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UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE

AD HOC WORKING GROUP ON LONG-TERM COOPERATIVE ACTION UNDER THE CONVENTION
Third session
Accra, 21–27 August 2008

Item 3 (a–e) of the provisional agenda
Enabling the full, effective and sustained implementation of the Convention through long-term cooperative action now, up to and beyond 2012, by addressing, inter alia:
A shared vision for long-term cooperative action
Enhanced national/international action on mitigation of climate change
Enhanced action on adaptation
Enhanced action on technology development and transfer to support action on mitigation and adaptation
Enhanced action on the provision of financial resources and investment to support action on mitigation and adaptation and technology cooperation

Ideas and proposals on the subjects of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention workshops scheduled for 2008

Submissions from Parties

1. The Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA), at its second session, invited Parties to submit to the secretariat ideas and proposals on the subjects of the AWG-LCA workshops scheduled for 2008.[1]

2. The secretariat has received three such submissions. As requested by the AWG-LCA, they have been posted on the UNFCCC website.[2] In accordance with the procedure for miscellaneous documents, these submissions are attached and reproduced[3] in the language in which they were received and without formal editing. The secretariat will continue to post on the relevant web page the submissions received after the issuance of the present document.

3. Submissions received from accredited intergovernmental organizations will be compiled in document FCCC/AWGLCA/2008/MISC.3. Submissions received from non-governmental organizations will, in line with established practice, be posted on the UNFCCC website at <http://unfccc.int/parties_and_observers/ngo/items/3689.php>.

[1] FCCC/AWGLCA/2008/8, paragraph 26.
[2] <http://unfccc.int/meetings/items/4381.php>.
[3] 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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* These submissions are supported by Croatia, Turkey, Albania, Bosnia and Herzegovina, the former Yugoslav Republic of Macedonia, Montenegro and Serbia.

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

Workshop on cooperative sectoral approaches

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

This submission is supported by Croatia, Turkey, Albania, Bosnia and Herzegovina, the former Yugoslav Republic of Macedonia, Montenegro and Serbia

Paris, 30 July 2008

3rd session of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA 3)
Accra, 21-27 August 2008

Subject: Workshop on cooperative sectoral approaches

Overall objectives of EU on sectoral approaches

1. France, on behalf of the European Community and its Member States, welcomes the opportunity to submit views, ideas and proposals on the elements contained in paragraph 1 of the Bali Action Plan, in order to focus the consideration of all the five elements by the AWG-LCA. In this submission, the EU outlines its views on Paragraph 1(b)(iv) of the Bali Action Plan, which reads: 'cooperative sectoral approaches and sector-specific actions, in order to enhance implementation of Article 4, paragraph 1 (c), of the Convention'.

2. The EU looks forward to engaging in constructive discussions on the concept of sectoral approaches in Accra. The EU believes that a discussion of this issue under the mitigation part of the Bali Action Plan will contribute to exploring further mitigation efforts in a range of sectors, including at national level.

Principles guiding the implementation of sectoral approaches

3. The EU recognizes that there is a lot of confusion and concern around the concept of sectoral approaches. It therefore believes that the discussion would benefit from having agreement on some key principles to open up the possibility of a fruitful consideration of how sectoral approaches could be implemented by Parties.

4. The EU would therefore want to propose that the issue of sectoral approaches is guided by the following principles:

- Sectoral approaches must contribute to achieving the ultimate objective of the Convention and should be part of a shared vision. The EU believes that the shared vision should translate the ultimate objective as defined in Article 2 of the Convention into common and shared understanding on putting the world on a pathway towards a low carbon society that keeps temperature below 2°C above pre-industrial levels and thereby avoids dangerous climate change.
- For developed countries sectoral approaches should be a complement, not a substitute to binding absolute emission reduction targets in the UNFCCC context.
- Governance schemes for monitoring, reporting and verification have to be robust to ensure environmental integrity and compliance.
- When introducing market instruments in sectoral approaches this has to be compatible with a global carbon market.
- Sectoral approaches should not undermine the principle of "common but differentiated responsibilities and respective capabilities".

