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Distributive Justice, Competitiveness, and Transnational Climate Protection: "One human – one emission right"

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Summary/ Conclusions

The paper offers a basic structure for a future transnational climate policy beyond the Kyoto Protocol ("Copenhagen Protocol"), but also assesses the possibilities for a strongly extended pioneering role of the European Union – secured by complementary border adjustments – in the context of the ongoing EU and global climate policy debate, but in contrast to the usually discussed approaches. In addition, the two most-discussed obstacles to an effective climate policy are examined in detail: (national or global) social distributive justice and competitiveness. Moreover, the paper gives a normative justification for the global formula "one human – one emission right", and outlines possible enforcing instruments for its global and European implementation. Particularly for evolving integration under a democratized WTO, the approach tries to offer the crucial step towards global justice.

I. Competitiveness and social compatibility – slowing down climate policy?

National and European climate policies (while discussing the EU commission proposal for a new climate strategy) are increasingly facing a major obstacle: How can climate policy be advanced without detriment to (national or global) social distributive justice *and* how can this "social climate policy" be reconciled with competitiveness on a global free-trade market, particularly in the case of European climate policy if it starts to serve as a model for the world? And how can this lead to a stringent, effective, and fair global climate protection regime ("Kyoto II") beyond 2012?

The fundamental challenge at the nexus of climate policy and competitiveness is well-known (on the following see Ekardt 2007; Ekardt/ Schmeichel 2009): in a liberalized world market, the EU competes for companies looking to establish their business on its territory. Thus,

nation states in general are becoming increasingly involved in a global "race to the bottom", with regard to both company taxation as well as the social and climate policies which affect a company's choice of location (incidentally, this market-induced loss of national sovereignty can also be perceived as a challenge to democracy). Decreasing taxes leading to an empty treasury for social policy is one possible consequence, even though free trade also generates wealth (albeit a form of wealth which can leave the underprivileged behind). In this difficult situation, where poverty is to be reduced in the South and preserving the welfare state is becoming increasingly difficult in the North, climate policy happens to be particularly burdensome for the underprivileged – even in the OECD states –j who, unlike large corporations, cannot threaten the national state with relocating abroad option ("exit option").

It can probably be taken for granted that, in the medium term, climate protection will cease to be a pure cost factor and might even become profitable in certain areas, such as heat insulation (on the following see IPCC 2007; SRU 2007). In the long term, climate policy is – when viewed against the costs of climate change – the sole option anyway, even from an economic point of view (as we know from the Stern Report). However, current national and European policies still reflect the fear of competitive disadvantage and growing social gaps. Despite all efforts and verbal declarations, climate policies have remained rather moderate when measured against the goal of effective climate protection: since 1990 worldwide greenhouse gas emissions have increased by over 40 %. While developing countries were not committed to reducing their emissions at all, western nations will fall short of their Kyoto targets to reduce emissions by 5 % by 2012 (which is in itself insufficient). Instead, emissions increased in the OECD countries, despite the collapse of Eastern European industries in 1990. Germany will if anything fall short of its Kyoto target to reduce emissions by 21 %, despite a 14 % reduction achieved through the collapse of the former German Democratic Republic.

In order to avoid a global catastrophe induced by concentrations of greenhouse gases in the atmosphere, the OECD countries' emissions will have to be reduced by some 90-95 % by 2050, not only 60-80 %, the range most often discussed[1]. And per capita emissions in Europe still exceed emissions in Africa or China by a multiple. These regions should, however, be granted a certain increase of emissions in order to help overcome the pressing problem of poverty.

II. Insufficient distributive justice in climate protection? Ambivalent results and the debate on "high energy prices"

But will a more stringent German and European climate policy lead to social problems, such as national or regional effects on social distribution? This question has been asked from time to time under the headline "environmental justice", yet typically in the context of regulation

[1] The IPCC demands 46-79 % GHG reduction worldwide (!) by 2050 in order to limit global warming at 2-2,4 degrees Celsius, and points out that this is without taking feedback effects of climate change into account; cp. IPCC 2007, p. 15, SPM.5). Given that the world's population is growing, this implies a CO_2 reduction worldwide from 4,6 t CO_2 (without deforestation) to 1,3-0,4 t per capita in 2050. In OECD states, this implies a 87-96 % emission reduction. And (a) 2-2,4 degrees can already lead to disasterous consequences; (b) feedback effects of cause have to be taken into account; (c) climate change is coming faster than IPCC expected (cp. Hansen 2007 with the latest NASA research on climate change) - therefore even 87-96 % might not be enough.

of harmful substances and pollution limits rather than climate policy. As long as major developed and advanced developing countries remain laggards on climate change, it has been suggested that, irrespective of corporate taxation and social policies, ambitious national and European climate policies will in themselves weaken European competitiveness on the world market and thus deters companies from investing in Europe; and this, in turn, is seen as endangering jobs, to the particular detriment of the socially underprivileged. Still, an effective climate policy can create employment in return, for instance in renewable energies or energy efficiency. This could help offset concerns about employment effects and other social impacts, even in the absence of specific political instruments.

