

Justice in the Air Energy Policy, Greenhouse Effect, and the Question of Global Justice

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The following article is an extended version of a paper presented at the 5th International Symposium on Society and Resource Management at Colorado State University, Fort Collins, June 1994. It presents some of the central ethical themes involved in reacting to the problem of an increasing greenhouse effect. The article is a short sketch of some of the main topics of a project in progress on Greenhouse Effect and Justice. This project is sponsored by the Danish Research Council for the Humanities and the Danish Ministry of Environment and Energy.

1. Starting point: energy policy

No more than a couple of decades have passed since energy became a heated issue on the political agenda of the industrialized countries. Until then, energy was mainly considered to be just one among other commodities or factors of production. Energy supply was kept outside of the political arena and confidently left to the supply and utility companies, which through the process of free competition made all the necessary decisions about resources, supply systems, etc. As long as the companies could satisfy the growing demand for energy, and even at still lower costs, there seemed to be no reason to interfere politically.

The trebling of oil prices in 1973-74 and once again in 1979 changed that situation radically. Suddenly, it became obvious to everyone how vulnerable the industrial countries were. Denmark was one of the more extreme cases, as more than 90% of the energy supply was based on imported oil with more than half coming from the turbulent Middle East. The main objective of energy policy, therefore, became to secure supplies at a low price in order to keep society going and the economy growing.

In the first comprehensive energy policy plan in Denmark, in 1976, this was stressed very clearly.² Dependence on oil from unstable countries was to be diminished as quickly as possible, and the energy system was to be made more efficient in order to slow down the growth of energy consumption. Coal and nuclear power, together with natural gas from the Danish part of the North Sea, seemed to be the obvious successors of imported oil. The objectives of 1976 were reconfirmed five years later in the second energy policy plan, *Energy Plan 81*³, and were not changed significantly before the end of the eighties, although it should be mentioned that nuclear power was removed from the plans.

When looking back on the changes which have taken place since the beginning of the seventies, without a doubt, the Danish energy policy has been a great success. Because of a greater efficiency in using fuels, total energy consumption in Denmark today is almost exactly the same as in 1972, despite a significant economic growth. Whereas the dependence on imported oil in 1972 was as high as 92%, today Denmark has a net export of both oil and natural gas. The degree of self-sufficiency is approximately 60%. Cheap coal from more stable regions than the Middle East has become the most important imported energy source, accounting for 40% of the total energy supply.⁴

Based on its own premises, the Danish energy policy has been a success. However, when other objectives are included, and I do, of course, have reduction of CO₂-emissions in mind, the result becomes much less flattering. Denmark is still almost totally dependent on fossil fuels of which the greatest CO₂-emitter, coal, has had a growing importance, and the Danish per capita emission of carbon dioxide, which is about 12 metric tons, is one of the largest in the world.

Until the mid-eighties, the increasing greenhouse effect was hardly mentioned in relation to

energy policy. More than anything else, it was the Brundtland Commission's report which brought attention to the problem.⁵ The recommendations from the Brundtland Commission (and from the Toronto Conference on The Changing Atmosphere in 1988) caused the Danish government to change objectives, and, in the third energy policy plan of 1990, the focus was turned to CO₂-emissions.⁶ The main objective now was to make it possible to reduce the CO₂-emissions from Danish energy consumption by 20% of the 1988 level by the year 2005, while at the same time, to fulfill the Danish society's need for a safe, efficient, and economic energy supply. In a longer perspective, the goal was to halve the emissions, as was recommended by the Brundtland Commission.

At first glance, this new objective may seem quite radical, and is actually more radical than objectives in the majority of similar plans from other countries. However, this should be seen in relation to the recommendations from the Intergovernmental Panel on Climate Change (IPCC), which the Danish government decided to follow - if an international agreement could be established.⁷ In the IPCC report *Climate Change* published in 1990, two basic points are stated clearly. First, that carbon dioxide has been responsible for more than half of the increased greenhouse effect in the past, and that it is likely to remain so in the future. And secondly, that long-lived gases like CO₂ require an immediate reduction in emissions from human activities of more than 60% to stabilize the concentrations at the present (high) level.⁸ Later reports from IPCC have not changed these points significantly.

If stabilizing the concentration of greenhouse gases in the atmosphere becomes a common, global objective, the consequences for energy policy in the industrialized world will be drastic. A reduction of 20% may seem radical today; and a reduction of 50% even more so. Nevertheless, if stabilization of greenhouse gases is the goal, and if, at the same time, some kind of global equity is considered, a cutback of even 50% in the industrialized countries will be far too little to achieve this goal.

According to the latest report from the World Resources Institute⁹ the Danish per capita emissions of CO₂ are 5.6 times the world median, while the USA's per capita emissions are 9 times the median. If it is agreed that the total of world emissions should be cut back 60%, and assuming that the world population will double within the next half century,

the consequence for Denmark, taking a radical egalitarian stance, would be to cut back emissions by 95%, and for the U.S. even more.

With this in mind, the following questions immediately arise: How far should we go? How fast? Who should reduce emissions? Who should pay the costs? A non-cynical answer to any of these questions would have to rely on some conception of fairness, justice, or equity; a conception which would suggest what the basis for distribution of costs and benefits related to CO₂-emissions should be. I shall not try to give any specific answers to the questions, but only give a short sketch of some of the relevant issues involved, while focusing on the concept of equity or justice.

I shall proceed along the following steps. Firstly, I shall discuss various aspects of the concept of justice related to the problem of the increasing greenhouse effect. Then I shall present different kinds of principles to be considered when a solution is sought. Thirdly, I shall discuss some of the difficulties of the problem of justice between generations. And finally, I shall discuss various proposals for distributive criteria to be used in a global agreement.

2. Dilemmas of justice

A country like Denmark does not appear to have any immediate interest in cutting down emissions of carbon dioxide. In a report on the possible consequences of global warming made by the Danish Ministry of the Environment in 1992, the conclusion was that the immediate effects on Danish society would not be alarming.¹⁰ Based on the rather precarious assumption that temperatures are going to raise smoothly 2-3°C, the advantages would just about equal the disadvantages, and the immediate disadvantages would be of a kind which could be remedied without any extraordinary efforts.

Of course, the problem is much more complex than that. Results are never more accurate than the assumptions on which they are based. As is well known, the difficulties involved in predicting the effects of an increasing greenhouse effect are immense and many-sided. Moreover, a series of indirect effects will likely occur, especially in countries with an economy as open as is the case with Denmark. Political and economic turbulence outside the borders can quickly lead to internal turbulence. Problems related to environmental refugees or unpaid debts, and furthermore, the possibility that the

growing need for foreign countries to remedy the disastrous effects of global warming, could very soon become a moral as much as an economic burden.

Nevertheless, on the basis of immediate national interests and using a time horizon typical for political decision-making, the incentives to make radical cutbacks in the carbon dioxide emissions could hardly be seen as anything else but minimal. Denmark is in no way exceptional in this respect. If a radical decision is to be made it has to be based on some sort of moral ground: it would have to be made on the basis of a responsibility transcending national, as well as, generational borders.

At the same time, for reasons to which I shall return, it is difficult to imagine that any country would make isolated cutbacks unless there were other advantages involved. If the high prices of fossil fuels in the early eighties had been maintained or further increased, a radical transformation of the energy system would have been preferable even on rather shortsighted economic terms.¹¹ In the present situation where prices on fossil fuels are as low as they were in the early seventies, before the so-called energy crisis, the radical transformation is no longer as obvious a solution.

As a consequence, any decision would most likely depend on the fulfillment of at least two minimum conditions. First, it is necessary that wide international support behind a common goal be obtained. It would be extremely difficult for only a few countries to stand alone on such a huge issue. However, common support would depend in turn on whether a seemingly fair, just or equitable agreement can be reached. Only if all parties involved find a proposed solution to be sufficiently just, can an agreement based on the proposal be expected.

The question of justice or equity thus becomes central. Justice, however, is a very complex concept, a concept which can be used in different ways in relation to different issues. In the following sections, I shall give a sketch of some of the aspects involved, including dilemmas with which we are confronted when talking about justice in relation to the increasing greenhouse effect.

2.1. Impartiality vs. mutual advantage

There has been an almost continuous discussion in Western philosophy and political thinking about two different conceptions of justice ever since the distinction was introduced by Plato in

The Republic. The basic notion behind each side of the discussion can be described in the following way:

- a. *Acceptance of contract or agreement dependent on fairness of procedure and/or equity of result as seen from an impartial standpoint or from the viewpoint of all affected parties.*
- b. *Acceptance of contract or agreement dependent on the advantage of all involved parties as compared with a situation without any agreement.*

In Plato's dialogue, Glaucon is the defender of the idea that selfishness is the basis of all common regulations. Justice *"lies between what is most desirable, to do wrong and avoid punishment, and what is most undesirable, to suffer wrong without being able to get redress; justice lies between the two and is accepted not as being good in itself, but as having a relative value due to our inability to do wrong"*.¹² The stronger parties would prefer to beat up the weaker ones, but are willing to accept an agreement, if there is a chance that they themselves might be the ones to be beaten.

