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SUBSIDIARY BODY FOR SCIENTIFIC AND TECHNOLOGICAL ADVICE

Twenty-seventh session

Bali, 3–11 December 2007

Item 10 of the provisional agenda

Scientific, technical and socio-economic aspects of mitigation of climate change

Views on issues discussed at the workshops on mitigation

Submissions from Parties

1. The Subsidiary Body for Scientific and Technological Advice (SBSTA), at its twenty-third session, agreed to continue its work on the scientific, technical and socio-economic aspects of mitigation, and to focus on exchanging information and sharing experiences and views among Parties on practical opportunities and solutions to facilitate the implementation of the Convention as mandated by decision 10/CP.9. For this purpose, the SBSTA requested the secretariat to organize workshops on specific themes at each of its next four sessions (FCCC/SBSTA/2005/10, para. 26).
2. At the same session, the SBSTA invited Parties to submit to the secretariat, before its twenty-seventh session, views on issues that were discussed at the workshops (FCCC/SBSTA/2006/5, para. 29).
3. The secretariat has received three 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.

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* This submission is supported by Albania, Croatia, Serbia, The former Yugoslav Republic of Macedonia, Turkey and Ukraine.

PAPER NO. 1: PORTUGAL ON BEHALF OF THE EUROPEAN COMMUNITY
AND ITS MEMBER STATES

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

**This submission is supported by Croatia, Turkey, Former Yugoslav Republic
of Macedonia, Albania, Ukraine and Serbia**

Lisbon, 21st of September of 2007

**Subject: Scientific, technical and socio-economic aspects of mitigation of climate
change
Views on issues discussed at the workshops referred to in paragraph 26 of
document FCCC/SBSTA/2005/10**

Portugal, on behalf of the European Community and its Member States, and supported by Croatia, Turkey, Former Yugoslav Republic of Macedonia, Albania, Ukraine and Serbia, welcomes the opportunity to submit its views on issues that were discussed at the workshops referred to in FCCC/SBSTA/2005/10, paragraph 26.

I. GENERAL CONCLUSIONS AND FUTURE WORK PROGRAMME

1. The EU is grateful to the speakers at the workshops under SBSTA agenda item 'Scientific, Technical and Socio-Economic Aspects of Mitigation of Climate Change', for their interesting and informative presentations. We also thank the secretariat for organising these events. These workshops have enhanced the exchange of practical experiences from a broad range of stakeholders. The EU believes that the mitigation workshops have provided a valuable setting for information sharing among all Parties.
2. This exchange of experiences provided valuable information for further discussions of an effective and appropriate framework beyond 2012 in order to contribute to the implementation of the Convention.
3. The mitigation agenda item is currently being dealt with through a series of five workshops, the last of which will take place at COP-13. It is the view of the EU that this agenda item should be continued and further developed in order to help Parties to contribute to reduce global greenhouse gas emissions.

Future Work Programme

4. The EU proposes that, based on the lessons learned (see section II), the following elements could be the basis for a work programme:
 - Methods to assess mitigation potentials (with top-down and bottom-up approaches),
 - Methods for providing effective incentives for the implementation of mitigation options (e.g. in sectors such as agriculture, and transport in cities, or through establishing a carbon price for energy supply),

- Understanding the relationship between mitigation and sustainable development,
 - Improving methods to monitor, evaluate and review mitigation options,
 - Integration of mitigation and adaptation activities,
 - Development of guidelines (e.g. biomass production and standards for appliances),
 - Methods to address barriers to the implementation of mitigation options (e.g. urban planning) and the role of markets,
 - Methods to assess costs and (co)benefits of mitigation measures.
5. The valuable exchange of views and practical experiences from the current workshop based approach would be further elaborated and developed. At the same time Parties and relevant organisations would provide information and guidance for the implementation of actual mitigation options and their implementation experiences. The process could also aim at facilitating the cooperation among Parties to enhance the individual and combined effectiveness of mitigation options. The EU recommends continuing this agenda item and deciding at COP 13 on the activities that will be undertaken in this context. The EU also recalls that linkages between this agenda item and that on the scientific, technical and socio-economic aspects of impacts of, and vulnerability and adaptation to climate change are relevant and should be enhanced.
6. We believe that such a programme of work would have benefits in offering a more systematic approach to assessing the scientific, technical and socio-economic aspects of mitigation options. A work-programme would spur cooperation between Parties and with other international institutions, and produce concrete deliverables that could inform and assist the future work of the UNFCCC. It would also facilitate the consideration of the latest scientific analysis in this area.

