

Climate Justice

An ethical analysis of the conflicts, rights and incentives surrounding CO₂

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1 Climate change causes new justice failures

1.1 The conflict between climate protection and fighting poverty: a stalemate, or the chance for a fairer globalization?

Climate change is, for the most part, man-made (anthropogenic). So, from an ethical point of view, it has to be classed not a stroke of fate, but as a question of justice. The scale of climate change is so vast that it affects every aspect of developing globalization. Here just a few opening remarks:

- Never before has humankind interfered so extensively in the biosphere, with such far-reaching spatial and temporal consequences.¹
- Climate change is a culture shock. The world we used to know no longer exists. An axial age of radical transformation stands before.²
- Climate change will lead to a creeping destruction of the homes and food sources of countless people in subtropical regions. It will undermine the existence of 2.5 million people worldwide who make their living from agriculture.³
- Climate change is a direct attack on the economic, social and cultural rights of vast numbers of people. The right to live in humane conditions can only be safeguarded by climate protection measures.⁴
- The unresolved problem of levels of emission rights is one of the greatest opportunities for injustice in the present phase of global development.⁵
- Climate change and the associated debates about access to resources, the destruction of habitats and the migration of many hundreds of millions of people are all central questions for the various national foreign and security policies.⁶
- “Climate change represents what is most likely the greatest threat to the existence of the current and future generations, and to the continued existence of non-human life on earth.”⁷

¹ IPCC 2007a; Rahmstorf/Schellnhuber 2007, 29-52, Schönwiese 2008, 17-21; cf. on the following also Linekamp 2009 and Vogt 2009, esp. 44-49 and 415-419.

² Cf. Leggewie/Welzer 2009, 13f.

³ Santarius 2007, 21.

⁴ UNDP 2007, 1-16; Oxfam published differentiated research about the human rights abuses resulting from climate change in September 2008; Oxfam International 2008, esp. the table p. 6; according to this, the rights to life and to security of person, and access to food and healthcare of many hundred million people are under threat or have been negatively affected.

⁵ Baer/Athanasiou/Kartha 2007, 19-21.

⁶ WBGU 2008, bes. 15-42 and 169-190.

⁷ DBK 2007, Nr. 1.

The right to physical integrity lays the foundation for human rights; therefore, lowering the level of greenhouse gas emissions is an act of protecting human rights.⁸ Justice and peace cannot be realized in the 21st century without climate protection. This dependency is mutual: we can only hope for global cooperation in climate protection, when the poor majority recognizes that the course of action allows them a fair chance at humane development. Cooperation in climate politics is a precondition and an active condition of the new global course of preventative peace politics.⁹

However, in all this there is a profound conflict between climate protection and the fight against poverty. Then the known and financially viable methods of economic development are to a large extent dependent on access to fossil fuels.¹⁰ Most developing and emerging economies aim to fight poverty and institute wealth through energy-intensive industrialization, following the example set by the affluent northern hemisphere. However, there is no capacity left in the atmosphere for the CO₂ that would be emitted by developing countries if they were to develop along the same lines as the industrialized nations. “The world’s wealthy minority has left precious little atmospheric space for the poor majority.”¹¹

The technical possibilities for fighting poverty and protecting the climate, and for the integration of these two aims, are in theory relatively good. Realizing these aims is primarily a question of overcoming political and institutional obstacles, as the necessary investments can only be made in conditions which facilitate a fair, cooperative and long-term sharing of the burden. Currently, from the point of view of the developing countries, there are hardly any consensual and attractive suggestions on the table for fair “burden sharing” in terms of climate protection. If they fail to adhere to an ethical basis, political negotiations are headed for a stalemate: “Disagreements about fairness and equity are at the center of the impasse.”¹²

We can however see this as a chance for the process of globalization. “Climate change provides a potent reminder of the one thing that we share in common. It is called planet Earth.”¹³ In the shadow of climate change, a change of conscience with regard to the global context is taking place.

1.2 “The greatest market failure the world has seen”

The “Stern review”, the report commissioned by the British Government and published in October 2006 under the title “The Economics of Climate Change” estimates the cost of not acting to prevent the consequences of climate change at 5-20% of the global gross domestic product. That would be up to 5,500 billion US dollars per year, more - insofar as any comparison of this nature is possible - than the cost of both world wars put together. The markets didn’t give us any warning of these gigantic costs. Stern calls it “the greatest market failure the world has seen”.¹⁴

⁸ Santarius 2007, 21.

⁹ Der Wissenschaftliche Beirat der Bundesregierung Globale Umweltveränderungen [WBGU, German Advisory Council on Global Change] talks of “redefining security”; cf. WBGU 2007, 19f.

¹⁰ Ostheimer/Vogt 2008, 10-13.

¹¹ Baer/Athanasidou/Kartha 2007, 10.

¹² Baer/Athanasidou 2007, 5.

¹³ UNDP 2007, 2.

¹⁴ Stern 2007, II.

