Report of

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It is pleasure to be invited once again to discuss the work of the Intergovernmental Panel on Climate Change (IPCC) with SBSTA.

As you know the IPCC is an intergovernmental panel established by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) to assess the current state of scientific, technical and economic knowledge regarding climate change. While the IPCC is an independent scientific panel, it prides itself on being responsive to addressing the needs of the UNFCCC and the Kyoto Protocol. Indeed, the IPCC work program has been designed to provide the scientific, technical and economic information that is needed to implement the Convention and the Kyoto Protocol.

As you also know the IPCC provides comprehensive assessments of the state of knowledge every five years, complemented by technical papers, special reports, and methodological work.

During the last two months, we have completed work on three special reports: (i) Methodological and Technological Issues in Technology Transfer; (ii) Emissions Scenarios; and (iii) Land-Use, Land-Use Change and Forestry, and a report on Good Practice and Uncertainty Management in National Greenhouse Gas Inventories. These reports have been discussed and distributed at this meeting. In particular, I would like to extend my appreciation to SBSTA for inviting the lead authors to present their findings on the special report on land-use, land-use change and forestry during a four hour session and for the excellent participation of governments and NGOs. IPCC are extremely pleased to have the opportunity to discuss their findings with you, and we look forward to continue our technical role at future SBSTA workshops, e.g., the workshop on land-use, land-use change and forestry in Poland.

The preparation and peer-review of the Third Assessment Report is well advanced. All three Working Group Reports are at the stage of the simultaneous expert/government review. The three Working Group Reports of the TAR will be approved/accepted in January 2001 (WG #1 in China), February 2001 (WG #2 in Argentina) and March 2001 (WG #3 in Ghana). The Synthesis Report will be approved/adopted in September/October 2001 in the UK.

I would like to take this opportunity to personally thank all of the lead and contributing authors, review editors and peer-reviewers who prepare these reports. There is no doubt that the IPCC demands much of its authors, review editors and peer-reviewers and we all owe then an enormous debt of gratitude. In addition, I would like to acknowledge the critical role of government representatives in reviewing and approving the Summaries for Policymakers. In this respect I have three requests of governments: first, support your experts to participate in the IPCC process – some experts are finding it difficult to participate because of a lack of financial support; second, please continue to financially support the IPCC trust fund, which covers the costs of developing country experts; and third, be careful not to politicize the IPCC process by using it as a pre-negotiating forum for the UNFCCC and the Kyoto Protocol. The credibility and integrity of the IPCC rests on its political independence and its ability to maintain the high scientific and technical standards it has set itself, which in turn depends upon its ability to attract the best experts from around the world to participate in the preparation and peer-review process.

Given that the IPCC has already reported to SBSTA on each of these reports, except for the special report on emissions scenarios, I will limit my additional remarks to a few of the key conclusions from the special report on emissions scenarios.

The SRES report confirmed that future greenhouse gas and sulfur emissions are the product of very complex dynamic systems, determined by driving forces such as demographic development, socio-economic development

and the rate and direction of technological change. A set of non-climate policy intervention scenarios was developed to represent the range of driving forces and emissions in the scenario literature so as to reflect current understanding and knowledge about underlying uncertainties. Four different narrative storylines were developed to describe consistently the relationships between emission driving forces and their evolution and add context for the scenario quantification. Several different scenarios were developed for each storyline using different modeling approaches to examine the range of outcomes arising from a range of models that use similar assumptions about driving forces. There are six scenario groups that should be considered equally sound that span a wide range of uncertainty and should be used by all three IPCC Working Groups in their future work.

Compared to the IS92 scenarios, the recent global population trajectories are generally lower and the scenarios cover a wider range of energy structures. All scenarios describe futures that are more affluent than today, and a narrowing of income differences among world regions is assumed in many of the scenarios. The report concludes that: (i) technology is at least as important a driving force as demographic change and economic development; (ii) all of the driving forces not only influence carbon dioxide emissions but also the emissions of other gases; and (iii) for most scenarios, global forest area continues to decrease for some decades, primarily because of increasing population and economic growth, but this trend is eventually reversed.

The SRES scenarios cover most of the range of carbon dioxide, other greenhouse gas and sulfur emissions found in the recent literature. Annual carbon dioxide emissions from energy sources in 2100 range from about 3.3 to 37 GtC, similar to the range in IS92, and from land-use changes in 2100 from a sink of 2.5 GtC to a source of about 1.5 GtC, quite different from IS92. Some of the energy, and many of the land-use, scenarios show trend reversals where initial carbon dioxide emission increases slow down or peak and then gradually decline. Total cumulative carbon emissions from all sources through 2100 range from approximately 770 to 2450 GtC, slightly higher than IS92 at the upper end of the range. Like carbon dioxide, the anthropogenic emissions of methane and nitrous oxide span a very wide range by 2100. Annual sulfur emissions peak within the next decade or two and decrease until 2100 when they range from 11 to83 MtS. These scenarios are generally well below the IS92 range of about 50 to 225 MtS because of structural changes in the energy system as well as concerns about local and regional air pollution.

Similar future greenhouse gas emissions can result from very different socio-economic developments, and similar developments of driving forces can result in different future emissions. Convergence of regional per capita incomes can lead to either high or low greenhouse gas emissions.

There is no single most likely, central, or best guess scenario, either with respect to the SRES scenarios or to the underlying scenario literature. Hence, the driving forces and emissions of each SRES scenario should be used together. While recognizing the inherent uncertainties in long-term projections, the SRES scenarios may provide policymakers with a long-term context for near-term analysis.

In conclusion, while the special report did not assess the implications of these greenhouse gas and sulfur scenarios on radiative forcing and climate change there have been many scientists who have already used them in their climate models. These model calculations show that the SRES emissions scenarios would result in projected increases in global mean surface temperature of about 1-5 degrees Centigrade by 2100 in contrast to those reported in the IPCC second assessment report of 1 – 3.5 degrees Centigrade. These higher projections are a result of the lower projections of sulfur emissions which tend to cool the climate, thus offsetting the warming effect of the greenhouse gases.