climate debt

Friends of the Earth International

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making historical responsibility part of the solution

friends of the earth international
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introduction

The discussion on the future of the international climate regime is a matter of life or death, especially for the poorest people in the world. As shown by the reports of the Working Group on Climate Change and Development[1], the United Nations Millennium Development Goals for poverty reduction will not be achieved unless climate change – including mitigation and adaptation issues – are urgently addressed.

Any decisions made about the future climate regime will only be agreeable if they are perceived as fair and equitable, strengthening the principle of common but differentiated responsibilities. Issues such as past and present contributions to the climate crisis, as well as actions that have undermined development opportunities in poor countries, have yet to be adequately recognized and addressed by the Kyoto Protocol.

To date, proposals to account for countries' accumulated, historical *per capita* emissions and countries' economic capacity to act – such as *per capita* GDP – have been neglected during negotiations. The division into Annex I and non-Annex I countries, based on *per capita* GDP, has not yet translated into commitments proportional to countries' different responsibilities or capacities. In the future, climate regimes must consider an approach based on explicit equity principles. This could translate, for example, into giving each world citizen an equal right to generate wealth by using the limited capacity of the atmosphere to handle emissions.

An analysis of historical responsibility leads to the conclusion that compensation based on ecological debt should be added to a rights-based approach for determining fair shares of environment space. There is a pragmatic reason for pursuing such strategies: the participation of developing countries is essential in any global programme dealing with climate change. Politically, such participation will not be obtained without a commitment by the industrialized countries to increase equity. Moreover, the need for most developing countries to increase economic growth, as a means to escape poverty, cannot be met simply by increasing efficiency. These countries will need to increase their levels of material resources and energy use while limiting their emissions.

This report presents the relationship between historical responsibility and climate debt as it has evolved from the focus on ecological debt and climate justice to where it stands today. Many people and organizations, including Friends of the Earth International, have worked on these concepts, examples of which are presented within the main text and in the included annexes.

Historical responsibility remains a heated topic of discussion. The main issue that raises questions is how to quantify and distribute this responsibility in the most effective way. Unfortunately, there is no clear answer. This report presents our ideas and recommendations about how to incorporate historical responsibility into a climate framework that will ensure a just transition from the current situation to a more equitable future one.

what is climate debt?

Climate debt is a special case of environmental injustice – where industrialized countries have over-exploited their 'environmental space' in the past, having to borrow from developing countries in order to accumulate wealth, and accruing ecological debts as a result of this historic over-consumption.

Clearly, although some nations have benefited vastly more than others from overusing global carbon sinks, all people bear the resulting negative social and environmental impacts, regardless of their greenhouse contributions. Further, due to the long lifetime of emissions in the atmosphere, the concept of climate debt is relevant not only to countries who have overused, but also to future generations, who will suffer as a result of

[1] 2005 World Summit Outcome.A/Res/60/l

emissions which they did not produce. Carbon debts are more specifically accrued as a result of industrialized nations' unpaid overuse of carbon sinks both common goods of the global climate system. Additional ecological debts have arisen due to the local impacts of fossil-fuel extraction and the unequal exchange of energy-intensive products.

All initial comparative assessments of carbon emissions since 1850 from rich and poor countries suggest that the total carbon debt heavily outweighs current Third World debt[2]. This report discusses the methodology presented by the European Network for the Recognition of Ecological Debt (ENRED) as developed by Paredis and others.[3] Damage valuation carried out by independent organizations, including the reinsurance industry, shows that countries with the lowest current and historical emissions, and thus with minimum responsibility for the accumulated contribution to global warming, are generally most vulnerable to its impacts.

Economic valuation is, however, only part of the equation when it comes to damage assessment or compensation purposes. Economic valuation rarely, if ever, takes into account the impact on those people living outside of the official economy, some of the poorest people in the world. There is no objective way to assess the cost of the extreme impacts of climate change, such as the total loss of national territory due to rising sea levels. But to satisfy the precautionary and equity principles, climate change impacts should be kept to a minimum by adopting early preventative action. There is no space for speculations about the relative cost-effectiveness of future adaptation or even compensation measures.

ecological debt and environmental space: two related concepts.

Environmental space (ES), a concept first coined by Hans Opschoor and popularized within the Western environmental movement by Friends of the Earth International, is based on two assumptions. First, the earth can only sustain a certain amount of pollution and resource use. This limited capacity means that reductions in greenhouse gas emissions are critical if we are to avoid dangerous climate change. Second, the equity principle dictates that every person in the world should have the same right to benefit from the available resources of the earth, eg the climate system.

The environmental space approach is distinctive from most other interpretations of sustainable development in several respects. In particular, the equity principle is an integral part of the approach. Furthermore, ES focuses on the impact of economic activity on resources and emphasizes consumption, rather than population and technology. Another distinction is its relationship to the concepts of 'sufficiency' and demand management. Analyses that focus predominantly on outputs (waste and pollution) tend to lead to prescriptions based on end-of-pipe and efficiency measures to reduce these outputs. The ES approach tends to de-prioritize end-of-pipe measures while emphasizing sufficiency measures that directly improve quality of life through reduced and modified consumption.[4]

Environmental Space is a rights-based approach that conceptualizes sustainable development in terms of an equal access for all to the limited environmental resources essential for attaining a healthy quality of life. At the very minimum, it implies eliminating global and intergenerational inequalities in resource consumption and use of common goods.

