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UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE

AD HOC WORKING GROUP ON LONG-TERM COOPERATIVE ACTION UNDER THE CONVENTION
Fourth session
Poznan, 1–10 December 2008

Agenda item 3 (a-e)
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 elements contained in paragraph 1 of the Bali Action Plan

Submissions from Parties

Addendum

Part II

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(continued from part I)

PAPER NO. 16: INDONESIA

Means of Implementation: Views on the elements of Bali Action Plan

(Submission by Indonesia)

In Accra, 21-27 August 2008, the Ad Hoc Working Group on Long-term Cooperative Action (AWG-LCA) invited parties to submit their views on the ongoing work of the group regarding all elements of paragraph 1 of the Bali Action Plan, taking into account the inter-linkages and the specific subparagraphs under each of the elements.

The Government of Indonesia hereby submits its views and suggestions to the AWG-LCA.

A. Shared Vision

Global climate change can no longer be denied. In Indonesia and elsewhere across the world, the impacts are taking place and expected to become more severe and at a higher rate than initially anticipated. The ongoing and foreseen impacts pose a serious threat to national environmental and socioeconomic development for the coming decades and will be faced by all segments of society and future generations.

The Bali Action Plan has underlined the urgency to develop a shared vision to direct the comprehensive process through long-term cooperative actions. Unequivocal and accelerating warming of climate systems, as highlighted in IPCC AR4, confirmed the need of global efforts. Addressing climate change, therefore, demands urgent actions and needs commitment from all stakeholders involved.

The Government of Indonesia is of the view that shared vision should be considered as an integrated approach on how to define global goals that will include not only reduction of emissions, but also pay similar attention to the other climate building blocks: adaptation, technology transfer and financial resources. It is important that shared vision takes fully into account the legitimate priority needs of developing countries for achieving economic growth and poverty eradication in a sustainable manner.

Furthermore, shared vision should be able to pave ways and means to strengthen the timely implementation of the Convention through the mutually reinforcing four elements of the Bali Action Plan towards the achievement of the ultimate objective of the Convention in accordance with the principles of common but differentiated responsibilities and respective capabilities.

The global scale of climate change impacts shows that a new unprecedented scale of common global efforts beyond political borders is urgently needed. These efforts should be encapsulated by specific long-term and mid-term global goals that firmly based on the available and most updated scientific findings and recommendations, particularly the AR-4 of IPCC, on the basis of equity and in accordance with the principles of common but differentiated responsibilities and respective capabilities.

Considering these guiding principles, and that shared vision is equally important for and relevant to all Parties, developed countries should start assuming real leadership in the global efforts to fully implement the Convention, and developing countries will also play a crucial role by pursuing climate friendly sustainable development supported and enabled by technology, financing and capacity-building.

Indonesia would also highlight the importance of recognizing that economic and social development and poverty eradication as well as adaptation to climate change are among the top priorities for developing countries. If these countries are to increase their participation on meeting the global goals of emission reduction, the full implementation of commitment under Article 4.3 of the Convention, namely support for development, diffusion and transfer of technology, capacity building and provision of financing from developed countries are important to be fulfilled.

No single country will be able to cope with the dangerous impact of climate change. Hence it is important to deliver a genuine partnership among countries and relevant stakeholders. Nevertheless, this

partnership should recognize the importance of the fulfillment of obligations during the first commitment period of Kyoto Protocol and the lessons learned derived from it.

B. Mitigation

The Bali momentum injected a higher dose of recognition on the need for deep cuts over global emission into international climate change policy and launched a comprehensive process through long-term cooperative action that is expected to lead to an agreement by COP-15 in 2009. Agreements on deeper cut in global emissions as well as a medium and long term goals should be pushed harder.

However, as stipulated in Convention and Bali Action Plan, actions on mitigation by developing and developed countries must be based on the principle of common but differentiated responsibilities and respective capabilities, which clearly imply that developed countries, should take the lead. Provisions of the Convention reflected a distinct Annex-I and Non-Annex I obligations, and these should be the guiding principles for further work of the AWG-LCA.