Definition of sectoral approaches

5. The EU believes that the consideration of sectoral approaches would also benefit from a further clarification of what these approaches could be. Early interventions by Parties on this issue at AWG LCA 1 and 2 showed that Parties have indeed very different interpretations of this concept.

6. The EU considers that the main variables included in Paragraph 1(b)(iv) of the Bali Action Plan revolve around:

a. **their type**: i.e.
   - carbon market instruments (and if so whether those instruments should include absolute caps, intensity benchmarks or other);
   - technology policies applied at sectoral level;
   - other approaches such as national sectoral policies based on regulation and/or standards;

b. **their nature**: voluntary or mandatory;

c. **their scope**: national, regional or global;

d. **how to select the sectors** to be addressed.

7. The EU believes our deliberations under the Bali Action Plan have to explore all of the above variables to allow parties to make informed decisions, including current proposals such as:

a. Market based sectoral approaches giving incentives to developing countries to participate in global mitigation efforts. There are various types of market related sectoral mechanisms which could be explored, among others national or international emissions trading, sectoral no-lose mechanisms and sectoral crediting mechanisms.

b. Non-market based sectoral approaches such as cooperative approaches based on technology cooperation and/or domestic sectoral mitigation policies could contribute to removing barriers that are specific to certain sectors, increase technology deployment and enhance technology RD&D in key sectors in developing countries – and provide an intermediary step for some developing countries for participation in mitigation actions.

8. In general, the EU believes that the sectoral approaches building on mechanisms as mentioned in previous paragraph could facilitate and enhance implementation of national climate policies as well as enabling international support and capacity building.

9. In addition, specific sectoral approaches could also be applied to the emissions of the international aviation and maritime transport sectors. The EU recognises that these may be different from sectoral approaches for other sectors, because these sectors are not currently included in existing quantified

limitation and reduction obligations. However, these sectors also need to be covered in any post 2012 regime.

Further exploration – next steps in Accra

10. To conclude, the EU believes that sectoral approaches based on different kinds of tools/instruments and targeting different sectors in different countries could be part of a Copenhagen agreement to allow all Parties to broaden their mitigation efforts.

11. In Accra the EU would therefore like to focus the discussion on the following issues:

- The principles guiding the implementation of sectoral approaches;
- Further clarification of what sectoral approaches are;
- Starting discussions on options, i.e. which approaches and tools could be applied in which countries and in which sectors;
- Exploring how common but differentiated responsibilities and capabilities could be reflected in global sectoral approaches.

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

Policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries

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

This submission is supported by Croatia, Turkey, Albania, Bosnia and Herzegovina, the former Yugoslav Republic of Macedonia, Montenegro and Serbia

Paris, 30 July 2008

3rd session of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA 3)
Accra, 21-27 August 2008

Subject: Policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries.

Deforestation, particularly in tropical countries, contributes approximately 20 % to global human-induced CO_2 emissions. Effective action to reduce deforestation in developing countries is therefore needed to achieve the objective of Article 2 of the UNFCCC, and provide multiple benefits towards sustainable development.
The EU emphasises that concrete policies and actions as part of the decision on long-term cooperative action are needed to halt emissions from deforestation in developing countries and reverse them in the next two or three decades. Options to reduce emissions from deforestation include effective land use policies coupled with economic incentives.
The EU stresses that the REDD mechanism should lead to additional, greater and permanent mitigation of emissions.
The EU notes that sufficient, reliable and sustainable incentives are fundamental to serve the above objects.

Current commitments
The EU would like to recall the already existing commitments under the UNFCCC (articles 3.3; 4.1.b.; 4.1.c and 4.1.d) that are relevant to deforestation. Many parties, including developing countries, have implemented effective measures to address emissions from deforestation. Mechanisms to facilitate cooperation among parties in this field include:

- guidance to the GEF,
- the Special Climate Change Fund,
- provisions for technology transfer,
- capacity building and
- the Adaptation Fund.

Also several other provisions under various bodies and processes provide ways to address deforestation. These mechanisms could be strengthened, and this should be done wherever it is effective and feasible. However, experience suggests that they are not by themselves sufficient to achieve significant additional reductions in emissions from deforestation. The EU therefore sees the need for additional efforts.