[2] Martinez-Alier Joan, Simms Andrew, Rijnhout Leida (2003) 'Poverty, Development and Ecological Debt', leaflet
[3] This was in turn based on work done by India's Centre for Science and Environment, Jyoti Parikh, Martinez-Alier, and others.
[4] This section was based on McLaren Duncan (2003), 'Environmental Space, Equity and the Ecological Debt', in Ageyman Julian, Bullard Robert D., Evans Bob (2003), Just Sustainabilities. Development in an Unequal World, Earthscan, London, pp. 19-37.

Ecological debt takes the concept of environmental space to a different level. Friends of the Earth International has compiled the following definition of ecological debt:

“Ecological debt is the debt accumulated by industrialized countries towards developing countries on account of resource plundering, unfair trade, environmental damage and the free occupation of environmental space to deposit waste. A particular and interesting aspect of ecological debt is carbon debt, as a consequence of greenhouse gas emissions.”

Joan Martinez-Alier, the ecological economist who has analyzed and popularized the concept of ecological debt, identifies the two underlying mechanisms of ecological debt as: 1) an ecologically unequal exchange and 2) the use of a disproportionate amount of environmental space and/or services without payment (i.e. inequitable resource and service use, including waste production).[5]

The policies of industrialized countries and northern-dominated global institutions continue to widen existing inequalities and add to this ecological debt by increasing inequitable resource consumption and maintaining the flow of resources and money (in the form of debt repayments) from South to North. These policies include the allocation of emission rights in proportion to current emissions, an approach known as ‘grandfathering’, which effectively legitimizes existing inequalities.

The Centre for Science and Environment (CSE), an India-based NGO, has long challenged the assumption that rights to global sinks and reservoirs for carbon dioxide should be ‘grandfathered’ along with emissions. CSE’s Agarwal and Narain argue that: "The South needs ecological space to grow, which has already been colonized by the North. The poor are not even using a small share of their legitimate share of the global commons, like the atmosphere, thus, permitting the North, over the last century, to pollute at little cost and build up its economy and industrial base extremely cheaply and rapidly".[6]

The Kyoto Protocol follows this controversial approach by distributing emission rights based on current emission levels. A more equitable alternative would be to allocate consumption or pollution rights according to population, or in accordance with a planned transition to equal rights. This would, in addition to satisfying the equity principle, give all people in the world, regardless of wealth or national development, their fair share of what is a common good – the atmosphere.

historical responsibility within the climate change framework

Both the UNFCCC and the Kyoto Protocol recognize that industrialized countries are responsible for causing climate change and should thus take the lead in mitigating it. The Convention states:

“Noting that the largest share of historical and current global emissions of greenhouse gases has originated in developed countries, that *per capita* emissions in developing countries are still relatively low and that the share of global emissions originating in developing countries will grow to meet their social and development needs...”[7]

The principle of common but differentiated responsibilities, explicitly mentioned in the UNFCCC[8], strongly supports historical responsibility. Already incorporated into the 1987 Montreal Protocol, it outlines the dual

[5] Martinez-Alier, Joan, The Environmentalism of the Poor: A Study of Ecological Conflicts and Valuation, Edward Elgar Pub, 2002.
[6] Agarwal, Anil and Narain, Sunita, and Sharma, Anju (eds.) Green Politics. Global Environmental Negotiations 1. Centre for Science and Environment, New Delhi, India, 1999.
[7] UNFCCC, 1992.
[8] UNFCCC, 1992.

standard of commitments for developed and developing countries. The “differentiated responsibilities” referred to in the Convention encompasses two questions: who can take action, and who should.

Acknowledging historical responsibility requires regions that have historically been the principal contributors to increased atmospheric concentrations of greenhouse gas (GHG) emissions to compensate regions where historic GHG emissions have been lower. However, the question as to whether it is fair to ask the current generation in wealthy countries to ‘pay for the debts of their predecessors’ is an important and legitimate one that deserves further analysis

Likewise, it is imperative to ensure that inequalities in opportunity, wealth or quality of life arising from differential levels of GHG emissions do not carry over across generations.

In the very detailed study carried out by ENRED, Paredis[9] argues at length in favor of historical accountability:

> “... historical accountability is supported by the principle of equality of opportunity. The natural absorptive capacity of the planet earth that allows for the decay of a certain amount of greenhouse gas emissions belongs to nobody and should therefore be assigned to everybody in an equitable way in order to give everybody the opportunity to benefit from emissions. To account for historical emissions ensures equality of opportunity to use the global resource atmosphere, no matter where or when he or she happens to live.
>
> Additionally, it could be argued that the carbon debt is built by borrowing assimilative capacity of the atmosphere from other countries and future generations, the latter through the release of greenhouse gases faster than they can be naturally removed. Just as with a national (financial) debt, borrowing on the carbon debt has allowed nations to build up their infrastructure and economic wealth faster than would have occurred otherwise. This is confirmed by the observation of a significant relationship between GDP for a country and its relative contribution to the carbon dioxide concentration rise by fossil fuel combustion.”