Taking into account the that fossil-fuel based development in developing countries have only been pursued at a later stage, and further considering relatively low historical emission contributions and low per-capita emission of developing countries, Indonesia is of the view that developing countries global climate responsibilities is to pursue a sustainable development strategy (an economic development strategy that socially cohesive and environmentally sustainable) in accordance with their respective capabilities.

Sustainable development strategy should also be the basis of the implementation of nationally appropriate mitigation action by developing countries. Developing countries face the challenge of combining sustained economic growth and actions to protect the climate. Economic and social development and poverty eradication are still the guidance for defining the specific responsibilities, capabilities and needs of developing countries.

In line with this, mitigation actions of developing countries shall be measured, reported and verified, in the context of implementation of sustainable development actions that would reduce the rate of emissions growth. Also important to underline that as stated in Article 4.7 of the Convention, the level of actions by developing countries depends on support for development, diffusion and transfer of technology, capacity building and provision of financing from developed countries.

In this context, the MRV of mitigations actions shall be ensured by establishment of new and additional financial and technology mechanisms under the Convention. Furthermore, we need to have better understanding on the issue of MRV so as to enable us move forward in implementing Bali Action Plan. In regard on this matter, the Government of Indonesia would like to offer our support to host a workshop to discuss and elaborate the issues of MRV at the first quarter of 2009. With this workshop, we hope that we will be able to arrive on convergence views to MRV consistent with para 1.b.i and 1.b.ii of the Bali Action Plan.

Indonesia is of the view that a genuine partnership among countries and relevant stakeholders is needed to further prevent dangerous human interference with climate system on the basis of equity, and in accordance with the principles of common but differentiate responsibilities and respective capabilities.

Having the third largest tropical forests in the world and a vast array of oceanic resources, Indonesia always strives to contribute to the best of its ability in the regional and global efforts to maintain atmospheric and climatic dynamic balance, and increase its carbon sequestration.

To this end, Indonesia would like to stress the importance of actions on Reducing Emission on Deforestation in Developing Countries (REDD) as part of mitigation efforts by developing countries, supported and enabled by technology, financing and capacity-building. Policy approaches and positive incentives on REDD is an integral element of Enhanced Action Mitigation in the Bali Action Plan.

In this connection, Indonesia together with Australia, have just recently submitted a joint submission containing lessons learned from our partnership on REDD concrete actions through a large-scale demonstration activity in Central Kalimantan, Indonesia.

The demonstration activity resulting three main lessons learned: methodology, institutional arrangement and the needs of local people. More than just a demonstration activity, it is also a demonstration of partnership between developing and developed countries in adressing climate change that we believe could be replicated elsewhere.

Indonesia noted some progress on the deliberations on REDD methodology in SBSTA. However, the methodology discussion needs to be done in the light of policy aspects of REDD which has its place in the AWG-LCA.

Considering the importance and urgency of moving forward deliberations on the policy aspect of REDD on our way to Copenhagen – which is only twelve months from now -, Indonesia calls for focused and timely efforts – perhaps in the form of sub-contact groups – to discuss REDD policy within the framework of Mitigation Contact Group under the AWG-LCA to enable meaningful progress on REDD policy which, in turn, will inform the REDD methodology deliberation in SBSTA.

C. Adaptation

Indonesia, as the largest archipelagic country with over 17,000 islands and a coastline of more than 80,000 kilometers suffers greatly from the adverse effects of climate change. The millions of Indonesians living in the populated coastal areas and towns depend their welfare on marine life, fisheries and other marine resources which are vulnerable to climate change. Their livelihood is at stake as others in developing countries which are often situated in drought-ridden regions, low-lying coastal areas, flood-prone areas, or on small islands, all of which are vulnerable to climate change. Hence, developing countries are more likely to be adversely affected by climate change than industrialized countries. To complicate this, they have less access to the technology that could help them adapt.

