

# Climate debt – A primer

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*The following climate debt primer was written in the lead-up to Copenhagen as a background note for civil society and governments. It represents an initial attempt to formulate the concept of climate debt in terms of the historic emissions that have polluted 'atmospheric space' and caused climate change (an "emissions debt") and the adverse effect these emissions are causing (an 'adaptation debt').*

*Climate debt has been reflected in negotiating texts at the UN climate negotiations by Latin American, African and least developed countries. The primer formed the basis of a joint civil society statement in 2009, signed by 240 organisations from all continents, calling for repayment of climate debt as the basis of a fair and ambitious outcome at the Copenhagen COP15, and climate debt has remained a major element of civil society campaigns, statements and submissions on climate justice. Climate debt was widely championed by Bolivia and reflected in the outcome of the World People's Summit convened there in April 2010.*

*The concept has underpinned political demands by civil society and governments, as well as methodologies for equitably sharing the burden of tackling climate change, and concrete proposals in the UN climate negotiations. The primer reflects the development of the concept of climate debt in collaboration with colleagues in several governments and civil society organisations and scientists.*



**The adverse effects of climate change fall first and foremost on the majority that is poor.**

A wealthy minority of the world's countries and corporations is principally responsible for climate change, the adverse effects of which fall first and foremost on the majority that is poor. This basic and undeniable truth forms the foundation of the global climate justice movement.

Climate change threatens the balance of life on Earth and, with it, human communities everywhere. Addressing climate change requires urgent actions by all peoples, rich and poor, and all countries, developed and developing.

But to be effective, our response to climate change must also be fair. Poor countries and communities are unlikely to sit by while a wealthy minority continues to consume an excessive proportion of the Earth's limited atmospheric space. Nor are they likely to ignore the historical responsibility of the wealthy for the causes and consequences of climate change. Nor should they.

## Responsibilities of the rich

Atmospheric concentrations of greenhouse gases are higher today than they have been at any time in millennia. Emitted since the industrial revolution, they have built up in the atmosphere, blanketing the Earth

and causing considerable warming (IPCC, 2007). Responsibility for these emissions lies principally with the wealthy in developed countries. With less than one-quarter of the world's population, these countries have grown rich while emitting more than two-thirds of historic carbon emissions from industrial sources into an atmosphere shared with all life on Earth.

### Problems of the poor

The excessive emissions of the wealthy have destabilised the climate, harming the poor and threatening our future. Already, climate change is causing the oceans to rise and acidify; melting ice caps, glaciers and permafrost; damaging forests, coral reefs and other ecosystems; and intensifying fires, floods, droughts and other extreme weather events. It is increasing water stress, hindering the production of food, altering disease vectors and threatening the infrastructure and resources that are the lifeblood of millions of people. Poor countries and communities that have done least to cause climate change suffer first and worst from its adverse effects.

### The concept of climate debt

For their disproportionate contribution to the causes of climate change and its adverse effects, the wealthy owe a twofold climate debt:

- » For over-using and substantially diminishing the Earth's capacity to absorb greenhouse gases – denying that capacity to the developing countries that most need it in the course of their development – the developed countries have run up an 'emissions debt'.
- » For the adverse effects of these excessive emissions – contributing to the escalating losses, damages and lost development opportunities facing developing countries – the developed countries have run up an 'adaptation debt'.

The sum of these debts – emissions debt and adaptation debt – constitutes the 'climate debt' of developed countries.

### Emissions debt

The extent of developed countries' emissions debt reflects their excessive past, present and proposed use of shared atmospheric space. With less than 20 per cent of the population, developed countries have produced more than 70 per cent of historical emissions since 1850 (Figure 1), far more than their fair share based on equal per-person emissions (Figure 2).

After diminishing the Earth's atmospheric space – denying it to poor countries and communities – the same rich countries now propose consuming a disproportionate share of the remaining space until 2050 (Figure 3) as compared to an equal per capita share (Figure 4).



Figure 1. Actual historical emissions

Figure 2. Equal individual shares (past)



Figure 3. Future emissions proposed by rich countries

Figure 4. Equal individual shares (future)

Developed countries representing a minority of people have appropriated the major part of a shared global resource for their own use – a resource that belongs to all and should be fairly shared with the majority of people.