Period up to 2012

Decision 2/CP.13 encourages Parties to explore a range of actions, identify options and undertake efforts, including demonstration activities, to address the drivers of deforestation relevant to their national circumstances. The EU believes that the Indicative Guidance contained in the Annex to this decision will be very helpful to Parties and other organisations wishing to participate in demonstration activities. The Tokyo workshop (25 – 27 June 2008) showed that methodologies and technologies to collect data exist to apply the indicative guidance. There is a need to implement existing knowledge to initiate national forest carbon inventory. Experiences from implementing such activities should facilitate successful integration of policy approaches and positive incentives to reduce emissions from deforestation and forest degradation in the decision on long-term cooperative action to be concluded at COP15.

The EU welcomes the conclusions of the Tokyo workshop which show that several Parties, including EU Member States, and international organisations have already started to cooperate on some of these issues and that sharing experiences is helpful.

Period after 2012

The EU thinks that we should focus on policies and positive incentives to reduce emissions from deforestation and forest degradation. The EU thinks that additional actions on conservation, sustainable forest management and enhancement of forest carbon stocks could complement measures for REDD. The EU would like to use the workshop in Accra to understand further the views of parties on these issues.

The EU favours an approach that bases incentives on agreed national reference emissions levels. In the EU's view, agreed levels should be ambitious, yet realistically achievable, taking into account national circumstances including existing policies and initiatives, historical data, current trends and developments in land use. The agreed level would be negotiated and revised periodically.

Any effective approach should provide substantial and sustainable incentives to stimulate long-term action, while promoting socio-economic and environmental synergies. The EU recognises that public financing is currently not sufficient and not sustainably available, and therefore recognises the need to further assess all financing options, in particular with respect to scale and sustainability they might provide, and notes that a well designed market-linked approach can contribute to long-term action.

Stakeholders involvement, including involvement of local communities and indigenous peoples, and assessment of the effects on biodiversity are essential for any approach to be effective.

PAPER NO.2: JAPAN

Sectoral Approach

Submission on Sectoral Approach

The Government of Japan submitted the document below as submission regarding the paragraph 1 of the Bali Action Plan in May 2008;
http://unfccc.int/files/meetings/ad_hoc_working_groups/lca/application/pdf/submissionjapan.pdf

In addition to this submission, Japan would like to issue 5 submissions which include updated information on the following issues.

(1) Global long-term goal
(2) Innovative technology development
(3) Commitments or actions by developed countries and actions by developing countries
(4) Sectoral approach
(5) REDD

In this submission, the Government of Japan outlines its view on Sectoral Approach.

【Background】

- The paragraphs 1 (b) (i) and (ii) in the Bali Action Plan require the consideration of nationally appropriate mitigation commitments and actions by developed countries (while ensuring the comparability of efforts among them) and nationally appropriate mitigation actions by developing countries. Also, the paragraphs 1 (b) (iv) provides for the contribution of cooperative sectoral approaches and sector-specific actions, in order to enhance implementation of Article 4, paragraph 1 (c), of the Convention.
- Furthermore, at the Leaders Meeting of Major Economies on Energy Security and Climate Change in July, developed major economies agreed to implement economy-wide mid-term goals and take corresponding actions in order to achieve absolute emission reductions while developing major economies agreed to pursue appropriate mitigation actions with a view to achieving a deviation from the business-as-usual emissions.
- In order to make such national actions globally ambitious and sustainable, it is indispensable to ensure equity based on the principle of "common but differentiated responsibilities and respective capabilities" as well as to determine the concrete steps to achieve emission reductions.

【Advantages of Sectoral Approach】

- Introducing "Sectoral Approach" can ensure equity and determine concrete steps to achieve emission reductions in order to make national actions globally ambitious and sustainable. In the first step, this approach categorizes greenhouse gases into CO2 which accounts for 80% of total emissions and other gases. CO2 is further categorized by certain sectors, such as industry, power generation, residential, commercial and transport, so that appropriate sectoral measures can be considered on the basis of analysis on reduction potential and cost, taking into account sector-specific circumstances (dealing with LULUCF and international transport (aviation and marine bunker fuels) independently).
- The basic concept of this Sectoral Approach is already embedded in the Kyoto Protocol, the Annex of which defines sectors and energy sources. In the Leaders Meeting of Major Economies in July in Toyako, the leaders agreed to promote the exchange of mitigation information and analysis on sectoral efficiency.
- Sectoral Approach on a bottom-up basis is a useful tool for setting ambitious and feasible national emission reduction targets for developed countries. It enables each developed country to aggregate sectoral reductions volume, reflecting sectoral reduction potentials and projection of activities. They should be verified cross-nationally. In addition, model analyses based on marginal abatement costs

will provide images of reduction potentials in a specific sector compared with corresponding sector in other countries. Such Sectoral Approach will contribute to ensure comparability and fairness in national emission reduction targets among developed countries.