In the current situation, developed countries readily accept the benefits of past emissions in the form of higher standards of living. However, these countries need to be held accountable for the detrimental side effects created in southern countries during their industrialization. Developing countries are now at a disadvantage because they are attempting to industrialize at a time when the atmosphere is no longer considered free and unlimited. Currently, these developing countries contribute a smaller share to climate change (although it will increase in the decades to come). Therefore, since industrialized countries have contributed more to climate change, they should take the lead in and primarily responsibility for combating it.

counting emissions and sharing responsibilities

The share of historic responsibility depends greatly on the criteria chosen – as has clearly been acknowledged in the studies of historical and future emissions by the Dutch National Institute on Health and the Environment (RIVM)[10]. These studies show for example that if one considers CO2 emissions from fossil-fuel combustion and cement production alone, industrialized countries caused about 80% of all total warming in the period up to 1990. However, if carbon emissions from deforestation are included, the picture changes: the share of industrialized

[9] Centre for Sustainable Development, Elaboration of the concept of ecological debt - Final report - September 1, 2004, Ghent University.
[10] Dutch National Institute on Health and the Environment (RIVM), The Brazilian Proposal and Other Options for International Burden Sharing: an evaluation of methodological and policy aspects using the FAIR model, Utrecht, The Netherlands,1999. This section is based to a large extent on Harri Lammi &Oras Tynkkynen: The Whole Climate.Climate Equity and its implications for the North.Friends of the Earth Finland 2001.

country responsibility decreases to around 70%, whereas developing countries are then responsible for over 30% of the warming impact. If methane and nitrous oxide emissions are included as well, the South has responsibility for 39% of the warming. There are also differences between the historical data sets and the methodologies used to derive the amount of warming from emission statistics.

Choosing figures is therefore an inherently political process. If historic fossil fuel CO2 emissions are considered, the South would overtake the North in emissions levels by 2065. If CO2 emissions from land-use changes and non-CO2 greenhouse gases are included, the heating impact convergence years would be 2055 and 2035 respectively. [11]

While the contribution of developing countries to overall emissions is undoubtedly on the rise, from the equity point of view it is vital to recognize the fundamental difference between emissions originating from wealthy countries and from developing countries – that is, the actions that cause the emissions. In the North, emissions include “luxury emissions” created by producing consumer goods, running home appliances, heating large homes and fuelling private cars and airplanes. Emissions in the South, on the other hand, are often “subsistence emissions” that are due to actions directly related to basic needs such as growing food, rearing cattle and burning wood for fuel.

Another aspect rarely considered is that a large portion of the emissions originating in the South is directly linked to the consumption of industrialized countries. Greenhouse gas emissions in OPEC countries come mostly from oil production, but nearly two-thirds of the world's oil is consumed in OECD countries. A similar trend can be observed with natural gas.

A considerable proportion of the energy-intensive mining industry in developing countries caters to the needs of industrialized countries – as more than 80% of all raw materials produced are consumed in the North. In many poorer countries, the single largest source of emissions is deforestation, which is partly caused by the demand for wood in wealthier northern countries. For instance, approximately 70% of African rainforests have been destroyed – much of this for timber exports to industrialized nations. These are all examples of unequal exchange, one of the two components of ecological debt as explained above, since the negative impacts of these actions are absorbed by the exporting countries without repayment by the importer.[12]

These are all relevant cases of northern emissions taking place in southern countries that result in ecological debt, but an even deeper analysis reveals that additional mechanisms are also involved. The North is actively imposing its resource and energy-intensive lifestyle on the South by shaping the world economy to its advantage, maintaining huge debts, and using advertising and media to set an example for consumption levels that only a relatively small part of the world could actually achieve. Additionally, many of the current tools for global governance, such as the World Bank (WB), the International Monetary Fund (IMF) and the World Trade Organization (WTO) are predominantly controlled by northern countries. For example, when the IMF imposes a Structural Adjustment Programme on a southern nation, this often leads to cuts in government spending and the increased marginalization of certain sections of the population. Poverty, it has been shown, places great strain on natural resources including forests and other biodiversity and can contribute to logging, deforestation and other environmental impacts that produce greenhouse gas emissions.[13]

Industrialized countries continue to channel massive funds through these international financial institutions (IFIs) to projects that increase greenhouse gas emissions in the South. *Power Failure*, a recent study by Friends of the Earth United States,[14] clearly shows that World Bank Group concerns about climate change have been pushed to

[11] Ibid.
[12] Muradian Roldan, Martinez-Alier Joan (2001), ‘Trade and the Environment: from a ‘Southern’ perspective’, in Ecological Economics 36 (2001), 281-297.
[13] Nature: Poor People’s Wealth by Friends of the Earth International, 2005, www.foei.org
[14] Power Failure: How the World Bank is Failing to Adequately Finance Renewable Energy for Development, 2005. www.foe.org

the side as a result of their emphasis on fossil fuel projects. From 1992 to 2004, the World Bank Group financed an estimated US$28 billion in fossil fuel projects – including extraction, power plants and sector reforms – at an average of $2 billion a year. The lifetime carbon emissions resulting from these projects are estimated at 43.4 billion tons – almost half of which have been or will be produced as a result of extractive industry projects aimed at exporting oil to the global marketplace.[15]

