Climate Change 01/2004

ENVIRONMENTAL RESEARCH OF THE
FEDERAL MINISTRY OF THE ENVIRONMENT,
NATURE CONSERVATION AND NUCLEAR SAFETY

Research Report 202 41 252
UBA-FB 000xxx

Reasoning Goals of Climate Protection.

Specification of Article 2 UNFCCC

by

Konrad Ott
Gernot Klepper
Stephan Lingner (coordination)
Achim Schäfer
Jürgen Scheffran
Detlef Sprinz

with a contribution of

Meinhard Schröder

Europäische Akademie GmbH, Bad Neuenahr-Ahrweiler

SUMMARY

Summary

Art. 2 UNFCCC

> "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."

The article as integral part of the whole Convention was adopted in consensus of the negotiating nations and is - although being an ultimate and "universal" objective of a global environmental regime - open for probably *conflicting interpretations.* The specification of the global climate protection objective, given by the UN Framework Convention on Climate Change becomes especially urgent with respect to worrying scenarios of potential future environmental conditions emerging from scientific projections of climate change and its impacts. Efforts on corresponding specifications have to prove for appropriateness and fairness, as societal problems are deeply involved.

Concrete targets beyond the Kyoto perspective have not yet been commonly considered (see also UNFCCC 1997) and *few efforts* had been devoted to the question of how Art. 2 might be understood. Thus, a reasonable specification of the overall climate protection objective is needed for an acceptable implementation of the Convention and the realization of its goal.[2] Recommendations for comprehensive and integrated research on the task to interpret art. 2 had been recently confirmed (Izrael et al. 2002). This situation might give reason for research on the problem to develop an acceptable strategy to specify the ultimate but yet to be interpreted goal of the Framework Convention.

Defining a desirable long-term climate goal as a problem-driven task is only in part an effort of science, as societal questions arise concerning (normative) evaluations of reasons, justifications and relevance decisions of any action as well as related risk or uncertainty assessments and feasibility considerations of politics and economics, which have to be included and integrated. Therefore, approaches towards acceptable specifications of the climate protection objective have to overcome disciplinary barriers as well as obstacles from

[2] Corresponding work may make specific problems of interpretation explicit but will not question the art. 2 or the Convention as a whole, as the Convention had been already adopted and ratified and is therefore seen as legal basis for further specifications.

the obvious conflict potential of any specification attempt. The task may be therefore only conducted in an *integrative interdisciplinary manner*.

The purpose of this study is – on the basis of the legal meaning of UNFCCC's Art. 2 - to uncover the general conditions, problems and consequences of specifying the Convention's meaning. They are then objects of ethical evaluation in view of the formulation of further conclusions. Subsequent reflections on the convergence potential of the relevant ethical theories and principles are expected to improve corresponding normative orientation. Finalising messages for decision makers submit sound statements towards the political practise of specification as well as recommendations for further research on relevant normative issues. The study results should therefore contribute to the development of feasible *and* acceptable strategies of specifying the ultimate goal of the UNFCCC. [3]

I. Major results and their reasoning

I.I Why should we specify?

Some actors or parties seem to be reluctant to any specification effort. Nevertheless, it has to be recalled that specifications are *constitutive for any political objective* and thus for the objective of the Parties to the FCCC. Otherwise, there would remain only the broad but vague objective to reduce emissions without binding obligations for any Party. And no-obligation to anyone might be seen as equivalent to a business-as-usual claim. Calls for specification in decisive parameters, like quantities, time-frame and actors are therefore *implicitly embedded in the FCCC and its Art. 2* as a political aim.

Concluding from this means, that specifying should be a *common interest of the Parties*, which is expressed by their membership to the Convention and its ratification. Claims of any Party *not to specify should be therefore rejected* (chapter A.4.3).

I.II Legal framing of the specification task

The obligatory interpretation of Art. 2 FCCC has to be thus conducted along its common *intended objective*, which is a binding claim from internationally adopted legal rules of the Vienna Convention of the Treaties (Art. 31)(B.1, B.3). This would mean an obligation to interpret Art. 2 in good faith and with regard to its original purpose, which corresponds also to

[3] This task presupposes the principal feasibility of an effective climate protection regime as well as consented interpretations of art. 2. However, failures of respective processes may not be excluded (Müller 2002).

the Kantian norm to act reasonably. Consequently, any *strategic or particularistic reasoning in this sense would not be acceptable*. The Climate Convention and related provisions might serve - in this sense - as a rule for interpretation.