- Sectoral Approach can also accelerate mitigation actions of developing countries, which will contribute to global emission reduction. Best practices and Best available technologies (BATs) for each sector can be identified through cross-border analysis. It is possible to promote transfer of those identified Best practices and BATs from developed countries through analyzing reduction potentials and setting indicators. For major developing countries, in particular, sectoral efficiency indicators can be utilized for measurable, reportable and verifiable mitigation actions. Many of these actions have no regret nature with co-benefits such as energy conservation and alleviation of air pollution. It is necessary to assess realistic potential for global emission reduction based on the scientific and technical bottom-up calculations. In order to realize the total global GHG emissions peak in the next 10 to 20 years, it is necessary to establish a framework with all countries through Sectoral Approach bearing in mind "fair and equitable rules" that developed countries contribute more than developing countries.
- It should be emphasized that the Sectoral Approach 1) does not replace national emission reduction targets; 2) is consistent with the principle of "common but differentiated responsibilities and respective capabilities"; 3) does not apply a single common standard to all countries and also 4) does not lead to any trade sanctions.

【Current status of efforts on Sectoral Approach】

- At an international workshop hosted by Japan (Paris, May 8, 2008), it was confirmed that power generation, industry and transport sectors have relatively large reduction potentials at low mitigation costs, according to the current outcomes of model analyses based on marginal abatement costs. Therefore, those sectors should be treated with priority although the sectors with the higher reduction potential vary among different countries. (In addition at this workshop, participants recognized that there would be a gap between reduction potentials based on a bottom-up approach and reductions level required by a top-down approach. Also noted was the necessity not only to strive for wider range of mitigation potentials, but also to take into account additional mitigation strategies including policies, innovative technologies, and behavioral change (through e.g. nation-wide campaign.)
- As for industry and power generation sectors, the Asia Pacific Partnership(APP) has identified high-efficiency technologies, studied technology introduction rates and estimated reduction potential. The APP has also promoted transfer of these technologies and knowledge to developing countries. The international industry associations also make efforts in the iron and steel, cement and aluminum sectors. Furthermore, the IEA has estimated sectoral reduction potentials for the iron and steel, cement, power generation, and petrochemical/chemical industries.
- In the road transport sector, international efforts have been made to improve fuel efficiency, while various domestic measures have also been introduced to regulate automobile fuel efficiency, manage traffic flows, diversify fuels and promote environment-friendly driving ("eco-driving").
- In the commercial and residential sectors, mitigation actions, including setting energy efficiency standards for buildings, equipment and appliances, have been made at a national level.

【Scheme of Sectoral Approach】(see the attachment)

- In order to achieve sectoral specific reductions, each country should enhance data collection, promote technology introduction and implement polices and measures.
- Through these developments, developed countries will establish their national emission reduction targets based on aggregated reduction actions and estimated national reduction potentials.
- As for developing countries, we have to consider the nature of "measurable, reportable and verifiable" actions and supports from developed countries based on the analysis of sectoral reduction potentials. Another effective way to apply Sectoral Approach would be to consider incentive schemes for developing countries engaged in further improvement efforts, such as sectoral credit mechanisms.

- It is important to compare technologies and best practices with cross-border perspectives. Exchange and share of this information among countries should be promoted. It is especially important to focus on sectors with relatively homogenous technologies and to ensure international equity in these sectors, namely iron and steel, cement, aluminum (industry), coal-fired generation (power generation) and road transport (transport) sectors.