Nevertheless, other social implications of climate protection are more persistent. Renewable energies such as wind and biomass have ecological ambivalencies (for details see SRU 2007), something that might point to energy efficiency and sufficiency (decreased consumption) as more important strategies for effective climate policy. To this end, most climate policy instruments directly or indirectly increase the price of the fossil energy sources whose usage is at the core of the climate problem. And yet, energy is relevant for a range of economic activities and products. Entrenched positions and political slogans suggesting that "everyone has the right to fly and drive cheaply" are therefore becoming problematic. Can a family with children really afford the higher building costs for a politically-desirable passive house, even if the costs may often be recouped after a period of time? Or will the "cottage in the countryside" coupled with the trip to get there need to remain a dream in future? Is the rising cost of energy not even a threat to some people's very existence (and not only a question of social distribution in general)? Put simply: the costs engendered by climate policy might hit a number of socially underprivileged people hard, whereas rising energy costs will not change the behavior of the wealthy. For instance (for many of the following data see already Wicke 1993; Bülow/ Schwabe 2008):

- Taxes on electricity and petroleum (such as, for instance, the German "eco" tax) as well as the European emission trading scheme for some large emitters, which also results in costs being passed on to consumers, obviously have a "regressive" effect, in that they tend place a particular burden on citizens with low incomes. Due to the higher ratio of energy costs to their income, their financial situation is impacted more severely than that of a high earner (even though high earners tend to consume more energy per capita).
- In addition, a cut in social security contributions facilitated by "eco tax" revenues (for instance in case in Germany) is of no use for certain socially underprivileged groups, such as the unemployed, even if it might improve prospects for jobseekers.
- Various subsidies programs (e.g. for new heat insulation) and tax reduction incentives primarily serve those who already dispose of a high income. Even the Erneuerbare-Energien-Gesetz (German Act on Renewable Energies, EEG) results in a situation where those who are able to invest can generate a risk-free return for their investments, because the EEG guarantees fixed prices for every kwh of renewable energy. At the same time, funding has to be raised by the broader population like a tax, since the entirety of electricity consumers pays for the fixed prices.

- Every year for instance 840,000 households in Germany are cut off from electricity or gas due to outstanding payments. This does, though, leave open the question of responsibility. Looking at the remaining marginal share of "climate political" costs per kWh, one can hardly place the blame on climate policy alone. The proposition that environmental policy is "unsocial" therefore loses traction.
- One might continue: low-income households are not burdened by *climate policy* in particular. VAT, for instance, has the same effect for them as climate policy (and in this case people with lower incomes do not even have a legal opportunity to avoid higher tax payment, unlike an "eco" tax, which can be avoided by saving energy, for instance buying energy efficient products). Thus it seems at the least somewhat shortsighted to accuse climate policy of impacting on social equity in such a pronounced way.
- A possible response could now be to propose a different social distribution of revenues of forthcoming auctions for emission certificates in national or European emission trading – or from an "eco" tax. Most people, however, seem to have an irreconcilable desire for higher redistribution but at the same time lower taxes in general, a combination that is not feasible.
- It has still to be considered that *climate change* itself is very likely to entail greater social disadvantages for certain groups than all the moderate climate policy steps taken so far to prevent it: a) The socially underprivileged even in affluent countries will be exceptionally impacted by the impending climate change. (For economic reasons, they will often not be able to take advantage of the possible steps to prevent or avoid the effects of climate change on them). b) Moreover, on a global scale, people living in the southern hemisphere will be the main victims of a changing climate – although they contributed little to its cause. c) This is all the more disastrous as worldwide social inequality is already pronounced.

Striving for social distributive justice therefore implies a duty to prevent climate change – without neglecting the issue of distribution of the costs. Ultimately, therefore lower energy prices and the ensuing incentive to use energy do not really align with social and climate policy, although this is currently a popular idea in western countries. Political measures are always compromises and, generally, social redistribution will always have to be paid for by someone in the end. The widespread habit of making contradictory demands – on the one day a commuter compensation (which can be considered a subsidy detrimental to the climate supporting primarily people with high incomes), on the other day demanding more climate protection – will not take us anywhere.