II. VIEWS ON ISSUES DISCUSSED AT THE WORKSHOPS AND LESSONS LEARNED

Common issues

7. The workshops have shown that there is considerable potential for emission reductions through the use of existing low emission technologies, but also indicated that the deployment and the process of innovation of new technologies needs to be improved, also barriers need to be addressed that prevent the implementation of low cost mitigation options. The importance of international cooperation has to be highlighted in this context. The workshops also highlighted the importance of a long-term mitigation goal, in spurring the development and deployment of climate-friendly technologies, and that investment decisions in the short term will affect ability to reduce emissions in the long-term. Investment decisions of today (notably in the energy sector, in building and in urban planning) bear the danger of long lasting lock-in effects that will hamper sustainable development. Furthermore it was emphasized that there are considerable co-benefits from greenhouse gas emissions mitigation for sustainable development, e.g. security of energy supply, health, and air-quality. Also, mitigation is essential to sustainable development, as was the case made in several presentations in all workshops. The mitigation workshops provided very useful examples of integrating mitigation into the broader sustainable development agenda. The exchange of experiences should be continued in the future to reflect the development in technologies, and of mitigation and adaptation policies.

Energy efficiency, including industry, and residential and commercial end-use

8. At the workshop on *Energy efficiency, including industry and residential and commercial end-use* the IEA showed that there is a substantial challenge ahead to curb the current unsustainable trend in greenhouse gas emissions from energy use. Potential for reducing greenhouse gas emissions exists on both the supply and demand sides of the market. More efficient use of energy can be realised through improved insulation of buildings, more energy efficient appliances, by reusing heat and by change in

life-styles. We saw good examples of energy-efficient technologies and how they can be effectively promoted. However, several non-market barriers impede the implementation of many low-cost measures, and these barriers may vary between different countries.

9. The EU is convinced that ambitious and progressive international standards for appliance energy use could generate substantial energy savings. Energy distributors could enhance this process by providing energy services rather than selling energy. The EU has set standards for relevant categories of appliances and continues to do so, but improvements could be faster if other large countries would follow suit. Bigger and homogenous markets increase the return on investments and takes away improper competitive (dis)advantages.

Agriculture, forestry and rural development

10. The Workshop on *Agriculture, Forestry and Rural Development* contained many interesting presentations from different regions of the world that showed that solutions in these sectors often have a wide array of benefits and co-benefits, such as protecting biodiversity, combating desertification and promoting of local rural employment and income. Monitoring of the results of measures in these sectors can be more difficult and the resulting outcomes less certain than in other sectors. Still, there seems to be a large potential in the forest sector to limit emissions and to fix CO₂ in sinks. Most of the reduction potential for forestry is located in developing countries in the tropics, and involves not only reducing deforestation rates, but also restoring degraded forests, reforestation, afforestation and sustainable forest management. Agriculture may also contribute substantially to climate change mitigation by improving carbon uptake in the soil, by reducing methane and N₂O from rice paddies, ruminants and application of fertilizers and manure in soils, and by providing biomass for fossil fuel substitution, through the efficient production of heat, combined heat and power, electricity and bio fuels.
11. The EU considers the use of biomass for the future production of electricity and bio-fuels essential. However, biomass production will need to be expanded without endangering food and fibre production or generating perverse incentives related to loss of soil carbon content, forests and other natural habitats, and biodiversity. This is a complex issue that needs to be further debated among experts in different fields. A prudent and iterative expansion of the use of biomass that allows for the refinement of criteria and sustainable practices in the sectors at hand seems a good approach in this respect.

Urban planning and development, including transportation

12. The Workshop on *Urban Planning and Development, including Transportation*, showed that currently more than 50% of the world's population lives in urban areas and that this proportion is growing. The built environment presently has the largest unutilised potential for low cost greenhouse gas emission reduction, both in developed and developing countries. Careful planning and land management may at the same time address a host of other problems that concentrate in urban areas, such as poor air quality, congestion and noise, but this may require technical, logistical and financial support. Participation in urban planning of the different stakeholders is of crucial importance for its success. Some presentations highlighted the importance of compact and rational urban areas, partly because this provides the conditions for appropriate public transport systems.
13. Sustainable planning and management of urban areas is of utmost importance to the livelihoods of future generations, and may enable a clean, safe and low-carbon environment. The EU favours good urban planning and public transport systems, and many different European cities have taken up these issues and are gaining valuable experience in doing so, while reducing their climate change footprint. A shift in the mode of transport as well as more efficient cars could make a substantial contribution to reducing transport emissions in cities. There has been no exchange of good practices on this issue.