【Further developments】

- It would be meaningful to compile information by Parties on Sectoral Approach (including those on existing undertakings) under the AWG-LCA with relevant information and to launch workshops etc. on Sectoral Approach with participation from industries and academics.
- The methods for comparison among countries need to apply energy efficiency indicators and BATs data etc., which are currently identified by IEA, APP and international industrial associations like IISI and IAI. From this perspective, it can be as an effective measure to utilize the cooperative work by IEA and ISO including the work based on a common position paper by the IEA and ISO, "International Standards to Develop and Promote Energy Efficiency and Renewable and Energy Sources".
- It is useful to utilize input from industries and experts at the fora such as the informal industry ministerial meeting, which might be scheduled before COP14.
- The Government of Japan also plans to host the second international workshop in this coming October for further analyses on Sectoral Approach. Through this workshop, Japan will continue to assist researchers' works to clarify modeling assumptions and present them in a way that policy-makers can understand the differences among the outcomes from the different models focused on marginal abatement cost.

（Attachment）

Concept Paper for Submission on Sectoral Approach

Sectoral Approach is a tool to address global emissions by sectors, including industrial, power generation, residential, commercial and transport sectors. It enables the Parties to establish equitable quantified national emission targets ensuring comparability and also to accelerate global emission reductions through sector-specific transfer of technologies and practices.

1. Concept of Sectoral Approach

1.1Analysis of Emissions

(1)Method for Setting Quantified National Emission Reduction Targets for Developed Countries

1) Sectoral Analyses

- Emission trends in each sector need to be analyzed by evaluating changes observed in both intensity (e.g. energy intensity, emission intensity) and production activity volume.
- In the analysis, it is beneficial to (a) analyze the sector-specific reduction potential for the case in which Best Available Technologies(BATs) and best practices have been disseminated, employing data on the introduction rate of technologies and existing equipment In addition, (b) the reduction potentials of policies and measures, for example the introduction of new energy sources and nuclear power and those for the low-carbonization of social structures(through economic instruments or visualization of information etc.) should also be calculated.
- If data such as technology introduction rates are difficult to obtain, the reduction potential of a sector can also be calculated from expectation of the intensity improvement in the country with due consideration of costs.
- Such analysis should employ reliable data including indicators and technologies currently being identified by international industry associations such as IEA and APP for effective results.
- Model analysis based on marginal abatement costs can also contribute to providing images of how much reduction potential can be developed in a specific sector in a country in comparison with those of other countries.

2) Establishment of Comparable National Emission Reduction Targets

- Quantified national emission reduction targets should be established by estimating sectoral reduction potentials and aggregating them on a bottom-up basis to calculate the reduction potential at a country level.
- Even in the case that targets are already set by a top-down approach, identifying the current technology introduction rate and level of emission intensity for each sector can also be useful in determining the steps towards achieving those targets. A cross-national comparison of target levels should be done based on such work.
- The final adjustment of the appropriateness of the level of aggregated economy-wide reductions target should be achieved by comparing the results of sectoral verification with the analyses calculated with multiple indicators such as emission intensity, marginal abatement costs and accumulated costs.[1](to be elaborated in 1.2)

(2)Deviation from BAU in Major Developing Countries

1) Sectoral Analyses for specific sectors

- Concrete steps to achieve reduction and limitation in specific sectors can be introduced by analyzing emission trends and future reduction potentials and identifying the necessary technologies and viable polices and measures. These reduction potentials are not intended to prejudge the actions of major developing countries in a future framework; detailed “measurable,

[1] The model analysis based on the marginal abatement cost can serve to assess the worldwide reduction potential through identifying comparable economy-wide reduction potentials of developed countries and potentials by developing countries’ nationally appropriate mitigation actions

reportable and verifiable" actions will be discussed based on the principle of "common but differentiated responsibilities and respective capabilities."

- Given the enrichment of data for major developing countries, sectoral analyses, such as those by IEA, should continue to be employed, and measurement and reporting schemes for sectoral emissions should be enhanced. Capacity-building, among other support required, should be extended.
- For sector-specific emission trends analyses, it is beneficial to adopt the concept of distinguishing between intensity and production activity volume, to analyze the sector-specific reduction potential for the case in which BATs and best practices have been disseminated and to calculate the reduction potential of a sector from the intensity improvement potential.
- Such analysis should employ reliable indicators currently being identified by international industry associations such as IEA and APP for effective results.
- Model analyses based on marginal abatement costs can also serve to providing images of how much reduction potential can be developed in a specific sector in a country in comparison with those of other countries.

