The IPCC's Interpretation of UNFCCC Article 2

NOTE: The GHG goal specified in UNFCCC Article 2 (see below) is the most significant official statement ever made on this topic. The reason is that it correctly defined the GHG problem in terms of safe atmospheric concentrations and thus safe global temperatures.

In its second assessment report (1995) the IPCC unilaterally shifted the goal to the reduction of fossil-fuel emissions. This goal is irrational because it allows GHG concentrations to continue rising, and it depletes cooling aerosols. The result is continued global warming at a time when rapid cooling is an existential requirement.

Because of their grave implications, I have extracted these statements from the reports and present them here. The highlighted passages are to my mind the most consequential.

- Frank Rotering

Table of Contents

UNFCCC (1992) 2

IPCC Second Assessment Report (1995) 2

IPCC Third Assessment Report (2001) 6

IPCC Fourth Assessment Report (2007) 7

IPCC Fifth Assessment Report (2014) 8

UNFCC (1992)

Article 2: OBJECTIVE

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.

IPCC Second Assessment Report (1995)

ADDRESSING THE UNFCCC ARTICLE 2:

1.1 Following a resolution of the Executive Council of the World Meteorological Organization (July 1992), the IPCC decided to include an examination of approaches to Article 2, the Objective of the UN Framework Convention on Climate Change (UNFCCC), in its work programme. It organized a workshop on the subject in October 1994 in Fortaleza, Brazil, at the invitation of the Government of Brazil. Thereafter, the IPCC Chairman assembled a team of lead authors (listed at the end of this report in the Appendix) under his chairmanship to draft the Synthesis. The team produced the draft which was submitted for expert and government review and comment. The final draft Synthesis was approved line by line by the IPCC at its eleventh session (Rome, 11-15 December 1995), where representatives of 116 governments were present as well as 13 intergovernmental and 25 non-governmental organizations. It may be noted for information that all Member States of the World Meteorological Organization and of the United Nations are Members of the IPCC and can attend its sessions and those of its Working Groups. The Synthesis presents information on the scientific and technical issues related to interpreting Article 2 of the UNFCCC, drawing on the underlying IPCC Second Assessment Report. Since the Synthesis is not simply a summary of the IPCC Second Assessment Report, the Summaries for Policymakers of the three IPCC Working Groups should also be consulted for a summary of the Second Assessment Report

1.2 During the past few decades, two important factors regarding the relationship between humans and the Earth's climate have become apparent. First, human activities, including the burning of fossil fuels, land-use change and agriculture, are increasing the atmospheric concentrations of greenhouse gases (which tend to warm the atmosphere) and, in some regions, aerosols (microscopic airborne particles, which tend to cool the atmosphere). These changes in greenhouse gases and aerosols, taken together, are projected to change regional and global climate and climate-related parameters such as temperature, precipitation, soil moisture and sea level. Second, some human communities

have become more vulnerable to hazards such as storms, floods and droughts as a result of increasing population density in sensitive areas such as river basins and coastal plains. Potentially serious changes have been identified, including an increase in some regions in the incidence of extreme high-temperature events, floods and droughts, with resultant consequences for fires, pest outbreaks, and ecosystem composition, structure and functioning, including primary productivity.

1.3 Scientific and technical assessments of climate change and its impacts have been conducted by the Intergovernmental Panel on Climate Change (IPCC). The First Assessment, published in 1990, provided a scientific and technical base for the UN Framework Convention on Climate Change (UNFCCC) which was open for signature at the Earth Summit in Rio in 1992.

1.4 The ultimate objective of the UNFCCC, as expressed in Article 2 is:

> "... 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 timeframe 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."

1.5 The challenges presented to *the policymaker* by Article 2 are the determination of what concentrations of greenhouse gases might be regarded as "dangerous anthropogenic interference with the climate system" and the charting of a future which allows for economic development which is sustainable. [My italics.] The purpose of this synthesis report is to provide scientific, technical and socioeconomic information that can be used, inter alia, in addressing these challenges. It is based on the 1994 and 1995 reports of the IPCC Working Groups.

1.6 The report follows through the various matters which are addressed in Article 2. It first briefly summarizes the degree of climate change — the "interference with the climate system" — which is projected to occur as a result of human activities. It then goes on to highlight what we know about the vulnerabilities of ecosystems and human communities to likely climate changes, especially in regard to agriculture and food production and to other factors such as water availability, health and the impact of sea-level rise which are important considerations for sustainable development. The task of the IPCC is to provide a sound scientific basis that would *enable policymakers* to better interpret dangerous anthropogenic interference with the climate system. [My italics.]

1.7 Given current trends of increasing emissions of most greenhouse gases, atmospheric concentrations of these gases will increase through the next century and beyond. With the growth in atmospheric concentrations of greenhouse gases, interference with the climate

system will grow in magnitude and the likelihood of adverse impacts from climate change that could be judged dangerous will become greater. Therefore, possible pathways of future net emissions were considered which might lead to stabilization at different levels and the general constraints these imply. This consideration forms the next part of the report and is followed by a summary of the technical and policy options for reducing emissions and enhancing sinks of greenhouse gases.