In modern times, mutual advantage has been seen in a rather similar way, as the main motive behind the establishment of agreements. This is the case in most of the contract theories from the seventeenth century and on. The most radical spokesman was, of course, Thomas Hobbes who stated very clearly in his *Leviathan*, that nothing can be just or unjust until a law-making contract is signed voluntarily, and that *"of the voluntary acts of every man, the object is some Good to himself"*.¹³ Selfishness is the sole motive and only in so far as anarchy would be to the disadvantage of even the strongest party would a social contract be made. In so-called Rational Choice theories, as well as much economic theory using Economic Man as the starting point, similar assumptions are often made.

In recent years, probably the most famous contract theorist using mutual advantage as the main motive behind the signing of contracts is John Rawls.¹⁴ In contrast to Hobbes, however, Rawls only uses mutual disinterest as a "weak" assumption when constructing his famous original position. He does not believe that self-interest is the only, or even the main motive in human relations. He uses it only as a theoretical device in his construction in order not to build in "stronger" suppositions about human behaviour. Whether mutual disinterest is actually a weak assumption is, however, a rather questionable

thesis. As Michael Sandel has pointed out in his critique of Rawls' theory: to some people selfish acts would be much harder to accomplish than benevolent ones.¹⁵

I shall not go further into the discussion here, but only state my conclusions, which are, first, that mutual advantage is out of the question when future generations are included as parties of the agreement. There can be no justice between generations, if mutual advantage is viewed as the true basis of justice.¹⁶ All that future generations could hope for would be that the chain of love and goodwill stretching from one generation to the next was strong enough to leave conditions acceptable when they themselves appear on the scene.¹⁷ They simply have nothing to bargain with. The same goes for relations between wealthy and strong nations, on the one hand, and poor and weak nations, on the other. If the present wealthy societies are not willing or able to act in a way which transcends narrow selfishness, equity is not on the agenda at all.

Secondly, even though impartiality seems most appropriate when a more comprehensive community is at hand, people are more likely to think in terms of mutual advantage when the ties between them are weak. This last conclusion points to a question I shall consider a little later, namely, how tight we should consider the global partnership to be, or rather, how tight we are willing to make it?

2.2. Ideal vs. conditional justice

The world in which we live is not ideal. We cannot assume that everybody is willing or able to behave according to moral standards, whatever they may be. When dealing with matters of justice, we have to take this fact into account. It would be unfair if a contract were made on the tacit assumption that only those parties most driven by moral forces would comply with the conditions laid down by the contract. We shall therefore have to distinguish between two kinds of agreements:

- a. *Agreements which seem just or equitable if sufficiently ideal conditions can be obtained (e.g., the absence of influence from illegitimate power, and the possibility of sanctioning "free-riders").*
- b. *Agreements which seem to be the best possibility given the non-ideal conditions.*

When an agreement is made, it is presumed by each of the parties that all other parties are willing to observe the rules of the agreement and that a majority of the potential parties are covered by the agreement. If these ideal conditions cannot be obtained, the parties will have to settle for something less than ideal. The resulting convention would be consequently more influenced by the national self-interests of the parties than an agreement obtained under ideal conditions. No nation would want to go much further than others, if thereby inequitably undermining the welfare of its own inhabitants. As Peter Wenz remarks, "*justice is not truly served when some people make sacrifices that are much greater than those of others to ameliorate evils for which they are equally responsible*".¹⁸ Ideal standards cannot be applied directly under non-ideal conditions, unless one is ready to make solitary sacrifices.

Instead, Wenz suggests that everybody should endeavor to behave somewhat better than others (or other nations) who are similar in all respects. In the long run, it would result in a relative egalitarian world if everybody accepted this or a similar rule. I find Wenz's suggestion to be a good rule of thumb, although the crux of the matter is to whom one should compare oneself. If countries with high emissions of greenhouse gases only compare themselves to one another, the long run could easily end up being very long indeed, especially, if there are free-riders in their midst.

In a similar way, the German philosopher Karl-Otto Apel distinguishes between two parts of ethical theory. On the one hand, there is Part A, in which rules and recommendations for ethical actions are based on the ideal assumption that everybody acts morally, and that no-one acts on the basis of hidden agendas. On the other hand, there is Part B, in which the recommendations are for ethical actions whereby one strives to anticipate the ideal as far as possible; but nevertheless, whereby one has to include intermediate steps which take into account the non-ideal conditions. Under ideal conditions, only the most strictly just (or maybe rather: benevolent) and non-strategic actions would be needed. In a non-ideal world, one is forced to take more strategic kinds of actions into consideration.¹⁹

In relation to the greenhouse issue, these considerations suggest that preliminary, non-ideal agreements should be made. Even though it may not be possible to make a completely fair global

agreement on this issue, less than that would still be better than nothing. This does not make the discussion about what an ideal agreement would look like superfluous. On the contrary, in the process of establishing non-ideal agreements, more ideal considerations are needed as guidelines. It is always important to know where a compromise has been made, and who is profiting from the agreement being less than ideal.

2.3. Monological vs. procedural justice

As we shall see later, even though we may try to find out what an impartial agreement under ideal conditions would look like, it may not be obvious how we should take the many different considerations into account in a fair manner. It may be that people with different cultural backgrounds would differ in their judgment about which arguments should be favored. It may be that impartiality cannot be reached by an ideal participant-observer even though he is doing his best to refrain from cultural biases and preferences. We should distinguish therefore between:

- a. *Agreements which seem equitable to the ideal participant-observer, who can abstract from his own interests while trying to judge in an impartial way, and*
- b. *Agreements which can be accepted by all affected parties through a fair process under sufficiently ideal conditions* (sufficiently democratic procedures without interference from external powers, and compliance by all parties).

Immanuel Kant, for instance, believed that it is possible for a single rational and independent person to make, on his own, all of the necessary considerations needed for arriving at just, universal rules. This is the general idea behind his famous categorical imperative.²⁰ However, no single person can be sufficiently aware of the needs and wants of all parties involved. And nobody is able to abstract fully from his own cultural background, personal biases and preferences, in order to determine monologically the most just and equitable solution to a problem as comprehensive as the increasing greenhouse effect.

This point has been central in recent discussions on justice. To a certain extent, the focus

has shifted away from the single actor of a Kantian type to the very procedures through which agreements are made. Even though cultural differences may impede more substantial agreements, it may nevertheless be possible to reach a solution by setting up procedures which are accepted by all (for whatever reasons). Thus, one could hope for the establishment of what John Rawls calls an "overlapping consensus" between "reasonable comprehensive doctrines", i.e. ethical or religious doctrines which may be otherwise conflicting and even mutually incommensurable.²¹ Whatever the difficulties may be, this kind of consensus becomes more preferable as the alternative of religious or cultural war becomes more likely.²²

Rawls therefore argues in favour of a concept of justice as procedural fairness.²³ He distinguishes between perfect, imperfect, and pure procedural justice. In *perfect* procedural justice there is an independent criterion of justice, and a procedure which guarantees the right outcome. This may be the case, for example, when dividing a cake equally by letting one party cut and the other choose first. In *imperfect* procedural justice there is an independent criterion, but no single procedure which can guarantee the right result. The paradigmatic example is criminal trials. In *pure* procedural justice there are no independent criteria, and the fair procedure itself therefore determines the right outcome, whatever it may be. This is the case in gambling, for instance, and for Rawls it represents the most common sort of problem which is to be dealt with through social arrangements.

It should be noted that in Rawls' theory, the "original position", i.e., the fictional procedure "behind a veil of ignorance" in which the basic decisions about the principles of justice are made, is itself rooted in the idea that it is possible to abstract from cultural bias. From the outset, Rawls seems to undermine the very idea of procedural justice by using the fiction of selves participating in pure procedures without knowledge of their own particular identity. In so far as no differences can be observed between the participants behind the veil, procedure is inseparable from monologue in the original position.²⁴

Jürgen Habermas has tried to avoid this problem by stressing the necessity of carrying out actual discourses which involve all affected parties. These discussions should go all the way down, and not stop short at a certain point where the participants suddenly need to be deprived of all knowledge of

their particular identity. The only constraints are those given by the universal pragmatic conditions of rational discourse itself.²⁵ Justice thus becomes what the potentially affected parties actually agree upon at the end of an open-minded discussion in which only the powerless force of the best argument counts.

However, various problems remain. Not only is it doubtful that any actual dialogue would ever turn out as ideal as could be hoped for, there is also a more fundamental problem involved, as neither future generations nor non-human beings can ever participate in actual dialogues. Under these conditions, no pure procedures nor any ideal discursive arrangements can, by themselves, guarantee just decisions in relation to issues like global warming.

What Habermas' and Rawls' attempts should remind us of is, firstly, the need for a certain modesty on the side of the theorist. We are all biased to a certain extent, and should therefore see ourselves as participants in a common dialogue which goes beyond cultural, national, and professional borders. No definite and independent criteria can be determined monologically. Secondly, they point to the need for fair decision procedures, in which everybody, as far as possible, should have a seat. Only this way can the needs and values of everybody be truly represented.

