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SUBSIDIARY BODY FOR SCIENTIFIC AND TECHNOLOGICAL ADVICE
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Item 7 (a) of the provisional agenda
Methodological issues under the Convention
Scientific and methodological aspects of the proposal by Brazil

Views on the results of the work on scientific and methodological aspects of the proposal by Brazil

Submissions from Parties

1. The Subsidiary Body for Scientific and Technological Advice, at its twenty-fourth session, noted that further work would be required on scientific and methodological aspects of the proposal by Brazil, for example, to further quantify and reduce uncertainties, to address gaps in knowledge, and to further improve the methodology, for instance by considering finer resolution of sources and longer timescales (FCCC/SBSTA/2006/5, para. 80).

2. The SBSTA invited Parties to submit to the secretariat, by 7 March 2008, their views on the results of work undertaken by Parties, research institutions and scientists as presented at the special side event organized during SBSTA 27 <http://unfccc.int/methods_and_science/other_methodological_issues/items/4187.php>; this work is also reported in document FCCC/SBSTA/2008/MISC.1. It requested the secretariat to compile these submissions into a miscellaneous document (FCCC/SBSTA/2006/5, para. 83).

3. The secretariat has received five such submissions. In accordance with the procedure for miscellaneous documents, these submissions are attached and reproduced[*] in the language in which they were received and without formal editing.

[*] These submissions have been electronically imported in order to make them available on electronic systems, including the World Wide Web. The secretariat has made every effort to ensure the correct reproduction of the texts as submitted.

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[*] This submission is supported by Bosnia and Herzegovina, Croatia and Serbia.

AUSTRALIA

Scientific and methodological aspects of the proposal by Brazil

At its twenty-fourth session, the SBSTA invited Parties to submit to the secretariat their views on the results of the work on the scientific and methodological aspects of the proposal by Brazil, as presented to the in-session special side event at SBSTA 27, as well as earlier results of work in this area (FCCC/SBSTA/2006/5, paragraph 83). Australia is pleased to provide the following submission on this matter.

Australia recognises the historic contribution of developed countries to climate change and is committed to playing its part in a global response. Australia appreciates the work of the ad hoc group for the modelling and assessment of contributions to climate change (MATCH), and welcomes the inclusive, open and transparent process through which this work has been conducted. Improved understanding of the sources of greenhouse gas emissions at the regional, national and sectoral level is an important input to effective policy responses.

The work undertaken by MATCH illustrates the large uncertainties that remain in any attribution of historic emissions at the country level. This uncertainty is exacerbated when emissions from land-use change and forestry are included. It is essential that any comprehensive assessment of emissions include those from land-based sources. This is particularly important when considering historic emissions, as historic emissions from the land sector will be a greater component of global emissions than they are today. The exclusion of emissions from the Land Use, Land Use Change and Forestry sector would result in inaccurate results, which do not reflect real emissions to and removals from the atmosphere.

Australia considers that the remaining uncertainties highlighted in MATCH's final report clearly preclude the use of historic emissions by country as a means of calculating Parties' emissions reduction commitments.

Australia encourages the SBSTA to conclude work on this topic at SBSTA 28 as was suggested in the conclusions to SBSTA 24 (FCCC/SBSTA/2006/L.13). Australia's view is that the Ad Hoc Working Groups on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP) and Long-term Cooperative Action under the Convention (AWG-LCA) are the appropriate fora for any further consideration of possible future action by Parties.

PAPER NO. 2: BRAZIL

SUBMISSION OF BRAZIL ON SCIENTIFIC AND METHODOLOGICAL ASPECTS OF THE PROPOSAL BY BRAZIL

1. The Government of Brazil, in response to the invitation to Parties contained in document FCCC/SBSTA/2006/5, paragraphs 8, welcomes the opportunity to submit views on the results of the work on the scientific and methodological aspects of the proposal by Brazil.

2. The analysis of countries' contribution to climate change over time (the "Brazilian proposal") was first suggested as a scientific, unbiased and effective tool to determine the fair share of emissions reductions for each Annex I country in the negotiations under the Berlin Mandate that led to the Kyoto Protocol. Due to lack of time during those debates, this approach was not used in determining Kyoto targets.

