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Climate Ethics

Ethical Analysis of Climate Science and Policy

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Ethical Principles Governing the Basic Foundations on Climate Change Policies

By [Rock Ethics Institute](#) on July 14, 2008 6:56 AM | [1 Comment](#)

I. Introduction

This post reviews certain ethical issues and concerns that need to be considered in climate change policy formation in upcoming international negotiations. Topics examined here include:

- [Links Between Ethics and Climate Change Policy Formation.](#)
- [Ethical Limits of Certain Economic Analytical Tools.](#)
- [Ethics and Interpretation of the Goal of the United Nations Framework Convention on Climate Change.](#)
- [Ethics and Greenhouse Gas Atmospheric Stabilization Levels.](#)
- [Ethical Principles and National Greenhouse Gas Allocations.](#)
- [Ethical Issues and National Greenhouse Gas Allocations.](#)
- [Conclusions and Recommendations.](#)

II. Links Between Ethics and Climate Change Policy Formation

Climate change policy formation is ultimately an ethical issue (Rayner et al 1999). That is no amount of scientific analysis by itself can prescribe what should be done. What should be done about climate change policy is a matter of right or wrong and what duties attach to human actions, that is, a matter of ethics. Economic analyses also entail ethical assumptions (see below).

It has often been said that there should be a serious debate about ethical aspects of climate change. If so, discourse ethics (Habermas 1983) can serve as a procedural ethical framework that makes much room for substantial arguments. Discourse ethics seeks to explain basic moral commitments which are entailed in the logic of moral argumentation itself. Discourse ethics maintains that normative validity cannot be understood as separate from the argumentative procedures being used. This holds for climate ethics, too.

According to discourse ethics, there is a 'logical' superiority of arguing over bargaining (and, thus, of discourse ethics over rational choice theory). According to discourse theory, normative rules to be followed on climate change policy must be settled through rational argument, not bargaining among positions.

III. Ethical Limits of Certain Economic Analytical Tools

Cost-benefit analyses (CBA) should be used as decision criterion only if there is nothing of moral importance at stake (Randall 2002). Therefore CBA should not be decisive in climate change issues. It should be used as a piece of information among many.

The idea of calculating an economically optimal ('efficient') climate path is misleading. There is no single utility function for mankind over centuries. Moreover, many value-laden problems are implicitly entailed in economic modelling (value of a statistical life, damage function, rate of discount, distribution of benefits and disadvantages, etc.). These variables must rest on ethical judgments and cannot be derived from empirical facts alone.

Cost-benefit analyses and other economic evaluations often rely upon discounting. Discounting implies the possibility of severe accounting errors in long-term environmental problems (see



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contributions in Hampicke & Ott 2003). For ethical reasons, it remains highly doubtful whether global climate change falls within the scope in which 'normal' discounting should be applied. The debate about the so-called Stern-Report has been a debate about the very low discount rate (0.1%) being used in the report. Such discount rates can only be defended on ethical grounds.

The value of the environment cannot be derived from scientific data, but must entail, broadly speaking, a 'value-judgement', that cannot be reduced to what people are willing to pay for environmental entities. Moreover, we do neither know the willingness of future generations to pay for a moderate climate nor their willingness to accept the climate change we imposed upon them.

IV. Ethical Interpretation of the Goal of the United Nations Framework Convention on Climate Change

Article 2 of the United Nations Framework Convention on Climate Change (UNFCCC) contains the goal of the goal of the convention which provides:

The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner. (UNFCCC, 1992)

The interpretation of Art. 2 of the UNFCCC should avoid naturalistic fallacies that attempt to determine what should be done ethically by looking to empirical evidence alone and thereby conflating what "is" with what "ought to be." 'Physical' criteria for determining acceptable climate change policies are always related to implicit judgements about the acceptability of long-term risks. This is true for some proposals that have been advanced for interpretation of Article 2 such as the Tolerable Windows Approach or a Soft Landing Approach as well which often inappropriately conflate what "is" with "what ought to be". IPCC has usually avoided making explicit value-judgement but has suggested such judgments by using yellow and red colours in visuals about climate change danger.

The term 'dangerous' in Art. 2 is related to concepts of risk (danger, hazard) and uncertainty which are inherently related to ethical concepts (gain, damage, precaution, distribution, risk aversion, care). There can be no risk theory without any implicit ethics (Skorupinski and Ott 2000). If so, no interpretation of Art. 2 can avoid addressing ethical questions.