Timely implementation of adaptation agenda - including the development of technology transfer and financial mechanism – are within our priority. Adaptation needs of developing countries should be prioritized in all UNFCCC agenda. It is particularly true since the magnitude of the climate challenge goes further beyond the capacity of the developing countries and above their sustainable development outcome. A structured yet flexible approach to adaptation under the convention that is supported by predictable and adequate financing, as well as transfer technology and capacity building, has to be established.

Indonesia would like to re-iterate the importance of data and information management on impacts of climate change. Vulnerability asessments of the regions could be enhanced by - inter-alia - establishing regional centres for adaptation. The activities of such centres should include capacity development to enhance regional risk management and risk reduction that requires provisions of financial and technology transfer by developed countries.

The international cooperation and support can be scaled-up by the fulfillment of relevant commitments of the parties under the Convention; enlargement of the role of private sector and engagement of civil society in a balanced manner.

The UNFCCC process should be conducive in removing barriers and ensuring adequacy of funds for technology transfer that needed to enhanced actions on adaptation as outlined in the Bali Action Plan.

Recently, Indonesia have concluded a pilot project on adaptation needs assessments in a small island near our famous island of Bali. Through this experience, we have learned many valuable lessons, notably:

1. The involvement of multi stakeholders including local community is important to support the Government in delivering the need assessment for adaptation.
2. Enormous level of coordination among various actor involved in the process is required.
3. Analytical expertise supported by scientific data is crucial in avoiding inappropriate adaptation actions.

D. Financing Mechanism

Climate change is a large and complex issue. Addressing it through mitigation and adaptation action requires substantial resources beyond the capacity of any developing country. It is extremely difficult to meet the demands for these additional resources, especially it will have to be delivered on top of our basic development challenges such as providing health services; education; maintenance and expansion of infrastructure; as well as financing poverty alleviation programs and achieving other Millennium Development Goals.

With regards of this issue, Indonesia has taken a note on the result and progress made during AWG-LCA on enhanced action on the provision of financial resources and investment to support action on mitigation and adaptation and technology cooperation, as well as the Fourth Review of Financial Mechanism at SBI 28.

Indonesia also takes a serious concern on the progress made in setting up a new financial architecture for climate change in respond to climate regime after 2012. Recalling the Bali Action Plan paragraph 1.b.(ii) and 1.b.(v) and paragraph 1.e. (i) (ii) (iii) (iv) (v), and Article 4.1, 4.3, 4.4, 4.5, 4.8 and 4.9 of the Convention, there have been plenty of rooms for Parties to discuss various options for setting up a future financial architecture on climate change, which cover both adaptation and mitigation aspect.

Also important to underline that as stated in Article 4.7 of the Convention the developing country action is dependent on the provision of finance, technology and capacity building by developed countries.

Financial architecture certainly is not the only elements of Bali Action Plan, however in our view it is one of the most important outcomes in Poznan. In our views, there are few important issues related to financial architecture to advance the debate on all elements of the Bali Action Plan:

- **First, the identification of additional financial resource;**
- **Second, the basket of mechanisms and tools of current, new and additional financing schemes;**
- **Third, the distribution of the financial instrument: at what level (international, regional or national) and which measures (adaptation, mitigation, REDD or deployment of technologies); and**
- **Fourth, the governance of the new architectures.**

Another important matter is a balance between public and private fund on the new architecture of financial instruments. Harnessing market forces in the battle against climate change is essential, a new form of more cost-effective and flexible way of international carbon market need to be delivered.

However, one should not forget that climate change is an aspect to all development issues, therefore institutional challenges concerning public fund and in particular concern on the utilization of ODA should be at the same level of attention. Market will likely wait for the leadership of Governments, in particular of Developed Countries, on providing climate friendly incentives and policies before embarking the journey on the same boat.

It is important to note that prior to COP-15 in Copenhagen, Parties should have come up with a basket of possible options of international finance and instruments flows to deliver on mitigation, adaptation and technology cooperation, with specific concerns on supports to developing countries as well as most vulnerable countries.