3. SBSTA-17 agreed that further work by the scientific community was needed to improve robustness and reduce uncertainty of results. This was taken forward by independent scientists, with the support of interested Parties. SBSTA-24 took stock of the work done and identified the need for further work "to quantify and reduce uncertainties, to address gaps in knowledge, and to (…) improve the methodology, for instance by considering finer resolution of sources and longer timescales".[1]

4. At the in-session side event during SBSTA 27, the results of the work were presented by those engaged in this process. Brazil actively participated in this research and thanks other Parties and all scientists and institutions involved. The results of this process are already useful in informing policy approaches. However, the work completed in November 2007 does not signify that the assessment of the scientific and technical aspects of the Brazilian proposal is exhausted. The report highlights some of the scientific questions that still require improvement, such as how to further reduce the ± 30% uncertainty from Annex I emissions and how to improve LUCF and sectoral estimates.[2]

5. This scientific approach also raises a policy question: How can the assessment of a country's contribution to climate change over time be used as a tool in informing a Party's fair share of enhanced action under the UNFCCC and the Kyoto Protocol?

6. The Bali Action Plan (decision 1/CP.13) calls for, *inter alia*, "enhanced national/international action on mitigation of climate change". Parties should also discuss "A shared vision for long-term cooperative action, including a long-term global goal for emission reductions, to achieve the ultimate objective of the Convention, in accordance with the provisions and principles of the Convention, in particular the principle of common but differentiated responsibilities and respective capabilities, and taking into account social and economic conditions and other relevant factors". Up to now, discussions have gravitated around proposals by some Parties or groups of Parties on global figures for "acceptable" temperature increase, concentration peaks and/or global emission pathways as definitive solutions for the climate problem.

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[1] FCCC/SBSTA/2006/L.13

[2] Summary report of the adhoc group for the modelling and assessment of contributions to climate change (MATCH), 7 November 2008.

7. However, in order to have an answer that helps prevent dangerous anthropogenic climate interference while addressing social development and poverty eradication, a consensus should be reached on the meaning of a shared vision and of a long term global goal. The criteria for distribution and for differentiation of efforts among countries should be discussed as a necessary element of a shared vision, thus addressing equity and in line with the principle of common but differentiated responsibilities. This definition must result from a participatory and inclusive process under the AWG-LCA.

8. By further developing a tool for determining Parties' fair share of the enhanced mitigation action required under the Bali Road Map, the SBSTA process on the Brazilian proposal can provide a valuable contribution to discussions on the shared vision and on the long-term global goal under the AWG-LCA.

9. It is important that this work continue under the UNFCCC process, with the appropriate scientific and technical support of relevant intergovernmental institutions, which would allow participation of all Parties in the discussions and in fully realizing the potential of this approach.

PAPER NO. 3: PAKISTAN

SCIENTIFIC AND METHODOLOGICAL ASPECTS OF THE PROPOSAL BY BRAZIL – COMMENTS OF GOVERNMENT OF PAKISTAN

Pakistan welcomes the opportunity for submission of views by Parties to UNFCCC and Kyoto Protocol on the results of the work done by the Parties, Research Institutions and Scientists on the scientific and methodological aspects of the Proposal by Brazil. Pakistan generally agrees with the contents of this proposal with the following observations;

- Pakistan is among the group of countries which are likely to be most adversely affected by climate change and accordingly it strives to seek global agreement on aiming to contain further global temperature rise to the lowest level possible by setting global GHG emission reduction goals in line with the suggestions in IPCC AR4.

- **P**akistan adheres to the key principles of the Earth Summit at Rio and the UNFCCC and its Kyoto Protocol, especially (i) common but differentiated responsibilities and respective capabilities, (ii) the polluter pays principle, (iii) protection of the vulnerable, and (iv) equal treatment of mitigation and adaptation, including legally binding instruments for adaptation and technology transfer. Pakistan emphasizes that (i) the bulk of the emission reduction effort must come from the developed countries through binding commitments, and (ii) those countries must also cover a large part of the cost of mitigation and adaptation effort by the developing countries, particularly in the low and medium income countries.