Putting the Convention's ultimative goal in concrete terms must be related to risks explicitly. The comparison of different danger or risk standards, mentioned in the Climate Convention might lead to the conclusion, that *dangerous interference* as stated in Art. 2 in relation to the "adverse effects" of climate change (Art. 1) constitutes *a basic benchmark*, *which is oriented towards general obligations to prevent threatening damages* and not towards a dispensable avoidance of mere disadvantages.

Moreover, where there are threats of *serious, not to be compensated* or *irreversible* damage, lack of full scientific certainty should not be used as a reason for postponing precautionary measures. Corresponding commitments to action are constituted by the sphere of dangers and are backed by the precautionary principle of Art. 3.3. Therefore, *scientific uncertainty* basically cannot be used by any Party of the Convention as reasonable argument against regulations to cope with potential but severe dangers and corresponding threats.

The grounds of specifying a "danger standard" lie in the end in the *negotiation and decision competence of the Parties* for climate protection. This conclusion necessarily implies also a universal moral competence of the Parties and their Subsidiary Bodies if *legitimacy* of negotiations and *acceptability* of their results should be achieved. In the yet mostly undetermined legal framework of this climate regime, relevant universal ethical norms might become guidelines for the orientation of the Parties and their reasonable argumentation. Corresponding negotiations have to be distinguished from merely rational bargaining in a narrower sense. Fair procedures and a set of universal grounds are therefore surely the basis for *acceptable negotiation results* with long-term validity.

I.III Current positioning of political actors

The interpretation und implementation of the ultimate objective in Art. 2 UNFCCC is becoming a key issue in climate negotiations beyond the first commitment period. On the national *German level* there is a comparatively ambitious positioning of relevant institutions regarding emission reductions and concrete GHG levels. These are mainly justified by explicit reference to Art. 2. Quite similar positions are occupied by *European actors*, but mostly with less reference to Art. 2. On the *global level*, there is a lack of positioning on Art. 2 or long-term emission reduction goals by political actors.

Recent positioning of actors may already shape the current negotiation process and contribute to a *clustering of key players* into potential coalitions although the Parties have not officially positioned themselves on all crucial issues. Those who want to push the agenda towards the stabilization goal - such as the member states of the EU - are facing strong resistance by those who want to refuse or postpone any commitments (such as the US or key countries of the G77). Countries such as *Russia and some members of the Umbrella Group could become a tip in the scales* in setting the future agenda in one or the other direction.

The *heterogeneity of G77 induces potential conflicts within this group* that may contribute to slowing further progress on achieving the ultimate objective. Nevertheless, with increasing attention of developing countries to their own vulnerability to climate change the need for speeding up the process may prevail. A unifying crucial element within G77 seems to be *"equity" which develops into a cross-cutting issue* in negotiations, allowing to form coalitions between EU, G77 and other countries – thus challenging the US position. Nevertheless, the factual diversity of corresponding proposals towards realization of equity might unease this effort to some extend.

There has been argued that science should contribute to clarifying key terms and linkages in Art. 2 as part of the 4th IPCC Assessment Report. But the evaluation of dangerous climate change is widely perceived as a predominantly political task among the interviewed experts. Any prescriptions concerning the tolerability of dangers that may affect the *interests of key players* are not intended by the actors. The latter seems to be in strong contradiction to the above mentioned conclusions from the spirit of the ultimate goal of FCCC and the general rules of international treaties. Nevertheless, normative orientation on the grounds of ethical considerations is seen as necessary and is therefore strongly recommended for implementation.

I.IV Compliance with the ultimate goal: consequences and trade-offs

Any definition of the three provisions (ecosystem adaptive capacity, food production, sustainable economic development) that should be met along the path towards a stabilized level of greenhouse gases needs to be aware of the consequences that a particular decision imposes. The range of potential specifications of the three provisions is by now limited by the already ongoing climate change and its consequences. That means *certain reasonable definitions are in fact not feasible anymore*, e.g., with respect to already damaged ecosystems.

Among the feasible definitions it is helpful to consider the consequences of a particular definition of the three provisions if they were need to be met. *Any definition will have a particular set of consequences to societies* with respect to their quite different regional and distributional burdens. Hence, one cannot assume that defining a provision - e.g. what is meant by a food production that is not threatened - will be merely a technical consideration. It will not only influence food production itself, it will also affect the well-being of people in different locations and in different times. *Differentiated value judgements will be therefore necessary*. In addition, any definition will create the need to *balance one definition with the definitions of the other two provisions* since there are obvious trade offs between them. E.g., a restrictive definition of ecosystem adaptation will result in a threat to economic development and vice versa.