According to discourse theory, value-judgements should be justified by argument. (It is misleading to shy away from moral reasoning just because such reasoning is not 'scientific', but 'ethical'.) Thus in interpreting Article 2, well considered, reflective and balanced ethical judgments are a third category between scientific derivations ('proofs') and arbitrariness. There are viable ethical strategies of arbitrariness-reduction in order to reach such reasonable judgment. One strategy is to look for ethical convergence among moral theories.

If so, a basic standard in climate policy might be justified on ethical grounds. Art 2 of the UNFCCC addresses such standard ('ultimate objective') but cannot serve as standard without further ethical interpretation and specification.

The general structure of Art. 2 is this: Three basic requirements (food production, natural adaptation of ecosystems, sustainable economic development) must be implemented simultaneously in the overall courses of actions which are devoted to reach specific non-dangerous GHG-levels in a certain time frame. These three requirements are themselves open to ethical interpretation.

Art 2 defines the 'ultimate objective' of the UNFCCC. The concept of a political objective entails the requirement that it should be specified in its decisive parameters (quantity, time-frame, actors, compliance, etc.). These additional issues will need to be specified to transform the UNFCCC's ultimate objective into a true political objective. If so, a commonly shared ethical interpretation of Art. 2 UNFCCC (if there is any) could serve as basic standard in global climate policy (Ott et al. 2004).

Currently, there is a plurality of ethical theories that could be applied to understanding Article 2. However, it is logically possible to derive same or similar judgments from competing ethical theories. If this logical possibility is actualized with regard to a certain moral problem, there is "ethical convergence." Ethical convergence generally counts as a strong rationale in (applied) ethics.

There is a broad consensus among ethicists that (members of) future generations have binding moral claims upon us. All so-called "No-Obligation-Arguments" about obligations to future generations are unsound (Ott 2004).

A basic distinction can be drawn between deontological and welfarist (utilitarian) ethics. In the case of climate change, either a) a given set of deontological principles must be applied to classes of more or less probable consequences (deontologic approach); or b) the overall future hedonic changes which are involved in climate change impacts must be taken into account fully (welfarist approach). These hedonic considerations include, but are not limited to, impacts on water, energy, health, agriculture, and biodiversity. Since nature contributes to the overall quality of life in several respects, hedonic changes can never be reduced to changes in the prices for

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commodities.

V. Ethics and Greenhouse Gas Atmospheric Stabilization Levels

To deontologists, there is a fundamental obligation to avoid injuries in actions as well as in institutions. CO₂-emissions can be regarded as kinds of indirect and systematic injury to other persons (O'Neill 1997). If the burden of climate change may fall onto vulnerable groups whose members did not contribute much to the problem, this should be perceived as a case of environmental victimization. Such victimization is morally repugnant. Climate change is to be perceived as victimization of poor people by rich and powerful nations.

There is a strong convergence in utilitarianism and in welfarist approaches towards low stabilization levels (Broome 1991, Lumer 2000). No utilitarian can agree to high stabilization levels since the overall and long-term hedonic changes are negative at a high confidence level. Since Sedgwick, utilitarians have opposed discounting future utilities. Maximizing net present value is not an acceptable principle of ethical utilitarianism. The probable impacts of climate change are not compatible with the ethical idea to maximize the overall difference between good and bad states of the world in the course of time. To utilitarians, the great and grave suffering that climate change will impose on humans can never be outweighed by increase in economic growth in wealthy countries.

Under a Rawlsian "veil of ignorance" (Rawls 1971) which covers time and place of one's life-span, prudent persons would clearly opt for low stabilization levels. (This option is a rational "maximin strategy".)

Neo-Aristotelian ethics argues that a broad agreement of different groups of experts counts as a presumption in favour of practical reason. There is, in fact, a broad agreement about a 2°C GMT target (compared to pre-industrial temperatures), a $0.2^{\circ}\text{C}/\text{decade}$ objective and a 450 ppmv CO₂ objective (see overview in Ott et al 2004).

All approaches in physiocentric environmental ethics such as biocentric or ecocentric approaches converge strongly towards low or very low stabilization levels because such levels can be derived directly from obligations toward natural beings. This is so because, among other reasons, climate change is seen as a paramount threat to global biodiversity.

In cases of global and unique environmental problems, the choice of criteria of risk evaluation should be independent from one's personal degree of risk aversion. Most ethicists agree that in cases with high damage potential a prudent society should better err on the side of caution. If so, more precautionary criteria should be chosen (Jonas 1979).