- Pakistan intends to secure full, effective and sustained implementation of the Convention by building on and integrated approach within the four building blocks i.e. mitigation, adaptation technology transfer and financing. These decisions would significantly influence growth, technological capabilities, energy consumption, production pattern, trade competitiveness, quality of life etc. in both the developed and specially developing countries. Pakistan urgently needs implementation of adaptation plans and actions and requires financial support to face the adaptation challenges.

- The developing countries including Pakistan are not prepared to accept ay commitment or target on carbon emission reduction and are fully prepared to under take voluntary National programmes to restrain emissions and take other mitigation and adaptation actions if the developed countries, in accordance with UNFCCC, undertake to transfer technology and provide finance and capacity building assistance to help the developing countries under such measures. The voluntary actions taken by developing countries for emission reduction should be fully recognized. The developing countries should be encouraged and facilitated to maintain their economic growth, sustainable development and trade competitiveness. For Pakistan, sustainability of life, protection of human health and environment, ensuring of Food, Water, Energy and Health securities and poverty alleviation are of paramount importance.

PAPER NO. 4: SLOVENIA ON BEHALF OF THE EUROPEAN COMMUNITY AND ITS MEMBER STATES

SUBMISSION BY SLOVENIA ON BEHALF OF THE EUROPEAN COMMUNITY AND ITS MEMBER STATES

This submission is supported by Bosnia and Herzegovina, Croatia and Serbia

Ljubljana, 17 March 2008

Subject: Scientific and methodological aspects of the proposal by Brazil
Views on the results of the work by Parties, research institutions and scientists on the scientific and methodological aspect of the proposal by Brazil

Slovenia, on behalf of the European Community and its Member States, welcomes the opportunity to submit its views on the results provided by the scientific community on the scientific and methodological aspects of the proposal by Brazil as mandated by SBSTA 26 (FCCC/SBSTA/2006/5). In particular, the EU welcomed the presentations during the in-sessional special side event at SBSTA 27.

The EU would like to thank Brazil for its contribution to the debate on indicators for differentiate responsibilities related to commitments of Parties to the Convention by their elaboration on proposal on formalizing the important aspect of historical responsibility during the Kyoto negotiations in 1997 (FCCC/AGBM/1997/MISC.1/Add.3).

The EU would like to express its gratitude to all scientists and research organisations that dedicated their time to enhance the scientific understanding of attributions of climate change, establishing it as a solid concept and well-researched approach along with other differentiation schemes. In particular, the EU welcomes the contributions over the years by the "Ad hoc group for the modelling and assessment of contributions of climate change" (MATCH) as a catalyzing focal point for the scientific exchange on this matter, including the summary report [1] by the MATCH group on the scientific findings.

The EU would also thank the governments of UK, Germany, and Norway who provided financial support for coordination of the work and to enable the increased participation of developing country experts. It would also thank a wider number of governments who supported the participation of their scientists in the MATCH work.

The EU welcomes the various scientific achievements of the MATCH process. These achievements include the conceptual work on the scientific and policy choices involved and the compilation of state-of-the-art databases of historical emissions and their uncertainties. Furthermore, MATCH had an important catalyzing role in triggering multiple research projects, capacity building among developing country research communities, as well as supporting dissemination of models, methodologies and results.