Stern does not stop there with his portrayal of the impending disaster, but goes on to calculate that taking action quickly could result in preventing the worst consequences for a relatively small sum (circa 300 billion US dollars per year, which is 1% of the global GDP). Even today, the damages caused by ever more severe storms and flooding can result in costs which go into the billions. In poorer regions of the world, the costs incurred are less when measured in financial terms, but not in terms of the existential suffering of people and habitat due to drought, fire, failed harvests, storms and flooding.¹⁵

Time is short - according to Stern and other experts, the window for a fundamental change in political direction is limited to ten to fifteen years, if climate change is to be managed without escalating costs and conflict.¹⁶ The main reasons for this urgency are as follows: (a) habitat destabilization caused by climate change, which can only be halted by an immediate reduction of harmful anthropogenic practices; (b) the risk of irreversible changes (what is sometimes referred to as flipping the ecological switch¹⁷) in the climate, which according to current analysis will occur rapidly if climate change results in a rise of more than two degrees Celsius; (c) the looming conflicts over decreasing natural resources, in particular water and oil, which could result in war of hitherto unknown dimensions; (d) the slow reaction time of the market economy, whose growth will collide with the demands of climate protection, and whose transformation will take decades.

The central reason for the market economy's failure to face up to climate change is the externalization (outsourcing) of costs for fossil fuels: we're using the atmosphere as a rubbish dump and are burning, quite literally, the future of our children and grandchildren. Other reasons lie in the volatility, political dependence and international unpredictability of energy prices, the short-term nature of technical developments, and investment cycles which need to work bottom-up, but which are often not cost-effective on a microeconomic level. High oil prices do not necessarily lead to a reduction in use, since corresponding sums of money are then invested in the exploration of oil fields, the utilization of oil shale and oil sand and in the liquefaction of coal.¹⁸ Thus a structural change in the provision of energy is a question of political, and therefore also moral decisions, and not the automatic consequence of market economy adaptation.¹⁹

The problem is that we cannot rely on market forces to effect an automatic adaptation of society, although in many respects the logic of the market economies has taken control of global development.²⁰ Here, though, we must differentiate; on the one hand, the obsession with short-term, purely economic thinking is climate protection's greatest opponent. On the other hand, despite all the justified criticism of the one-sided dominance of the economic mindset we should not overlook the fact that climate change can only compete with economic interests to a limited extent. Market forces are in many

¹⁵ Loster 2008.

¹⁶ Cf. also Rahmstorf/Schellnhuber 2007, 91-120.

¹⁷ Cf. the composition of the Climate Research Institute in Potsdam; www.pik-potsdam.de/infodesk/tipping-points [retrieved 13.09.08].

¹⁸ Edenhofer/Flachsland 2008, 24f.

¹⁹ Vogt 2000.

²⁰ Carl Amery calls this the over-responsibility of the world's destiny to capital interest; Amery 2002, 13-27.

respects effective and freedom-facilitating means of regulation.²¹ But they need new conditions and rules.

Climate change and the fight against poverty will not win through against the market as it stands, but rather through social and ecological markets.²² The founding idea of the social market economy (“Ökologisch-Sozialen Marktwirtschaft”), support for which was publically declared by the churches in Germany in 1985, before any of the political parties had spoken out²³, could be the greatest political principle to emerge out of Europe with regard to climate change. It is though a highly challenging concept. Moral standards in society are often underestimated as an economic factor. The success of the market economy is dependent in the long run on a culture of responsibility and fairness. On the global level, the institutional prerequisites for a reliable integration of markets and morals are too weak. The current form of energy-intensive globalization, which is simultaneously the driving force behind climate change, is neither ethically justifiable nor economically viable.

1.3 Hallmarks of the justice debate in the age of climate change

The particular nature of ethical problems that arise as a result of climate change lies in the great distance between initiators and victims²⁴. This distance can be defined in three ways:

- (a) Our modern life and economy, which has caused the climate change, has mortgaged our future and will burden in particular later generations.
- (b) The poorer countries in the southern hemisphere were only to a limited extent involved in causing climate change and are much less able to adapt to the changes, whereas industrialized nations are responsible for most of the emissions of damaging greenhouse gases and yet have much better chances to protect themselves against the consequences of climate change.
- (c) Climate change is having a profound and negative impact on the habitats of fauna and flora and thereby also on the relationship between humans and nature.

This can be regarded as a threefold externalization of the costs of our model of wealth/wealthy society; it will fall to the future, to the poor and to nature to repay the debts we have incurred. Each of these three externalizations is in itself a complex ethical minefield, answering to the categories intergenerational justice, global justice and ecological justice respectively. The German Conference of [Catholic] Bishops has referred to climate change as the “crossroads of global, intergenerational and ecological justice” on the basis of this analysis.²⁵ It is an exemplary field for justice research, encompassing new dimensions of justice, solidarity, the protection of wealth and responsibility for the natural world in the 21st century. In the remainder of this paper I will restrict myself to the question of global justice, and the conflict between climate protection and the fight against poverty.

²¹ Vogt 2008.

²² Ostheimer/Vogt 2004; WBGU 2005.

²³ EKD/DBK 1985, Nr. 79-87.

²⁴ For analysis of the unequal distribution of climate damage, cf. Santarius 2007, 19f.; UNDP 2007, 3-5.24-31; Lienkamp 2008, 4-6.

²⁵ DBK 2007; with regard to the American expression “ecological justice”, cf. Leist 2007.

