



**Address to the Executive Council Meeting of WMO  
by  
Dr R K Pachauri, Chairman, IPCC**

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Mr President, Mr Secretary General, Distinguished Delegates, Ladies and Gentlemen.

It is a pleasure for me to present to the Executive Council of WMO an overview of ongoing and planned activities of the IPCC.

The last two years have been a very busy period for the IPCC.

The IPCC National Greenhouse Gas Inventories Programme finalized in November 2003 two methodology reports, which have been prepared upon invitation from the United Nations Framework Convention on Climate Change (UNFCCC).

The report on Good Practice Guidance for Land Use, Land-Use Change and Forestry (GPG-LULUCF) provides supplementary methods and good practice guidance for estimating, measuring, monitoring and reporting on carbon stock changes and greenhouse gas emissions from LULUCF activities under the Kyoto Protocol (KP). It assists countries in producing inventories for the land use, land-use change and forestry sector that are neither over- nor under-estimates so far as can be judged, and in which uncertainties are reduced as far as practicable.

The report on Definitions and Methodological Options to Inventory Emissions from Direct Human-induced Degradation of Forests and Devegetation of Other Vegetation Types addresses alternative definitions and methodological options for estimating inventory emissions from degradation and devegetation activities, and it discusses implications of methodological and definitional options for accounting under the Kyoto Protocol.

The Inventories Programme has also started to revise the IPCC Guidelines for National Greenhouse Gas Inventories with the aim to present new guidelines by the year 2006. The new guidelines will be an important input for negotiations for future commitments under the UNFCCC and the Kyoto Protocol.

The main emphasis during the last two years has however been on the preparations for the IPCC Fourth Assessment Report (AR4), which is scheduled to be finalized in the year 2007. Like the three previous Assessment Reports, the fourth will provide a comprehensive update on the status of scientific, technical and socio-economic information regarding climate change and will consist of the contributions of the three IPCC Working Groups. The Panel will decide at its next session whether to prepare a Synthesis Report for the AR4.

In two scoping meetings organized for the purpose, experts developed the outlines of the AR4. Governments were given the opportunity to provide inputs and comments to the scoping process. The Panel approved at its 21st session in Vienna the outlines of the three working group contributions.

Recently the IPCC Bureau has finalized the selection of authors for the three working group reports. Special care has been taken to broaden the knowledge base of the IPCC, to involve additional relevant disciplines, and to involve new and younger experts in the writing process. Special consideration was also given to adequate regional coverage. The overall selection process has, of course, also taken into consideration the size of writing teams and available financial resources to support the participation of authors from developing countries and countries with economies in transition. However, the work of contributing authors and expert reviewers is also extremely important for the IPCC and I want to encourage all experts and governments to explore and use these avenues for active participation in the IPCC process.

Let me highlight a few topics, which will be given special attention in the AR4. In general, the focus will be on new knowledge which has emerged since the TAR, and to address gaps in knowledge identified in the TAR, e.g. the question of climate sensitivity and uncertainties in model projections will be carefully studied, and a workshop on this topic will be held later this year. Further issues, which are expected to receive special attention are regional dimensions of climatic changes, in particular regional climate projections and a better understanding of climate change impacts on regions. This would include improved understanding of responses of ecosystems to multiple pressures (including climate change) on global, regional and finer scales and a full assessment of climate change impacts including socio-economic costs as well as impacts on non-market goods and services. Attention would also be provided to adaptive responses, their cost effectiveness and limitations. New knowledge is also emerging in the areas of detection and attribution of climate change and observed effects, and these will be assessed in the AR4. In the report of Working Group III special attention will be paid to mitigation options in the short and medium term and

mitigation from a cross sectoral perspective.

In the course of preparations for the AR4 it was felt that certain important topics need to be addressed in all WG reports in a consistent manner. To this end several so-called cross cutting themes were identified. While being quite different in nature, each will receive special attention through enhanced cross working group cooperation.