The problem is that if we find it obligatory to act on the common problem of an increasing greenhouse effect, we shall have to do it before fair global procedures are established. Thus we cannot avoid trying to search for equitable solutions even though the proposals we may come up with are culturally biased.

2.4. Membership and the Concentric Circle Theory

It is commonly agreed that we have special obligations towards those who are closest to us. In general, we have greater obligations towards our family than towards our community, greater obligations towards the people in the local community than towards members of the national community; and when it comes to strangers, the obligations seem to be only few and not much demanding. Thus, various circles could be drawn around us: the wider and more inclusive the circle, the fewer the obligations are. This picture should not be taken too literally. We may, for instance, have colleagues abroad towards whom we feel much more committed

than towards the people in our local community.

Whatever the most important kinds of relationship are considered to be, membership seems to matter somehow.²⁶ There are various good reasons why it does. Let me just mention two of the most obvious of them. Firstly through membership, responsibilities are distributed in a way which ensures that everyone is taken care of. Or rather, it makes it more likely that everybody is taken care of, than if no one could be held more responsible than anyone else. To be part of a variety of more or less close membership circles is to be more protected than if there were only individuals without any special responsibilities towards each other. Secondly, within each of the membership circles it is possible to make common priorities and rules along more or less commonly accepted lines. With no boundaries, this would not be possible, and there would be nothing but free-floating individuals acting with only a minimum of common rules upheld by a distant and impersonal bureaucracy.

Much more could, and probably should, be said for and against upholding more or less tight membership boundaries, as the present heated discussion between liberals and so-called communitarians exemplifies. However, I shall move rather to a second point of equal importance. Although we may believe that membership is important, as I believe we should, we should not confuse membership with chauvinism. There seem to be two different ways of thinking about membership, which relate closely to the earlier mentioned distinction between impartiality and mutual advantage.

In the first way of thinking, membership in a close circle is seen as primary in a very strong sense. In any involvement outside of the circle, the costs and benefits to the members of the circle are weighed, and if the costs exceed the benefits, then there will be no involvement. There are no obligations whatsoever toward strangers on the outside, except when voluntary agreements are made on the basis of mutual advantage. Every time a move is made from a small circle to a wider circle, some kind of cost-benefit calculation is made and used as a criterion.

In the second way of thinking about membership circles, the above picture is, more or less, turned upside down.²⁷ The obligations within the smaller circles are held to be of a primary kind in a much more limited sense. They are only primary obligations as long as they do not conflict with the

obligations emanating from the wider circles. For instance, we do have strong obligations towards our family members; however, if one of the family members commits a serious crime, we are in no way committed to help him. Unless the national community and its laws are judged as criminal in themselves, we may even have an obligation to help the authorities against our own family member.

Likewise, if members of our local or national community behave in a way which seems unacceptable when seen from the standpoint of a wider circle, the global community for instance, our stronger obligations towards the members of the small circle do not overrule the obligations emanating from the wider circle. For example, we should not protect the massive emitters of greenhouse gases within the local or national community just because they belong to a smaller circle or because no one within this smaller circle is harmed by the emissions. We should instead regulate manners in accordance to what would be acceptable as seen from the perspective of the wider circles, or rather: as seen from the widest circle's perspective.

The obligations towards the widest circle can thus be seen as primary, even though obligational ties remain thicker and more comprehensive when circles are tighter. This second kind of argument is based on a fairly strong assumption about the global community as being a kind of community which can overrule national, local, and even family interests. I shall return to this in the next section. It should be mentioned once again, however, that if there is no international support behind viewing the global community as a binding community, the obligations of nations will be weakened accordingly. No nation can be committed to making solitary and therefore inequitable sacrifices. The making of such sacrifices would be, to use Kant's expression, meritorious, but not obligatory.

2.5. Global partnership

Let us now turn to the problem of how to interpret the global community. In the documents from the Earth Summit in Rio, 1992, it has been stressed several times that the parties should act "in good faith and in a spirit of partnership." This is consistent with all of the declarations on human rights since the American and French revolutions in the 18th Century where the need for a common spirit of brotherhood has been stressed repeatedly. Partnership and brotherhood, however, can take various kinds of

form. The following four kinds are based on or inspired by Aristotle's discussion of friendship in the *Nicomachean Ethics* and the *Politics*.²⁸ The central point is, that different kinds of friendship imply different kinds of obligations and consequently different criteria of justice.

Close friendship is an ideal kind of friendship. It is based on mutual sympathy as well as respect and presupposes some kind of equality. The parties like and care for each other. Close friendship implies mutual help and support without second thoughts about who gets the biggest share. We are privileged in a close friendship. The well-being of a close friend is more important to us than the well-being of others, some times even more than our own well-being. As a consequence, close friendship is exclusive, it can only embrace few people. It therefore cannot be a model for global relations.

Political friendship is a less comprehensive kind of friendship. It does include, however, a certain amount of solidarity and care by the richest and ablest partners for the weakest or more unfortunate partners in proportion to needs. Members of a political community are covered by its welfare arrangements. At the same time, members of a political friendship are provided with equal rights to participate in political decision procedures, in which the ordering of goods is made. These procedures should strive for fairness and impartiality in order to achieve the best ordering and distribution of goods according to appropriate criteria. This could be seen as an ideal model for global affairs, although it is obviously not present practice.

Utility friendship is another, and much more limited, kind of friendship based on mutual advantage or equal exchange. This is a market friendship or the friendship of potentially competing allies. It may seem so limited, that it hardly deserves the name 'friendship'; still, compared to war and mutual robbery, even market relations can be said to be a kind of friendly intercourse. The main criterion for allocation of goods in utility friendships is that of entitlement, and to a certain extent prescriptive rights based on usage. Those who have the means, also have the right to buy. Justice resides alone in fair bargaining. No obligation to help the needy is included, although some partners may find it advantageous in the long run to help those who are worst off, in order to prevent rebellions or establish new markets. Utility friendship is perhaps the type of friendship most common in international affairs. But

once again: if a more comprehensive international and intergenerational justice is sought, utility friendship based upon mutual advantage cannot form the basis.

Goal-oriented friendship is another more limited kind of friendship, in which all of the members strive toward the same common goal. In goal-oriented friendships people work together to accomplish something. Generally speaking, desert is the main distributive criterion in goal-oriented friendships: those who make the greatest effort deserve to be rewarded appropriately. Mutual care is not a necessary feature in a goal-oriented friendship, although it is often the case that parties working together care more for each other than for those who are not involved. Goal-oriented friendship could also be seen as a model for global partnership with respect to avoiding the negative consequences of global warming. Desert would then be the criterion one might consider first.

Thus, the way in which we interpret the global community is important in relation to the kinds of obligations we are likely to accept. If, on the one hand, global partnership is seen as nothing but utility friendship, then the only criteria left are those of mutual advantage, and there can be no justice between generations. If, on the other hand, global partnership is seen as a kind of political friendship, mutual care or solidarity becomes an important feature; and if a common goal can be agreed upon, the result would be a goal-oriented friendship involving standards of desert.

How shall we then decide which of the models to use? One way of approaching this question would be to look at an interpretation suggested in the conventions of the Earth Summit in Rio. It was, after all, the great majority of nations who took part in the meeting and signed the treaties. It thus can be seen as the accepted interpretation, if only literally accepted, in the global community. Before I go further in that direction, a few more comments should be made on the variety of criteria used in relation to issues of justice.

2.6. Criteria of justice

In various kinds of friendship, different criteria of justice may seem most appropriate. However, the question of what kind of friendship is involved in a specific case is not alone in determining which criteria are to be used. It is also a question of

which kind of issues and which kind of goods we are talking about. To use the American philosopher Michael Walzer's expression: there seem to be different "spheres of justice" in which different criteria become relevant.²⁹ Goods such as love, money, office, political power and divine grace should not all be distributed in the same way, according to the same criteria.

We, therefore, should be very careful to make clear what kind of good we are talking about, and what kind of contextual setting within which the good should be seen. Below is a list of criteria, each of which can be seen as suitable in specific contexts. What they all have in common is that they all could be used as criteria when establishing a global agreement on how to react to the threat of global warming, depending on how the problem is interpreted.

Need is used as a criterion in various relations. Welfare regulations, for instance, are based on needs. Those who are least privileged and therefore most in need are those who are expected to benefit first and foremost from the regulations. Generally, international aid is expected to use need as criterion. If need is to become an important criterion in relation to global matters, the global community must be viewed in a fairly comprehensive way which goes beyond mutual advantage as well as beyond simple goal-orientation.

Desert is another criterion which is dependent on the presence of more comprehensive kinds of friendship. Without a common understanding of goals and goods, desert cannot be used as a criterion. In global affairs, desert can be an important criterion if there is a general consensus on a common goal. Those who contribute most to reach the goal should be rewarded accordingly.

Entitlement and luck are criteria used in gambling and lottery, for instance. Those who happen to have the right numbers are entitled to get the winnings. It does not matter whether they need it, nor have they done anything particular to deserve it. They have been plain lucky. They just *have* the right numbers, not illegitimately, to use Robert Nozick's expression.³⁰ In international affairs, entitlement and luck are currently important criteria. Some of us have been lucky enough to be born in wealthy countries, others have been more unfortunate. Some nations are rich in resources, others are not. We do not, as of yet, make grand scale redistributions in order to change these facts. And, as long as luck and

entitlement is considered to be the most important criteria in international affairs, a global reallocation will not be viewed as just in the first place. Re-distribution would not be considered as much different from simple theft.