“Some 262 million people were affected by climate disasters annually from 2000 to 2004, over 98 percent of them in the developing world.”²⁶ Measured by the number of fatalities, the victims of climate disasters reside overwhelmingly in developing countries.²⁷ “Climate change will undermine international efforts to combat poverty.”²⁸ It is complicating the achievement of the Millennium Development Goals (MDGs). There is a real risk that the progress made over generations in the eradication of extreme poverty and in areas such as health, nutrition and education will stagnate and eventually start to reverse. “In today’s world, it is the poor who are bearing the brunt of climate change. Tomorrow, it will be humanity as a whole that faces the risks that come with global warming.”²⁹

With the awareness of global warming, the fight to reduce poverty has a new focal point and new dimension of complex interrelations. Many distribution problems are exacerbated and have become a struggle for access to resources and habitats, no longer resolvable through traditional models of growth. Ecological problems overwrite social conflicts without erasing them.

The ethical-political problem is particularly complex, boasting an opaque web of winners and losers, both in terms of climate change and in terms of our climate-hostile economic system. The winners (e.g. those countries exporting oil, or northern regions in terms of agriculture) have little incentive to contribute to the costs of avoidance strategies. Since climate change affects people differently - in terms of geography, and immediacy, and in the nature of the impact - there is a broad range of interests and perspectives at stake. Moreover, on a more fundamental level, there are the dilemmas of ecological versus social-ecological interests, short-term versus long-term and national versus global concerns which are often not directly resolvable by individual agents or political movements.³⁰

Since countless people in developing countries are urgently concerned in the short-term with existential problems, it is difficult to communicate any sense of the long-term and geographically-broad solidarity needed in climate protection. In Indonesia, for example, the pressure exerted by poverty to utilize peat and areas of rainforest is extremely high.³¹ Therefore, Indonesia will only be prepared to take climate protection measures if there are attractive conditions attached. Indonesia can draw on the Rio declaration in defence of the right to sovereign decisions about the use of national natural resources.³² A widespread delimitation of key postulates of justice runs the risk of ending in excessive demands and vacuity, unless attempts at clarifying authoritatively the attendant claims and duties, limiting them to specific agents, pluralizing them freely and anchoring them structurally are immediately successful.

²⁶ UNDP 2007, 8.

²⁷ Loster 2008, 5f.

²⁸ UNDP 2007, 1.

²⁹ UNDP 2007, 2.

³⁰ Vogt 2003, 138-157.

³¹ Indonesia is both victim and perpetrator of climate change: due to the burning of large areas of rainforest and methane-rich peat soil for use as palm oil plantations the country has become the third biggest producer of greenhouse gases; cf. Müller 2008, 14.

³² BMU 1992, Rio Declaration, Principle 2.

In climate research hitherto there has been a notable discrepancy between intensive col-
 lation and analysis of scientific data on the one hand and the poor level of research into
 the resulting questions of ethical and political justice on the other. The lack of precise
 analysis of the conflicts and hindrances, and of the priorities and benchmarks for immi-
 nent decisions is often covered up by an over-enthusiastic appeal to moral sense. Cli-
 mate protection, however, needs a code of ethics which shows up the opportunities for
 injustice, analyses dilemmas and provides firm criteria on which to base political deci-
 sions.

2 Ethical bearings for a new “global deal”

2.1 Common but differentiated responsibility

Managing climate change is a challenge facing the whole of society. This assertion has
 legal and ethical basis in the 1960s concept of nature as the “common heritage of man-
 kind.” However, this has not yet established itself reliably as customary international
 law. For that, the international law would have to change from co-existence to coopera-
 tion law.³³ That would entail duties of information and consultation and the establish-
 ment of international rules and standards on prevention, liability and conflict with re-
 gard to the environmental impact on human life and the natural world.

The ethical challenge posed by climate change involves three kinds of solidarity:

- Long-term solidarity, incorporating measures of prevention or mitigation of climate
 change through the rejection of fossil fuels. Since everyone would be affected, cli-
 mate change here is a question of cooperation or *con-solidarity*.
- In the medium-term, adaptive measures are the main priority (e.g. water provision,
 resettlement, ecological and agricultural adaptation).
- Short-term solidarity is mainly a question of disaster response, hitherto something
 which has been relatively well provided, thanks in part to pity-inducing media im-
 ages. The ever-intensifying scale of disasters calls for these reactive measures to be
 backed up by the establishment of international funds. This kind of help can be ter-
 med *pro-solidarity*.

The debate about the ethics of climate changes tends to stifle the importance of adaptive
 measures and the need for solidarity, in contrast to the debate about *mitigation*.³⁴ Since
 climate change is already well underway, threatening the habitats of many hundreds of
 millions of people, long-term adaptive measures - in addition to short-term reactive
 measures - will form a crucial part of the international climate protection strategy. To-
 day there are innumerable people who have inadequate access to drinking water and
 water for washing; this is not a stroke of fate but the result of climate change, and there-
 fore a question of justice. A solidarity-based distribution of the dwindling freshwater
 resources, which in southern regions are often “wasted” on plantation irrigation, has
 become an existential question for half a million people. But the situations in the differ-
 ent regions are so varied that there can be no straightforward solution to the water prob-
 lem.³⁵

³³ Epiney 2007, 34.

³⁴ UNDP 2007, 44-51

³⁵ Vgl. Mauser 2007, 207-239.

The pressure to cooperate as a result of climate change requires a different kind of solidarity, one that does not fit into existing structures; it demands engagement with a distant crisis. The climate is our collective property; its problems are borne by all and there are no individual profiteers. And yet we can hardly be surprised by the collective inertia and freeloading mentality which together block all initiative. It is too easy to exploit investment in climate protection. Funds need specific institutional ring fencing. Action must be taken to address structural deficits if solidarity in terms of climate protection is to be realized.