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[1] See MATCH summary report, 7th November 2007, available at: http://unfccc.int/files/methods_and_science/other_methodological_issues/application/pdf/match_summary_report_.pdf

In particular, the EU regards a series of specific research results as particularly relevant to the work of the Parties:

a) While uncertainties in *absolute* contributions to global temperature increase are (or remain) substantial (+-30%), the fact that many uncertainties affect all countries' contributions in the same way renders the *relative* contributions much more certain. And in fact it is the relative contributions across countries that might inform the differentiated commitments and actions taken under a post-2012 agreement.

b) Cumulative greenhouse gas emissions provide a very close proxy for more complex indicators of contributions to climate change, i.e., global mean surface temperature changes [2]. Among other things, this finding points to the validity of the basic Kyoto Protocol architecture, which is anchored around emission budgets of countries.

c) Inclusion or exclusion of particular sectors and/or greenhouse gases can make a large difference for some countries, e.g. land use related emissions in countries with significant terrestrial carbon stocks [3]. However, emissions from land use are particularly uncertain. A compilation of various land use related datasets reveals large disagreements between the respective quantitative estimates for carbon uptake / release estimates by the terrestrial biosphere. Moreover, the discrepancy between the (lower) UNFCCC reported net land use CO_2 emissions and the (higher) land use CO_2 emissions estimates from other sources warrants further investigation.

d) The process has the potential, not only to assess historic contributions to warming, but to assess the likely contributions to warming to some point in the future, due to past and future emissions. This could provide insights into the way in which differentiation might change with time.

e) A key factor is the starting year, from which on emissions and their effects are taken into account. The increase in relative contributions is noticeable for parties with rapid increase in emissions recently. Conversely, countries with currently decreasing emissions show a decreasing contribution indicator for later starting years of the attribution. The scientific uncertainty increases the earlier the starting date. Also an added level of complexity is introduced by changes in borders and the configuration of states.

f) The MATCH results confirm that the, least developed countries have contributed negligibly to current climate change. On the other hand countries within the OECD90 group have contributed substantially (40% between 1890 to 2000), but their share is decreasing, whilst the contributions from some other regions are increasing. The EU recognizes the responsibility of developed countries [4] to act first to reduce their emissions but also note the importance to broaden the contributions on emission limitations (as agreed in the Bali Action Plan).

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2 See slide 55 in special side event presentation at the twentieth-fourth session at SBSTA, entitled "Cumulative emissions vs. temperature from 5 models", as available here: http://unfccc.int/methods_and_science/other_methodological_issues/items/4187.php

3 See e.g. slides 57/58, ibid.

4 In its most ambitious climate policy plan to date, the EU committed to reducing its emissions at least 20% by 2020 below 1990, or 30%, if other developed countries offer comparable reductions and economically more advanced developing countries contribute adequately according to their responsibilities and respective capabilities. See e.g. EU Council conclusions, 7/8 March 2007, available at www.consilium.europa.eu/uedocs/cms_Data/docs/pressdata/en/ec/93135.pdf

The scientific endeavours since 1997 on the analysis of the Brazilian proposal have deepened our understanding of both the scientific and political choices related to this proposal. It offers a robust methodology that can be used to inform negotiations on a future post-2012 agreement. The methodology could be useful in considering issues of differentiation of Parties contributions, together with other relevant fairness criteria and indicators, such as equity, capacity to act, national circumstances, as well as broader considerations of sustainable development.

The EU is looking forward to open discussions with other Parties on a broad set of differentiation indicators which will allow well informed, transparent and fair decisions on a post-2012 agreement by 2009 in Copenhagen.

PAPER NO. 5: SRI LANKA

Scientific and methodical aspects of the proposal of Brazil

Views on the results of the work by Parties, research institutions and scientists on the scientific and methodological aspects of the proposal by Brazil

i.. Sri Lanka is of the view that the currently used indices to gauge sustainable development, such as the Human Development Index are not appropriate as they do not have provisions for measuring the environmentally and ecologically sustainable development in countries.

Hence we would like to reiterate the importance of identifying the possibilities for the establishment of a Sustainable Development Index where per capita CO2 emissions are considered as a major criterion, together with other criteria such as protected forest cover and biodiversity value.

ii. We have identified that the technology transfer should not facilitate simply affordable technologies, which would be instrumental to dumping of obsolete technologies no longer used in developed countries. Rather, technology transfer should be on appropriate technologies that could be harmonized with the traditional knowledge and practices of developing countries, Furthermore, technology transfer should be supported by capacity enhancement to ensure long term sustainability.

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