III. The fundamental principle of social climate policy: "One human – one emission right"

But what does "social distributive justice" (on a national or global level) mean for climate policy – from a philosophical and legal point of view?[2] Once again, a distinctive approach

[2] The whole argument is a philosophical theory – for its justification and all details see Ekardt 2009 – and a legal

seems to be most appropriate (for more details see Ekardt 2009, Wicke 2005, and Ott 2007; too general and without the most important aspects and arguments Bodansky 2004 and Blok/ Höhne/ Torvanger/ Janzic 2005; a more or less (!) similar approach to a general theory of justice without regard to climate protection, can be found in Habermas 1992):

- It may sound unpopular, but individual wealthy people are not a *main* driving factor, neither in generating assets to be distributed by the welfare state nor with regard to the volume of greenhouse gas reductions.
- Furthermore, the task and the enforceable duty of a liberal society is *only* to ensure freedom *and* the fundamental preconditions of freedom (see Ekardt 2009), which means the absolute necessities of life, equality before the law and the chance to develop one's personality (a balancing between these goods is always necessary, and also has to take "additional" preconditions of freedom as the other legitimate task of a liberal state into account – but these are no subjective rights as such, merely expressions of the objective law). Beyond these rights, there is no *right* in liberal democratic societies to a substantial equal distribution such that everyone is equally entitled to certain goods ("communism"). Details of distribution – which should be seen as aspects of "additional" preconditions of freedom – are therefore within the discretion of political majorities. In other word: Even without ambitious climate policies, not everyone would be able to afford a luxury sports vehicle, or a flight to a vacation resort.
- At the same time, the fundamental preconditions of freedom require an equal treatment of all individuals – requiring everyone to be assigned a certain absolute minimum. This entails constraints (e.g. by way of taxes or emission trading) on the wealthy in order to reach a minimum level for all. We propose two arguments for that:
    - Without an equal right to a minimum of fundamental preconditions of freedom, freedom would be worthless for the poor – despite liberal constitutions promising equal freedom rights. This "equal margin of subsistence" (or analogically "basic needs") requires, on the one hand, that every human being be provided with a certain minimum of energy, and on the other hand, that everybody be equally protected against the devastating effects of a climate change through preventive steps. And even though greenhouse gas emissions must be reduced on an absolute scale, each person needs to emit at least a minimum amount of greenhouse gas to live. Still, many people worldwide do not reach their "equal" per capita share, requiring careful attention about unequal distribution concerning greenhouse gas emission rights.
    - More importantly: When a public good such as the climate becomes tradable, it seems plausible to distribute the "using" rights or the revenues of unequal "use" (of the atmosphere) in equal shares, especially as nobody can claim to have contributed greatly to generate this good. Unlike calls for "equal wealth" (national or globally), equal emission rights can thus be justified. This argument can also be seen as a reverse conclusion of the polluter-pays principle – which ultimately stems from freedom (see Ekardt 2009).

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interpretation of „freedom" as the crucial term of human rights. – The "rights to the preconditions of freedom" which I will mention are also known as economic and social human rights.

- But equal freedom (precondition) rights and the polluter-pays principle should not only be valid in individual nations or regions, such as Europe; they also have to extend to the global level. When the ultimate amount of greenhouse gases that may be emitted to avoid devastating climate change is distributed, a European could therefore not claim a higher per capita allowance than his counterparts in Africa or our children and grandchildren (who, by the way, cannot really be held responsible for climate change). Not only our freedom, but also theirs is concerned. Overall, inhabitants of affluent nations have been consuming a larger share of goods and energy, some widely exceeding their per capita share on the absolute global emission scale, and consequently have to be held responsible to a greater extent, leading back to the principle: "one human – one emission right".

Expressed more generally: The traditional, primarily economic and negative concept of freedom right has to be transformed as follows: a) Freedom presupposes certain equal preconditions which have to be preserved. b) Freedom of future generations and on other continents has to be taken into account. c) Rules are necessary in order to secure freedom in the long term.

IV. European policy instruments for effective and social climate protection

1. Basic structure of our own approach

But how can the necessary social regional (for instance European) climate policy succeed? First of all: The best way to affordable energy for every person in the long term and to reduce greenhouse gas emissions is to enforce energy efficiency and the use of renewable energy. In this process, a certain increase in energy prices is probably unavoidable; but problems of competitiveness can in any case be minimized by aiming for European, rather than purely national, approaches in climate policy.

The most elegant implementation of a (e.g. European) concept of the "one human – one emission right" would notionally be a fixed emission reduction goal combined with a European carbon price (also replacing existing energy taxation and a number of tax benefits) and whose revenues would be distributed as a per capita "resources premium" or "eco bonus" to every citizen. Electricity, petroleum, motor vehicle taxes, tax and pension contributions from "eco taxes" could all be assimilated into such a system. As everyone benefits from the "resources premium" while the wealthy individuals with a more energy intensive lifestyle contribute a greater share, the social gap could thereby be closed.

Most notably, the aggregate effect of this as well as the following systems is that an energy-efficient lifestyle or the use of renewable energy will result in profits under the "resources premium", whereas adhering to a "business as usual" lifestyle will incur a financial loss. This incentive to economize energy benefits the climate as well as the social underprivileged, who generally consume less energy. In combination with adequate "carbon pricing" mechanisms, the "resources premium" could be a kind of beginning of a European basic income approach.