To form a firm basis for inter-departmental multilateral negotiations, it would be necessary to create an independent organization for environmental concerns, equipped with the power to impose sanctions, under the umbrella of the UN.³⁶ The idea of an Environmental Court of Justice is also gaining in popularity, in order to sanction those whose actions in breach of international regulations affect a large sector of the population. There is a serious deficit in terms of legal justice, because agreements that are made are often simply not adhered to. Institutional reforms which would result in a greater degree of legal control have therefore become a matter of urgency, in order to embed both market-oriented ideas (such as trade-offs) and solidarity-based ideas (fair distribution of resources) within a stable legal framework.³⁷

The critical ethical and political challenge is to overcome short-term thinking and activate moral, political and economic solidarity in order to move from mere reactive disaster aftercare to preventative climate protection and innovative energy technology. This calls above all for an increase in the powers of the global institutions which enforce regulations on CO₂ emissions. The ethical management of climate change is dependent on a process of institutional change; a path towards *global governance* with new strategic alliances in politics, economics and civil society.³⁸

The UN Framework Convention on Climate Change in Rio describes the challenge of climate protection as a “common but differentiated responsibility”.³⁹ The industrialized nations are charged in the first instance with taking action on climate change, due to their high level of CO₂ emissions past and present, and their technical, economic and political influence. The phrase “common but differentiated responsibility” however allows for a range of different interpretations. A global agreement on justice in CO₂ emissions is needed to clarify the exact meaning.⁴⁰

Notwithstanding the conflict between northern and southern hemispheres, the differences between individual countries are also beginning to become more marked. Solidarity between globalization profiteers and poor sectors of the population is needed in southern countries too. Since climate protection is, above all, a question of cooperation, its realization is dependent on people’s trust that the burden will be divided fairly, both on a national and an international level.

³⁶ Epiney 2007, 38. What the individual reforms should look like is a difficult political question.

³⁷ Justice demands as good a balance as possible between elements from the three basic categories legality, distribution and exchange. On systematic aspects of these three Aristotelian forms of justice and their significance for modern society, cf. Vogt 1999; Veith 2006, 141-153.

³⁸ Vogt 2003; Ekardt 2008, 20f.

³⁹ BMU 1992, Art. 3,1.

⁴⁰ Edenhofer/Flachsland 2008, esp. 30-33; cf. also below, para. 3.

2.2 The right to development

Key to understanding the conflict between climate protection and the fight against poverty is the recognition of the right to development. “While people remain poor, it is unacceptable and unrealistic to expect them to focus their valuable resources on the climate change crisis.”⁴¹ Global climate protection is only acceptable to the majority of developing countries if it is combined with recognition of the right to development, encompassing (a) the satisfaction of basic human needs, (b) freedom from deprivation and vulnerability and (c) a basic degree of safety and wellbeing. Since access to fossil fuels is currently a bottleneck for the achievement of development aims, and developing countries often have few means of reducing their level of emission, it follows that they must be accorded more/different rights, or at least that they are not required to reduce emissions by the same percentage as the industrialized nations.

The right to development is not the same as the right to economic growth; it is a right to the conditions that support the sustaining of life in dignity, and in solidarity with society in preventing and recovering from crisis. Those below a certain level of development (“development threshold”), must have the chance to manage their own development without being burdened with climate protection concerns.⁴²

The right to development in the context of climate protection has its basis in human rights.⁴³ Human rights theory provides the criteria for equality in terms of basic needs, equal opportunities and equal access to justice.⁴⁴ Equality in terms of basic needs means that the meeting of these needs is seen as a priority. Equal opportunities are realized through investing in human capital, giving citizens the power to act, so that they may better manage the risks posed by climate change. Procedural fairness is most likely to be achieved through an improved institutional framework for climate protection and by widening participation.

Enshrining the right to development calls for a basic agreement - *Greenhouse Development Rights* - allowing a fair distribution of the burden, and protecting investment in climate protection from exploitation. As well as a just distribution of emission rights, a fair distribution of expertise and of human, natural and social capital needs to be part of the equation⁴⁵, since these factors significantly influence our ability to fight poverty and adapt to climate change.

3 CO₂ justice: at the heart of a new global deal for climate protection

For the sake of simplicity I will concentrate in the following section on a global deal on CO₂ emissions. Although not wishing to disregard other waste gases qualifying for a similar deal, for example methane (far more aggressive than carbon dioxide, particularly

⁴¹ Baer/Athanasiou/Kartha 2007, 5.

⁴² Baer/Athanasiou/Kartha 2007, 27-31; see below, chap. 3.1.

⁴³ Santarius 2007, 19f.; UNDP 2007, 3--5; Wallacher/Reder 2008, 12f.; Oxfam International 2008, 1-3. In terms of theological ethics, the *Option for the poor* is an important principle: cf. on this the article by G. Kruij in the same volume.

⁴⁴ Wallacher/Reder 2008, 12f. The exact definition of the relationship between human rights and justice is worth a discourse of its own. The principles (better; criteria) of justice mentioned here are cited without any further justification, so that the selection and exclusions might seem arbitrary; for an attempt at systematising the various types of justice, cf. Vogt 1999 and – including the diachronic expansion of intergenerational justice which is so important for the climate debate - Veith 2006 140-167.