The World Bank has not taken into consideration this massive amount of greenhouse gases, either on the project or sectoral level. For example, the World Resources Institute[16] found that 84% of World Bank Group energy sector lending between 2000-2004 did not consider climate change issues such as greenhouse gas emissions accounting, identification of lower-emission alternatives, climate specific indicators or outcomes, or incremental cost and financing issues.

inroads with unfccc: the brazilian proposal and beyond

The Brazilian proposal was prepared for the seventh Conference of the Parties to the Climate Convention (COP-7) in Kyoto in 1997. Its core element was the allocation of emissions reductions in proportion to the historical responsibility for global warming in terms of the accumulated contribution of Annex I countries to temperature increase. An overall target of 30% below 1990 emissions by 2020 was proposed, and only CO2 emissions from the energy sector and cement production were included. Non-Annex I countries were exempted from any binding commitment with regard to limitations.

The initial Brazilian proposal has been criticized for several reasons, including the methodology used to calculate contributions to global warming in the past, beginning with the 19th century. It resulted in a whole series of comparative studies of historical emissions, such as those previously mentioned. A group of experts[17] came to the conclusion that "... these deficiencies can, in general, be readily addressed by improving the model by corrections or by importing techniques and processes already available in other models". They concluded that "... the Brazilian Proposal is probably the best one to deal with the 'common but differentiated responsibilities'...".

Building on this idea, Sven Bode of the Hamburg Institute of International Economics[18] proposed emission paths that equalize cumulative per capita emissions over a certain period, i.e. the sum of the emissions *per capita* in the period considered must be equal for all nations. The results suggest that the most critical problem in calculating past emissions is selecting a baseline year to begin the measurements. In Bode's study, this issue was resolved by beginning in 1992, the year after the Convention was adopted. Even with such a favorable baseline year, the cumulative emissions *per capita* of Annex I countries were so high that these countries would need to have negative emissions allocations as early as 2040 to allow total world emissions to approach zero by 2092, as is needed for the stabilization of GHGs at safe levels. This is in stark contrast with other *per capita* models that disregard historical responsibility, such as the Contraction and Convergence (C&C) approach.[19]

cdm projects increase the climate debt

[15] A Wrong Turn From Rio: The World Bank's Road to Climate Catastrophe, Sustainable Energy and Environment Network, 2004. www.seen.org

[16] WRI Issue Brief: Mainstreaming Climate Change Considerations at the Multilateral Development Banks, World Resources Institute, 2005. www.wri.org

[17] Dutch National Institute on Health and the Environment (RIVM), The Brazilian Proposal and Other Options for International Burden Sharing: an evaluation of methodological and policy aspects using the FAIR model, Utrecht, The Netherlands,1999.

[18] Bode, Sven,Equal emissions per capita over time- a proposal to combine responsibility and equity of rights, Hamburg Institute of International Economics Discussion Paper 253, 2003.

[19] Ibid.for a discussion on equity in C&C see also Berk,Marcel;den Elzen Michel.Options for a differentiatation of future commitments in climate policy: how to realise timely participation to stringent climatic goals in Climate Policy,Vol.1.

Under the Clean Development Mechanism (CDM), Annex I countries (or private companies based in these countries) undertake sustainable projects aimed at reducing GHG levels in developing countries. When such projects succeed in reducing emissions, the amount of the reduction is counted as carbon credits and included as emission reductions by the industrialized countries. Under the Kyoto Protocol, the CDM serves three purposes:

- to reduce climate change;
- to contribute to the sustainable development of developing countries; and
- to support industrialized countries in reaching their emission reduction targets.

One recent example of the CDM initiative was the Argentinean government's announcement of its own climate fund for facilitating the development of CDM projects. It was presented as a way to “start paying the ecological debt” accrued due to past and current emissions. The government also said that the CDM enhances sustainable technology transfers.[20]

Unfortunately, the CDM has to date not helped developing countries, but has instead assisted industrialized countries in meeting their emissions reductions commitments at low cost. In short, it serves as a subsidy to polluters. In this sense, the CDM does not decrease but rather increases climate debt, as developing countries are now forced to compete with each other in providing industrialized countries with the cheapest, most efficient portfolio of projects to invest in.

The recipient countries are losing their less expensive mitigation options at a price that has been determined by a grandfathering system, favoring Annex I countries. In addition, precisely because low cost that is sought above all other criteria, most CDM projects are neither delivering sustainable development, facilitating clean technology transfer, nor financing the policies and measures needed for directing the energy matrix of recipient countries into a climate-responsible carbon path (see Plantar case).

calculation of climate debt

Is it possible to put a value on the climate debt? Arguably, this could be done, taking into account the limitations previously mentioned. One method would be to calculate the value of all of the environmental and social impacts associated with historic resource extraction (of fossil fuels). This figure would then need to be added to an estimated value for the share of global pollution problems borne by developing countries as the result of higher consumption levels, hence GHG emissions, in the industrialized world. In the beginning, the steps necessary to quantify climate debt may require a calculation of the carbon debt in order to put compensation mechanisms into practice.