Four points need to be considered here: a) The entire concept will take us nowhere if other social benefits unter existing social security and insurance schemes are cut in return – therefore a holistic view is necessary. b) Higher incomes by a "resources premium" (in this

case for the underprivileged) will not lead to increased energy consumption, but will only help reacting to rising carbon prices. c) A “resources premium” (or “eco bonus”) does not, unlike the current German electricity and petroleum tax, reduce the non-wage labour costs so that its impact on labor market is not entirely clear. Moreover, a decisive advantage of a resources premium has not yet been mentioned: It is likely to massively increase empirical acceptance of an effective climate policy.

An emission reduction goal combined with a carbon price could be a EU eco tax – or an expanded European emissions trading scheme based on the primary energy production (and therefore including at least most of the carbon dioxide emissions), in which 100 % of the certificates would be auctioned annually. The successful bidder would pass on the costs to the consumers and in return, the auction revenues would finance a European resources premium. This would more or less entail that everyone initially has an equal right to use the atmosphere – and everyone has the basic financial means to cover basic energy needs.

If neither of these approaches is taken, an evaluation would become necessary to which existing mechanisms contribute to a resources premium, e.g. if auction revenues of the existing emissions trading should be included. Nevertheless, a single solution (i.e. less instruments – a European energy tax or, politically easier to enforce, an expanded emissions trading scheme) would also be more democratic, as the policy choice for climate protection would become transparent for every citizen – even in the absence of detailed knowledge of environmental law. Moreover a strict progressive “eco” tax or emissions trading, rising in predetermined steps, increases investment and planning security for citizens and companies while minimizing bureaucracy – a consequence of current policy mixes based on a multitude of instruments with limited scope and effect. Besides, taxes and emission trading are liberal and efficient: Each individual is free to decide how to economize on energy consumption and where doing so is most profitable.

Regardless of whether the decision falls in favour of primarily “one” instrument or of the traditional instrument mix: The effects of subsidies encouraging greenhouse gas emissions (e.g. the commuter tax relief or other support programs) on climate and social policy should also be taken into account. These subsidies are relevant for climate change on the one hand and are not just paid “by the state” but by society at large in favour of certain parts of society; therefore, they have social distributive effects. As more of the existing instruments are replaced by a comprehensive energy tax or an extended emissions trading scheme, the effect on prices and a resources premium will grow. Claims that “emissions trading alone cannot finance the resources premium” are thus not justified.

Furthermore, the concept of a social climate policy (implemented through one central instrument or a bundle of instruments) has to extend beyond energy policy. At least conventional agriculture with its methane (CH_4) and nitrous oxide (N_2O) emissions and its energy intensity needs better regulation.

Moreover, the costs arising from “delayed” climate protection measures arising from damage and/or increased adaptation efforts always have to be kept in mind.

When aiming for additional distributive arrangements between citizens and electricity companies, or landlords and tenants, it should always be considered that such rearranging can

miss its social objectives when the costs in the end can simply be passed on to the consumer of end-user. Accordingly, rules solving the client/investor (landlord/tenant) dilemma in terms of building insulation may be very important for climate policy, while their impact on social policy might be unclear.

Whether economic instruments are to be complemented by prohibitions on certain luxury goods or activities, requires further discussion, even though it would probably improve empirical acceptance and therefore the enforceability of climate policy. At least some socially compatible command-and-control regulatory instruments such as absolute energy efficiency or mileage standards, could have a positive broader effect.

But how can competitive disadvantages for private industries resulting from a socially motivated climate policy be avoided? Companies might react with corresponding wage agreements (that take away the effect of the resources premium) and threats to relocate from Europe, thus constraining the climate policy's "social elements". A visionary answer for a global social climate policy shall be proposed in chapter V., followed by a practical policy alternative in the concluding chapter.

2. Details and the EU proposal for a modified emission trading

Evidently the concept raises several questions. The proposed boni also lead to higher budgets of the socially underprivileged, which entails the risk that the whole instrument might not achieve the desired climate effect, but increase activities that are harmful to the climate. However, it is unclear whether other additional social measures in climate protection (such as energy prices rebates for low-income households to offset energy price increases) do not raise even more severe problems. Instead of a resource premium, financial support could be granted to energy efficiency measures in households. Such a financial support mechanism would, though, increase bureaucracy far more than a resource premium. Moreover, producers e.g. of domestic appliances might simply raise the prices and thus undermine the social effect of a bonus. As a furchter socially compatible element of climate policy, the use of revenues from a reformed emission trade for financing e.g. heat insulation programmes could be discussed. But besides the administrative effort, it is unclear whether especially the socially underprivileged would benefit. Generally, all these measures may also constitute an inappropriate limitation of freedom.

Furthermore, several problems ensue for the transition from a bundle of instruments to a (more or less) "single" instrument such as an extended emission trading scheme. As a consequence of the (included) derogation of national "eco" taxes, the revenue from emission trade auctions might then have to finance the national insurance contributions that eco taxes currently generate; otherwise, private social insurance contributions would rise. Nevertheless, the "subsidies" of state pensions should be gradually reduced and the released revenues integrated into the resources premium, as the necessary revenues from extended emission trading for the resource premium could otherwise not be generated.