2) Specific Actions and Supportive Measures

- Concrete and responsible "measurable, reportable and verifiable" actions shall be discussed in the AWG-LCA.
- As for support to major developing countries, a scheme is necessary to promote investment which realizes efficient mitigation activities, taking into the mitigation potential discussed in 1). For example, a scheme to prioritize introduction of effective technologies with significant reductions could be considered by simplifying conditions and procedures for project-based mechanisms/financial support. The potential of mechanisms of granting credits for additional improvements made in each sector could also be considered as an effective means to provide an incentive for national actions and enhance overall effectiveness.
- A scheme needs to be considered to quantify efforts to transfer and disseminate BATs and best practices from these developed countries to developing countries as well as to assess the contributions made by developed countries in a measurable, reportable and verifiable manner.

(3) Support for Deviation from BAU in Other Developing Countries

- Developed countries should provide technical and financial support for developing countries which try to establish energy efficiency targets or action plans and also make efforts to achieve them. For example, a scheme to prioritize introduction of effective technologies with significant reductions could be considered by simplifying conditions and procedures for project-based mechanisms/financial support, or could be also considered mechanisms of granting credits for additional improvements made in each sector.
- A scheme needs to be considered to quantify efforts to transfer and disseminate technologies and best practices from these developed countries to developing countries as well as to assess the contributions made by developed countries in a measurable, reportable and verifiable manner.

1.2.Cross-border Analysis

From the perspective of international comparability, sectors are largely grouped into the categories below[2].Priority should be given to sectors in which knowledge can be easily accumulated internationally and cross-national common actions promise large impacts.

Category (A)Sectors with advanced international efforts (Iron & steel, cement, aluminum)

[2] LULUCF has been discussed as an independent methodology; and therefore, it would not be appropriate to address it in this context. International air and marine transport are studied by ICAO and IMO, and therefore will also not be discussed here.

Sectors in which sectoral measures including target setting have made progress in international industry associations, thus furthering the sharing of technologies and practices. Therefore, efficiency indicators can be easily established and cross-national comparisons can be done. Securing international equity is important in these sectors in order for national differences in reduction levels not to adversely affect the market (pose leakage issues).

- Because the sectors in category (A) are susceptible to the status of domestic and overseas reduction efforts, the status of reduction efforts should be reviewed through measures such as intensity-based cross-national comparison with considerations of current status and cost. Internationally coordinated actions, including the establishment of common indicators based on the principle of "common but differentiated responsibilities and respective capabilities" shall be pursued.
- In order to establish a method for comparison, energy efficiency indicators and BATs data etc. currently being identified by international industrial associations, IEA and APP should be employed. From this perspective, it can be an effective measure to utilize the cooperative work by IEA and ISO including the work based on "a common position paper by the IEA and ISO, International Standards to Develop and Promote Energy Efficiency and Renewable and Energy Sources". There are some advancing effort in progress which can be effectively utilized as shown below.

  - Efforts by Industry Associations
    (a)IISI (International Iron and Steel Institute): Membership of approximately 180 leading steel producers of the world (covering approximately 60% of world emissions from the iron and steel industry). Agreed on the integration of measurement method: launched data collection program.
    (b) WBCSD CSI: Represents 18 cement producers of the world. Promotes collection of best practices regarding climate change measures, development of guidelines, and compilation of a database on CO2 emissions.
    (c)IAI（International Aluminum Institute）: Represents 80% of world aluminum production. Successful achievements in GHG emission reductions in aluminum industry through integrating measurement methods, establishing common reduction targets, benchmarking, reporting and monitoring (14% GHG emission reductions from 2000 through 2005 while achieving 20% increase in production).
  - Actions in Asia-Pacific Partnership on Clean Development and Climate(APP)
    Iron and Steel Task Force agreed integrate measurement methods. It also promotes identification of effective energy saving technologies and examination of diffusion rates in each country in order to calculate technology-specific reduction potentials of dissemination efforts. These activities are also promoted in the Cement Task Force.
  - IEA Analyses("Worldwide Trends in Energy Use and Efficiency")
    IEA estimates such as reduction potentials of BATs dissemination efforts for steel and cement sectors.

