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UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE

**AD HOC WORKING GROUP ON FURTHER COMMITMENTS  
FOR ANNEX I PARTIES UNDER THE KYOTO PROTOCOL**

**Fourth session**

**Vienna, 27–31 August 2007 and Bali, 3–11 December 2007**

**Agenda item 3**

**Analysis of mitigation potentials and identification of ranges of emission reduction objectives  
of Annex I Parties**

**Views on the synthesis of information relevant to the determination of the  
mitigation potential and to the identification of possible ranges of emission  
reduction objectives of Annex I Parties**

**Submission from Japan**

1. Japan submitted comments on 28 August 2007 on document FCCC/TP/2007/1.
2. In accordance with the procedure for miscellaneous documents, this submission is attached and reproduced\* in the language in which it was received and without formal editing.

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**FCCC/KP/AWG/2007/MISC.5**

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SUBMISSION FROM JAPAN

**Analysis of the Mitigation Potential of Policies, Measures and Technologies  
Japan's Comments on the Technical Paper (FCCC/TP/2007/1)**

- The Technical Paper (FCCC/TP/2007/1) provides more comprehensive analysis of mitigation potential than ever. We highly value the practical questions raised in this paper, including the importance of sectoral and quantitative analysis. In particular, Paragraph 13, p. 5, refers to the approaches based on (a) efficiency analysis and (b) analysis based on BAT, which is very important and consistent with Japan's views.
- While this analysis provides good milestone for the mitigation analysis, it needs further improvement. For example, this paper lists many factors and indicators necessary for the mitigation potential analysis, but does not refer to how they should be utilized in the actual analysis. Thus, we should examine the listed factors and indicators, and implement detailed sectoral bottom-up analysis by using them. In the future analysis, database of APP<sup>1</sup> and the IEA should be utilized. Also, technical innovation should be taken into account when considering mitigation potential.
- For the identification of the range of emission reduction of the Annex I Parties, it is not sufficient to refer only to the estimate by IPCC. We should also have the estimate using the bottom -up approaches. In this regard, it is appropriate to continue analytical work with the involvement of specialized agencies using factors and indicators referred to in this paper.
- The Annex still lacks some countries' data, therefore needs further enhancement. Also, the validity and coherency of the data should be examined by experts and through peer-review.
- In conclusion, it is too early to take this technical paper as being final. The analysis should be further elaborated through the enhanced coordination between UNFCCC and specialized agencies such as the IEA. In order to proceed with this work, we propose to hold a workshop co-sponsored by the IEA and UNFCCC. The findings from the said workshop should be brought back to resume discussion on the mitigation potential and range of emission reduction.
- As for the LULUCF sector, mitigation potentials may vary depending on accounting options taken and may also be constrained by natural and ecological factors. Thus, the analysis on mitigation potentials specifically in this sector should be discussed in separate forum/fora.

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<sup>1</sup> Projects to identify performances and benchmarks are underway in the task forces (for more, see <http://www.asiapacificpartnership.org/ProjectRoster.htm>). Recent progress include the identification of CO<sub>2</sub> reduction potential using 10 steel-related technologies such as CDQ, with a total of 1,27.2 million t/year reductions by all six member countries.

(Reference: specific points of discussion)

1. Methodological issues in estimating mitigation potential

- On paragraph 22, p. 7, reference to the importance of energy efficiency and conservation should be added because it has the largest potential in the reduction of CO<sub>2</sub> emissions, and is regarded as a highly cost-effective way to reduce CO<sub>2</sub> emissions.
- Paragraph 22, p. 7, states that “Increasing the contribution of lower or zero GHG emitting sources of energy, such as wind or thermal source, as well as increasing the efficiency of electricity and heat generation, provides opportunities to reduce GHG emissions”. Nuclear energy should be added as a lower or zero GHG emitting sources. Also, the meaning of “thermal sources” here should be clarified.
- We note that the statement on paragraph 24, p. 7, “As national circumstances change over time, the mitigation potential for a specific period of time should be addressed. Such an assessment should take into consideration past trends and the current and future status of those factors and indicators that determine potential of a country” rightly suggests the need for further improvements in the analysis.
- We also note that the statement in paragraph 25, p. 8, “It should be noted that such data provides only a snapshot of the national and sectoral circumstances that determine the mitigation potential of Annex I Parties” suggests the incompleteness of the data and the necessity for further improvements.
- Paragraph 25, p. 8, refers to the hierarchy in citing data:” (a) Submissions to the secretariat from Parties, including sources referred therein, the 2006 GHG inventory submissions and the latest national communications; (b) IPCC Forth Assessment Report; (c) Other international sources such as data from IEA, the World Bank, the Food and Agriculture Organization of the United Nations, OECD and Eurostat; (d)...”. We do not regard it appropriate to give priority to various data merely by source. The validation of data should be assessed by experts and specialized agencies.
  - For example, the study of ECOFYS provides data for the efficiency of fossil fuel power plants (Paragraph 44, p. 11) that is effective as a tool to analyze mitigation potential in the sector. We propose to utilize the study of ECOFYS<sup>2</sup> as one of the available data source.
- Paragraph 31, p. 9, refers that “the value can be low for countries with low emissions and/or high GDP, such as highly developed economies with large renewable energy sources”. The phrase “with large renewable sources” should be replaced with: “with low and zero GHG emitting sources such as renewable and nuclear energy”.
- In Paragraph 42, p. 11, CO<sub>2</sub> emissions per kWh in electricity production (carbon intensity of electricity generation) uses the IEA statistics that add heat produced from CHP to its electricity production. It is, however, inappropriate to compare the data of areas with low heat demand with those with high heat demand. The adoption of this indicator, therefore, should be accompanied with full consideration of local circumstances. In addition, it should

