



INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE



Statement to the first session of the

CONFERENCE OF THE PARTIES TO THE UN FRAMEWORK CONVENTION ON CLIMATE CHANGE

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Your Excellency the President of the Session,
Distinguished Delegates,
Ladies and Gentlemen,

It is a great privilege to have been given this opportunity to address this first session of the Conference of the Parties to the Framework Convention on Climate Change. I realize with a sense of gratitude that not much more than six years have gone by since the Intergovernmental Panel on Climate Change (IPCC) took on the responsibility of assessing the scientific-technical knowledge about this potential threat to the earth and the well-being of all of us. There has been considerable progress during these years. Our understanding of the scientific, technical and socio-economic aspects of climate change has increased considerably, the Convention has entered into force and the future work of the IPCC will now be in cooperation with you, the Conference of the Parties (COP).

Scientific objectivity is the basis of IPCC work, acknowledging, on the one hand the basic physical understanding of the climate system that leads to the expectation of a human-induced climate change and, on the other hand, the many gaps that remain in our knowledge, gaps that scientists and other experts are working hard to bridge so that international actions can rest on firmer factual foundations. Even though there are still uncertainties about the magnitude of a climate change and its possible impacts, IPCC Reports have thus far established a basis for the governments of the world to develop and pursue a global policy. Important conclusions can already be drawn that should be of value for the political process. It is now for you, the COP, to agree on further measures that may be required to protect our global environment.

Many may feel that present progress in policy formulation is slow, while others have argued for no further actions, because of the potential costs involved, before our knowledge has become more firm and convincing. This is of course a result of the uncertainties in our scientific-technical knowledge as reflected in the published literature, which the IPCC is evaluating carefully. The Convention declares "..... 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,...". But it is of course also important to analyze the possible implications of long-term preventive actions, and in doing so recognize part of the Objective of the Convention which states ".... economic development [should] proceed in a sustainable manner". To achieve these multiple goals will require careful management based on good scientific and other factual information.

The ultimate aim of the Convention is to "achieve stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system". Also, the Convention prescribes that Annex 1 Parties commit themselves to aim to returning to 1990 levels their anthropogenic emissions of carbon dioxide and other greenhouse gases. This, existing analyses seem to indicate, is to be viewed as an initial goal.

What does present knowledge tell us?

Based on the national reports that so far have been submitted to the Convention Secretariat, further actions are still needed for emissions of greenhouse gases by OECD countries to be maintained at or below 1990 levels. The restructuring of countries in economic transition has led to a significant decrease of their emissions due to fossil fuel combustion. On the other hand, a number of developing countries are increasing their emissions. It is clear that radiative forcing of the climate system due to anthropogenic emissions is still increasing in 1995 at almost the same rate as during the 1970s and 1980s. It will continue to do so during decades to centuries, if no further precautionary measures are taken. Stabilization of greenhouse gas concentrations will require reductions in global emissions.

In the context of this key message, the following conclusions from the IPCC Reports are particularly important:

- a. the increase of greenhouse gas concentrations in the last century due to human actions is equivalent to about a 50% increase in the carbon dioxide concentration. The concentration of carbon dioxide itself has increased only by 29%. The rate of increase of carbon dioxide concentration remains rather constant except for a temporary decline in 1991-93, possibly due to the eruption of Mount Pinatubo;
- b. about 70% of the current increase in the concentration of carbon dioxide is due to emissions that occurred over the last 50 years. The IPCC base scenarios of future emissions show that the same amount will be emitted again within about 20 years, if no preventive measures are taken;
- c. the IPCC Special Report (1994) presents an analysis of the constraints that the natural carbon cycle imposes on future carbon dioxide emissions, if it were prescribed that the carbon dioxide concentration should not exceed given stabilization levels ranging between 350 and 750 ppmv. It should be recognized, however, that a comprehensive approach, i.e. the simultaneous consideration of all greenhouse gases, implies even more stringent requirements for the reduction of carbon dioxide emissions, if that same range of stabilization levels of equivalent carbon dioxide concentrations were prescribed. This will be further considered in the synthesis chapter to be included in the Second Assessment Report (SAR);
- d. emissions of halocarbons (primarily CFC-gases) are being decreased rapidly because of their destructive influence on the ozone layer. Their atmospheric concentrations will therefore stabilize within a few years and then begin a slow decline;
- e. stabilization of atmospheric concentrations of methane and nitrous oxide require reductions of emissions by about 10 and 50% respectively. If stabilization were desired for these gases, present efforts are inadequate to reach such goals;

- f. continued industrialization of many countries, particularly in the developing world, will further increase air pollution, if development is not undertaken in a careful way. The resulting increases in the concentrations of tropospheric ozone would further enhance the greenhouse effect;
- g. an increase of aerosols due to human activities has enhanced the reflection of solar radiation and the anthropogenic greenhouse effect is therefore partly hidden. This effect would be reduced quickly (within weeks) if emissions were reduced in order, for example, to address the acid rain problem. If that occurred, we could see a gradual unmasking of past warming, because the greenhouse gases emitted in the past tend to remain in the atmosphere for decades to centuries;
- h. there is uncertainty about the most likely change of climate that would be associated with a given increase of greenhouse gases in the atmosphere, but earlier estimates of warming by 1.5 - 4.5 °C for a doubling of the equivalent carbon dioxide concentration, remain unchanged. It is important to stress that this range does not include zero. In other words, the scientific community is confident that, if greenhouse gases continue to increase, there will be a climate change. Such changes will be regionally uneven with some areas warming more than the average and some small areas possibly even showing a cooling.
- i. an increase of temperature lags behind an increase in greenhouse gases and for this reason the expected change might also still at present be partly hidden in natural climate variability. The observed increase of the global mean temperature since the 1960s might actually be due to enhanced greenhouse gas concentrations. The fact that the observed change of the global mean temperature is rather in the lower part of the estimated range of temperature change is likely to be due to the cooling effects of aerosols;
- j. key greenhouse gases disappear only very slowly from the atmosphere. This implies that once a significant change of climate has occurred, it will be with us for decades to a century;
- k. the magnitude of the human interference with the climate system becomes clear when realizing that the global forcing caused by human greenhouse gas emissions presently corresponds to about 1% of the solar energy that is absorbed by the earth. This amount of energy is about one hundred times larger than today's energy supply in the world as a whole.