Usage and prescription are criteria which are often used as the basis for entitlements. The famous argument concerning the establishment of private property in John Locke's *Second Treatise of Government* is made along these lines: whatsoever someone "removes out of the state that nature has provided and left it in, he has mixed his labour with, and joined to it something that is his own, and thereby makes it his property".³¹ By using something which is not the property of someone else, one becomes entitled to the fruits of its use. If this kind of reasoning is used in relation to atmospheric changes, then those who have removed the atmosphere out of its state of nature are also entitled to proceed in the same way or at least in the same relative proportion. It should be noted, however, that Locke restricted his arguments to cases in which "there was still enough and as good left; and more than the yet unprovided could use".³²

Means and abilities are criteria like need; they work only in the opposite direction. They are used as criteria, for instance, in relation to graduated taxation, or when the strongest is expected to carry the heaviest burdens. This is, of course, the way of thinking lying behind Marx's famous dictum of true communism, according to which everyone should contribute to common welfare according to their abilities. In relation to global affairs, this would mean that the wealthiest parties should contribute with the largest financial share when responding to the prospects of global warming.

As we shall see later, different proposals draw on different criteria when suggesting various distributive rules to be used in a global agreement concerning the increasing greenhouse effect. The main reasons for this difference seems to be, firstly, the diverse interpretations of the character of the global partnership; secondly, different interpretations of what kind of goods are involved in the problem; and thirdly, different attitudes towards the problem of whether an agreement on global warming should be kept separate from other issues such as poverty and global inequality.

2.7. Principles vs. judgment

Whether to focus on principles or on judgment should be mentioned as a last discrepancy in theories of justice. This is usually linked to a difference between seeing justice as a quality attached to certain principles, rules, or institutional arrangements, and seeing justice as a social virtue, which cannot be described fully by reference to rules, in so much as rules cannot provide for all particulars and eventualities. This discrepancy can often relate to a difference between two kinds of ethical enterprise; the one focuses on rights, the other focuses on the good. I shall say a bit more about this last kind of discrepancy later, in the discussion of justice between generations.

In general, the reason why judgment and justice, understood as a social virtue, are often conceived as independent sources is the fact that principles are usually, perhaps always, too general to give a clear answer in specific situations. Similarly, principles which are not mutually inconsistent at an abstract level can often represent competing demands in a concrete situation. Even when we decide to focus primarily on principles, we need to be aware that they cannot stand alone. In order to decide which principles are most relevant in a given context, a "sense of appropriateness", to use an expression of the German philosopher Klaus Günther,³³ is needed. This should be kept in mind as I now turn to discuss principles of global intercourse.

3. Relevant prima facie principles

The term "prima facie principles" (or "prima facie duties") was introduced by David Ross,³⁴ and has been reused by the British philosopher R.M. Hare to point to the fact that general principles should be used without second thoughts only if everything else is equal.³⁵ Usually, everything else is not equal at all, however, wherefore principles should be handled with much care. What general principles *can* do is to be guidelines in difficult situations and to help in keeping relevant demands and obligations in mind. When trying to find an equitable solution to the problem of global warming, general principles can help in evaluating the proposals for a solution. Proposals which cohere to the general principles are most likely to pass as acceptable.

The following principles are not simply principles which I, myself, have found most relevant

in relation to the problem of how to combat global warming, but principles which have been accepted by a kind of overlapping consensus by all parties at the Rio Conference in 1992. This fact does not place them beyond critique, of course, but it does make them important starting points for further discussion. Especially, as the principles seem highly deliberated and mutually consistent.

a. *Principle of equality*

The principle of equality is a highly complex principle. The basic idea is that nobody shall be given a privileged position on account of race, gender, culture, place in time and space, nor for other reasons unrelated to the issue at hand. This is a generally accepted principle and a fundamental starting point for various declarations on human rights. In specific cases, however, it is always in relation to certain qualities that people are supposed to be treated equally - despite all other differences. Which of the qualities are relevant in a given case depends on the specific context. In general, it is not the principle, in itself, which is considered controversial, but rather the specification of qualities on the basis of which people are to be treated as equal in relation to a specific issue. As we shall see below, this is certainly true when we seek equitable agreements in relation to the problem of global warming.

b. *Principle of precaution*

It has been stated clearly in the documents from the Rio Conference, that lack of full certainty should not be used as a reason for postponing preventive measures for environmental degradation (Rio Declaration Principle 15, Convention on Climate Change Article 3.3). This means that the burden of proof lies with the actual or potential polluter. If there is any real danger that man-made climatic changes are going to have a negative impact on society, the polluter should refrain from polluting activities. Although this principle seems clear, it will always be necessary to weigh it against other considerations. Overprecaution in one dimension can create dangers (like economic and political instability) in other dimensions.

c. *Principle of prevention*

The principle of prevention is closely connected to the principle of precaution, and has been stressed with equal clarity in the Rio Documents. Principle 4 of the Rio Declaration states that

environmental protection shall constitute an integral part of the development process. And in the Convention on Climate Change, Article 2, it is quite simply stated that "*the ultimate objective*" of the convention is to "*prevent dangerous anthropogenic interference with the climate system*".

d. *Principle of cost-effectiveness*

This is a principle which states that policies and measures in relation to global environmental problems "*should be cost-effective so as to ensure global benefits at the lowest possible costs*" (Convention on Climate Change Article 3.3). The principle of cost-effectiveness should not be confused with cost-benefit evaluations. Whereas the intention behind cost-benefit analysis is to give decision-makers an instrument in relation to decision-making itself (or even to substitute political decision-making), the principle of cost-effectiveness becomes relevant only after the basic political decisions have been made. It simply states that the decision should be carried out in the least costly way. The borderline between the decisions themselves and the implementation of decisions is, of course, somewhat fluent. Thus an agreement on the principle of cost-effectiveness may influence the choice of allocation rules.

e. *Principle of responsibility*

One of the central rationales behind the principle of responsibility is that those responsible for harmful environmental changes should also pay the costs of cleaning up, of remedying the harmful effects, or better still: of preventing further damage. It therefore comes quite close to the Polluter Pays Principle which has been given a central position in international regulations. In the Rio Declaration it is stated accordingly, that "*the polluter should, in principle, bear the costs of pollution*" (Rio Declaration Principle 16). This idea underlies the recurring emphasis on "*differentiated responsibilities*". In Principle 7, it is stated that the developed nations have a special responsibility "*in view of the pressures their societies place on the global environment*". Closely connected to the principle of responsibility is the principle of proportionality which states that the polluter's payment should be in proportion to the damages caused by the pollution.

f. *Principle of care or solidarity*

A central theme in the debate on global environmental problems has been that developmental and environmental issues should be dealt with in a closely connected way. This means that solidarity with weaker nations should be a central consideration in all kinds of international regulations. In the Rio Declaration, it is stated as a common goal for all nations to "*decrease the disparities in standards of living*" (Principle 5). It is pointed out that the "*special situation and needs of developing countries, particularly the least developed and those most environmentally vulnerable, shall be given special priority*" (Principle 6). Similarly, in the Convention on Climate Change it is stated that the various "*capabilities*" of each nation and "*the specific needs and special circumstances of developing country Parties (...) should be given full consideration*" (Article 3.2). It is indicated thereby that global partnership involves more than mutual advantage, and that needs and abilities should be included among the criteria of justice when seeking an equitable solution to global warming.

g. *Principle of self-determination or sovereignty*

The principle of self-determination or the right to be free from arbitrary interference or attack is central to all modern regulations. This is true whether we speak of individuals or of nations. The principle is double-edged in so far as it expresses the right to be free from interference, as well as the responsibility not to interfere arbitrarily. In the Rio Declaration this is stated clearly in Principle 2: "*States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environment and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction*". The present lack of sanctions in international affairs means, on the one hand, that national sovereignty is more comprehensive than individual sovereignty. On the other hand, it also means that the risk of interference, especially environmental interference, will be greater in so far as no supranational sanctioning device is within reach.

It should be noted, firstly, that some of the principles can be seen as potential competitors in relation to the problem of global warming. For

instance, national sovereignty may conflict with the principle of solidarity. Various principles may thus have to be weighed against each other, when a solution is sought. This is where judgment or the "sense of appropriateness" enters. Secondly, the principles are only ideal guidelines. They draw on a very ideal image of the global community, which should not be confused with real facts. Nevertheless, it does seem important that common guidelines be made in spite of national and cultural differences. After all, such guidelines do create an impression of what kind of world toward which it is commonly agreed to strive. It gives us a model against which actual regulations can be evaluated. In the remainder of the article, I shall make use of the principles in a similar way.