By basing their future ‘assigned amounts’ on their past excessive emissions levels, they are effectively proposing to write-off the full amount of their historical emissions debt (Figures 1 and 2), and to simultaneously appropriate what their economists value as trillions of dollars<sup>1</sup> of remaining atmospheric space that should rightfully be allocated to the South (Figures 3 and 4).

Their proposals, if adopted, would lock developing countries into low and rapidly decreasing per capita shares, denying them the atmospheric space and finance needed to build the houses, schools, roads and infrastructure the developed world already has.<sup>2</sup> Their proposals would deepen the debt

1 Stern,(2009) states that the negotiation of emission rights ‘involve[s] substantial financial allocations: at \$40 per tonne CO<sub>2</sub>, a total world allocation of rights of, say, 30Gt (roughly the required flows in 2030) would be worth 1.2 trillion per annum’ (p.154).

2 Under EU proposals for a proposed reduction by Annex I countries of 30 per cent from 1990 levels by 2050 and a 15-30 per cent deviation by non-Annex I countries from so-called ‘business as usual’ emissions, the US would continue polluting at around 14 tonnes per person in 2020 and India would be locked in at around 3 tonnes per person. Transfers of technology and financing may alleviate some of the burden of such an unjust allocation of atmospheric space by improving efficiency, but the burden of demonstrating this is possible should remain with developed countries.

of developed countries rather than honouring it, leveraging past injustices into a future climate regime and proposing a system in which the ‘polluter profits’ and the ‘poor pay’ for the excessive historical and current consumption by rich countries.

### Adaptation debt

As well as freeing up atmospheric space, developed countries must accept responsibility for the adverse effects of their historical and continuing high per-person emissions on poor communities and countries. Among the hardest hit are:

- » Farmers and farming communities. In some countries, rainfed agriculture is expected to drop by up to 50 per cent by 2020, leaving millions of people without food.
- » Indigenous and local communities. Indigenous and local communities worldwide are harmed by changing ecosystems and threats to their traditional livelihoods.
- » Women. Seventy per cent of the world’s poor are women. Women provide half the world’s food. They are the hardest hit by climate change and must be at the heart of any solution.
- » Poor communities. At particular risk are those communities concentrated in high-risk areas, such as coastal and river floodplains, or areas prone to extreme weather events.
- » People relying on scarce water resources. Between 75 and 250 million people are likely to face increased water stress by 2020 due to climate change.
- » Communities susceptible to health impacts. The health of millions of people will likely be affected through increased malnutrition, increased disease burden and death and injury due to extreme weather events.

These impacts are caused by the historical emissions that have led to current levels of warming, and that will lead to considerable future ‘committed’ warming as the Earth’s oceans and other systems warm. The very existence of some countries is threatened, while others face serious impediments to their efforts to lift billions of people out of poverty and to promote development.

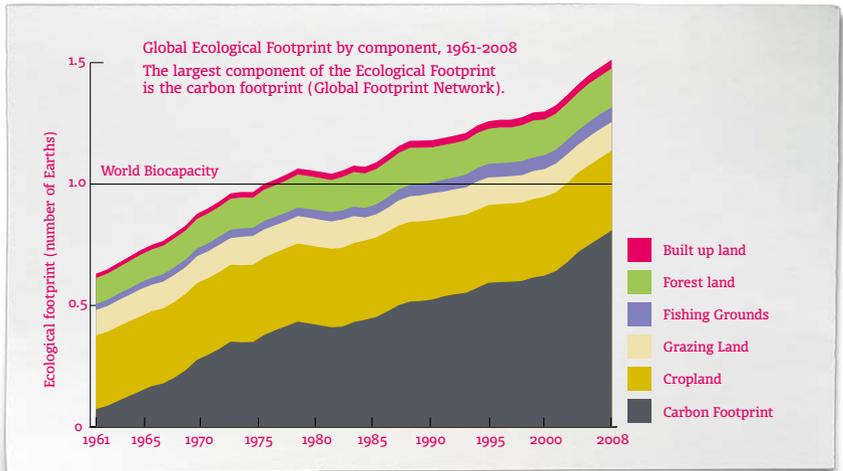
There is no way to predict the full extent of future adverse impacts and costs – emission pathways are uncertain and the climate system is too complex. However, any just approach to climate change must ensure that those who have benefited in the course of causing climate change compensate the victims of climate change. They should cover the full costs of avoiding

adverse impacts and provide compensation for those harms that cannot be avoided. This constitutes their adaptation debt to developing countries and communities.