1.8 The report then addresses issues related to equity and to ensuring that economic development proceeds in a sustainable manner. This involves addressing, for instance, estimates of the likely damage of climate change impacts, and the impacts, including costs and benefits, of adaptation and mitigation. Finally, a number of insights from available studies point to ways of taking initial actions (see the section on Road Forward) even if, at present, it is difficult to decide upon a target for atmospheric concentrations, including considerations of timeframes, that would prevent "dangerous anthropogenic interference with the climate system".

1.9 Climate change presents the decision maker with a set of formidable complications: considerable remaining uncertainties inherent in the complexity of the problem, the potential for irreversible damages or costs, a very long planning horizon, long time lags between emissions and effects, wide regional variations in causes and effects, an irreducibly global problem, and a multiple of greenhouse gases and aerosols to consider. Yet another complication is that effective protection of the climate system requires international cooperation in the context of wide variations in income levels, flexibility and expectations of the future; this raises issues of efficiency and intra-national, international and intergenerational equity. Equity is an important element for legitimizing decisions and promoting cooperation.

1.10 Decisions with respect to Article 2 of the UNFCCC involve three distinct but interrelated choices: stabilization level, net emissions pathway and mitigation technologies and policies. The report presents available scientific and technical information on these three choices. It also notes where uncertainties remain regarding such information. Article 3 of the UNFCCC identifies a range of principles that shall guide, inter alia, decision-making with respect to the ultimate objective of the Convention, as found in Article 2. Article 3.3 provides guidance, inter alia, on decision-making where there is a lack of full scientific certainty, namely that the Parties should:

> "take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures, taking into account that policies and measures to deal with climate change should be cost effective so as to ensure global benefits at the lowest possible cost. To achieve this, such policies and measures should take into account different socio-economic contexts, be

comprehensive, cover all relevant sources, sinks and reservoirs of greenhouse gases and adaptation and comprise all economic sectors. Efforts to address climate change may be carried out cooperatively by interested Parties."

The Second Assessment Report of the IPCC also provides information in this regard.

1.11 The long time-scales involved in the climate system (e.g., the long residence time of greenhouse gases in the atmosphere) and in the time for replacement of infrastructure, and the lag by many decades to centuries between stabilization of concentrations and stabilization of temperature and mean sea level, indicate the importance for timely decision-making.

IPCC Third Assessment Report (2001)

Synthesis Report, p.37:

What can scientific, technical, and socio-economic analyses contribute to the determination of what constitutes dangerous anthropogenic interference with the climate system as referred to in Article 2 of the Framework Convention on Climate Change?

1.1 Natural, technical, and social sciences can provide essential information and evidence needed for decisions on what constitutes "dangerous anthropogenic interference" with the climate system. At the same time, *such decisions are value judgments* determined through socio-political processes, taking into account considerations such as development, equity, and sustainability, as well as uncertainties and risk. [My emphasis.] Scientific evidence helps to reduce uncertainty and increase knowledge, and can serve as an input for considering precautionary measures. Decisions are based on risk assessment, and lead to risk management choices by decision makers, about actions and policies.

1.2 The basis for determining what constitutes "dangerous anthropogenic interference" will vary among regions, depending both on the local nature and consequences of climate change impacts, and also on the adaptive capacity available to cope with climate change. It also depends upon mitigative capacity, since the magnitude and the rate of change are both important. The consequent types of adaptation responses that will be selected depend on the effectiveness of various adaptation or mitigation responses in reducing vulnerabilities and improving the sustainability of life-support systems. There is no universally applicable best set of policies; rather, it is important to consider both the robustness of different policy measures against a range of possible future worlds, and the degree to which such climate-specific policies can be integrated with broader sustainable development policies.

1.3 The Third Assessment Report (TAR) provides an assessment of new scientific information and evidence as an input for policy makers in their determination of what constitutes "dangerous anthropogenic interference with the climate system" with regard to: (1) the magnitudes and rates of changes in the climate system, (2) the ecological and socio-economic impacts of climate change, and (3) the potential for achieving a broad range of levels of concentrations through mitigation and information about how adaptation can reduce vulnerability.

IPCC Fourth Assessment Report (2007)

Synthesis Report, p.18:

Determining what constitutes “dangerous anthropogenic interference with the climate system” in relation to Article 2 of the UNFCCC involves value judgements. Science can support informed decisions on this issue, including by providing criteria for judging which vulnerabilities might be labelled ‘key’.

Synthesis Report, Summary for Policymakers, p.2:

The following nine questions were based on submissions by governments and were approved by the IPCC at its Fifteenth Session (San José, Costa Rica, 15-18 April 1999).

Question 1
What can scientific, technical, and socio-economic analyses contribute to the determination of what constitutes dangerous anthropogenic interference with the climate system as referred to in Article 2 of the Framework Convention on Climate Change?

[The same question was asked in AR3 (above), and the same three paragraphs are provided in this report as the answer. - FR]

IPCC Fifth Assessment Report (2014)

Approaches to climate change mitigation

Mitigation is a human intervention to reduce the sources or enhance the sinks of greenhouse gases. Mitigation, together with adaptation to climate change, contributes to the objective expressed in Article 2 of the United Nations Framework Convention on Climate Change (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."

Climate policies can be informed by the findings of science, and systematic methods from other disciplines. [1.2, 2.4, 2.5, Box 3.1]