4. Justice between generations

If general agreement on how to act on the risks related to global warming is to be made, the problem of how to take the needs and interests of future generations into consideration has to be dealt with. If justice is to be used as a key concept, it will be necessary to extend the concept further than usual. Although the theme has been touched upon under various other headings in moral and political philosophy, the idea of justice between generations has been discussed only quite briefly until the last few decades. It would probably be misleading to say that we are still treading on unexplored ground, in so far as the amount of literature on the subject, produced during the last three decades, is quite impressive. But, nevertheless, considering the specific difficulties involved, it is unfortunate that there is no genuine, long-standing tradition in the area.

One of the specific difficulties related to future generations is that we do not know how many people are going to live in the future. Actually, our own decisions are going to affect the number of future individuals in various ways (just think of birth control or the possibility of nuclear war). Even if we could predict the number, we cannot know what kind of people they are going to be, nor can we have any precise opinion about their needs and wants. We will have to make decisions behind a veil of ignorance almost as opaque as the one recommended for the basic decisions in John Rawls' theory of justice.

On the other hand, these difficulties should not be overestimated, either. It does, after all, seem possible to identify a number of goods in which

future generations will be as equally interested as the present generation. If this were not the case, there would be no reason at all to take future generations into consideration. Whether our decisions fit the needs of future generations would then be purely a matter of chance. If this is not the way we see things, however, we will have to face the question of which kinds of needs and goods should be taken into consideration.

There are several theoretical strategies which could be chosen when dealing with justice between generations.³⁶ I shall only discuss a couple of them, starting with John Rawls' so-called "thin theory of the good".³⁷ If our decisions in relation to future generations are to be made behind a veil of ignorance in the sense described, a theory of primary goods may give some hints about what should count as appropriate decisions. Rawls' point is as follows. If a person's good is determined by the rational plan of life that he would choose among the possible plans under reasonably favourable conditions, the primary goods are those which are needed or wanted by everyone as means to fulfill the plan, no matter what plan is chosen. According to Rawls, main examples of such primary goods are rights and liberties, opportunities and powers, income and wealth, as well as mutual respect and self-respect. Noone could carry out his plan of life without a certain amount of these kinds of goods.

Rawls' theory of primary goods is clearly not without controversy. As some critics have pointed out, the theory is associated with a great deal of individualism and consumerism, especially if the amount of goods is to be increased as much as possible. Furthermore, it is not obvious why other primary goods such as belonging to a community, a healthy environment, or security from major risks are not part of the list. Nevertheless, as long as decisions actually are to be made behind a veil of ignorance, it seems quite reasonable to attempt to identify a set of primary goods as a general focal point for an agreement.

We may ask, therefore, if the idea of primary goods can be translated into something which is of relevance to energy policy faced with the threat of global warming. As far as I can see, it does seem reasonable to say that future generations will be interested in living conditions which favour the overall opportunity for carrying out their life plans, whatever they are going to be. I believe this includes the presence of available resources, of healthy conditions, as well as security against major risks. If

it is believed that energy policy should regard the needs of future generations, these are definitely among the kinds of goods which should be considered.

Identification of primary goods in which future generations would be interested is only the first step to an agreement. The next step is to determine on what basis the goods should be distributed across generations. Distribution becomes relevant if and when the goods are limited, or if and when the use of one good excludes the use (or presence) of other goods. In relation to energy policy, this kind of dilemma occurs, for instance, when the opportunities related to current use of resources have to be weighed against future security against major risks.

Which criteria, then, should be used as the basis for a distribution? As we saw earlier, the candidates are needs, desert, entitlement and luck, usage and prescription, and means and abilities. Some of these can be ruled out from the start. That goes for desert, if it is linked to specific qualities and/or performances, as well as for usage and prescription. Future generations can do nothing particular to deserve good conditions, and they have no way of establishing entitlements based on usage.

What is left is thus luck on the one hand and needs and abilities on the other. If luck is the only criterion, it is difficult to see how there could be any obligations at all toward future generations. We should be lucky ourselves that the present conditions are as good as they are, just as future generations will be lucky, if the conditions we leave them are going to be positive or at least tolerable.

This is a kind of argument which is not far from the one presented in so-called libertarian theories like Robert Nozick's.³⁸ The basic point in libertarian theories is that people should be allowed to act as freely as possible without harming each other, and that justice is nothing but the result of voluntary and fair private property transactions, i.e. transactions that are made without the use of force or fraud. People are entitled to use property freely if they have obtained it through fair transactions, as long as they do not thereby violate property rights of other people, e.g. by causing damage to their possessions. If damages arise they should be repaired or compensated in other ways.

In relation to future generations, the problem is, however, that there are no property holders present to make claims against, if damages are delayed for several decades, as is the case with global warming and stored nuclear waste products. By the

time the consequences of the damages become serious, those who caused the damage in the first place are gone, and it would not be fair to hold innocent descendents responsible for the activities of their ancestors. Especially not, when the descendents are suffering from the unpleasant consequences as well. Thus, preserving private liberty as far as possible could result in a highly unequal distribution of goods between generations.

If this is not an acceptable picture, needs and abilities are the only remaining criteria. Of these, needs would be more important, in so far as we have even less knowledge about the abilities than about the needs of future generations. This seems to imply a highly egalitarian solution. If we return to Rawls' theory of justice, we find one major rational which could make an unequal distribution acceptable, even when unequal shares cannot be defended by referring to needs or desert. His argument is that if a certain amount of inequality could help enlarge the total amount of goods so that even the least advantaged would be better off, differences could be acceptable. This is the content of the so-called "difference principle". To give an example, differences in wages may make people more industrious, from which the incomes or possibilities of the least advantaged could be increased.

Could the difference principle be made relevant to distribution between generations? Rawls denies it himself.³⁹ His reason is that the least fortunate generation would most likely be the first (Rawls' theory of justice emerged in a period of economic growth), while later generations have no way of improving the situation of former generations. On the other hand, if future generations may be less advantaged than the present generation (and environmental deterioration, global warming, or a coming Ice Age could easily make this assumption true), the difference principle could be used as a guideline for decisions. After all, we can only influence the possibilities and conditions of present and future generations. In a somewhat adjusted form, the difference principle could be applied in the following way.

We could begin by asking, what would count as valid reasons for continuing emissions of greenhouse gases to the atmosphere. I think that there are at least two good reasons. Firstly, we have become dependent on fossil fuels without knowledge of the consequences for future generations. If we were to change that radically overnight, the negative consequences for the present generation(s) would be

inequitably large. Secondly, future generations may profit from the present use of fossil fuels, in so far as cultural and technological possibilities which can be used in the future are being developed. We may leave more useful knowledge and technology to our descendents, if we are not ourselves disturbed by an acute resource crisis. We may even consider it equitable to privilege ourselves before our successors by using fossil fuels, if we are quite certain that we are enlarging future possibilities sufficiently this way.

Both kinds of reasons give rise to obligations. They are valid only if the present generation actually tries to develop useful and sustainable technologies which, for instance, diminish the present dependence on fossil fuels. Moreover, as in all cases where seemingly impartial reasons are given for privileging oneself, one should be particularly observant of whether the requirements for making the arguments plausible are actually met. The difference principle can all too easily turn into a bad excuse for maintaining privileges.

When generalized, the discussion above suggests a few general principles, which can be viewed as an appropriate basis for a hypothetical agreement between generations.⁴⁰ Firstly, each generation should, as far as possible, leave future generations conditions of life, especially environmental conditions, which predictably are (at least) as good as those which they themselves have inherited. This principle is derived more or less from the fact that we make decisions behind a veil of ignorance with regard to future generations. If no valid reasons for unequal treatment can be seen from this side of the veil, this is the kind of *prima facie* principle which follows.

Secondly, if deterioration of natural or environmental conditions nevertheless occurs, it ought to be compensated as far as possible by improved opportunities of a kind and of an amount, which can be expected to be accepted as appropriate by future generations. If deterioration cannot be avoided, or if deterioration follows from the development of promising opportunities, this principle of compensation departs from the first principle. One of the difficulties about this principle is derived from the fact that technological development is a double-edged sword which both opens up opportunities, but at the same time tends to trap us in an iron cage, to use Max Weber's expression. (Another problem is that if other species are included into the spheres of justice, it would be much more difficult to apply the principle in an equitable way.)

Finally, no generation should be sacrificed for the sake of past or future generations, and no generation should be privileged above subsequent generations unless thereby enhancing future possibilities, especially for the least advantaged. The first part of this principle is meant to rule out the rudest kind of utilitarianism which accepts involuntary sacrifices on the altar of total welfare, while the second part makes use of the difference principle as proposed earlier.

Clearly, such principles necessarily have to be vague. We need to add more specific assumptions when, for instance, trying to balance future opportunities against environmental deterioration. Future generations cannot supply such further assumptions. Whether they will appreciate the technology we leave them, and endorse the solution we impose on them, we cannot know in advance. We shall quite simply have to rely on our own judgments.

Mark Sagoff has interpreted this need for present judgments in an interesting way.⁴¹ He starts his argument by referring to a rather sophisticated point put forward by Derek Parfit.⁴² As Parfit argues, future generations will have no reason to complain, no matter which decisions we make. If other decisions were made, the same specific persons would simply not be there in the first place. Different marriages would be made, different children conceived, etc. Future individuals are fortunate that they, and not some of the other potential people, are actually going to exist. This may appear, contrary to Parfit's own intentions, to conclude in a kind of *carte blanche* to present decision makers, leaving the future totally open and morally unrestricted for whatever wish they may have.