Using the Paredis study[21] as a first approach, it is possible to quantify at least two aspects of carbon debt:

- The impact of fossil fuel combustion, measured in terms of ecological damage caused in countries and ecosystems beyond the national jurisdiction of the emissions source.
- Excessive use of the sink capacities of the atmosphere, measured in current and past greenhouse gas emissions, and limiting the opportunities of others to benefit from greenhouse gas emissions. This is a case of exploitation of ecosystems at the expense of the right of other countries or individuals to take advantage of these common resources.

[20] www.medioambiente.gov.ar
[21] Centre for Sustainable Development, Elaboration of the concept of ecological debt - Final report - September 1, 2004, Ghent University.

Here it is important to distinguish between the two components of carbon debt: historical carbon debt (HCD), the debt between nations for unequal use of sinks; and generational carbon debt (GCD), the debt between current and future generations for the damages that will come from that overuse.

historical carbon debt: the allocation of rights according to climate debt

The HCD concept opens up the possibility of implementing the principle of common but differentiated responsibilities in the same spirit as the Brazilian Proposal. The basic idea behind HCD is that countries which have, in the past, emitted levels in excess of an equal *per capita* allocation should have less than their equal *per capita* allocation of emission rights in the future. This also works in reverse for countries which have, in the past, emitted levels lower than their equal *per capita* allocation.

Countries with a positive HCD are considered debtors, while those with a negative HCD are considered creditors. This approach to debt compensation seems more realistic than targeting financial compensation, as the latter requires the financial valuation of ecosystem services. Moreover, such an emission rights allocation system might encourage the participation of developing countries via 'entitlements' that would allow them to increase their CO2 emissions.

compensating for generational climate debt: helping future generations deal with the impacts of climate change

One way to help future generations cope with the real impacts of climate change is to establish an intergenerational debt fund, fed by the ‘repayment’ of the GCD. The fund should benefit those directly confronted with the impacts of climate change. In this respect, it is necessary to recognize that the impacts of climate change will fall disproportionately upon developing countries[22], which have less responsibility for the problem. Additionally, developing countries are less equipped to deal with results of climate change and more vulnerable in terms of their ability to meet the basic needs of their people.

Establishing such a fund will raise the difficult question of putting a price on carbon emissions. Different estimates have been presented for the different carbon market segments: ranging from $4.88 (end of 2003) to $8 (mid-2005) in the CDM/Joint Implementation segment to between 6€ per ton CO2 equivalent and 29€ per ton CO2 equivalent under the European Trading Scheme (ETS). As an alternative valuation mechanism, the Brazilian Proposal contains a penalty mechanism for non-compliance on the basis of $10 per ton carbon.

Monetary estimates for climate debt can thus be deduced from the data presented above. A much higher price is mentioned by Alier, et al[23] who refer to a penalty of 100€ per ton of CO2 equivalent proposed by the European Commission for countries where emissions surpass the entitlements. For example, according to Paredis, the Belgian climate debt for 1900-2000 falls between 4.2 and 579 billion euros. It is possible to calculate debts and credits for most countries based on these figures, including a penalty of 10€ per ton CO2 equivalent. Depending on the model used, the credit to India amounts to some 505-723 billion euros, and the credit for Congo 27-38 billion euros.

repaying climate debt: what can be done?

Climate debt funds, such as the one created by the generational debt repayments, could be used for the replenishment of the existing special funds of the UNFCCC aimed at adaptation, technology transfer and other needs. All costs incurred by communities impacted by climate change should be covered, but priority should be

[22] International Federation of Red Cross and Red Crescent Societies, World Disasters Report, 2001.
[23] Martinez-Alier, Joan, The Environmentalism of the Poor: A Study of Ecological Conflicts and Valuation, Edward Elgar Pub, 2002.

given to the least developed communities. Additional costs for a 'just energy transition' in developing countries should also be included – such as the ones outlined in the Climate Action Network (CAN) proposal for a post-2012 framework,[24] as well as the Climate Impact Relief Fund initiative.[25]

Particularly important is the decarbonization of the energy matrix, which would prevent developing countries from being locked into a high emissions pathway. With this scenario, the full participation of all countries regardless of income level and emission levels could be guaranteed. The challenge of providing a just transition arises particularly with regard to specific sectors or professions, such as coal miners, and with respect to countries that have become heavily dependent on fossil fuel resources, such as South Africa.

Friends of the Earth Europe has recently proposed a set of policies and measures aimed at ensuring 'sustainable development rights' that could be funded by the repayment of the climate debt. After having assessed the level of decarbonization/development needs in various developing countries, the next step would be to assess the relative responsibility and capacity of an industrialized country to contribute to decarbonization in the developing world. The assessment would be based on two aspects:

- *per capita* emissions (possibly cumulative, baseline year 1990) to assess responsibility; and
- *per capita* GDP to assess capacity but also as an indicator of the amount of benefits received by the country as a result of polluting the atmosphere.

The level of decarbonization support a developing country should receive from industrialized countries could be made dependent on both aspects, but also on emissions or income distribution (inequalities) within a country. Such an income (or emission) distribution index would indicate how much decarbonization assistance a country is entitled to receive in terms of development needs.