Moreover, many of the consequences of a particular definition of the three provisions are difficult to assess (for reasons of complexity), very uncertain, and often materialize with a long and possibly unknown time lag. Given these difficulties, it is *unlikely that a calculation of costs and benefits by numbers will come to satisfactory results*. This result and the necessity of value judgements may be put against argumentations that stress cost-benefit analyses as solely means to assess (future) impacts from climate change.

Therefore, outstanding challenges to address the meaning of the Convention's constraints properly are reasonable decisions about the appropriate size of ecosystems, food production entities and economic systems to be considered as well as the adequate notion of "natural adaptation" which will influence the practical implementation of the ecosystem constraint in specific, especially with respect to managed and/or unmanaged ecosystems.

I.V Technological options

Future technological options are seen as *relevant for the interpretation of Art. 2* UNFCCC with respect of (a) prospects for mitigation of dangerous human-induced climate change and (b) potentials for adjustment to expected adverse climate impacts.

On the level of specific options it can be stated, that:

- most currently discussed technological concepts may contribute to the Convention's ultimate goal. Few options (geo-engineering, nuclear technologies) are not applicable here, according to the provisions of UNFCCC and related documents.
- options which are necessary to exploit and feasible in the near-term are energy saving and efficiency improvements on all steps of the energy chain. Adaptation measures in

already endangered regions and the prevention of re-mobilisation of fixed carbon (forest and soil protection) should be considered, too.

- in the medium-term, options to reach the stabilization goal might be the progressive substitution of fossil energy supply by renewables in combination with appropriate energy distribution infrastructures (e.g., hydrogen and fuel cell technologies). For this, corresponding developments have to be conducted in time.

Overall, projections of climate change *and* technology development will pose a two-fold uncertainty on actors. Thus, the *potentiality of technological advance* and its direction will therefore rather reason its role in climate politics as complementary element than as an alternative to it.

I.VI Ethical evaluation

The term „dangerous“ in Art. 2 as well as its constraints have no strict scientific meaning. They are inherently related to normative problems. Thus, *no reasonable interpretation of Art. 2 can avoid to address ethical questions*.

The task of specification is often questioned by sceptical argumentation, but any Party having affirmed the commitment of Art. 2 can hardly defend extensive scepticism upon its implementation. Especially the sceptical emphasis of existent uncertainties combined with a general optimism about technological progress and adaptive capabilities of the future seems inconsistent. Additionally, it would be unsound to be highly critical about the “arbitrariness” of any specification but to accept the arbitrary outcomes of a “muddling through” in climate politics. Therefore, *sceptical conclusions on specification cannot be reasonably supported.*

There are deep disagreements about the *ultimate principles of ethics*. Despite those theoretical divides, reasonable *practical convergences* might be found on the layer of applied ethics. Such convergence is to be regarded as being sufficient to justify an overlapping consensus in the ethics of climate change.

Given some modest premises about intergenerational obligations and precaution, almost all current ethical theories and approaches converge towards a consensus with regard to the ultimate objective of Art. 2. They may speak in favour of *low stabilization levels and in favour of food security* (being a more stringent interpretation of „food production“). Moreover, the formulation of Art. 2 lacks any requests for maximising of utility. Therefore, *deontological ethics may prevail* as a means to interpret Art. 2. The results concerning appropriate stabilization levels would be possibly more ambitious than an utilitarian approach.

With regard to the problem of *moral standing for non-human beings* (demarcation problem) only pathocentrism seems to be well justified. This might have some consequences of how the „adaption-of-ecosystems"-constraint should be interpreted since pathocentrism may imply a moral obligation to conserve or preserve habitats of sentient creatures.

This presupposes, that moral obligations towards future generations are also given, which can be clearly reasoned (chapter E.). Therefore and according to a comparative standard, future persons have a strong moral claim to living conditions which are, on the average, not worse than those of our contemporaries. To egalitarians, this principle holds prima facie between generations in regard to natural resources. If "comparative" standards are to be combined with the precautionary principle, relatively low stabilization levels can be justified. If "absolute" standards (e.g., basic needs) are combined with some optimism about adaptation to climate change, stabilization levels might be somewhat higher.