E. Technology Transfer

Environmentally sound technologies include know-how, procedures, goods and services, and equipment as well as organizational and managerial procedures. It should also be compatible with national socio-economic, cultural, and environmental priorities.

Dissemination of information on science and technology is critical for achieving the objective of the Convention. Technological information and technology flows should provide direct and tangible benefits to Parties through the enhancement of capacity building, technical know-how as well as furthering the transfer of technology and improving private/business sector exchanges in technology cooperation.

Such cooperation entails an iterative process involving government, the private sector, and research and development facilities to ensure the best possible results from transfer of technology. Successful long-term partnerships in technology cooperation require continuing systematic training and capacity-building at all levels over an extended period of time.

A large body of useful technological knowledge lies in the public domain. There is a need to secure access of the developing countries to patented technologies as well as those in the public domain. Substantial consideration must be given in dealing with patent protection and intellectual property rights in the context of access to and transfer of environmentally sound technology.

Joint research projects among the Parties should be encouraged involving governments, enterprises, institutes and universities, can speed the solution of common problems facing the Parties.

The transfer of technology should be based on the following principles:

- ✓ Equal opportunities for all parties to collaborate on technology transfer programs;
- ✓ Transparent and mutually benefitting partnerships between public and private sectors
- ✓ Ensuring active participation of Small and Medium-sized Enterprises (SMEs);
- ✓ Ensuring that intellectual property rights shall not be used as a barrier to the transfer technology activities.

PAPER NO. 17: INDONESIA ON BEHALF OF BRUNEI DARUSSALAM, CAMBODIA, INDONESIA, LAO PEOPLE'S DEMOCRATIC REPUBLIC, MALAYSIA, MYANMAR, PHILIPPINES, SINGAPORE, THAILAND AND VIET NAM

ASEAN Common Position Paper

On

Reducing Emission from Deforestation and Forest Degradation (REDD) in Developing Countries

Background

Land use, land use change and forestry (LULUCF) significantly contribute to global emissions. In the past 20 years, it has been estimated that the emissions from LULUCF have reached 1.65 Gt Carbon per year or about 17% of the global emissions (IPCC, 2006). About 75% of this has been from developing countries, especially those which have large areas of tropical forest (FAO, 2006). The Clean Development Mechanism (CDM) under the Kyoto Protocol aimed to incentivize developing countries to mitigate these emissions through afforestation/reforestation activities. However, its narrow scope and complicated modalities prevented ASEAN to fully participate and thus did not achieve its objectives to bring about positive afforestation/reforestation in ASEAN. This is evidenced by the fact that, of more than 1,000 projects registered with the Executive Boards of United Nations Framework Convention on Climate Change (UNFCCC), only one pertained to forestry CDM. A solution to this is to reform the A/R CDM rules and modalities to ensure developing countries can fully receive the benefits from the carbon market while engaging in positive climate change mitigation. Among the specific points for immediate reform include (i) change of definition of reforestation, (ii) removal of temporary crediting rule from A/R CDM projects, (iii) change of crediting period rules and rules governing deadlines, (iv) eligibility of land, (v) removal of 5-year verification rule, (vi) move to programmatic approaches with flexible boundaries and (vii) development of more simplified methodologies. In the 11th session of the COP, the concept of policy approach and positive incentives for avoiding deforestation was introduced by Papua New Guinea and Costa Rica. The Parties agreed to continue the approach and it was later negotiated under the COP Agenda item No. 5 Reducing Emissions from Deforestation (RED). In the 13th session of the COP, forest degradation was also included into the agenda.

To provide a start for a common position in ASEAN on REDD, the Inaugural Workshop of the ASEAN Regional Knowledge Network on Forests and Climate Change was held in Jakarta on 30 and 31 October 2008. The key considerations presented here in this submission, is a result from this Workshop.