### Climate debt as a component of ecological debt

Climate debt is a component of a larger ecological debt, reflecting the excessive pollution and over-use by the wealthy of the goods and services provided by nature (see Figure 5). As in the case of climate change, over-consumption of food, water, minerals, forests, fisheries and other goods by a minority is contributing to excessive use of limited resources. In the US, the ecological impact per person (measured as the productive land and sea required to provide resources and to absorb wastes) is more than four times the globally sustainable level, more than four times China's and more than nine times India's (WWF, 2008).

**Figure 5: Global Ecological Footprints**  
 Source: Global Footprint Network (2012)



Globally, our ecological impact exceeds the Earth's capacity to regenerate by about 50 per cent (WWF, 2012). If present trends continue, by the mid-2030s we will require the equivalent of two planets. Of this ecological impact, our carbon emissions forms a large and growing part. As a consequence, any effort to advance the cause of climate justice must be rooted in a broader effort to promote ecological and social justice between rich and poor, developed and developing countries.

### Repaying climate debt

Developed countries must take responsibility for repaying the full measure of their climate debt. Doing so is not merely right, it also provides the basis of an effective climate solution. A fair and effective climate solution requires at a minimum that:

- » Developed countries repay the full measure of their adaptation debt to the developing countries and communities that did little to cause climate change and are its first victims. They must provide financing and technology to ensure full compensation for losses suffered, and the means to avoid or minimise future impacts where possible. They should commit to repay fully their adaptation debt to developing countries, commencing immediately.
- » Developed countries must repay the full measure of their emissions debt to developing countries and communities. Their assigned amounts of atmospheric space in any future year should reflect this debt (and thus be negative).<sup>3</sup> To avoid deepening their debt, developed countries must seek to become carbon neutral (and ultimately carbon negative). There will be no sustainable climate solution if developed countries seek to continue polluting at 70 per cent or more of their 1990 levels all the way through until 2020 (consistent with 30 per cent cuts). They must rather take a lead in cutting emissions through deep domestic reductions, and by accepting assigned amounts that reflect the full extent of their historical emissions debt.
- » Developed countries must provide the financing and technology required by developing countries to live under the twin constraints of a more hostile climate and restricted atmospheric space. They must honour their obligation to provide the full incremental costs of emission reductions undertaken in developing countries, so that these countries can help to mitigate climate change, while still meeting the needs and aspirations of their people.

## References

IPCC (2007), *Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (Core Writing Team, Pachauri, R.K. and A. Reisinger (eds)), Geneva: IPCC.

Stern, Nicholas (2009), *The Global Deal: Climate Change and the Creation of a New Era of Progress and Prosperity*, New York: Public Affairs.

World Wildlife Fund (2008), *Living Planet Report 2008*. [http://awsassets.panda.org/downloads/1\\_lpr\\_2012\\_online\\_full\\_size\\_single\\_pages\\_final\\_120516.pdf](http://awsassets.panda.org/downloads/1_lpr_2012_online_full_size_single_pages_final_120516.pdf)

World Wildlife Fund (2012), *Living Planet Report 2012: Biodiversity, biocapacity and better choices*. [http://wwf.panda.org/about\\_our\\_earth/all\\_publications/living\\_planet\\_report/](http://wwf.panda.org/about_our_earth/all_publications/living_planet_report/)

<sup>3</sup> Stern (2009): 'if the allocation of rights to emit in any given year took greater account both of history and of equity in stocks rather than in flows, then rich countries would have rights to emit which were lower than 2 tonnes per capita (possibly even negative)' (p. 154).