The three restrictions mentioned in Art. 2 are seen as more *general objectives of a "universal society"* than the „ultimate goal" itself. They are constraints which must be fulfilled *prima facie* as well as in the case of human-induced climate change and in subsequent periods of reaching „safe" GHG-levels.

Different approaches in environmental ethics provide various grounds of how strict the *"ecosystem-adaptation"-constraint* should be interpreted. If pathocentristic obligations with regard to habitats of sentient wildlife are justified, as pointed out above, the „ecosystem"-constraint cannot be restricted to global cycles. Therefore the need to protect natural habitats on regional or even local scales is to be seen as an argument in favour of low stabilization levels.

Food availability is only partly a function of climate change; therefore, low stabilization levels can only be claimed by the food production constraint by adequate co-evaluation of all social, economical and cultural drivers of potential food shortages.

There are different interpretations of the *"sustainable-development"-constraint* of Art. 2 according to different theoretical approaches towards "sustainability". Correspondingly, evaluations of natural systems relative to the production of goods and services would lead to quite different results. This is especially relevant for balancing the needs of ecosystem adaptation and of sustainable economic development.

A coherent and ethically sound justified interpretation which parallels food security (as combination of global markets and local self-reliance), habitat protection and low GHG-levels

can be lined out. The *crucial ethical problem remains to give the „economic-development"-constraint an interpretation* which fits into this picture. If the first two constraints are interpreted more ambitiously, the interpretation of the third constraint could be weakened.

Considering the SRES report, quite *different emission paths* are conceivable, which might be assessed quite differently. However, the working group would favour future developments towards scenario B1,[4] with respect to the above mentioned convergence hypothesis and the obligatory objective and provisions of the Framework Convention. Nevertheless, a meta-ethical theory on prioritising specific aims of future developments is lacking. Therefore, an *assessment tool for evaluation* of possible future scenarios is proposed, which enables decision makers to make reasonable and transparent choices on the basis of a set of relevant criteria and principles (see E.15.5).

II. Meaning of the study results for the political practise

IPCC TAR (2001) indicates that *stabilization of GHGs would not yet materialize within the 21st century*. Variation in emission trajectories, climate sensitivity and other parameters together have a tendency to widen the envelope of potential impacts. Current legal interpretation does not provide specific guidance as to the rejection or acceptance of *particular solutions* considered by policy-makers. The *challenge for decision-makers* is to choose emission trajectories that are both feasible and represent reasonably ambitious levels of stabilization.

II.I Basic options

The ultimate goal of the UNFCCC can be achieved by mitigation, adaptation or by both. Adaptation may be necessary due to the time-delayed impacts of historical emissions. As adaptation proposals are associated with many uncertainties, proponents of those strategies should be willing to shoulder the burden of their feasibility. Decision makers will have to decide *which mix of mitigation and adaptations* to pursue – keeping in mind that mitigation has largely global effects, whereas the benefits of adaptation can reaped more exclusively by those, who invested into such policies.

Technological options for mitigation are of particular relevance to infrastructure awaiting retirement in the near future. The next decades will be most decisive for determining whether

[4] B1 resembles developments towards global decarbonization for sustainability and equity improvement.

lower vs. higher stabilization trajectories can be achieved. Above all, the development and utilization of *energy saving potentials* in different sectors is expected – esp. in the short-term – to enable significant mitigation of fossil fuel needs and related emissions worldwide.

II.II. The challenge of the ultimate objective

The goal of stabilization of concentrations of greenhouse gases at a "safe" level is augmented by *three additional constraints*. There is a strong interrelationship between these constrains which may lead to *trade-offs* between (i) ecosystems to be permitted to adapt naturally, (ii) secure food production, and (iii) sustainable economic development. Each of these three constraints can be assessed with respect to the spatial and inter-temporal scales, the uncertainties associated with each of the three constraints, as well as the distributional effects associated with climate impacts and policies considered to limit such impacts.

Policy-makers may impose restrictions on any of these trade-offs between the three constraints as well as the aforementioned four categories used for the assessment of the three constraints (see chapter D.1). These *restrictions* limit the set of available policy options. Decision-makers will have to find operational ways to deal with the question which scale of regional and temporal disruptions are acceptable to them or how to bridge the distributional implications of unequal climate impacts. This may, for example, become evident concerning the question on which level food production has to be secured (local – regional – global?).[5]

II.III. Messages from ethical analysis

Above all, the *concept of a political goal* entails the requirement that *it should be specified* in its decisive parameters (quantity, time-frame, actors).