⁴⁵ Wallacher/Reder 2008, 13.

with regard to agriculture, where the burning of peat and the thawing of peat-rich permafrost pose a considerable problem), CO₂ at the moment accounts for 90% of climate damage⁴⁶, therefore it seems reasonable to focus on this emission alone.

3.1 Responsibility and capacity

The Heinrich Böll Foundation's study "The right to development in a world threatened by climate change" combines the indicators for responsibility for and capacity to influence climate protection to form a "*responsibility and capacity indicator*" (RCI⁴⁷). The study assumes that responsibility and capacity can only be freed up from that portion of income and emissions which are not directly necessary for existence.⁴⁸

This is similar to the basic principle of tax law, which states that the subsistence level of income must be free from state payments - that is to say, at this level, there are no resulting duties to the state. The requirement to contribute towards international climate protection is conceived as a kind of luxury tax on the global consumer class.⁴⁹ Only those people who belong to the global middle class (or consumer class) have the responsibility, and indeed the capacity, to pay their dues to a climate-political emergency program.⁵⁰ An additional condition is that only those emissions are counted which occurred after the extent of their harmfulness had been ascertained (which was only conclusively from about 1990 onwards.)

The million dollar question - almost literally - with regard to this concept is how to define the threshold between basic subsistence and luxury. The authors assume that an annual income of 9,000 US dollars is usually enough to meet basic needs and is therefore the passport to the "global middle class".⁵¹ The global mean average income is around 8,500 US dollars annually. Others put the threshold rather lower and make one important differentiation. "If we take an income threshold of 7,000 US dollars as a basis, which is approximately the level of social security in Europe, then we can see that as well as the 900 million heavy consumers in the northern hemisphere, there are also more than 800 million 'new consumers' in the developing countries."⁵²

The *responsibility and capacity* model can calculate the actual quantitative reduction in emissions that is required; according to the model, a third of the efforts towards climate protection should come from the USA and a quarter from Europe.⁵³ These contributions

⁴⁶ On the relevance of the different greenhouse gases, cf. DBK 2007, Nr. 19.

⁴⁷ Baer/Athanasios/Kartha 2007, 11.

⁴⁸ "We define capacity as income, excluding all income below the development threshold. We define responsibility as cumulative CO₂ emissions, excluding all emissions deriving from consumption below the development threshold." (Baer/Athanasios/Kartha 2007, 11) Income below this is termed "survival income" or "survival emission" respectively and cannot be claimed for climate-political purposes.

⁴⁹ Cf. Baer/Athanasios/Kartha 2007, 32: "luxury" emissions".

⁵⁰ Cf. Baer/Athanasios/Kartha 2007, 33: "Countries cannot be asked to incur any mitigation costs as long as they are developing." On the quantification of *Global Development Rights* cf. 23-44.

⁵¹ Baer/Athanasios/Kartha 2007, 82-84. Income is calculated in terms of purchasing power.

⁵² Santarius 2007, 18f.; cf. also Baer/Athanasios 2007, 12: "Inequality within countries is as great or greater than inequality between countries."

⁵³ Baer/Athanasios/Kartha 2007, 5; cf. also Baer/Athanasios/Kartha 2007, 12: The burden is shared as follows: USA 34,4%, EU 26,6%, Russia 5,5%, China 7%. An optimistic estimate, which calculates the costs for emergency assistance at 1% of the world gross national product, the following costs per inhabitant are incurred over the "development threshold" ca. 780 US dollars annually in the USA, 372 dollars/year in the EU, 142 dollars/year in China.

would be entirely manageable for the industrialized countries. With a “2°C target“, the prognosis suggests that the drop in consumption would be in the region of 1-4% of the GDP in USA, Japan and Europe, depending on the exact scenario. However, the drop in Russia and the Middle East could be up to 12% of the GDP. In Africa, on the other hand, consumption could potentially grow by up to 22.4%.⁵⁴

The model does however throw up a range of methodological problems, whether in the exact definition of the boundary between subsistence and luxury, in the black-and-white differentiation between poor and rich, even within countries in the southern hemisphere, or in the limited value of “income” as an indicator. For there are other factors which contribute towards individual wellbeing, such as the communal institutions of safety, access to clean water, education, health and culture.

The concept *responsibility and capacity* seems to me at best only suitable as a transitional solution, as long as no global market in emission rights has been established. A market would have the advantage that the southern hemisphere countries which emit less CO₂ would not only be rewarded with fewer responsibilities for climate protection measures, but could also profit financially from the sale of emission rights.

3.2 Contraction and convergence

One of the most interesting concepts for a common contract on CO₂ justice is currently being debated under the title *contraction and convergence* (C&C). This combines a contract which fixes an upper limit for global CO₂ emissions (contraction) with a gradual introduction of a distribution of emission rights according to egalitarian principles (convergence).⁵⁵

Basis for the fixing of a global upper limit is consensus within society about level of the ecological risk that can be justified. However, ecological risks can neither be calculated from a natural threshold nor predicted with any certainty. And yet there is a broadly accepted consensus within current political negotiations that global warming by 2°C or a 450ppm concentration of CO₂ can be taken as just such a threshold.⁵⁶ Following the principle of risk avoidance the C&C concept uses this rather low upper limit, although climate researchers disagree as to whether it is still a realistic goal.⁵⁷

For the process of negotiating CO₂ reduction rates the C&C concept accepts the historical distribution as the basis for proportionally-fixed contributions (*grandfathering*⁵⁸). This is however only the starting point for what then becomes a process with fixed and binding stages, aimed at gradually drawing closer to an egalitarian pro capita distribution of emission rights. The grandfathering principle eases the transition for countries with a high level of emissions. It can be justified ethically as property protection and pragmatism.