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<sup>2</sup> Comparison of Efficiency Fossil Fuel Power Generation, 2006 Ecofys

be considered that the carbon intensity varies according to the resource availability (especially of hydropower resources).

- Paragraph 92, p. 19, describes that “information relevant to mitigation potential of Annex I Parties at the level of individual countries is not available”. This suggests that additional comprehensive study is needed to obtain these data.

## 2. Range of emission reduction of Annex I Parties

- Paragraph 11, p. 4, and Table 1 on p. 5 introduce IPCC analysis which indicates that “in order to achieve a stabilization level of 450 ppmv CO<sub>2</sub> eq, emissions from Annex I Parties would need to be between 25 per cent and 40 per cent below 1990 levels in 2020, and between 80 per cent to 95 per cent below 1990 levels in 2050.” Also, paragraphs 93-94, p. 19-20, and Table 4, p. 20, show estimates based on the national communications as well as mitigation potential (by 2030) at different carbon prices. We should, however, be reminded that IPCC estimate is only an illustration of the results of analysis, which does not necessarily bind the future work of the analysis of mitigation potential.
- Paragraph 85, p. 16, and Table 3, p. 17, provide projections of GHG reductions both “with measures” and “with additional measures”. According to the latest Japanese national communication, the reduction is 6.0% “with measures”, and -0.5% “with additional measures”, which is different from the numbers shown in Table 3. Also, the simple comparison of the numbers between countries is not appropriate, because definition of “with measures” and “with additional measures” is unclear.
- Paragraph 95, p. 20, states “As suggested by some Parties in their submissions, the use of market-based mechanisms, such as the clean development mechanism, joint implementation and emissions trading, and other flexibility measures increases achievable emission reductions considerably.” However, evaluation of the effectiveness of market mechanisms needs further detailed analysis.

## 3. LULUCF

- In paragraph 70, p. 14, potentials in the LULUCF sector are estimated based on the national GHG inventories for the Convention. Given that they may vary in a large extent by accounting options, they should be estimated based on the concept of Kyoto Protocol, which takes into account the definition of human-induced activities in land-use.
- It is necessary to consider that reduction potentials in forest may be constrained by various factors such as present age structure of forest, natural and ecological factors, profitability and cost in forestry and consideration to other environmental services including conservation of land and biological diversity.
- With regard to agricultural soil, potentials may be constrained by natural, ecological and territorial conditions in each country. Therefore, it is necessary to consider analytical methods that take into account those restrictive conditions.

#### 4. Data in the Annexes

- In Table 1, p. 23, and Table2, p. 24, the GDP indicator with MER base is necessary.
- Table 6, p. 28, shows the indicator and data of industry sector, where we notice the following problems. In order to use them for the comparison between countries, these problems should be resolved and data quality should be improved.

##### <Chemicals and petro-chemicals>

- We question the source of data of various chemical products of courtiers, and estimate of BAT.

##### <Cement>

- The composition of cement is different in Japan and in US or Europe. Therefore, it is inappropriate to compare national data with “per tone of cement” base. “CO2 emissions per tone of clinker” should be used instead.
- Table 7, p. 29: Efficiency of transport sector should be scaled with per transportation volume measured in person kilometers or tonne kilometers instead of per capita, because it better reflects political consequences. Data of transport, mileage etc., will be reported from IEA in September, and that should also be utilized. Definition and methodology for estimating data in transport sector differ by country, and therefore, careful attention is needed in comparison of national data.
- Table8, p. 39: Data on energy consumptions in household and service sector is also to be reported by IEA in September, which should also be utilized. In addition, difference in climate conditions should be considered when using “heating degree day” and “cooling degree day”: simple comparison of countries using this data is not appropriate.
- Table 13, p. 35: Reference to CO2 emission reduction potential should be added using analysis in ETP2006 of the IEA.

##### <LULUCF>

- Table11, p. 33: According to column 6, the data of emission/removal for Japan is - 26t/km2, however, its calculation grounds are not clear. Therefore, estimation methods for such values, along with those for other countries, should be fully discussed by experts.

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