The already existing continental emission trading in the EU (soon maybe also in the US) would seem an appropriate vehicle for a comprehensive policy approach – rather than a new taxation concept – simply because it already exists. The revised directive on emission trading

does, though, fall short of the standards developed in this article, even though it is a clear improvement compared to the existing European emission trading scheme. In particular, the directive does not shift from a sectoral approach to a really general emission trading scheme based on primary energy sources – and CO2 reduction goals are not strict enough yet, as well as well as full auctioning is missing. It merely includes some new sectors (such as aviation). In the same way, greenhouse gases other than CO_2 are not included on a broad scale. This inconsistent approach has been chosen with a view to the vast investments in the current emission trading scheme. Still, this argument is flawed, as a timely reform would (a) require less effort now than a fundamental reform at a later stage and (b) promises greater success as a measure of climate protection, given the system change would lead to cost economisation in the long run (as far as consequential climate damage is concerned). Moreover, (c) the sector-based emission trading scheme and its necessary combination with other policy instruments continuously create high transaction costs. The complex relationship to other policy instruments is thus still subject of the new directive on emission trade (e.g. regarding the use of auction revenues). Furthermore, (d) the sector-based emission trading scheme only considers distributive justice between states (requiring complex effort sharing). However, this does not benefit the socially underprivileged in Member States. Finally, an emission trading scheme largely addressing CO_2 has to be complemented with a policy instrument for the agricultural by-products methane and nitrous oxide, and also with a policy instrument tackling deforestation, both of which are missing in the reform. It is to be welcomed, however, that the Commission proposal has opted for medium-term linear reduction goals.

V. Global, effective, and social climate policy (Copenhagen Protocol)

1. Basic structure of our own approach

Still, “one human – one emission right” is not solely meant to be a European project, but also a further development of the currently not very ambitious or enforceable Kyoto Protocol on a global scale after 2012 (Copenhagen Protocol). Based on the general justification that we provide above, the main elements of a global approach should be:

1. In order to prevent disastrous climate changes, the global per capita emissions allowance would have to be fixed and limited – and then would have to be distributed on an equally per capita basis.
2. The per capita amount could be (according to IPCC) around 0,5 t CO_2 per person annually. This would be above current emission levels in most developing countries, but far below the OECD countries’ emissions.
3. If western countries wanted to emit more greenhouse gases, western states would have to buy emission rights from southern countries. In contrast to Kyoto, this would lead to an emission trading scheme between all states across the globe.
4. By these means, a reduction of greenhouse gas emissions would get started *and* funds would be mobilised for the reduction of poverty reduction in the southern hemisphere.
5. The scheme would not have to impose the 0,5 t per capita from the outset, but could reach this goal in several stages; in line with the projections of the IPCC, however, it

should achieve this level before 2050.

6. Full integration of developing countries into the overall reduction obligation system should potentially be delayed by some years. Prior to that point in time, such countries could obtain extra additional emission rights or some kind of additional payment in order to manage their reductions and adaptation.
7. Also the sectors aviation, shipping, land use, agriculture, and deforestation would have to be fully integrated in the global cap-and-trade scheme.
8. A global institution should have the right to control emission reductions and enforce them with severe sanctions.
9. The annually decreasing aggregate number of emission certificates held by each state or group of states after international emission trading could than form the basis for a national or continental emission trading scheme among primary energy users (as described earlier), including an annually degressive number of certificates, annually auctioning, etc. The basic principles of such national (or continental) distribution systems might have to be prescribed on a global level to ensure the funds really reach the socially disadvantaged (after all, many states worldwide are not democracies).
10. As mentioned earlier, primary energy producers of importers would have to auction certificates and pass the costs on through products, electricity and heating prices etc. to consumers. States or regional integration organizations (such as the EU) would then distribute the auctioning revenues to all citizens on a per capita basis.

By these means, energy efficiency, renewable energy, and longterm energy security would be forced (without a very complex „instrument mix“ ordinary citizens are unable to really understand[3]). Western countries would partly buy certificates, but partly rely on more energy efficiency, sufficiency, and renewable energy sources and therefore reduce their overall greenhouse emissions. Step by step, the developing countries would do the same. This would stop the global “race to the bottom” with regard to climate policy. Even from a broader economic point of view, the entire concept would lead to very important advantages: One would avoid the disastrous costs of climate change; new technologies would be forced; and independence from energy imports (and rising fossil fuel prices) would increase. Emission trading would help identify the cheapest available climate protection measures, and a broad range of greenhouse gas emissions could be covered and integrated (including, for instance, emission from meet consumption or bioenergy[4]).