Water was one of the issues which governments suggested deserves special attention. It was even suggested that a special report on climate change and water be developed. However, agreement emerged that all matters relevant to water and climate change, including issues related to sustainable development like increasing demand for safe drinking water, sanitation and agriculture, will receive better coverage in the overall context of a comprehensive assessment. Therefore, water was identified as a cross cutting theme and the Panel decided that immediately after completion of the AR4 a technical paper on climate change and water will be issued, which brings together all the relevant information and findings from the AR4.

Regional integration was identified as another cross cutting theme to ensure adequate coverage of regional issues, including use of scientific and technical literature in languages other than English and to help overcome the difficulties in providing information relevant to physical climate, impacts and mitigation on a regional scale.

Assessment of climate change science requires a careful consideration of the level of understanding of key issues and uncertainties related to scientific results. These need to be explained clearly to policymakers and other users. In the TAR attempts were made to ensure a consistent description of uncertainties in all working groups but this turned out to be a difficult task and there is a need to further develop a consistent description of source and character of uncertainties. The subject of uncertainty and risk has, therefore, been included as another cross cutting theme.

IPCC as a body has always been working on the interface of science and policy making and is required to provide scientific, technical and socio-economic information on policy relevant issues. Among those questions, which have been brought to the attention of the IPCC and addressed in the Second as well as in the Third Assessment Reports is Article 2 of the Framework Convention on Climate Change, the ultimate objective of which is, the "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system". The Framework Convention on Climate Change further suggests that "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." While the notion of "dangerous" does involve value judgments, the IPCC could certainly provide scientific inputs to help policymakers consider this judgment. The three criteria mentioned in Article 2 may be evaluated as purely scientific questions to varying degrees. The Fourth Assessment Report (AR4) will therefore assess in a cross cutting manner scientific, technical, and socio-economic aspects related to these criteria, identify key vulnerabilities and the basic indicators or parameters on the basis of which these criteria could be evaluated. It will also aim to evaluate the range of possible climate change outcomes and the uncertainty associated with these outcomes corresponding to different adaptation and mitigation policies, without attempting to evaluate acceptability of such outcomes.

The last one of the three criteria mentioned in Article 2 leads me to the next cross cutting theme, which is sustainable development. Considerable effort is being made to address this theme effectively as well. Further, the relationship of adaptation and mitigation will also be addressed in a cross cutting manner.

The IPCC has in the past already dealt with technology matters in specific special reports, such as the SRTT, the SR on Aviation and the Global Atmosphere and the Technical Paper on Technologies, Policies and Measures for Mitigating Climate Change. Governments have therefore asked that the AR4 address technological options for adaptation and mitigation and for developing short and mid term strategies in a more detailed and consistent manner. Accordingly, greater emphasis will be put in sectoral chapters of WG II and III on issues of technological change, transfer and development. Through greater involvement of authors from industry the IPCC hopes to be able to provide a more up to date description of technological options.

Technology assessment is also at the center of the two following special reports, which the IPCC is presently preparing:

The Special Report on Carbon Dioxide Capture and Storage. Carbon dioxide capture and storage is increasingly seen as a possible option for mitigating climate change, but the application is still at the stage of research. The UNFCCC at its Seventh Conference of the Parties (COP) expressed its interest in carbon capture and storage by inviting the IPCC to prepare a Technical Paper on geological carbon storage technologies and report on it for the consideration of the 2nd COP/MOP. The IPCC noted that a Technical Paper would be repetitive with the very limited material covered in the IPCC TAR and it was decided to develop a Special Report on this topic. The report addresses the question of sources of emissions, capture systems and technological options for separation, transport and geological and ocean storage, including monitoring of environmental impacts and risk, legal aspects, and costs.