⁵⁴ Baer/Athanasiou/Kartha 2007, 42.

⁵⁵ Baer/Athanasiou 2007, 14-18; Baer/Athanasiou/Kartha 2007, 23-45.

⁵⁶ The *Vattenfall Proposal* assumes that the 2°C target with 550ppm is achievable. The transitional period is extended accordingly, with a 1.5% rate of reduction annually seen as sufficient. According to this concept, abrupt changes carry a higher risk and are therefore ethically unjustifiable; cf. Baer/Athanasiou 2007, 37-56.

⁵⁷ Rahmstorf/Schellnhuber 2007, 46-50; Latif 2007; IPCC 2007a.

⁵⁸ On this see Baer/Athanasiou 2007, 14f.; Rahmstorf/Schellnhuber 2007, 18f.

“And while a convergence that begins with grandfathering can be ethically justified as easing the transition on high-emitting countries, consistency would seem to demand a similar ‘back end’ mechanism by which emission in low-emitting countries would be allowed to temporarily overshoot the global average, if, that is, ‘easing the transition’ is indeed the justification for initial grandfathering.”⁵⁹

The post-Kyoto negotiations have not yet reached a decision between the two types of model described here as *contraction and convergence* and *responsibility and capacity*.⁶⁰ C&C offers a realistic opportunity for strategic north-south alliances and is currently enjoying growing support, for example in Great Britain.⁶¹

3.3 Global egalitarianism as the founding principle of the *global deal* on climate protection?

An important axiom of the human-rights and developmental-ethics-based approach to climate protection discussed here is that global climate justice is enacted on a pro capita basis, rather than per nation state. The principle of an equal distribution of emission rights is ethically justified by the view that climate is something we share; presenting it as a national asset has only very limited application. All of the earth’s inhabitants must in principle have equal access.⁶² That all people are equal is enshrined in the universal declaration of human rights. That this applies also in terms of climate politics has, however, far-reaching political consequences: given the fact that a US American emits 100 times as much CO₂ as someone in Southern India or West Africa, it can meet with fierce resistance. When estimating population figures, in order not to give a false impression of population growth, one needs to set a starting year.⁶³ The year 1990 seems a good candidate, since this is already accepted as a starting point in many models.

Egalitarianism in terms of climate politics can also be interpreted using the “golden rule”: we can talk about CO₂ justice when no individual produces more CO₂ than s/he tolerates others emitting. If this is extended to apply to future generations, then there is an additional clause, namely that the total amount of greenhouse gases produced may not be more than the global capacity for absorption.

But aiming for absolute equality between human beings is problematic in two respects. Geographical and cultural differences result in different needs; in justice theory, this can be described as treating equals equally and unequals unequally.⁶⁴ One of the reasons for demanding a greater level of reduction from countries in the northern hemisphere is that they generally have a much higher capacity to invest in efficiency and substitution strategies. Based on the ethical criteria for equality of effort, industrialized countries are required to make a greater contribution to climate protection.⁶⁵ Another relevant argument is that industrialized nations, on account of their high standard of technological development, have more effective use from the same level of emission than a less indus-

⁵⁹ Baer/Athanasiou 2007, 15.

⁶⁰ Baer/Athanasiou 2007, 7.

⁶¹ Baer/Athanasiou 2007, 18.

⁶² Santarius 2007, 24.

⁶³ Cf, Baer/Athanasiou 2007, 16.

⁶⁴ For an ethical and philosophical discussion of the legal aspects of egalitarianism, which has rather unexpectedly become highly relevant as part of the climate justice debate with respect to equal rights to CO₂ emissions, cf. Krebs 2000; Pauer-Studer 2000.

⁶⁵ Baer/Athanasiou/Kartha 2007.

trialized country. Moreover, it should be remembered that for people in industrialized countries (and for affluent elites in emerging and developing nations) it is not a question of survival, but of the loss of wealth that is at stake; even then, these sectors of the population would still be living far above the basic subsistence level. The principle of *proportionality* argues for a higher contribution from these groups.

The “*polluter pays*” principle demands that the industrialized nations, which in the last 150 years produced more than 90% of harmful gases, contribute the lion’s share towards climate protection measures. But this begs the question to what extent the past should form the basis for a contemporary concept of justice. The huge differences within developing and emerging countries need to be taken into account; it is analytically unsound to see the three groupings as homogenous blocks which can be set against one another. Problematic for the view of historical guilt is the fact that during most of the time in question there was little or no knowledge of the harmful consequences of CO₂ emissions. In trying to define a defensible ethical and political viewpoint it is therefore sensible to limit historical guilt to the period after 1990 or 1992. This has the advantage that there is relatively detailed data available for this period. Taking the date 1992 as a starting point allows reference to the Framework Convention on Climate Change in Rio, which drew up a legally binding international agreement on climate justice.