The fast growing cities in developing countries now have a unique opportunity to plan and invest in developing an urban structure that integrates mass transportation systems, low-emitting homes and offices, and sustainable industrial processes, assisting both poverty reduction and climate change mitigation. The further development of the flexible mechanisms may provide incentives for sustainable city planning. This issue needs further elaboration through discussions by means of a multi-disciplinary approach involving experts from different fields.

Power generation, including clean fossil fuels and renewable energy

14. The Workshop on *Power Generation, including Clean Fossil Fuels and Renewable Energy* showed that several technical solutions are already available to substantially reduce emissions over the next few decades. On the energy supply side options include the increased use of low-carbon energy (especially renewables) and more efficient transformation of primary energy to end-use energy. Other technologies such as carbon capture and storage require further full-scale integrated demonstration of the proven component technologies. Considerable co-benefits of reducing fossil fuel use include improved security of supply and lower energy costs.
15. Innovative technologies would offer clear environmental benefits but many may require strong international collaboration to introduce them commercially. Appropriate legal and regulatory frameworks as well as increasing levels of public and private RD&D investments would help progress in technological developments. The EU would be interested to learn how other Parties think the Convention could contribute to the establishment of such frameworks. Successful implementation of low-carbon technologies however is only to be expected to the extent the price of carbon justifies, or alternatively, if adequate standards are enforced. Enormous investments in the energy infrastructure will be made in the coming decades, which provide an excellent opportunity to implement low-carbon technologies, in developing as well as developed countries. In the absence of a carbon price investments of today might lock-into high carbon energy supply for a long time. Further discussion on the scientific, technical, and socio-economic elements of this issue is important.

SUBMISSION BY SAUDI ARABIA

Scientific, Technical and Socio-Economic Aspects of Mitigation of Climate Change

The SBSTA at its 25th session held in Nairobi, invited parties to submit to the secretariat, by September 21, 2007, their views on Urban planning and development, including transportation, Energy efficiency, including industry, and residential and commercial end-use, Power generation, including clean fossil fuels and renewable energy (Document FCCC/ SBSTA /2005/10, paragraph 29).

Saudi Arabia welcomes the request by SBSTA for the secretariat to organize three workshops at the SBSTA 26 sessions on several themes related to the scientific, technical and socio-economic aspects of mitigation of climate change.

Saudi Arabia would like to thank the UNFCCC Secretariat for the successful preparation of all of the in-session workshops on scientific, technical and socio-economic aspects of mitigation. We welcome the opportunity to submit our views on lessons learned from the mitigation workshops held to date and possible future steps under this agenda item as referenced in Paragraph 26 of document FCCC/SBSTA/2005/10 to facilitate the ongoing consideration of these topics under this agenda item by SBSTA at its twenty-six session.

I. lessons learned from the in-session workshops

1. The fact that mitigation measures undertaken by Annex I will cause changes in international trade that lead to adverse impacts on many developing countries has been well established
 - IPCC TAR as well as Expert Workshops and research and publications in the scientific literature support this conclusion
 - Oil exporting countries suffer from several types of adverse trade effects
 - i. Higher energy costs prices resulting from taxes on petroleum products in Annex B countries will result in higher prices for goods produced by industries in Annex B countries, and thus higher import costs for developing countries to import these goods
 - ii. Lower world demand significantly reduce earnings of oil exporting countries from their major exports
 - Many other developing countries will on balance suffer adverse trade effects
 - Negative effects on all developing countries include higher prices paid for goods imported from Annex B countries and lower prices received for their agricultural, natural resource and service exports