As Sagoff argues, this argument actually only makes it clearer where our responsibilities lie. The decisions we make will influence substantially the lives and identities, tastes and preferences, of future generations, no matter what we do. We should therefore make it clear for ourselves, what kind of influence on future individuals we wish to have. If we leave them a pigsty, it is more likely that they will behave like pigs. *"Future generations might not complain: A pack of yahoos will like a junkyard environment. This is the problem. That kind of future is efficient. It may well be equitable. But it is tragic all the same"*.⁴³ If our goal is to continue civilization, as Sagoff presumes it is (and who could argue against that), this is not the kind of environment to hand over to future generations.

Sagoff's argument involves a "thicker theory of the good" than the "thin" one found by Rawls. As he frankly admits, for him our obligation is to ideals rather than individuals. The focal point is not some good of individuals, but rather essential things appreciated as good in themselves. Doing justice, thus understood, is less a question of making fair distributions of "thinly" described goods between generations, and more a question of conserving and expanding the things we ourselves consider to be of value in themselves.

The problem with this line of argument is that what counts as valuable things to be preserved or enhanced may vary significantly between cultures (not forgetting: between sub-cultures or between sub-sub-cultures). This is exactly Rawls' reason for sticking to a "thin" theory of the good as far as possible, and also Habermas' reason for defending a procedural rather than a substantial conception of justice. Sagoff is not unaware of the problem. What he defends is not a dogmatic set of goals and goods, derived from metaphysical truths; but, on the contrary, his central message is that goals and goods should be made objects of public inquiry and deliberation. Only through this kind of deliberative process can the obligations we owe to future generations be revealed.

One might ask, however, if there are any short-cuts to making decisions, when discrepancies exist between parties with separate conceptions of goods and goals. Setting up cost-benefit calculations is often seen as such a kind of short-cut, and in the following section, I shall therefore examine to what extent cost-benefit analysis is an appropriate method for solving conflicts related to the increasing greenhouse effect.

4.1. Can cost-benefit calculation solve potential conflicts?

As we have seen above, there are various conflicts to be solved. The possibilities and dangers we pass on to future generations need to be weighed against goods, the use of which fulfills needs and wants of the present generations. A seemingly impartial way of dealing with such conflicts between generations is the use of cost-benefit calculations. The well known point in cost-benefit analysis is that the aggregated marginal costs of abatement should balance the aggregated, avoided marginal costs for present and future generations - or that the

aggregated marginal benefits of non-abatement should balance aggregated marginal costs for present and future generations.

Cost-benefit analysis is often coupled with the idea of Pareto-optimality. The point is that the solution should be chosen which leaves at least one person better off as compared with other solutions. Those who are worse off as a consequence of the chosen solution can and should, at least in principle, be compensated by those who benefit from the solution.

It would be interesting, no doubt, if it were actually possible to make estimates of the economic costs and benefits resulting from various possible strategies concerning global warming.⁴⁴ I have serious doubts as to whether it is possible, however, and even if it is were possible, it would not solve the problems of conflict. Let me bring forward a few reasons why I have such doubts.⁴⁵

The use of cost-benefit analysis on changes occurring over very long time spans brings us into the most outlying fringes of economic analysis. The estimates of possible consequences are burdened with massive uncertainties, including the possibility of radical changes. This is the case in relation to climatic change just as it is the case with technological improvement. It is very difficult to judge what the best estimate would look like and for what reasons. The difficulties are multiplied, when economic valuation is demanded of these very uncertain results occurring over a very long period of time under equally uncertain conditions.

The result is an extremely daring undertaking. With respect to global warming, we are talking about a period of hundreds of years, and the prices of goods can fluxuate radically over such a time span. A variety of goods which are bought and sold at a high price in present society are likely to change into lowly prized goods before the end of the next century and vice versa. A well-known example is the prize of rat meat before and during a siege. Moreover, the changes resulting from global warming are not likely to be marginal changes. A cost-benefit analysis method based on marginal costs therefore seems at best unreliable.

Finally, quite a few of the factors to be estimated in the calculation are very difficult to value in economic terms even at the present. This is the case with loss of human life or of non-human species, to mention only a couple of the most obvious examples. The use of indirect valuation methods like Willingness to Pay (WTP) or Willingness to Abstain

(WTA) in such matters seems only little less than absurd.

Even if it were possible to solve all these problems, there remains the problem of distributing costs and benefits. Costs and benefits will not land on the same people, either in time or in space. Cost-benefit calculations do not take this kind of problem into account. And even if a mechanism of re-distribution could be established, many problems would persist, for instance, how to deal with areas which may be left uninhabitable from flooding or desertification. People are often willing to die for their homeland. If we take the principle of sovereignty seriously, there would be no possibility for compensation to people living in exposed areas. We should simply have to refrain from activities which cause serious damage to people living in such places.

All these difficulties speak against relying on cost-benefit analysis when seeking a solution to the problem at hand. This conclusion is furthermore strengthened when the considerations above are supplemented with a more general point: reacting to the problem of global warming is a political issue rather than an issue to be left to calculations based on consumer choices.⁴⁶ We should not confuse the *citoyen* with the *bourgeois*, and turn political decision making into an aggregation of arbitrary consumer wants and preferences.

This is the lesson of Rousseau: "*For every individual as a man may have a private will contrary to, or different from, the general will that he has as a citizen. His private interest may speak with a very different voice from that of the public interest*".⁴⁷ The way we handle the problem of climate change should depend on our common values or evaluations, not on private preferences alone, and especially not on hypothetically projected private preferences. There are no easy short-cuts to decision making in issues as comprehensive as this.

Instead of reducing political decisions to calculations based on private choice, it seems much more sensible to try to redirect consumer choices to be consistent with ethical and political values and valuations. This is what is being suggested by the green consumer movement. Rather than turning common decisions into a simple aggregation of private choices, the private choices should be brought closer to the deliberately accepted common demands.

It need to be added, however, that by supporting this point one need not be advocating a

totalitarian moral regime whose narrow ideas of political correctness leaves no room for free, or even non-conformist, private choices (including a variety of choices connected to what may be counted as private vices⁴⁸); nor does one have to claim acquaintance with any mystical general will which can be thought out without any reference at all to needs and aspirations of individuals. These dangers do not invalidate the point that some needs and aspirations are more suitably represented by genuine political procedures rather than through cost-benefit calculations.

4.2. The relevance of previous actions

Until now, I have only dealt with problems of intergenerational justice in relation to future generations. There is, however, another problem involved in the global warming issue which take the actions of past generations into account. The question is: should present generations in nations with large emissions be held responsible for previous emissions of their ancestors (in so far as they have benefited from the actions leading to emissions)? The present, wide gap between rich and poor nations has been created over the last century. One of the reasons is that the rich nations have had access to cheap fossil fuels. It does not seem fair, that this fact should not be taken into account when a common solution is sought.

The problem is not an easy one. In law it is common to distinguish between intentional actions, negligent actions, and actions which are charged with an objective responsibility, even though the negative consequences are unintended. The increasing greenhouse effect has not been intended by any party, and until the seventies, or maybe even the early eighties, the theory of global warming cannot be said to have been so well established and accepted that negligence becomes a relevant category. Charges of objective responsibility are very rare in modern law, and only very few precedents can be found where charges of objective responsibility are made with retrospective application.

Even though a verdict of not guilty before a hypothetical law court were the most probable case, it nevertheless seems reasonable that those who have benefited most from the use of fossil fuels in the past do, in fact, have a special obligation to take the lead in combating global warming. Of course, if luck is the sole criterion, this would not be the case. But if a more comprehensive kind of community is

accepted, as suggested in the Rio Conventions, there would definitely be a strong obligation. This would also influence the choice of distributive arrangements, the topic to which I shall now turn.

5. Justice across borders - proposals for distributive arrangements

In an article concerning the variety of criteria to be used in establishing a global warming treaty, Scott Barrett makes the following remark: *"Experience in negotiating past international agreements suggests that the outcomes are almost always simple, even (one is tempted to say, especially) if the issue involved is complicated"*.⁴⁹ However, the more complex the issue, the less obvious it is which rules and principle should be chosen. The choice largely depends on the way in which the problem is defined, and on which of the many possible models from former decisions or practices is adopted.

Ethical concepts, principles and rules which are known to, and to a certain extent accepted by, all of the involved parties are most likely to be used as points of departure, even when the parties do not act on the basis of ethical considerations and impartiality. This is the case especially when negotiations are continued over several years.⁵⁰ So, there seem to be good reasons to discuss the basis on which a global treaty should be made.

Whereas I have shown, taking Mark Sagoff as an example, that good reasons can be given for talking in terms of "thickly described" goods in relation to future generations, the principles we choose in order to achieve justice across national borders shall probably mainly be concerned with rights related to "thinly described" goods, first of all emission rights. Thus, the more substantial choices of goods can be left to national decision procedures. This restriction could be viewed as a problem, especially if the present use of fossil fuels is legitimized with reference to the enhancement of future possibilities; but if we allow for cultural diversity and a high degree of self-determination, it is difficult to see any other way to make fair regulations.