In southern countries, eco bonus would be high initially and emission trading costs low; the opposite would apply in OECD countries (because emission trading costs between states would be added to „southern“ eco bonus and would be substracted from eco bonus in the OECD countries). This would only be fair, as the higher per capita contribution to climate change originating from the OECD countries would be compensated, while at the same time the social justice of climate policy could be largely sustained in the same countries. Moreover,

[3] This is also a *democratic* problem.

[4] And integration e.g. of bioenergy-caused rainforest degradation would work much more precise than by vague and incomplete “bioenergy sustainability criteria”. European and national bioenergy policy is criticised in more detail by Ekardt/ Schmeichel/ Heering 2009.

even the socially underprivileged in western countries would benefit from the financial transfers to the south, as these would stimulate the development of welfare states in the south, thereby reducing social dumping and stabilizing the western welfare state in the medium term. Furthermore, a determined attempt to combat climate change along these lines might avert the social consequences of global warming impacts in both North and South, whose severest manifestations are already emerging: migration and war for resources, such as water.[5]

Another general condition is that, apart from a price ceiling and floor, speculative trading will have to be limited by intervention powers for an international institution (such as a world certificate bank). Generally, this approach would also have to address indirect effects like deforestation or the change of land use, while at the same time not inflating bureaucracy with overly detailed regulation that disrupts the entire system.

In the end, the developing countries would be assigned a clear long-term limit – which is incidentially already been exceeded by countries like China – while the OECD countries would, for the first time, face an ambitious goal. As regards the reduction goal, it would be necessary to determine details of benchmarks, reduction period, and scope. It remains an open question how to take into consideration the increase of population (respectively its decrease in northern countries) in the distribution of per capita emission rights. The allowances could be allocated on the basis of a year of reference – or be adjusted from time to time. But a *fixed* basis of calculation seems more sensible with southern population growth in mind, as otherwise population increase (which contributes to poverty and climate problems) would be rewarded. At the same time, a fixed basis would favour the (climate friendly) declining population in OECD countries (although this effect will be partially counterbalanced by migration).

Either way, the proposed procedure avoids problems of fundamental technical infeasibility. Such problems would probably arise if, instead of the proposed procedure, a global *personal* per capita emissions trading (personal carbon trading) was established. In that case, every human being would become a certificate trader, whose everyday climate-relevant actions would be debited on a "credit card". Europeans would likely become constant buyers; Africans could make profits from selling his certificates. In theory, this model's effect on economy and climate policy is likely to be identical with the aims of more conventional forms of carbon trading. In southern countries, however, where most of the people do not have a bank account or otherwise have accesss to necessary infrastructures, personal carbon trading would entail unmanageable problems of implementation and control. Obviously, this would not rule out the possibility of introducing a global personal carbon trading scheme at a much later date. Its major advantage would be that an allocation of means benefiting the poor could be addressed more directly.

One could question how selling own emission rights matches the idea "one human – one emission right". But this question is based on a misunderstanding. First of all, no one is *forced* to sell his or her emission rights. Secondly, the sale is accompanied by a financial compensation (which is particularly beneficial in developing countries). A more interesting

[5] Climate economists sometimes tend to ignore this in their models as there is no market price for it. This is only one of many reasons why economic climate research is not as precise as it pretends to be.

point is that even a further distribution of funds towards developing countries (through a resources premium etc.) will not resolve all social challenges in one fell sweep. Accordingly, the proposed system does not exclude additional rules and regulations, e.g. the implementation of global social standards within the WTO, which would be an instrument – combined with the proposed new climate policy – against the global "race to the bottom". Global social standards and the proposed new climate policy could also give back some degree of sovereignty over economy to democratic (national or regional) politics. Apart from that, also the democratization of *global* politics (and maybe the integration of climate policy into a democratized WTO) remains an important topic.

A fundamental advantage of the proposed model – but also of personal carbon trading – is the high plausibility of its intentions, even without reference to legal or moral theory. Furthermore, it allows for the definition of a fixed level of global greenhouse gas emission, aimed at reducing global warming as much as possible. This approach is also more effective for social policy than fixed but differentiated reduction goals for different countries, as implemented under the Kyoto Protocol (which is also the direction the current negotiations for a Kyoto follow-up agreement since the Bali Conference in December 2007 are taking), given that our concept would lead to a concrete cash flow to the poor (which is probably much more effective than some general and non-binding notion of "technology transfer to the South"). Furthermore, the system of mere (and not very ambitious) targets without attribution per capita and without a sanction mechanism enforceable at an international level has already failed under the Kyoto Protocol.

2. Historical emissions and alternative concepts of climate justice

Our concept of global climate and social justice provides an orientation for the further development not only of European climate protection law, but especially for the global regime. According to the agreed timeline, current global negotiations will be concluded at the end of 2009. Therefore, two points will be rased below: on the one hand, we will further concretize our proposal with a view to these negotiations, and on the other hand, we will discuss alternative concepts for climate justice, which (as we think) are altogether less convincing.