Result of ethical analysis: Most current ethical theories (utilitarianism, welfarism, Kantian deontology, Aristotelianism, Rawlsian approaches, Hans Jonas' ethics of responsibility, physiocentric environmental ethics) suggest low (or very low) stabilization levels. For this reason, there is a strong and remarkable convergence in climate ethics that low stabilization levels are required. All ethicists will reflect and modify their judgment according to new information.

This overall ethical picture would not change if it would be enlarged to the realms of different religious ethics. (As paradigm cases one might read the lectures of the Archbishop of Canterbury or of the Ecumenical Patriarch.) Meanwhile, many Christian theologians accept that climate change is warfare against creation.

Who wishes to opt for higher stabilization levels on ethical grounds, has to favour either contractarianism or neoclassical economic approaches of net present value maximization. If one makes such choice, one is committed to these theories as a moral person. Yet both contractarianism and neo-classical economic approaches raise severe ethical problems.

All things considered, 450 ppmv CO₂ seems to be a reasonable (political) number for an upper limit although ethically it is desirable to keep below this ceiling if possible. We propose a 450 ppmv CO₂ minus x as a reasonable atmospheric target to prevent judgment on a not too dangerous human interference with climate system.

However, if one wishes to be sure to reach a 2°C target of global mean temperature -increase one has to opt for lower numbers since 450 ppmv CO₂ (roughly 490 CO₂-eq) in conjunction with medium or high climate sensitivity is assumed to result in $2.5\text{-}3^{\circ}\text{C}$ increase in global mean temperature.

This ambitious global objective (450 ppmv CO₂) is still within reach but time is running short. Probably, some overshoot will occur since global emissions are steeply rising. It is better to face some overshoot for several decades than to agree to higher stabilization levels.

The requirement in Art. 2 to secure food production must consider the effects of climate change not only on global harvest but also on the dimensions of local or regional food security. The amount of global harvest alone does not imply food security. Food security goals should also carefully consider impacts of climate change for tropical and subtropical regions. This casts serious doubts on strategies to grow biofuels on large scales in tropical and subtropical countries. To substitute oil by biofuels might impose food-risks to poor people. Such kind of substitution might add more injustice to the already existing injustice of climate change.

Interpreting. Article 2's requirement that food production be attained, impacts on freshwater resources must be considered given that freshwater is food and necessary to food production.

The ongoing combination of a) destruction and fragmentation of natural habitats and b) ecosystemic impacts of climate change which put an additional threat on such natural systems is regarded wrong by all current approaches in environmental ethics. Climate change also puts a huge threat on biodiversity. If so, the interpretation of the ecosystem-adaptation-constraint of Art. 2 should take into account the general objectives and values of the international conventions for protection and conservation, including the Convention on Biodiversity, Ramsar Convention, Convention on Migratory Species and other conventions.. This would strengthen the coherence of international environmental regimes.

There are different interpretations of the sustainable-development-constraint of Art. 2 due to different approaches in the 'sustainability'-spectrum (weak, intermediate, strong). There are sound reasons to adopt "strong sustainability" as general approach (Ott and Döring 2004). The concept of strong sustainability entails a rule to maintain the stocks and funds of natural capital in good shape over time. If so, to 'enable economic development to proceed in a sustainable manner' (Art 2) means that economic development is to be restricted by a constant natural capital rule, a rule to invest in natural capital, and by well-known management rules for renewable and non-renewable resources as well as for natural sinks. Therefore, this third constraint is not about unlimited growth of GDP.

Art. 2 does not exclude the option to prevent a dangerous climate change by means of adaptation. Adaptation is neither avoidable nor repugnant in itself. The ecological, cultural and social dimensions of adaptation should not be underestimated by using simple examples as paradigm cases (as building dikes or growing different crops). For this reason, mitigation will be a necessary condition of successful adaptation. The relationship between adaptation and mitigation is neither 'either-or' nor 'the-more-the-less' but 'the more mitigation efforts will be undertaken the more easy adaptation will become'.

Conservation of nature (rivers, lakes, mires and peatlands, forests, urban greenfields, soils) will be highly important as adaptation-strategy (Ott 2005). Adaptation should be encouraged and fostered by political programs. There is a moral duty of rich nations to support adaptation policies in poor countries. This duty is not a duty of giving aid but has to be perceived as a duty of compensatory justice.

It seems possible to judge different emission scenarios morally. The SRES-'story lines' can be made objects of ethically informed choice (WBGU 2003). There are clear advantages of Scenario B1 (Ott et al. 2004). For this reason, emissions pathways identified in the IPCC scenarios have moral significance.