The special report on Safeguarding the Ozone Layer and the Global Climate System: Issues Related to Hydrofluorocarbons and Perfluorocarbons is being prepared in cooperation with the MP/TEAP in response to the decisions by the Eighth Conference of Parties to the UN Framework Convention on Climate Change (UNFCCC), and the Fourteenth Meeting of the Parties to the Montreal Protocol. The IPCC at its 20th Session (Paris, 19-21 February 2003) noted that this SR is an excellent example of how joint assessment can help in addressing complex issues that are dealt with in different multilateral environmental agreements. The report will provide a brief summary of relevant findings regarding the relation of ozone layer depletion and global warming, information on options to replace ozone-depleting substances that simultaneously contribute to the objective of the Climate Change Convention and the Montreal Protocol, including a number of environmental, health, safety, availability and technical performance considerations. In addition consideration will be given to direct and indirect greenhouse gas emissions, publicly available information on currently installed and planned global production capacities and a summary of available demand and emission projections of HFCs and PFCs.

Both reports will be finalized in 2005.

Let me now turn to a subject that has been referred to in certain publications in the last two years and which is important for the preparation of the AR4. I refer to the criticism of some methodological aspects of the so called IPCC scenarios from the IPCC Special Report on Emissions Scenarios, which was finalized in the year 2000. At the outset let me assure you that in preparing this report the strict IPCC procedures for authors' selection, writing, review and approval have been followed faithfully and the relevant literature available at the time of preparation of the report has been thoroughly assessed. One of the points, which has been raised by critics is that the SRES scenarios are based on a method of income-gap closure, using Market Exchange Rates (MEX) rather than Purchasing Power Parity (PPP), leading to unrealistically high economic growth rate assumptions for developing countries. This is factually incorrect. Economic growth rate assumptions were carefully chosen in line with historic data. In translating economic growth into greenhouse gas emissions, PPP was taken into account in some models that were used. Income projections were expressed in both MEX as well as PPP terms by one of the participating models. A second point raised by critics was that results were arrived at through proportional downscaling of SRES data from region to country level, which according to them show historically implausible growth rates in developing countries. Let me stress that this proportional downscaling was not part of the SRES report, and in fact not supported by the SRES authors because this simple method may lead to unrealistic results for certain countries. On the other hand, even critics accept that a higher growth in per capita income in poorer countries when compared to countries with higher levels of affluence, are both "plausible and well attested in economic history".

The IPCC at its 20th and 21st sessions discussed how to deal with recent criticism of the SRES in the media and elsewhere, but more importantly how to come up with a consistent and forward-looking approach on the use of scenarios in various parts of the AR4 and directions for scenarios related work beyond the AR4. The Panel concluded that the SRES scenarios provided a credible and sound set of projections, appropriate for use in the AR4. There was also broad agreement that for the AR4 assessment period, the IPCC should assess relevant new work in the literature, work that is based on the SRES, work that may be based on scenarios and assumptions in addition to SRES, new work on emissions scenarios as well as publications that criticise SRES and new knowledge concerning the use of PPP versus MEX. In the treatment of stabilisation scenarios, it was agreed that IPCC should not go into harmonising such scenarios, but focus on a broad assessment of new literature on various multi-gas mitigation and stabilisation scenarios in the AR4. The Panel however agreed that it would not be desirable for the IPCC as a body to respond to any criticism on SRES. Any response of experts that have been involved in IPCC work should be in the nature of papers to be published in established peer reviewed journals. Long-term work on emissions scenarios specifically for the AR5 and the potential role that the IPCC might play is still under discussion.

As mentioned earlier, the Panel has not yet decided on whether to prepare a Synthesis Report for the AR4 but has established a process to develop specific detailed recommendations on the scope, content and process for preparation of the AR4 SYR for decision at the 22nd session in November 2004. The main purpose of an AR4 SYR would be to provide governments and other users of IPCC products with a comprehensive but concise policy-relevant synthesis of the AR4 Working Group reports. It could bring together the main messages from the individual WG reports, synthesise cross-cutting information from the individual WG reports and provide a top-down perspective on issues covered by the AR4 for decision makers in readily translatable language. A scoping meeting to further develop a proposal and outline the scope and nature of an AR4 Synthesis Report will be held next month here in Geneva.