- These efforts require intergovernmental partnership and support. In order to share the BATs and best practices currently being identified and to promote their transfer and dissemination to developing countries that are home to these industrial sectors, a forum under the UNFCCC can be set so that experts representing both the public and private sectors can discuss BATs, technology transfer and reduction efforts, subsequently accumulating and sharing detailed knowledge which lead to internationally collaborative actions.

Category (B): Sectors in which enhanced international efforts are expected (Power generation, road transport)

Sectors in which enhanced international efforts are expected since technologies and practices can be identified. Efficiency indicators can also be found for these sectors relatively easily, such as indicators for generation efficiency and fuel efficiency. However, these sectors are susceptible to country-specific natural and geographic conditions (e.g. potential for applying renewable energy) and national policy (e.g. introduction of zero-emission power sources, transport infrastructure); thus, simple cross-national comparisons of indicators require caution.

- Taking early measures would be possible and beneficial for the coal-fired power generation and road transport sectors, both of which are large emitting sectors and for which technologies can be identified relatively easily.
- For certain technologies, it is possible to quantify levels of reduction efforts to some extent using indicators and BATs data being developed by the IEA and APP. BATs and best practices currently being identified in the IEA and APP should be shared under the UNFCCC as well, with enhancing public-private partnership efforts for their transfer and dissemination.

  - Efforts in the Asia-Pacific Partnership for Clean Development and Climate
    The Power Generation and Transmission Task Force compiled a handbook on the operation and maintenance of coal-fired power plants. The task force is also engaged in calculating reduction potentials.
  - IEA Analysis("Worldwide Trends in Energy Use and Efficiency")
    IEA analyzes energy efficiency of fire power generation and calculates its reduction potential.

- Because of the large influences of non-technological factors (population, natural and geographical conditions) and policy measures reflecting national circumstances, simple comparisons of sectoral reduction target levels are not appropriate. (appropriate policy measures should be discussed in comparing levels of national emission reduction target for developed countries.) On the other hand, it is important for countries to understand their sector-specific intensities and to evaluate their efforts to improve them.

Category (C): Sectors centered on domestic efforts (commercial, residential, waste, other industries, etc.)

Sectors with complex emission processes or a covering a vast range of technologies. Efficiency indicator setting and cross-national comparison have difficulties.