There is a strong ethical presumption against victimization and a moral obligation to refrain from injury – applicable to both present and future generations. Conflicting assumptions about "comparative vs. absolute" standards are decisive for the specification of intergenerational responsibility. Application of most ethical theories on global environmental risk evaluation comes to the result to *better err on the side of caution*. If so, more safety-oriented criteria should be favoured. The main approaches of environmental ethics *converge strongly towards low stabilization levels* and clearly favour secure food supplies. The more moral requirements are entailed in the constraints of art. 2, the more the obligations tend towards low stabilization levels.

[5] Respective evaluations may have consequences for the role of global trade for balancing of local food shortages.

Nevertheless, different ethical approaches provide different grounds of how strict the "ecosystem-adaptation"-constraint should be interpreted. There are also different reasonable interpretations of the "sustainable development"-constraint according to different basic approaches in interpreting "sustainability" (weak – intermediate - strong). The measures depend on the approach being chosen. The trade-offs between the interpretations of the three requirements are to be considered, too: If the first two requirements are interpreted more ambitiously (food security, nature conservation), the interpretation of the third constraint (sustainable economic development) may be weakened (see I.VI).

Possible *prescriptions in favour of different emission paths* are conceivable, which might be justified quite differently. Considering the SRES report, an evaluation matrix for evaluation of possible future scenarios is proposed, which enables decision makers to make reasonable and transparent choices on the basis of a set of relevant criteria and principles (see I.VI and E.15.5). Concluding from this exercise and considering the aforementioned convergence of ethical reasoning towards low stabilization levels, *the working group recommends to aim at scenario B1, which resembles developments towards global decarbonisation* for sustainability and equity improvement. Nevertheless, other evaluations may be possible, too.

II.IV Political feasibility of further commitments

While German and European political actors are generally willing to publicly announce specific stabilization levels, many governments outside Europe and many other political actors have not yet publicly positioned themselves on Article 2. Major developed countries (e.g., the USA) and nearly all developing countries currently eschew to specify publicly their preferred stabilization goal.[6] An exploratory questionnaire on the interpretation of Article 2 indicates that Russia and the G77 plus China group hold a transitional position in between the ambitious EU-attitude and a less motivated standpoint of the USA, on average. The same principal ordering (EU → Russia and G77 plus China → USA) applies to the suggested timing *when to start to negotiate* Art. 2 UNFCCC questions. Only on *equity issues* associated with Article 2, the G77 plus China give higher values on its importance than the EU does. In terms of global coalition building for specifying Article 2, the future *behaviour of the intermediate group* consisting of Russia as well as G77 plus China will determine whether or not a relatively ambitious goal on Article 2 will be defined in time.

[6] Moreover, political actors normally give no indication how the three additional constraints of Article 2 are to be taken into account - except for some statements on absolute and/or decadal permissible changes in temperature, which might be interpreted as a measure for ecosystem adaptability.

Feasibility as well as acceptability considerations may lead to the following statements for the political practise:

- The equity issue will strengthen the ethical interpretation of art. 2 moral entailments. Therefore and according to the *ethical convergence* thesis the "intermediate group" together with the EU are expected to agree on early and ambitious acting, which would be favourable from a safety-oriented point of view, too.
- This will not exclude other parties. Proactive negotiators might recall that art. 2 as a political goal entails the requirement that it *should be specified* in quantity and time-frame. So, all Parties to the Convention – incl. the USA – are urged to further the specification process.
- The evaluation of distributional effects would speak in favour of those long-term policies which pursue mixes of mitigation and adaptation with *emphasis on mitigative strategies*. Corresponding decisions will have to be made in time with regard to energy infrastructures awaiting retirement in the near future.
- The assessment of distributional effects may also tend to interpret the "food production"-constraint in terms of (local to regional) food security. This would have positive trade-offs for the "ecosystems"-constraint, too. Nevertheless, *the strict interpretation of both constraints may weaken the interpretation of the economic development constraint*. This trade-off might be an obstacle for further negotiations.
- Concluding, the working group proposes to the actors to *aim at the global decarbonisation scenario "B1"* of the SRES (Nakicenovic 2000).

Irrespective of strategic considerations of single Parties, it seems desirable to allow for fair negotiations. Transparency, consistency, and universal validity of any argumentation put forward towards specification of Art. 2 may support its acceptability and preferably its factual long-term acceptance. Whether pursuing the long-term aspirations of Art. 2 is compatible with the often shorter-term negotiation horizon remains – however - an open question.