To implement this approach, it is recommended that the international community:

- Recognize the equity principle as essential with respect to the use of the climate system and emission rights;

- Recognize both historic and present responsibilities for climate debt, establish the principle of liability and compensation, and set up international Climate Debt Funds (CDFs);

- Shift the lending priorities of international financial institutions, including the World Bank, the European Investment Bank, the European Bank for Reconstruction and Development, and national Export Credit Agencies. Funding should prioritize renewable energy and energy efficiency, and funding for export-oriented fossil fuel projects should be phased out. Climate debt funds will be needed for grants as well as near-zero interest rates for energy efficiency and renewable energy.

- Industrialized countries should commit to funding decarbonization in developing countries, initiating a second target in addition to the mandatory domestic-emission reduction targets under the Kyoto Protocol. These targets would have to be designed such in a way that they contribute to development. The difference with the Clean Development Mechanism is that meeting the targets would not replace domestic action in the industrialized country; also, meeting the targets is not left to free market forces.

[24] Building upon Kyoto:The Long Term Prospects of Internayional Climate Policy.A Report Based on the Tokyo International Conference.February 20-21,2004.
[25] Benito Mueller ,quoted in :Up in Smoke ? The working group on climate chage and development,October 2004.

- Developing countries should commit to emissions limits that are in line with meeting their development needs. As much as industrialized countries must commit to decarbonizing the economies of developing countries, some developing countries will in turn need to establish some type of sectoral targets to facilitate this process. This would form a joint effort by both developed and developing countries, mostly funded by compensation mechanisms.

Honoring climate debt could buy time, the scarcest resource, for the whole world and save many lives within current and future generations. Paradoxically, it could be the best investment for debtors, particularly Annex I countries, as they will face less stringent emission scenarios if there is early involvement of other countries and a more stable and less dangerous world where they can prosper without remorse.

where could the funds for climate debt come from?

There are a number of mechanisms through which industralized countries can raise funds for the repayment of their climate debt, such as:

taxing fossil fuels

Fossil fuels still constitute roughly 87% of global commercial energy supplies. Worldwide, investments in oil and gas exploration amount to $160 billion a year.[26] Even a small tax on fossil fuels equating to a fraction of the recent price increase could bring in enough revenue to pay climate debts, and these funds could then be recycled into the world economy via energy transition, particularly in the developing world.

removing subsidies

Conservative estimates suggest that the OECD still spends around $70-80 billion per year subsidizing fossil fuels and fossil-fuel based activities – roughly $20 billion more than the total development assistance given to poor countries in the year 2000.[27] For every tonne of carbon dioxide saved by the UK over last decade, the British government contributed another three tonnes by underwriting dirty fuel projects in developing countries through the Export Credit Guarantees Department. The Intergovernmental Panel on Climate Change (IPCC) has estimated that removing energy subsidies alone could cut global carbon dioxide emissions by between 4% and 18%.

fines for noncompliance and taxes on emissions trading

The European Union Emissions Trading Scheme (ETS) established fines of 40-100 euros for noncompliance with the 2008 and 2012 deadlines for the certified reductions of emissions. The Brazilian proposal also included penalties for noncompliance, and the CDM includes a small detraction for adaptation. Cumulative *per capita* emissions as proposed by Bode[28] and others would substantially increase the value of certified reductions, making it possible to collect considerable amounts from fines and taxes on these transactions.

auctioning permits in annex I countries

The Sky Trust introduced a proposal that would produce revenues from auctioned emission permits that would go towards a “Just Transition fund” to assist workers and communities.[29] This type of system could be introduced as an alternative to existing cap and trade markets, such as the EU Emissions Trading Scheme.

[26] OECD Energy Outlook, 2003.
[27] Martinez-Alier Joan, Simms Andrew, Rijnhout Leida (2003) ‘Poverty, Development and Ecological Debt’, leaflet
[28] Bode, Sven, Hamburg Institute of International Economics,.
[29] Sky Trust Website www.usskytrust.org

case studies from friends of the earth's climate justice work

1) nepal: putting historical responsibility into practice

The Climate Justice Programme (CJP), hosted by Friends of the Earth International, is a campaign based upon the enforcement of law to combat climate change. One of the CJP's initiatives involved the presentation of legal petitions to the United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Committee demanding particular World Heritage Sites to be placed on the danger list due to climate change. One of these sites requested to be included was the Sagarmatha National Park in Nepal.

The Sagarmatha National Park is famous for Mount Everest, the highest peak in the world. Small communities struggle to grow food on the mountain's rugged terrain, and Sherpas graze their livestock in the upper peaks during the warm months. Wild animals native to the area include the Himalayan tahr, the goral, the serow, the musk deer, the Himalayan black bear, and some 118 bird species.

This dramatic region is threatened by climate change, which could have potentially horrendous consequences for the people and nature in these lofty settlements. Increased temperatures can rapidly melt glacier ice, and precipitation at higher altitudes will fall as rain rather than snow. The lives and livelihoods of the mountain communities are already being affected by climate change: crop patterns are changing and water resources are under threat.