2. Sectoral measures are also likely to have adverse impacts on many developing countries
 - The largest adverse impacts are on oil exporting countries, no matter what type of sectoral measure is chosen
 - Sectoral measures that target the transportation sector have a disproportionately large impact on oil exporting countries
 - Sectoral measures will have adverse impacts on non-Annex B countries even if they are costless to the country that adopts them.
3. Carbon limits on the transportation sector also cause disproportionately large economic burdens on Annex B countries that already have high fuel taxes.
 - Sectoral policies that exempt transportation from carbon limits reduce costs to Annex B countries and impact on oil exporting countries
 - It is possible to replace the revenues from current fuel taxes with revenues from a tax on the carbon content of all fuels or from auction emission allowances
 - The policy of replacing fuel taxes with carbon levies is also beneficial to both Annex B countries and oil exporting countries
4. There are ways and means to minimize impacts on oil producing countries if sectoral measures were taken:
 - Redesign of sectoral policies to minimize impacts on oil exporting countries
 - Exempt transportation sector from carbon limits
 - Replace fuel taxes with revenue-neutral carbon taxes or revenues from auctioning allowances
 - Remove subsidies and/or incentives for coal and other forms of energy
 - Emphasize carbon capture and sequestration
 - Preferential tariff and trade treatment
 - Increased technology transfer and foreign direct investment to help diversify adversely affected economies

II. Future steps under the scientific, technical and socio-economic aspects of mitigation agenda item

Saudi Arabia believes that any exchange of information regarding this agenda item shall be done within the context of Article 4 of the Convention, where commitments for Annex I and non-Annex I have been clearly outlined and identified. Differentiation between Annex I and non-Annex I is an important element

for any scientific or technical assessment under mitigation. Non-Annex I commitment under mitigation must be confined to Article 4, Paragraphs 1 and 7 of the Convention and should be in accordance to their specific national and regional development priorities, objectives and circumstances, without introducing any new commitments, taking into account the provisions of Article 4, Paragraphs 4, 5, 7, 8 and 9 of the Convention. Any development on mitigation shall be aimed at ANNEX-I meeting their commitment under the Convention in particular Article 4 paragraphs 2 and 7. Discussions under this agenda item must be limited to the mandate of SBSTA as described in Article 9 of the Convention.

Saudi Arabia believe that an essential part of this agenda item is to advance robust solutions and opportunities to minimize the negative impacts of Annex I Parties response measures on non-Annex I Parties including negative spillover effects from potential mitigation measures taken by Annex I parties. This agenda item needs to further elaborate on the work of the IPCC-TAR and WGIII on spillover effects and impacts of response measures. This agenda item shall advance options to reduce impact of response measures and spillover effects

The cost of mitigation must be addressed in such a manner as to minimize the potential economic impacts on developing countries that are heavily dependent on fossil fuel export. Developing countries have raised concerns about the potential climate change related energy policies undertaken by developed countries to mitigate greenhouse gas emissions.

Saudi Arabia believes that any exchange of information under this agenda item must focus on identification of measures that would reduce emissions, and at the same time, have minimal effects on oil producing developing countries, such as removal of subsidies, restructuring the tax systems, enhancement of sinks, and CO₂ capture and storage technologies. Hence, SBSTA needs to promote the exchange of information on **win-win** type policies and measures.

**View of the Republic of Uzbekistan
on the scientific, technical and socio-economic aspects of
mitigation of climate change**

The Republic of Uzbekistan supports the activities of the UNFCCC Secretariat on scientific, technical and socio-economic aspects of mitigation of climate change.

The issues put forward for discussion at the workshops presented in paragraph 26 of FCCC/SBSTA/2005/10 document as well as: (a) agriculture, forestry and development of the rural areas; b) planning and development of the urban areas, including the transport infrastructure; c) power efficiency, including this one in the area of the end use in the industrial, municipal-domestic and commercial sectors; d) power engineering, including purely fossil fuel types and renewable energy sources as well as consideration of the above mentioned aspects with the account of the introduction, development and hand over of technologies facilitating the mitigation of climate change are ones of the first priority and actual for Uzbekistan being the country with the economy in transition.

However, the conduction of the working sessional workshops on the listed subjects in framework of the SBSTA is insufficient for reaching the useful and fruitful exchange of experience and views between the Parties regarding the practical capacities and solutions for the promotion of the effectively implementation of the Convention.

We think that:

- it is expedient to continue these activities;
- it is required to organize the regional and sub-regional workshops on these subjects with the focus on the regional exchange of experience and information between the Parties;
- it is useful to make the cooperation between the Parties on scientific, technical and socio-economic aspects of mitigation of climate change more active.