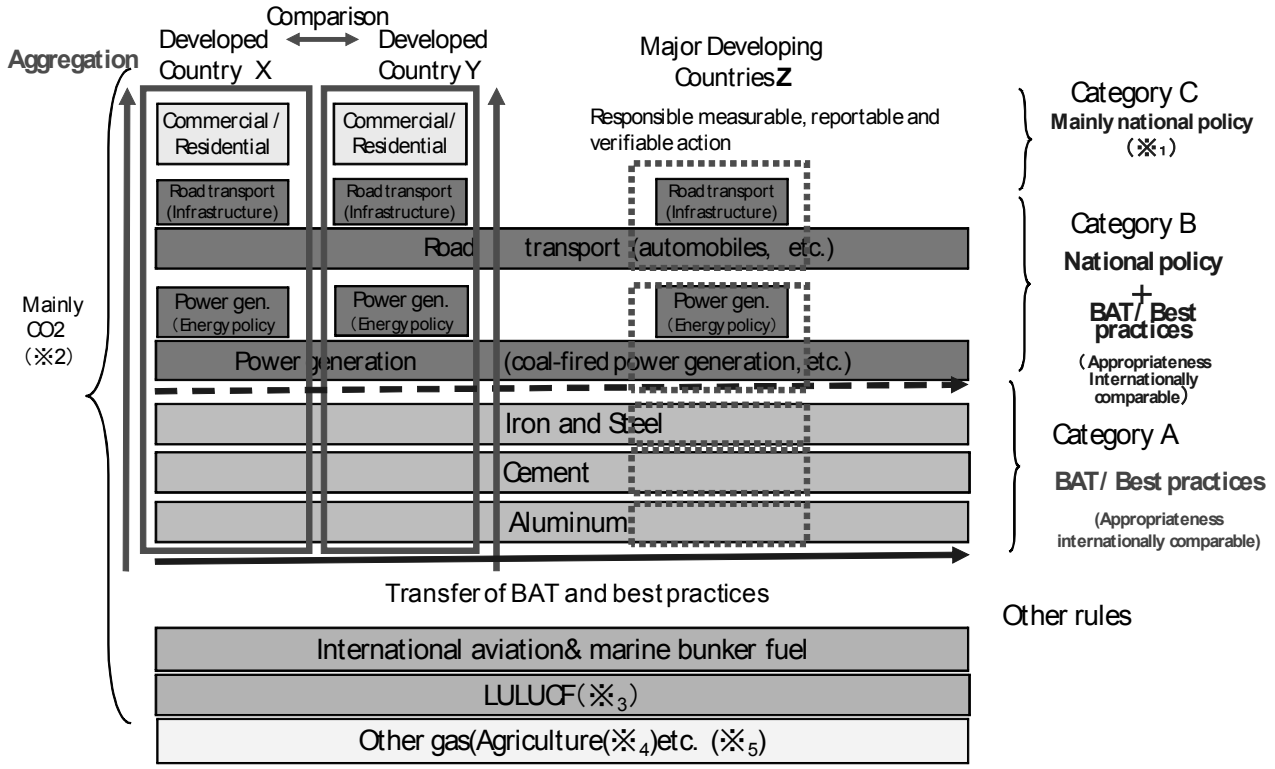
- Each country should consider domestic reductions when comparing levels of national emission reduction targets for developed countries. However, for some technologies, cross-national comparisons based on energy efficiency indicators and BATs, etc. are possible (e.g. comparison of the energy efficiency of household appliances achieved by the introduction of the Top Runner Program). Further examination is needed on methodologies for calculating potentials.
- On the other hand, it is important for countries to understand their sector-specific intensities and to evaluate their efforts to improve them.

2.Proposals for Future Work

- Meeting in Poznan
  - Collect related information on Sectoral Approach from Parties (BATs, policy measures, sectoral reduction potential analysis by parties, etc)
  - Collect information on BATs, best practices and model analyses from IEA, APP, industrial sector and experts.
  - Consider materialization on Sectoral Approach at the Business Roundtable.

○Early 2009

- Consider sector (power generation, transport, steel, aluminum, cement)-specific reduction efforts (through workshops, etc.)
- Consider technical/financial support for developing countries.
- Consider comparability among developed countries.



※1In the commercial /residential sector, it is also possible to share technologies and best practices for certain appliances etc.. Although efforts to compare and standardize these technologies and best practices are important, their significance in the sector varies among countries, thus complicating comparisons across the entire sector; and hence they are omitted in this figure.

※22Iron and steel, cement and aluminum sectors embrace emissions other than energy-originated CO2 emissions.

※3In LULUCF sector, volume of emission and removal can be calculated only after the establishment of the rules for accounting. Volume of emission and removal will become part of total emission reduction target for developed countries.

※4In the agricultural sector, further consideration is needed as the uncertainties of GHG emissions are high considering the difference of production system, varieties, GHG emissions calculation method and emission coefficients by nation or regions, due to climate and land conditions.

※5As for other gases, reduction volume through consideration of possible measures will become part of total emission reduction target for developed countries.

（Examples of sector-specific intensity）

- ✧ Iron & steel, cement, aluminum: emissions per unit production or energy consumption per unit production
- ✧ Electricity: heat efficiency
- ✧ Road transport: fuel efficiency
- ✧ Other industries: emissions per unit production value (or, emissions per unit production volume)

- ✧ Commercial: emissions per production value
- ✧ Residential, waste, other: per capita emissions

(Examples of reduction potential by policies & measures)

＜Power generation sector＞Consider the potential for introducing new energy, renewable energy and nuclear power based on energy security policy.

＜Road transport sector＞Traffic flow measures, improvement of public transport, promotion of environment-friendly driving (“eco-driving”)

＜Commercial/residential sector＞ Low-carbonization of social system (by economic instruments and, visualization of information, etc.), national campaigns, enhanced recycling

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