Pemba Dorjee Sherpa – the fastest climber ever to summit Everest who has, in total, climbed the mountain four times – said in 2004: “Last year when Edmund Hillary came to Everest he told me that so much snow had melted in the 50 years since he first climbed Everest. In 1953, snow and ice had reached all the way to base camp, but now it ends five miles above. Everest is losing its natural beauty. If this continues, then tourists won’t come any more. Our communities rely on tourism. It’s my livelihood, as a tour guide and climber, and if we lose this, there will be nothing for our children.”

The melting of Himalayan glaciers as a result of climate change has swollen the Himalayan lakes, increasing the risk of catastrophic flooding. There is wide agreement that many lakes are at risk, but a lack of adequate monitoring means that there is no realistic assessment of how close they are to flooding, how many lakes are in danger or where the lakes are located.

In November 2004, a legal petition was delivered to the UNESCO World Heritage Committee. The petitioners included ProPublic/Friends of the Earth Nepal, on behalf of all citizens of Nepal, and a number of individuals including the youngest and fastest men to climb Everest, including Sir David Attenborough and Sir Edmund Hilary. The petition demanded the inclusion of the Sagarmatha National Park on UNESCO's danger list due to climate change, and for protective measures and actions to be taken. Adding Sagarmatha to the danger list would mean that UNESCO would have to assess Nepal’s glacial lakes and stabilize those most at risk. On the same day, campaigners also submitted petitions calling for coral reefs in Belize and the Huascaran National Park in the Peruvian Andes to be added to the list due to climate change related threats.

At the UNESCO World Heritage Committee annual meeting in South Africa in July 2005, the issue of climate change was taken seriously, and the petitions led to an unprecedented discussion on the impacts upon world heritage sites. The Committee recognized the genuine nature of the concerns expressed in the petitions, and set up an expert working group to review the impacts of climate change on World Heritage Sites and to report back at the next meeting in 2006. Friends of the Earth International is pleased with this outcome, because if drastic cuts in greenhouse gases are not made, the legal obligation under the World Heritage Convention to pass many of the best parts of the planet to future generations can not be achieved.

ProPublic/FoE Nepal, Climate Justice Programme

2) brazil: organizing for adaptation to climate change from the grassroots

After Southern Brazil was hit in 2004 by the first-ever hurricane (Catarina) in the South Atlantic, it became necessary to hold a public discussion to explain to local citizens the causes, impacts and ways of addressing extreme weather events, which by all accounts are likely to intensify with the warming of our planet. Non-governmental organizations and associations of municipalities from the south of the state of Santa Catarina held the "First Meeting of the Southern Region on Natural Phenomena, Adversities and Climate Change: Causes, Effects and Adaptation Needs".

The meeting, held in April 2005, took place on the first anniversary of the day that Catarina Hurricane hit the area. The event was attended by more than 700 participants in a town located far from large urban centers. Local people affected by climate change were able to reflect on their vulnerability, and as a result of this event adaptation workshops were held in other cities hit by the hurricane. This was the beginning of a growing awareness of the global problem of climate change and a search for solutions to local environmental issues.

The residents of southern Brazil are striving for climate justice. They are poor people without the knowledge, capacity or infrastructure to face the disasters caused by hurricanes and other extreme weather events. Some of those who lost their homes were re-housed by the government, but others received nothing. Some lost their jobs, and others were so traumatized that even the faint sound of the wind terrifies them. Those that experienced Hurricane Catarina say that the worst consequence has been the insecurity that remains about what is going to happen and of not knowing how to face new climate catastrophes. These communities are becoming stronger as they join with others in a global movement to ensure their values and rights are recognized and their voices are heard.

Friends of the Earth Brazil

climate justice manifesto, brazil (29 october 2005)

In March 2004, the communities of Southern Brazil were hit by Hurricane Catarina, the first hurricane in the history of the South Atlantic. It severely damaged our cities, our natural resources and affected thousands of people. We – those who already suffer from floods, droughts and tornadoes – are concerned about the consequences of climate change and recognize our vulnerability.

We insist that the Brazilian government:

- recognize the dramatic consequences of global warming, and thus act strongly and with more responsibility at the national and international levels;
- recognize the social, economic and natural vulnerability of Brazil;
- create and support prevention and adaptation programs in the coastlines regions, especially the ones hit by Hurricane Catarina;
- create protectionist rules in order to protect our environment from foreign companies that threaten, pollute and compromise our biodiversity;
- demand that developed countries reduce their greenhouse gas emissions and cover the cost of adaptation;
- promote the urgent implementation of policies for climate change prevention;
- invest in the establishment of measures and programs that focus on energy efficiency, renewable energy and research into the consequences of increased temperatures in the South Atlantic;
- secure the end of forest fires and deforestation in the Amazon;

- take more responsibility for the reduction of greenhouse gas emissions;
- ensure the gradual closure of the coal power plant in the south of Santa Catarina and Rio Grande do Sul, which releases the highest quantity of greenhouse gas by unit of generated power; and
- abandon plans to establish new coal plants in Brazil.