VI. Ethical Issues and National Greenhouse Gas Allocations

If there is a low stabilization level, the total sum of future emissions in this century has to be limited. If so, remaining emission entitlements are to be distributed among parties. There are ethical and political questions about burden sharing and allocation schemes (Shue 1992). There are different equity-principles to be applied to emission entitlements.

An argument for egalitarian allocation principles can be made as follows:

- The atmosphere is a global sink for GHG.
- This sink has to be regarded as being a global common pool good.
- It is not adequate to zone the atmosphere (as zoning oceans) or to model it as distinct 'bubbles'.
- The atmosphere is to be perceived as "res communis", not as "res nullius".
- Industrialized countries have used this sink in the past and, thereby, made the remaining sink capacity scarce. There is some historical responsibility.
- There is a presumption in favor of equality in most theories of distributive justice. This presumption can be applied to the case of common pool goods.
- Under this presumption the burden of proof should fall on the side of those who advocate unequal distribution of emission entitlements.
- Unless those who advocate unequal allocation principles can make sound moral arguments, egalitarian principles hold.

The ethical principles on allocation identified thus far support Contraction and Convergence (C&C, Meyer 1999). Although Contraction and Convergence allocation formula can be justified on moral grounds, yet under this allocation method some modifications based upon other ethical considerations could be justified. Since "the devil is in the details" C&C must be refined in several respects in order to avoid pitfalls.

VI. Recommendations and Conclusions

For the reasons stated above, the following principles provide moral persons which orientation in climate ethics and politics:

- 'ceiling' of 450-x ppmv CO2
- $x \approx 0.2^\circ\text{C}/\text{decade}$ increase of global mean temperature GMT to allow for natural adaptation of ecosystems
- scenario-line B1
- strong sustainability
- egalitarian (per-capita) emission entitlements as long-term objective.
- The more mitigation, the more successful adaptation will be.

Approaches to political negotiations at the COP/MOP must be modified to be consistent with these moral considerations.

Ethical analysis of COP/MOP proposals is also useful to identify and evaluate obstacles and barriers to negotiations.

Because all proposals must be negotiated by the COP in order to achieve adequate consideration of ethically acceptable options for post-Kyoto regimes under real-world-conditions, the following proposals on agenda setting are recommended:

- Do not let considerations of Contraction and Convergence run parallel to segments of negotiations that are on different tracks, There will likely be different stages and different speeds of negotiations on different issues. There will, for instance, likely be a Kyoto-track, a decarbonisation-track and an adaptation track (CAN 2003). Contraction and Convergence issues must be integrated into different tracks.
- Split contraction from convergence for a while! First things first! Contraction should be first. Focus on more stringent targets for the second commitment period of Kyoto Protocol (Kyoto-track).
- The EU must continue to take the lead on these issues on all tracks.
- A body should be established to try to reach common moral ground in COP and IPCC.
- Because of current differences between the USA and some rapidly developing countries (China, India) on whether developing nations should commit to emissions constraints, a system of incentives for rapidly developing countries to accept restrictions on their emissions should be considered.
- Consider 'clean coal' options carefully so that this technology is not adopted before its ability to reduce emissions is demonstrated
- Efforts should be made to explain to the broader public that the true opportunity costs of climate change mitigation could be a loss of a tiny fraction of future annual GDP only (if the transition period will be properly managed). Because of moral and uncertainty reasons, the public should be warned not to accept the presentation of 'absolute \$ numbers'.
- The international community should be educated that those who play leadership-roles in climate policies will be responsible for large benefits to global society in the longer run (Porter-hypothesis, SRU 2005).
- The international community should not try to resolve all problems of global poverty by climate negotiations.
- The US should become part of the solution and must not remain part of the problem.

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This overall argument is to be found at length in a report written for the German Federal Environment Protection Agency. Konrad Ott et al, *Reasoning Goals of Climate Protection: Specification of Article 2 UNFCCC* (Berlin: Umweltbundesamt, 2004). Thanks to Christian Bartolomäus, Ulrich Hampicke, Barbara Muraca, Detlef Sprinz and Elisabeth Zelljadt

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1 COMMENT

ameyer | July 14, 2008 12:29 PM | Reply

Caution is necessary when considering one of the proposals here viz issues of contraction and convergence should be *separated*.

I would re-state that as *sequenced" i.e.

1. Contraction: Concentrations computed first with different rates of sink failure
2. Contraction: Convergence computed from the results of step one, as here: -

http://www.gci.org.uk/Animations/BENN_C&C_Animation.exe

In other words, the *integral* is what governs the prevention argument.

Briefing here: -

<http://www.gci.org.uk/briefings/ICE.pdf>

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