So there is a plethora of very different viewpoints, all of which are worthy of consideration in terms of justice theory; in spite of many problematic issues, the per capita distribution of emission rights can be seen to be an acceptable and workable approach to climate justice. I argue for this not because it ignores the necessary differentiation of egalitarianism⁶⁶, but because, subject to the demands of data and the justice axioms discussed above, it has been shown to be one the relatively robust and therefore politically achievable compromise solutions. It should serve to give us our ethical and political bearings, at least as long as the ethical and political discourse and the provision of reliable data on the costs of climate change and climate protection do not reach any other broad consensus.

At the same time, experts in justice theory need to pick up the scarcely-begun task of researching into criteria and data needed for a reliable distribution of climate protection duties. Over and above the questions raised here, the selection of data for the calculation of the CO₂ balance and the responsibility for protection is of enormous ethical importance; should, for example, a positive contribution to climate protection, for example through the planting or maintenance of forested regions in a particular country, be taken into account? This could be of existential importance e.g. for Russia or Brazil, with their vast forests. Is it justifiable to take account of land use, which plays a decisive role for the climate, but which has hitherto been only marginal to climate protection negotiations? How should CO₂ emissions caused by international air travel, which up until now has been left out of all of the usual calculations, be brought into the equation?

⁶⁶ Cf. on this Krebs 2000, 7-33.

3.4 The trade in emission rights

Particularly controversial from an ethical point of view are those parts of the *global deal* on climate protection called the flexible mechanisms; *joint implementation*, the *clean development mechanism* and in particular the *trade in emission allowances*. These mechanisms offer advantages in terms of allocation (a more effective employment of limited means), which make themselves felt not only in economic terms, but also in view of the urgency of the situation, which is of direct value for ethical and measures. The trade in emission allowances does though require a functional market, something which exists only in certain territories, such as the EU, and then only to a limited extent. The rules for allocating allowances are often not clear (in Germany the first round of allocations fell flat). Procuring allowances should not become a substitute for structural reforms, neither on a national nor on a business level. For this reason, the DBK suggests that 50% of the agreed rate of reduction must be achieved within the home country.⁶⁷

The evidence suggests that the trade in emission rights will have a positive effect on developing countries. “If the average cost of reducing emissions is less in a developing country than the price of emission allowances - something that is evidently the case - , then the developing countries will be able to profit from the sale of allowances. The profits from the trade in allowances could for example easily top the sums spent on developmental aid in Africa.”⁶⁸

But despite all this an ethical safeguard must be in place. “In the trade in emission rights, the power of the market forces must not be greater than the commitment to human rights.”⁶⁹ This means that developing countries should not sell off their emission rights to the extent that the potential to develop out of poverty is substantially compromised. The proportion of emissions which can be defined as an existential minimum (or a minimum for prosperity) should be considered to be unsalable. This is particularly significant for countries where the governments do not adhere to the principles of democracy and justice. Payment for emission allowances must not be permitted to end up in the hands of small groups of people or potentially corrupt governments; instead, the money must be invested in sectors of the wider population which collectively have a reduced rate of CO₂ emission. The greatest challenge will be to channel the flow of money from the northern hemisphere to local communities in the southern hemisphere and thereby ensure that benefits reach the right people.⁷⁰

Since there has so far been no adequate incentive to introduce CO₂-cutting measures (such as tropical rainforests), we need to seek means of rewarding these and making them tradable commodities. Just because CO₂-cutting measures - indispensable for the functioning of the global economy - cannot be transported and sold (in the way that oil can, for example) does not mean that a market for them cannot exist. But as long as there are no institutions which translate the collective interest of humankind in cutting CO₂ emissions into national, business and individual duties and opportunities, climate protection will continue to lack the necessary momentum.

⁶⁷ DBK 2007, Nr. 54.

⁶⁸ Edenhofer/Lotze-Campen 2008, 11.

⁶⁹ Santarius 2007, 24.

⁷⁰ Santarius 2007, 24.

4 Opportunities

4.1 A new industrial revolution

According to the current state of negotiations, CO₂ justice demands that the emission of harmful gases be reduced by 20-30% by 2020 (compared with the emissions in 1990). Germany intends to lead the way with a 40% reduction, which represents the upper end of the window negotiated in Bali (25-40% reduction in the industrialized nations by 2020). By the end of the century, CO₂ emissions should be reduced by 80-90%. These goals can only be achieved as part of a new industrial revolution.

A start has already been made; Germany has had considerable success over the last two decades in uncoupling energy consumption from economic development, and would have enough technical potential to continue progress in this direction without any substantial loss of prosperity.⁷¹ Germany could improve its CO₂ record still further by closing legal loopholes in eco-tax and finance reforms⁷² and eliminating the numerous exceptions which seriously hamper the effectiveness of current legislation.