The following proposals, all of which have been suggested from various sides, are based on this assumption. They should be viewed only as starting points.⁵¹ None of them are without faults; all of them need to be supplemented with various kinds of

compensatory regulations. Nonetheless, I believe that it is important to make clear from the start which kinds of moral considerations should be adopted as the basis for further discussions. Of special importance are interpretation of how we consider each other as equals, and interpretation of global partnership. Both kinds of considerations are, as we have discussed above, closely linked with the choice of distributive criteria.

A. *Decide on global maximum emission - establish an international auction for emission-quotas*

The basic idea is this: emission quotas should be considered to be commodities. Those most interested, whether individuals or countries, pay for the goods. Prices on quotas will depend on supply and demand. Distribution will be simple, efficient, and can be carried out without reference to dubious statistical surveys. The polluter pays, and the price will depend on how serious the pollution is valued (on how many quotas are supplied). The use of energy will thus be cost-efficient, and alternative energy supply will be preferred if and when emission quotas become too expensive.

Nothing seems to be wrong with the idea of treating emission quotas as commodities to be sold on the market. Of course, the problems involved in establishing institutional arrangements at a global level for handling the auction may be considerable. The main problem is, however, that even though everyone may be treated equally as buyers on the market, everyone does not have the same economic possibilities. This is a matter of luck. Economic inequalities might be acceptable in various types of auctions on art or antiques. In connection to cases where more fundamental needs and interests are at stake, grave economic inequalities seem to be in contradiction to the suggestions from Rio, and probably to most people's sense of justice. It should be noted that the proposal does not determine how to use the surplus from the auction. The surplus could be distributed in the interests of those nations which are economically deprived. Until more precise arrangements of this kind are presented, however, I consider proposal A to be at best inadequate.

B. *Decide on global maximum emission - reduce emissions of all nations by an equal percentage (distribute quotas in proportion to present emissions)*

Basic idea: The greenhouse effect is a mutual

problem, and everyone should contribute to the solution. Similar to other international agreements (CFCs, SO₂), all nations ought to reduce emissions by the same percentage in order not to disturb customary usage in an uneven way. All nations are thus treated equally, and the precedent established in similar international agreements is followed.

The problem is that the polluter is favoured in this proposal. Those who pollute most get the biggest shares, and latecomers are left in the lurch. Instead of making the polluters pay, they become privileged. The basic criterion is thus entitlement based on luck and usage. However, the fact that polluters are privileged in the first place seems reason enough to make proposal B unacceptable.

C. *Decide on global maximum emission - distribute quotas in proportion to population size and allow redistribution through trade*

Basic idea: All inhabitants of the globe should be seen as having an equal share in global commons. They should therefore be given equal access to these commons within commonly decided limits. Redistribution of quotas through trade should be allowed as it favours those nations which pollute least and makes the polluter pay. Thus, redistribution is based on desert.

This proposal seems to be in line with the principles listed above. A few serious problems should be noted, however. Let me mention just two of the most obvious. Firstly, differences in population growth have to be considered. If an agreement is made along the lines of proposal C, it must be decided whether a growing population should result in larger quotas (thus limiting the quotas of countries without population growth), or whether each nation should distribute a fixed number of quotas to a growing number of people (whereby population policies are furthered).

Secondly, there is a group of nations which emit large amounts of carbon dioxide, although they are not among the richest nations. This is the case, for instance, in Eastern Europe and in the former Soviet Union, and it will soon be the case in a series of developing countries of which especially China should be mentioned. Energy is used very inefficiently in these countries, but they do not have the economic means, at least for the time being, to invest in more efficient technology. Are such nations to be treated like the more wealthy nations which have better opportunities to use efficient technology? A country like China has the additional problem that

its large reserves of coal become worthless if a strategy is chosen which reduces emissions of carbon dioxide. Whether this is a case for compensation is not obvious at all.

D. Decide on global maximum emission - distribute quotas in proportion to potentials for absorbing greenhouse gases

Basic idea: All nations equally should keep a balance between emission and absorption of greenhouse gases. Therefore, either the population size or the use of fossil fuels per capita should be adjusted accordingly.

The problem here is that potentials for absorption of carbon dioxide are very unevenly distributed and populations are in no way distributed along the same lines. Consequentially, there will be losers and winners, and the distribution of gains and losses will have no direct relationship to criteria like desert, need or ability. Once again we have a solution based on plain luck. In games like roulette this may be an appropriate allocation criterion, in relation to solving the problem of an increasing greenhouse effect in an equitable way, it does not seem right. It should be mentioned, however, that this is the way entitlements of resources are distributed. We currently accept that some nations are rich in resources, while others are not.

E. Make net costs equal for all nations in relation to GNP (or GDP) per capita - distribute quotas accordingly

Basic idea: The greenhouse effect is a common problem that all parties should participate in solving in proportion to their means and abilities. The quotas should therefore be distributed in a way that, on the one hand, makes everyone pay, but that, on the other hand, makes the wealthiest nations pay the largest shares.

This proposal is based on a strong assumption about the global community. The global community is conceived of as a political community in the sense described above - including redistributions of goods according to needs and abilities. The weakness of the proposal is first and foremost whether the wealthy countries will be willing to accept the responsibilities suggested by the proposal. Maybe the idea of a global community is revealed through the negotiations to be nothing but a fairy dream.

F. "The Kantian Rule"-- each country decides a maximum emission, equal to or less than what is

reckoned to be acceptable according to a universal standard

Basic idea: No nations should make exceptions for themselves. All nations should act according to what they find acceptable as a general rule - even though other nations might use different standards.

This proposal is based on the idea that nations can act independently on moral grounds even when doing so may work against their own national interest. There are various ways in which the proposal can be interpreted. One way is to go straight to the ideal solution, another is to be content with conditional justice as described above, or along the lines of the rule of thumb suggested by Peter Wenz. I find the idea stimulating, as it shows a line of action which is not dependent on the establishment of a global treaty. A problem here is that some nations might be content with very little.

In the first diagram in the Appendix, I have tried to compare the above proposals to the principles which were agreed upon in Rio, and in relation to the implicit concepts of equality and criteria of justice. In the second diagram, I have tried to evaluate the proposals in relation to the incentives needed to combat global warming, and to the incentives required in order for nations to accept the rule. At the bottom of the second diagram, I have pointed to the central problem of each of the proposals.

None of the proposals are ideal, and all of them are in need of supplementary regulations. It does seem to me, nevertheless, that the idea of an equal right for all to emit within commonly decided limits is a suitable basis for further considerations. There are still other proposals or combinations of the above proposals which are attractive in various ways. For instance, if no common ground can be found at a global level, the "Kantian rule" offers a way for nations who have no intentions of running away from what they themselves consider to be obligatory.

6. Instead of a conclusion

The threat of global warming faces us with a series of ethical problems. I have presented some of them above in a rather condensed manner, and I have made various points along the way which suggest in what directions I believe conclusions should be sought. I have also tried to make it clear where some of the hard difficulties and dilemmas reside. Rather than trying to bring all of these points together into a single, final conclusion, I shall instead bring forward

a dimension not dealt with hitherto.

So far, I have mentioned only human interests, needs, and values. The subject matter has been justice among human beings. This, no doubt, is too narrow a viewpoint, in as much as an increasing greenhouse effect influences other species as well. A more comprehensive presentation ought therefore to include a discussion about the kinds of obligations which this fact imposes. This is a task, however, which lies beyond the scope of the present article. Nevertheless, it should not be neglected.

Whether justice is the proper category to use when dealing with obligations towards other species is questionable. Neither is it altogether obvious how far we should climb down the ladder of life, so to speak, when trying to do justice to all. Should we just include "subjects-of-a-life" into the spheres of justice, as Tom Regan suggests⁵², or should we go further and include all sentient beings, stopping somewhere between shrimps and oysters, as Peter Singer proposes⁵³, or should we follow Paul Taylor and include all "teleological-centers-of-life" - from elephants, foxes and milch cows to carrots, phytoplankton and intestinal bacteria?⁵⁴

Is biospheric egalitarianism a reasonable option? I find Taylor's radical defense of it thought-provoking, but not convincing (nor consistent). As far as I can see, we cannot avoid making some kind of distinction between moral standing and moral significance, as has been proposed by Kenneth Goodpaster and Robin Attfield.⁵⁵ Although we may accept giving some kind of moral standing to all living beings (we should not torture and kill birds, nor bees, nor even spiders arbitrarily), we are not thereby committed to giving equal weight to the interests of all. It is difficult to see, for instance, how we, without making such a distinction, could defend preserving predators despite the numerous silent protests of the prey.

The kind of weighting which follows from making a distinction like this could still be seen as a matter of providing justice to all. In that case, justice is probably best understood as a virtue rather than as a quality attached to a certain set of principles. It is a question of weighting goods before it is a question of making rules. In general, it might be advisable not to use up all one's energy looking for negative restraints, interests to be defended and rights to be established, in order to set up a fool-proof moral algorithm. The energy could probably be used better in the more positive endeavour to find sustainable and aesthetically satisfying ways of dealing with our

natural surroundings, even if thereby interfering with the lives of some insects, birds, or animals.