We insist that developed countries:

- take a first and effective step towards reducing greenhouse gas emissions;guarantee the end of fossil fuel extraction;
- prioritize efficiency energy use policies;
- pay for the cost of energy transition;
- finance renewable energy;
- create new, more efficient mechanisms to reduce greenhouse gas emissions;
- pay for the cost of adaptation in developing countries;
- reduce unsustainable consumption drastically; and
- make an ethical and financial commitment to halt global warming.

Those of us living where the eye of the hurricane hit stand together in an international movement for climate justice, to make our voices heard.

We demand that the government listen to us, look at us and act now with the responsibility needed to guarantee a healthy future for coming generations.

3) brazil: the clean development mechanism and the world bank in the plantar case

Brazil has been targeted as a country with great potential for growth in Clean Development Mechanims (CDM) projects, and several are already under development. One example, in the Minas Gerais region, is a controversial project supported under the auspices of the World Bank's Prototype Carbon Fund (PCF). A corporation called Plantar S.A. is claiming carbon credits for not switching its pig iron operations from charcoal to coal. In addition to this 'avoided fuel-switch' component, the Plantar project also claims credits for the carbon that will be temporarily taken up by its 23,100 hectares of monoculture eucalyptus plantations, acting as sinks that absorb carbon from the atmosphere. The eucalyptus is burned to produce the charcoal that smelts the iron, but currently only around 50% of the charcoal comes from Plantar's own plantation and a large amount of the remainder is purchased from native sources.

This has increased pressure on native forests, where due to significant demand from the pig iron industry, harvest is rarely sustainable, and in many cases illegal. The World Bank has decided to support Plantar despite the fact that scientific studies concerning the ability of monoculture tree plantations to sequester CO2 remain inconclusive. Some studies show that such plantations actually produce more CO2 emissions than they absorb, while others say that only established forest ecosystems such as rainforests are able to absorb and store carbon. Moreover, carbon is actually not stored in plantations, and in the case of Brazil, eucalyptus is harvested in seven year cycles at which point burning releases the CO2 back into the atmosphere – something not taken into account in projects such as Plantar.

Additionally, soil is tilled during planting, releasing CO2. Compounding the problem, more often than not, plantations displace native forests, disrupting local ecosystems and degrading biodiversity. In the case of Plantar, there was more at stake than a company profiting from climate change by planting a self-destructive green desert of eucalyptus trees. In March 2003, a group of more than 50 trade unions, churches, local deputies,

academics, human and land rights organizations and others protested against Plantar. The local movement appealed to the Prototype Carbon Fund with no success, and is now appealing directly to European investors not to put money into the carbon project. Despite the ecological destruction and social suffering caused by Plantar, it has succeeded in gaining a sustainable forestry certificate through the Forest Stewardship Council (FSC).

In 2003, the World Rainforest Movement produced a report documenting a multitude of shortcomings and omissions of the FSC certification assessment by Scientific Certification Services (SCS), the company that issued the certificate. In the case of Plantar, it seems that the FSC prefers to support industrial plantations rather than ecologically-based initiatives by local communities.

In sum, the case of Plantar and the support of the World Bank PCF is a stark reminder of the direction our planet is heading. The privatization of lands for monoculture plantations aimed at reducing the pollution caused by the industrial North is not a remedy for climate change. In fact, it is only making the situation worse by excluding the poor and destroying what remaining biodiversity there is.

Adapted from Nature for Sale, Friends of the Earth International, 2004, www.foei.org.

Friends of the Earth Costa Rica: www.foei.org/forests
FASE (Federation of Organizations for Social and Educational Assistance): www.fase.com.br
World Rainforest Movement: www.wrm.org.uy
Landless Workers Movement / Movimento Sem Terra: www.mst.org.br

4) australia: climate refugees and climate debt

The forcible relocation of people as a result of climate change is one of the most extreme cases of climate debt, as the loss of sovereignty is a humanitarian tragedy.

Future climate refugees will increase as a result of both incremental and rapid ecological disruption, such as desertification, as well as extreme weather events, sea-level rise and other manifestations of climate change. The vulnerability of a nation to create climate refugees is a complex assessment of social, economic and political structures alongside the assessment of geographic vulnerability and existing environmental well-being. Most vulnerable are those reliant on subsistence-based economies and in geographically vulnerable places, such as the small island states of the Pacific.

Norman Myers of Oxford University studied more than 2,000 sources, and based on a 'business as usual' approach to climate change, predicts that the number of environmental refugees will increase six-fold over the next fifty years to total 150 million. The International Organization for Migration has estimated that 1 billion people could eventually be “environmentally displaced from their original habitat.” In 2001, the Inter-governmental Panel on Climate Change suggested that this figure will increase to 150 million refugees by 2050 largely due to coastal flooding, shoreline erosion and agricultural displacement.

Climate refugees add to the debt owed by the global North to the global South because of the unsustainable extraction and consumption of fossil fuels. Refugees are among the world’s most vulnerable people, and the protection of their rights must be paramount in responses to climate change.

Will those people who are displaced stay where they are and quietly starve? No, they will do what any of us would: move and seek refuge elsewhere. Do countries in the global North have a responsibility to these people? Absolutely. Seeking compensation for the impact of climate change in the form of payment of the climate debt will enable countries to implement desperately needed adaptation projects to allow to people to stay in their homelands for as long as possible.

Friends of the Earth Australia

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