The concretization is: The concept of "one human, one emission right", as mentioned earlier, could be amended to some degree in order to take into account historical emissions of (especially) OECD states. By these means, emission right prices could also incorporate the cost of an (inevitable) adaptation to climate change, insofar as a certain degree of climate change can no longer be prevented. "Historical emissions" consider that especially OECD Member States, in particular, have been emitting vast amounts of greenhouse gases in the past 200 years which now contribute to climate change in the atmosphere. However, it would (1) not further sustainable protection of freedom by climate protection to simply allow China, India and other emerging economies another 150 years of unlimited greenhouse gas emissions, as this would compromise the living conditions of future individuals across the entire globe. Furthermore, (2) the OECD Member States have not necessarily acquired an "advantage" equivalent to the emitted quantity. Countries like China or India profit on their

part from these “advantages”, because they can comparatively rapidly reach an acceptable level of prosperity through imports of economic models and technologies that have been developed in the western world. In addition, (3) taking into account “historical emissions” leads to a complex discussion as to how the complex global history in the past centuries may have advantaged and disadvantaged different countries. It is therefore impossible to assign a more or less exact number of emission rights under the prospective “historical debt”. Most importantly, (4) invoking historical emissions takes into account the advantages and disadvantages of deceased individuals, and considers nations as collective entities. Assuming that the foregoing approach – “only freedom and preconditions of freedom” (for a detailed justification see Ekardt 2009) – is correct, such a collectivist perspective cannot be justified. Moreover, it raises the question whether we are really responsible for the acts of our forebears. Incidentally, the experiences with national allocation plans for European emission trading have already shown that a precise calculation of historically grown emissions is problematic for individual facilities (Bausch/ Lucha 2007).

All this obviously does not rule out moderate consideration of factors such as “historical emissions” and “adaptation costs” (which are, to date, only taken into account via global financial funds) when calculating the details for an international emission trade. Insofar as the freedom principle leads to the justification of certain equality standards and provision of certain basic needs (= fundamental preconditions of freedom) and also to implementation of the polluter pays principle, these aspects can be considered e.g. when calculating the price range, and that with a minimal administrative effort.

Of course, in the international “Kyoto II debate” (in science and politics) several alternatives to “one human, one emission right” are discussed which are distinguishable particularly by how they deal with historical emissions. A comparison of the different concepts of emission trade (see also Lyster 2007) shows that similar issues are at least addressed. It is often suggested to combine the climate protection requirements with the sanction mechanism of world trade law, namely the WTO (Radermacher 2004). Others doubt that world trade sanctions are appropriate for protecting the climate (Rodi 2007). But beyond sanctions, the relationship of world trade law and climate protection have to be assessed anyway (Ekardt/ Susnjar/ Steffenhagen 2008). Therefore, we support the integration of an ecological and social global climate policy into the WTO system anyway.

Most of the few existing approaches presume that each individual in the world has the same emission allowance. Variations occur on the question how to increase the commitment of industrial states while relieving the developing countries. This idea is especially brought forward by the Greenhouse Development Rights (GDR) proposal, which is not based on equal emission allowances, but focuses on the right to development (Kartha/ Baer/ Athanasiou 2007). A so-called development threshold is introduced to distinguish between the poor and the “consumers” of the world. Those whose income is below the threshold are not burdened with the obligation of greenhouse gas reduction, whereas all others are firstly considered to be able to pay the costs because of their wealth, and secondly to contribute strongly to climate change by their luxury orientated consumption (capacity and responsibility). The threshold is set to an income of $ 9,000 per year, the income of the global middle class. The portion of the emission abatement in each state shall correspond to the size of that part of its population

whose income exceeds the threshold. The polluter pays principle does therefore only apply to emissions caused by consumption which exceeds basic demands. Through a simple calculation, the Responsibility and Capacity Indicator (RCI) shows how the emission abatement is to be distributed. The percentage of responsibility for emissions of each state is multiplied with its share in the possibility to reduce these emissions. The result tries to show which percentage of the global reduction costs are to be borne by which state. Thereby, the GDR-approach imposes global higher reduction goals in industrial states than could be achieved by reducing emissions in their own country, even if emissions would be reduced to zero. In order to fulfil its obligations, a country should therefore be allowed to finance emission reductions in other (developing) countries, recurring also to (critically viewed) market mechanisms such as emission trade.