Despite the conditions of the Kyoto protocol, however, there has still been a marked increase in CO₂ emissions in industrialized nations.⁷³ It is imperative that we act decisively and quickly. At the same time, the *global deal* calls for a much stronger cooperation with developing countries to achieve reduction targets, since their share of CO₂ emissions is rising, in some cases very quickly. China's rate of CO₂ emissions, for example, has been rising at the fastest rate in economic history since 2003. Measures to improve energy efficiency, which were moderately successful in the 1990s, have slipped back. Coal is one of the major problems for climate protection. Worldwide coal reserves stand at at least 728 gigatons; moreover, coal is relatively cheap, so that it would be more or less impossible to force through an embargo at this current time. For this reason, the sequestration - the separation and storage of carbon dioxide - would seem, despite its many problems, to be a necessary compromise if China and India are to participate in the climate protection agreement.⁷⁴

Climate change is the greatest collective problem humanity has ever had to face. There is no lesson to be found in history which offers us a blueprint for a solution. We will only succeed if we can negotiate a new balance between freedom and justice.⁷⁵ Up until now, the process of globalization has been based on trading in resources. The hunger for energy in developing countries is only just beginning to make itself felt. Climate protection fits only with difficulty into the patterns of trade that have built up around the pursuit of wealth in the short-term.

Enforcing efficient climate protection measures requires us to take our leave from the inward-looking national political perspectives and establish new institutions.⁷⁶ The roads to development we have journeyed along hitherto are now leading us, via climate

⁷¹ Hennicke 2008, 32-42. The technical potential can of course only be realised in the context of sweeping cultural changes; cf. Leggewie/Welzer 2009, esp. 174-230.

⁷² Cf. here Lienkamp 2000, 75-81.

⁷³ The USA have increased their CO₂ emissions by 16.3%, Portugal by 15.8%, Australia by 17.65%, Italy by 18.6%, Spain by 38.3%, Canada by 31.3% (increases for year 2005 compared with 1990, cf. unfccc.int/ghg_emissions_data/ghg_data_from_unfccc/time_series_annex_i/items/3841.php [retrieved February 2008]).

⁷⁴ Edenhofer/ Flachsland 2008, 24-27.

⁷⁵ Edenhofer/Lotze-Campen 2008, 9.

⁷⁶ Ekardt 2008, 17-29.

change and dwindling reserves of gas and oil, to a dead end. We need intelligent ways to downsize. The way in which we manage access to energy and water and the provision of food for the world's population are going to be the driving forces behind the new definition of development in the 21st century.

4.2 Climate protection as a challenge of changing values

The scope for solutions to the climate problem can be divided into different strategies and operative levels⁷⁷:

Macro-solutions are the Kyoto Protocol, the contraction & convergence concept, the unified emission allowance system and the proposal to use the Marrakesh funds to finance climate protection and disaster recovery efforts in severely affected regions. These different strategies are not exclusive, but complement each other, since the former strategies are mainly preventative and the latter are adaptive financial measures.

Micro-solutions belonging to the preventative category are local or national systems for the trade of emission allowances, and neo-liberal strategies for the adaptation of business structures and land use. The lifestyle debate aims to integrate these various strategies on a micro-level. Numerous impulses are necessary if anything is to be achieved in society or the economy as a whole.

Affluent countries like Germany are characterized by a high and ever-growing lifestyle demands. Renewable energies can, in the best case, compensate this in the short-term, but they cannot provide the same standards in the long-term if commitments to climate neutrality and (thereby) justice are to be upheld. The unchecked appetite for open borders and ever faster travel - just to name one example - cannot be met in a socially and ecologically responsible way merely by switching to renewable energies and better efficiency. If we are truly to free our lifestyle from its fossil fuel dependence, then there will need to be some profound changes in key aspects of our western model of affluence.

Climate change is, therefore, not just a challenge for political negotiation and technical innovation, but also a question of changing society's values. It demands individual and collective answers to genuinely ethical questions about the goals, limits and conditions of our lifestyle. How much is enough? What are the priorities in striving for progress? How can we ensure fair chances for people all over the globe? How can we ensure that long-term interests are properly represented in the democratic system? In the search for answers to these questions, which are profoundly significant for the twin goals of fighting poverty and protecting the climate, churches and religious communities can also make a substantial contribution.

In some respects, the potential for progress on environmental and climate issues is to be found in regional and local networks, rather than on a national or international level.⁷⁸ It is no coincidence that London, to cite one example, has taken radical measures to become independent from fossil fuels, long before other institutions. In developing countries, micro-loans are instrumental in securing many small projects which work towards stabilizing sustainable development. Without bottom-up innovation, the idea of a global commitment to justice will hit a dead end. Climate protection will not fall like

⁷⁷ Rahmstorf/Schellnhuber 2007, 102.

⁷⁸ Wulsdorf 1998, 129-168.

man from heaven, but will grow slowly through businesses, networks, regions and sectors of the population who begin to develop their potential within the local area.

Conclusion

Climate protection, to summarize the points I have made here, is a question of ethics, particularly in terms of CO₂ justice. It can only be achieved by means of a global contract which recognizes the right to development and sets out negotiable solutions for the transitional period. The common but differentiated responsibilities of industrialized, emerging and developing nations must be taken into account, in accordance with their capacity and ability to act. Given the historical record for CO₂ emissions in industrialized nations, these should not reject the idea of global equality, which would grant each individual equal CO₂ emission rights. Current research, taking into account current use and demographic trends, suggests that the figure might be set at about 2 tons per person and year. However, transitional solutions that take account of the current, more disparate situations (grandfathering) and move step by step towards a reduction in emissions should be the first choice. Over all, the ethical-political definition of emission rights should function as a framework for negotiating flexible solutions, by which (among other things) a gradual integration of national and continental markets could lead the way towards a global market for the trade in emission rights. Research needs to be done into means by which a systematic provision of incentives for CO₂-cutting measures could be introduced.

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