnerable communities wherever they are to adapt to now inevitable and profound changes in the climate

However, no country should do nothing. All 192 signatories to the UNFCCC must agree to act, with the scale of their commitments relative to their responsibility and capability. Christian Aid calls on countries in the G77 (developing) country grouping to:

- Propose and support serious equity principle-based frameworks, such as the Greenhouse Development Rights approach
- In parallel, propose new mechanisms capable of channelling significant sums of finance into low carbon, sustainable development policies
- Provide clear examples of how low carbon development and adaptation can benefit poorer communities.

It is time for people to lead the fight against climate change. Without citizen action, politicians and officials may procrastinate for a further 10 years, by which time climate catastrophe will be a near certainty rather than a grave danger.

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<sup>i</sup> Al Gore, 'Moving Beyond Kyoto', *The New York Times*, 1 July, 2007.

<sup>ii</sup> All the data in this briefing is calculated by Paul Baer of EcoEquity, with Tom Athanasiou of EcoEquity and Sivan Kartha of Stockholm Environment Institute.

<sup>iii</sup> Cumulative emissions is the phrase used to describe the build of gases over time. Because CO<sub>2</sub> has a life span of more than 100 years, much of the impact seen today is as a result of quantities of emitted during the 20<sup>th</sup> Century. So while China and India are now major emitters, their cumulative emissions are still relatively small.