I do not intend to speak against awareness of the well-being of members of other species. Nevertheless, if we are to take rights seriously, using them as "trump cards" in legal and political decision procedures, as suggested by Ronald Dworkin⁵⁶, the extended use of rights in relation to other species would make it quite difficult for us to act at all. There would always be some living being with a trump card outdoing our own intentions. Whether or not we should be talking about rights, however, the inclusion of moral relations to other species would undoubtedly strengthen precaution as a main objective in energy policy, as well as in policies concerned with other areas where we influence our surroundings in substantial ways.

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NOTES

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2. *Dansk Energipolitik 1976* (Danish Energy Policy 1976), Department of Energy, Ministry of Trade, Copenhagen 1976.
3. *Energiplan 81* (Energy Plan 81), Ministry of Energy, Copenhagen 1981.
4. *Udvikling og initiativer på energiområdet. Statusnotat 1994* (Development and Initiatives in the Energy Field), Ministry of Energy, Copenhagen 1994.

5. World Commission on Environment and Development: *Our Common Future*, Oxford 1987. The Danish government made a national follow-up to the report, *Regeringens handlingsplan for miljø og udvikling* (The Government's Action Plan for Environment and Development), Copenhagen 1988, which announced a change in energy policy.
6. *Energi 2000. Handlingsplan for en bæredygtig udvikling* (Energy 2000. Action Plan for a Sustainable Development), Ministry of Energy, Copenhagen 1990.
7. *Ibid.* p. 8.
8. IPCC: *Climate Change*, Oxford 1990. Policymakers Summary, p. xi.
9. *World Resources 1994-95*, New York/Oxford 1994.
10. *Drivhuseffekt og klimaændringer - hvad kan det betyde for Danmark* (Greenhouse-effect and Climate Change - what can it mean for Denmark), Ministry of the Environment, Copenhagen 1992.
11. This was the conclusion from calculations made by independent researchers in Jørgen Nørgaard *et.al.*: *Energi for fremtiden. Alternativ Energiplan 1983* (Energy for the Future. Alternative Energy Plan 1983), Copenhagen 1983.
12. Plato. *The Republic*, ed. Desmond Lee, Harmondsworth 1974, p. 104 (359a).
13. Th. Hobbes: *Leviathan*, ed. C.B. Macpherson, Harmondsworth 1968, p. 192.
14. John Rawls: *A Theory of Justice*, Oxford 1972.
15. Michael Sandel: *Liberalism and the Limits of Justice*, Cambridge 1982, p. 46.
16. This point is stated clearly in relation to Rawls' theory in Brian Barry: *Theories of Justice*, London 1989, Chp. V.
17. This is the solution to the problem of intergenerational justice suggested by John Rawls, see Rawls *op.cit.* pp. 128f. A similar point is made in John Passmore: *Man's Responsibility for Nature*, London 1974, Chp. 4.
18. Peter Wenz: *Environmental Justice*, New York 1988, p. 339.
19. Karl-Otto Apel: "Kann der post-kantische Standpunkt der Moralität noch einmal in substantielle Sittlichkeit 'aufgehoben' werden?", in: *Moralität und Sittlichkeit*, ed. Wolfgang Kuhlmann, Frankfurt am Main 1986.
20. It should be noted that Kant was aware that the moral actor often is biased. He therefore requested strongly that in order to avoid "moral egoism", everybody should discuss moral questions with others before making judgments. See, for instance, his *Anthropologie in pragmatischer Hinsicht*, ed. Karl Vorländer, Hamburg 1980, § 2 "Vom Egoism".
21. John Rawls: "The Idea of an Overlapping Consensus", in: *Political Liberalism*, New York 1993
22. This point is made in John Rawls: *Political Liberalism*, *op.cit.*, pp. xxiiiiff and 148f.
23. Rawls: *A Theory of Justice*, *op.cit.*, pp. 83ff and 251ff.
24. Cf. Michael Sandel *op.cit.* pp. 122ff.
25. Jürgen Habermas: "Diskursethik - Notizen zu einem Begründungsprogramm", in: *Moralbewußtsein und kommunikatives Handeln*, Frankfurt am Main 1983, and *Erläuterungen zur Diskursethik*, Frankfurt am Main 1991.
26. Michael Walzer: *Spheres of Justice*, Oxford 1983.

27. I think this way of thinking is similar to The Concentric Circle Theory presented in Peter Wenz *op.cit.*, pp. 310ff.
28. Aristotle: *The Nichomachean Ethics*, ed. David Ross, London 1972, Book V and VIII-IX; *The Politics*, ed. T.A. Sinclair, Harmondsworth 1976, Book III-VII.
29. Michael Walzer *op.cit.*.
30. Robert Nozick: *Anarchy, State and Utopia*, New York 1974.
31. John Locke: *The Second Treatise of Government*, ed. J.W. Gough, Oxford 1966, p. 15.
32. Locke *op.cit.*, p. 18.
33. Klaus Günther: *Der Sinn für Angemessenheit. Anwendungsdiskurse in Moral und Recht* Frankfurt am Main 1988.
34. David Ross: *The Right and the Good*, Oxford 1930, s. 19ff.
35. R.M. Hare: *Moral Thinking*, Oxford 1981, pp. 38ff.
36. For a good overview of positions which are still central to the debate, see Robin Attfield: *The Ethics of Environmental Concern*, Oxford 1983, esp. chps. 6 and 7. See also Friederike von Ketelhodt: *Verantwortung für Natur und Nachkommen*, Pfaffenweiler 1993, for references to the German debate.
37. Rawls: *A Theory of Justice*, *op.cit.*, pp. 62f, 92ff, 253ff, 395ff, 424ff.
38. See Nozick *op.cit.*
39. Rawls *op.cit.* p. 291. For a further discussion, see Brian Barry: *Theories of Justice*, *op.cit.*, pp. 189ff, and John Broome: *Counting the Costs of Global Warming*, Cambridge 1992, pp. 38ff.
40. I believe that I am concluding along similar lines as Brian Barry, cf. his "Intergenerational Justice in Energy Policy", in: Douglas Maclean and Peter G. Brown (ed.): *Energy and the Future*, Totowa NJ 1983; "Justice between Generations", and "The Ethics of Resource Depletion", in: B. Barry: *Democracy, Power and Justice*, Oxford 1989.
41. Mark Sagoff: *The Economy of the Earth*, Cambridge 1988, pp. 60ff.
42. Parfit's argument can be found in "Energy Policy and the Further Future: The Identity Problem", in: Maclean and Brown *op.cit.*
43. Sagoff *op.cit.* p. 63.
44. Probably the best known examples among the various attempts to evaluate the cost and benefits of global warming in economic terms are W. Nordhaus: "To Slow or not to Slow: The Economics of the Greenhouse Effect", in: *The Economic Journal* 101, 1991 og W. Cline: *Global Warming. The Benefits of Emission Abatement*, OECD, Paris 1992. For a further discussion: James C. White *et.al.* (ed.): *Global Climate Change. The Economic Costs of Mitigation and Adaptation*, New York 1991.
45. Similar doubts are put forward in Peter G. Brown: "Why Climate Change is not a Cost/Benefit Problem", in White *op. cit.*
46. A similar point of view is put forward in a more elaborated way in Sagoff *op.cit.*, esp. chp. 2: "At the Shrine of Our Lady of Fatima; or, Why political questions are not all economic".
47. Jean-Jacques Rousseau: *The Social Contract*, ed. Maurice Cranston, Harmondsworth 1968, p. 63.
48. Cf. Albrecht Wellmer: "Freiheitsmodelle in der modernen Welt", in: *Endspiele: Die unversöhnliche Moderne*, Frankfurt am Main 1993, p. 39.

49. Scott Barrett: "'Acceptable' Allocations of Tradeable Carbon Emission Entitlements in a Global Warming Treaty", in: *Combating Global Warming*, UNCTAD, New York 1992, p. 88. A similar point is made in Udo E. Simonis: "Sustainable Development: How to Allocate CO2 Emission Reductions?", in: Frank Dietz *et.al.* (ed.): *Sustainability and Environmental Policy*, Berlin 1992, p. 285.
50. Cf. Barrett *op.cit.*; Adam Rose: "Equity Considerations of Tradeable Carbon Emission Entitlements", in: *Combating Global Warming*, *op.cit.*, pp. 59f. Both articles discuss a variety of proposals for distributions, some of which are not included in the present presentation.
51. It should be noted that throughout the following discussion I have used the idea of allocating tradeable emission permits or quotas. There is an important issue to be discussed, whether this is the best way of handling the problem. This discussion lies outside the scope of this article.
52. Tom Regan: *The Case for Animal Rights*, London 1983.
53. Peter Singer: *Animal Liberation*, New York 1975.
54. Paul W. Taylor: *Respect for Nature*, Princeton 1986
55. Attfield *op.cit.* chps. 8-9.
56. Ronald Dworkin: *Taking Rights Seriously*, Cambridge Mass. 1977.