The key issue that is coming to the forefront is: how serious is the climate change that is being envisaged and how rapidly will a change occur? The answer to this question will obviously influence the need and urgency for action. It is not possible to give a very specific answer at this time, since regional patterns of the expected global climate change cannot yet be derived with sufficient confidence. Still, as the IPCC Second Assessment Report will show, we can deduce some features of the impacts of climate change on natural ecosystems, agriculture, health as well as other sectors of society. We shall, however, have to view the

climate change issue in terms of an increased risk for damage. It is then important to realize that uncertainty about the details of a potential climate change (i.e., regional and local climate change) does not diminish risks; it merely makes it more difficult to assess them quantitatively. Larger changes than the average projections are just as likely as smaller ones. The IPCC has also pointed out that there are measures that are simultaneously valuable for other environmental reasons and some studies suggest that in many countries these may be initially undertaken at little or no cost or with even net benefit.

The issue at stake is not to agree on policies for decades into the next century but rather to adopt a strategy whereby needed actions could be formulated as more knowledge becomes available. The climate change issue will in any case be with us for decades to come and the adequacy of the commitments under the Convention should be judged in that perspective.

It is also of interest to note that climate models are being improved constantly. With their aid, attempts are now being made to simulate the changes of climate that have been observed during the last century. The increases in the concentrations of greenhouse gases and aerosols, that have been occurring gradually, are the input driving forces. The goal is to analyze carefully how model results compare with observed changes. In this way, interpreting observed changes of climate becomes possible as well as further evaluations of models. The first attempts are promising and will contribute to answering the key question: is a global change of climate already under way? The IPCC Second Assessment Report will contain the results of these preliminary efforts.

The IPCC and the Conference of the Parties

The IPCC has prepared a Special Report for you containing (i) five chapters on the radiative forcing of climate change with a Summary for Policymakers (SPM), (ii) one chapter on the evaluation of the IPCC IS92 emission scenarios with an SPM and a technical summary, (iii) IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptations with an SPM and an executive summary and (iv) IPCC Guidelines for National Greenhouse Gas Inventories. The first two have been published commercially in English. The last two are stand-alone publications and are available in English, French, Russian and Spanish. The Technical Guidelines should be available in Arabic and Chinese in about a month's time. The Summaries for Policymakers and the other Summaries have been published in a single volume in English, French, Russian and Spanish; the Arabic and Chinese translations should be available in a month also. Currently available parts of the above are being distributed to you, one per delegation, with the compliments of the IPCC.

The IPCC Second Assessment Report (SAR), scheduled for completion towards the end of 1995, will update our knowledge about climate change. It will include considerations of the impacts of and adaptation to such a change, a spectrum of mitigation options and analyses of socio-economic issues. It will also include the results of our first attempt to provide a scientific basis to assist you in addressing Article 2 of the Convention. Preparations for drafting this material were begun at a workshop on the subject arranged in October last year in Fortaleza in Brazil. A drafting team has been formed and reviews of the draft will be organized in accordance with IPCC Procedures.

The IPCC decided in 1992 not to aim at a second assessment until late 1995 in the light of the huge scientific literature that would have to be assessed and the difficulties of interpretation that were bound to emerge. It is also most essential that the implications of such a report be carefully analyzed by policy makers. Time would obviously have been too short to achieve all this before this session. I hope that the Second Assessment Report would prove helpful to you in your next session.

I suggest that it is essential that collaboration between you and the IPCC now be organized in a manner that permits the most efficient use of the scientific information that the IPCC is and will be providing. The IPCC has agreed that the next full assessment be completed about the year 2000 and in the meantime special assessments could be carried out to meet your needs and methodologies developed or improved. The Intergovernmental Negotiating Committee for the Convention at its last session responded by emphasizing four key areas for attention:

- a. the scientific basis for interpreting Article 2;
- b. improved knowledge of the carbon cycle and the cycles of other greenhouse gases;
- c. detection of anthropogenic climate change;
- d. regional climate variability and climate change.

The IPCC is most anxious that you, through your Subsidiary Body on Scientific and Technological Advice or otherwise, and the IPCC confirm the topics, schedule and other aspects and future working relations as soon as possible.

Conclusion

The Climate change issue is a long-term issue. The global climate system responds to anthropogenic greenhouse gas emissions with a delay that may be several decades, which means that early detection of serious threats is difficult. Also, when changes are on the way, major reductions in forcing factors may well be required in order then to change course. The socio-economic system, however, can only be changed gradually in order to give societies time to adjust and accept changes. And above all, while initial measures may not involve large costs, later short term interventions, if required, might be much more costly. The need for possible early actions should be carefully assessed, keeping in mind that they must not seriously compromise necessary development. The responsibility for that judgement rests with you as representatives of the governments that have agreed to the spirit and the letter of the Convention. I can assure you that the IPCC scientific/expert community will be following your endeavours closely and remains ready to assist.

Thank you for your attention.