

Climate Change 2001:
The Third Assessment Report of the
Intergovernmental Panel on Climate Change

Statement on behalf of the Chairman of IPCC, Dr. Robert Watson

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Mr. Chairman, Excellencies, distinguished delegates, it is a pleasure and honour for me to address you today on behalf of the chairman of the Intergovernmental Panel on Climate Change. The IPCC values its close collaboration with the Parties to the Framework Convention on Climate Change, its Secretariat and its subsidiary bodies, and prides itself on being responsive to addressing your needs.

As you debate the issues associated with effective implementation of the Convention and the Kyoto Protocol, let me remind you that the overwhelming majority of scientific experts, whilst recognizing that scientific uncertainties exist, nonetheless believe that human-induced climate change is already occurring, that future changes in climate are inevitable, and that while there will be some beneficial effects of climate change there are many adverse effects on human health, ecological systems and socio-economic sectors, with developing countries being the most vulnerable. The experts also concluded that there are many policies and technologies that can be used to mitigate greenhouse gas emissions.

The IPCC has now finalised its work on the Third Assessment Report. The three Working Group Reports and the Synthesis Report, along with their Summaries for Policymakers, are now available. Each delegation has been provided with a copy of the Synthesis Report.

The key conclusions of the Synthesis Report include:

- Climate change is not just an environmental issue, but is part of the larger challenge of sustainable development
- Natural, technical, and social sciences can provide essential information and evidence needed for decisions on what constitutes "dangerous anthropogenic interference with the climate system." (the key question regarding the Climate Change Convention long-term objective). However, deciding what constitutes "dangerous anthropogenic interference with the climate system" is a value judgement determined through socio-political processes taking into account considerations such as development, equity, and sustainability, as well as uncertainties and risk
- The Earth's climate system has demonstrably changed on both global and regional scales since the pre-industrial era, with some of these changes attributable to human activities. There is new and stronger evidence that most of the observed warming of the past 50 years is attributable to human activities
- Recent regional changes in climate, particularly increases in temperature, have already affected

hydrological systems and terrestrial and marine ecosystems in many parts of the world. The rising socio-economic costs related to weather damages and to regional variations in climate suggest increasing vulnerability to climate change.

- Carbon dioxide concentrations, globally averaged surface temperature, and sea level are projected to increase under all IPCC emissions scenarios during the 21st century. Projections using these scenarios in a range of climate models result in an increase in globally averaged temperatures of 1.4 to 5.8 degrees Celsius over the period 1990- 2100.
- Projected climate change will have beneficial and adverse effects on both environmental and socio-economic systems, but the larger the changes and rate of change in climate, the more the adverse effects predominate. The impacts of climate change will fall disproportionately upon developing countries and poor people in all countries and thereby exacerbate inequities in health status and access to adequate food, clean water and other resources.
- Adaptation has the potential to reduce adverse effects of climate change and can often produce immediate ancillary benefits, but will not prevent all damages.
- An increase in climate variability and some extreme events is projected. Models project changes in frequency, intensity and duration of extreme events, such as more hot days, heat waves, heavy precipitation events and fewer cold days.
- Greenhouse gas forcing in the 21st century could set in motion large-scale, high-impact, non-linear, and potentially abrupt changes in physical and biological systems over the coming decades to millennia, with a wide range of associated likelihoods.
- Inertia is a widespread inherent characteristic of the interacting climate, ecological, and socio-economic systems. Thus some impacts of anthropogenic climate change may be slow to become apparent, and some could be irreversible if climate change is not limited in both rate and magnitude before associated thresholds, (whose positions may be poorly known), are crossed
- Reducing emissions of greenhouse gases to stabilize their atmospheric concentrations would delay and reduce damages caused by climate change. When CO₂ concentration levels would be stabilised between 450 and 1000 ppm, the increase of global average surface temperature would be limited to 1.2 to 3,5 degrees Celsius by the year 2100. The equilibrium temperature rise would take many centuries to reach, and ranges from 1.5 to 3.9 above the 1990 level for stabilisation at 450 ppm and 3.5 to 8.7 above 1990 level for stabilisation at 1000 ppmv. Sea level and ice sheets would continue to respond to warming for many centuries after greenhouse gas concentrations have been stabilised.
- Carbon cycle models indicate that stabilisation of atmospheric CO₂ concentrations at 450, 650 or 1000 ppm would require global anthropogenic CO₂ emissions to drop below the year 1990 levels within a few decades (for 450 ppm), within about a century (for 650 ppm) and within about 2 centuries (for 1000 ppm). Eventually CO₂ emissions would need to decline to a very small fraction of current emissions.
- Adaptation is a necessary strategy at all scales to complement climate change mitigation efforts. Together they can contribute to sustainable development objectives.
- There are many opportunities including technological options to reduce near-term emissions, but barriers to their deployment exist
- Cost estimates by different models and studies vary for many reasons. Studies examined in the TAR suggest substantial opportunities for lowering mitigation costs. Emissions constraints on Annex I countries have well-established "spill-over" effects on non-Annex I countries. Both the pathway to stabilization and the stabilization level itself are key determinants of mitigation costs.
- Technology development and diffusion are important components of cost-effective stabilisation

- Local, regional, and global environmental issues are inextricably linked and affect sustainable development. Therefore, there are synergistic opportunities to develop more effective response options to these environmental issues that enhance benefits, reduce costs, and more sustainably meet human needs. The capacity of a country to adapt or mitigate can be enhanced when climate policies are integrated into national development policies, including economic, social and environmental dimensions.

IPCC hopes these findings will assist you in taking decisions about implementation of the Climate Convention and the Kyoto Protocol. We realise there is still a lot of work to do to disseminate the scientific information to all those that have an important role to play in actual implementation in your respective countries, in government, the business community and civil society. IPCC stands ready to assist you in this important task, with the help of the international community. There are good indications that such an effort will be facilitated by some of the decisions that lay before this Conference of Parties. IPCC sincerely hopes the dissemination of its work will be an incentive for scientists in developing countries to get involved in research in this field and for governments in developing countries to put priority on this field of research. This will enable IPCC to include more top level scientists from developing countries in its future assessment activities to assist you as decision-makers to address climate change.

Thank you for your attention.