The IPCC has also considered how to improve its ways of communication and how to increase the user-friendliness of future IPCC products and how to facilitate access to information contained in the several thousand pages of IPCC reports, for the benefit of different user groups from specific sectors or regions. Various options are presently being considered, in particular how to take advantage and keep abreast of developments in electronic publishing, and to design the reports in a way that optimizes their use through such new technology. Enhancing dissemination of IPCC material and outreach has received increasing attention in the IPCC but there are certain limits on how far the IPCC can go without violating its approval procedures and jeopardizing its credibility. However, IPCC is ready to provide its knowledge and assist appropriate partners in this field in developing climate change related information. We would be particularly interested in exploring further information and outreach activities with WMO as one of our parent organisations.

Let me in this context express my sincere thanks and appreciation for the support WMO provides to the IPCC by hosting the Secretariat and providing substantial administrative support. WMO and UNEP are also providing staff and regular financial contributions to the IPCC. Without this continued support of the WMO the IPCC could not have become the organisation it is now. The IPCC involves hundreds of experts worldwide, even thousands when we add those who contribute in the course of various reviews. IPCC reports are used and quoted widely. All this is managed with very little direct administrative and other costs. In addition to the support provided by the parent organisations the governments of the developed country co-chairs of the three IPCC Working Groups and the Task Force on Inventories provide technical support units for the respective IPCC groups and a number of other organisations and governments provide in kind support for IPCC activities. And we must gratefully acknowledge the fact that all experts involved in writing and reviewing of IPCC reports provide their time free. IPCC only provides travel expenditures for experts from developing countries and countries with economies in transition. The IPCC Secretariat of course plays a central role in this set up and I want to express my hope and put forward a plea to you to continue to provide this generous support to the IPCC.

WMO, of course, is not only a parent organization that provides the Secretariat for the IPCC. WMO programmes are an extremely valuable source of information for the IPCC assessment work itself. I would like to welcome the initiative of the Secretary-General for "matrix management" of such areas as "Climate" as a multidisciplinary issue within the mandate of WMO, requiring close coordination and collaboration between a number of departments and offices, such as WCP, GCOS, WCRP, HWR and others. This approach will reduce the number of organizational levels and boundaries and will provide more effective use of staff time and resources and will certainly be beneficial for the cooperation and mutual enforcement of all climate change related activities. The IPCC is aware of the valuable input, which is provided through these other programmes, and is

looking forward to a continued fruitful cooperation with the other WMO sponsored climate programmes.

In this context I would like to recall that the IPCC as one of the users of observational networks has expressed its concern about the decline in these networks in many parts of the world. In its Third Assessment Report action to reverse the decline of observational networks in many parts of the world is listed as a priority area in climate change research and observation. Such action would help to sustain and expand the observational foundation for climate studies, including implementation of a strategy for integrated global observations and to enhance the development of reconstruction of past climate periods. Improved observation of spatial distribution of greenhouse gases and aerosols will be of utmost importance not only for a better understanding of potential climatic changes at the regional and sub-regional levels, but also for the development of cost effective near and mid term mitigation strategies that consider all radiative gases and their precursors.

I am indeed very happy and proud at being able to report to you on the various activities and aspects of IPCC work that I have briefly described. Our activities are well on schedule and our attempts at maintaining the credibility of the IPCC are at the centre of all that we do. With the enormous support that we receive from the WMO and the expectations you have from the IPCC, I would like to end by assuring this august body that we will strive to do our best. We hope the results of our efforts would give you full satisfaction as one of the parent bodies responsible for the IPCC and the global community at large would find the work of the IPCC as a valuable source of information and knowledge in an area that critically affects the future of this planet and all forms of life that exist on it.