The GDR concept uses the social aspect of climate change as a starting point, but is nonetheless unconvincing for a number of reasons. The development threshold of $ 9,000 will probably by itself mean that states have to reduce less emission than they would be capable of, and that without abstaining from development or combatting poverty in their own country. Though some basic needs (= elementary preconditions of freedom) have to be covered, some emission reductions could be achieved also in this process without neglecting basic needs. It seems untenable to qualify the “global middle class” as in need of development and to find people incapable of being responsible for their own emissions. Furthermore, the GDR concept runs counter to the comments made already on historical emissions. Moreover, an approach focussing on freedom is irreconcilable with the approach of “collective rights to development” of GDR; and the individualistic approach, where regulation is only to be concerned with freedom and preconditions of freedom, has been shown to be philosophically and legally imperative (Ekardt 2009; Ekardt 2007). In addition, GDR seems hardly enforceable, considering that the relatively weak Kyoto Protocol has not been ratified and especially not been enforced by all states. An obligation *exceeding* even a complete stop of emissions of a state will be difficult to sell even in financially strong states. Above all, the factual ability to pay for a certain task does not entail an obligation to do so without any limits, as the approach on social justice above demonstrated. Besides: Also the prevalent discussion on international law in Europe, which mainly displays the Kyoto Protocol affirmatively (see Czarnecki 2008), ignores these concerns in the same way as the tendency of ineffectiveness of global climate policy as a whole.

The much discussed Vattenfall approach does, as GDR, not bank on per capita emission rights, but classifies states according to similar gross domestic products (GDP), also introducing a certain threshold. However, this means that countries below the threshold not only have to buy emission rights, but are also excluded from the global emission trading. The system could only be fully exploited by the states with the highest GDP, whereas countries above the threshold, but with lower GDPs depend on emission allowance “subsidies” on the part of the richer states, as their economies are usually more emission intensive, even though less prosperous and therefore emitting less from a general perspective. The concept has to be rejected for the mere fact of maintaining or forcing poor states into a dependence on so-called donor countries. The poorest states would be excluded, as they already are from world trade. Climate protection in this form does not have a socio-ecological perspective.

Some approaches are based on equal emission rights, but want to modify them according to historical emissions of certain countries and/or geographical factors, taking into account existing energy supplies and the economic structure in different countries. Should the allowances be distributed by countries, by size of territory, GDP, economic structure (like a right to continuance), average geographic-meteorological conditions or natural resource occurrence in a state? This would be far too complicated. The necessary criteria (a) would be difficult to develop and would entail an enormous bureaucratic effort. How could, for instance, the advantages and disadvantages of different geographical areas be weighed against each other? These and other problems are (b) already known from the "historical emissions" approach. Moreover, (c) an approach centred on freedom is incompatible with a collective orientation on states and territories. Generally we also disagree with the "existing" approaches due to their (d) lack of tenable philosophical-legal justification and (e) an insufficient concept of how to deal with distributive justice, not only on a global but also on a national (or European) level.

VI. A Europe which urges forward – solutions for problems of competitiveness

The most important step remains a fast[6] global agreement on a cap for greenhouse gas emissions. Otherwise the coal, oil and gas saved by the EU will just be burned in other countries (Sinn 2008). Nevertheless, the EU could urge forward without disadvantages for competitiveness (and without other states taking EU activities as an of invitation not to act themselves). We do not mean the strategy that the EU chose in December 2008: more CDM plus free emission certificates. A better option would be the following: One could start with an effective and social national or better European climate policy as suggested (by extended emission trading) and complement it by border adjustments (for more details see Ekardt/ Schmeichel 2008; Ekardt/ Susnjar/ Steffenhagen 2008). Products from countries practicing less costly climate policies (for the enterprises) would be "adjusted" at the border when imported into the EU, on the one hand. European producers would get refunds on the higher European energy policy costs when exporting, on the other hand. Otherwise a strongly extended climate policy and fast steps to a carbon free economy will (in contrast to EU climate policy at the moment!) lead to serious carbon leakage to other countries. Nevertheless, the returns from the border adjustments should be redistributed to the developing countries with regard to certain socio-ecological criteria – as a first step to a new global climate regime. Furthermore, the developing countries (which usually criticize border adjustments, maybe even in case of redistribution) should be reminded of the long-term goal: a global contract (which should be forced by border adjustments) against climate change – which will especially harm the poor in southern countries.

Such border adjustments do not discriminate against anybody in global free markets and therefore do not violate WTO rules, as they make sure that whoever refuses to protect the climate (like the USA or China) will not be granted an unfair advantage by eco-dumping. Border adjustments do not spare us to rethink our lifestyle in response an extended emission

[6] Otherwise it gets attractive to sell as many fossil fuels as possible before the serious climate protection measures get into force.

trading (which will make energy more expensive); and even without competitive disadvantages on the world market, the higher energy prices will act to the detriment of some industries. But border adjustments allow the EU to act as a role model for countries like China, India and or the USA in advancing an effective and social (and economically prospering) climate policy. This may be the only way to stimulate action for a global, effective and social climate policy. And a global problem needs a global willingness to act – and to question the idea of unlimited economic growth in a physically limited world – at the end of the day. As we have seen in this article, social justice, inter-generation fairness, global justice, economic benefits, peace-keeping – and maybe even greater happiness in societies after the end of unlimited economic growth – give good reasons for a new approach in climate policy.

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