Key Considerations

ASEAN as a strong forestry block comprises of 10 Member States including Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam. ASEAN Member States (AMS) have approximately 283.2 million ha of forests, which amount to 33.4% of the total countries' land area, and cover approximately 16% of the total tropical forests in the world (FAO, 2006). Under the forestry agenda, ASEAN has taken initiatives in a numbers of notable initiative, including, a Work Plan for Strengthening Forest Law Enforcement and Governance (2008-2015), developing a regional framework for a Pan ASEAN Certification Initiative, ASEAN Criteria and Indicators for sustainable management of tropical forests, a Regional Action Plan on the trade of wild fauna and flora (2005-2010), Mekong REDD Initiative and the Strategic Plan of Actions of the Heart of Borneo initiative.

To further consolidate the efforts taken and negotiation processes involved to date, which include policy approaches and positive incentives for REDD as well as methodological issues, the following section highlights some common positions of ASEAN.

ASEAN Common Position

1. The method for defining baseline or Reference Emission Level (REL) should be left open to approaches, additional to those based on historical emissions. Due to the erratic nature and scarcity of historical data on emissions in AMS, each country should be allowed to use an approach that best suits its national circumstances and capacity, with agreement on some common parameters between different approaches. Most important is that the choice of method should be based on the effectiveness of the method in demonstrating emissions reduction from deforestation and forest degradation, including the forest conservation and sustainable forest management (SFM) practices in greenhouse gases inventories.
2. Policy approaches should also be left open for a range of mitigation activities (reducing deforestation and forest degradation, SFM, conservation, enhancement of carbon stocks) depending on the capacity and the circumstances of the countries.
3. Positive incentives should be diversified and not only limited to market-based but also fund-based approaches, depending on the readiness of the country.
4. Coverage or Readiness activities under other related financial supports such as Climate Investment Fund and Forest Investment Program should be expanded (e.g. expand to include improved forest management, conservation, and enhancement of carbon stock through SFM).
5. The need must be reiterated for Annex I countries of the UNFCCC to support capacity building, improvement of infrastructure, technology transfer, and exchange of knowledge and experiences for developing countries.

PAPER NO. 18A: JAPAN

Japan's Submission on the Work Programme of the AWG-LCA for 2009

Japan would like to outline its views on the work programme of the AWG-LCA for 2009 for consideration at the fourth session of the AWG-LCA in Poznan.

1. Basic concept

- In order to achieve the ultimate objective of the UNFCCC, it is indispensable to establish an effective international framework in which all major economies will participate in a responsible manner. To this end,, it is important that works in the Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA) and the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP) complement each other and their results are put together to create the whole structure of the international framework beyond 2012. Therefore, the works of the two AWGs, including considerations of the issues common to both AWGs, should proceed comprehensively and with consistency.
- Further commitments by Annex I Parties to achieve mitigation objectives discussed in the AWG-KP are closely related to the issues to be considered in the AWG-LCA. Therefore, it is essential to share the outputs of discussions in both AWGs, coordinate their works, and deal with their results properly to be reflected in the whole structure of the framework beyond 2012.

2. Sharing the issues of the two AWGs

- Some of the issues being discussed in the AWG-KP that are closely related to the issues of the AWG-LCA should be considered in the two AWGs simultaneously in a well coordinated manner, such as:
  - Mitigation commitments or actions by developed countries should be consistent with the achievement of the long-term goal of global GHG emission reductions, peaking out the emissions and ensuring comparability among developed countries as well as mitigation actions by developing countries and support for them.
  - Flexible mechanisms, including CDM and sectoral crediting mechanism, which are discussed as means to reach emission reduction targets of Annex I Parties in the AWG-KP, are relevant to mitigation actions by developing countries and support for them.
  - Broadening the coverage of GHGs affects not only current Annex I Parties. It could lead to an amendment to the Convention as well as the Kyoto Protocol.

3. Procedure of works related to legal issues

- The final decision on the legal structure of the international framework beyond 2012 is to be made after future legal scrutiny, but in order to establish a framework in which all countries take responsible actions, one comprehensive regime is appropriate. Our preferable option is to adopt a new protocol, and another option would be to amend the Kyoto protocol provided that it can cover all the necessary elements. In any case, the whole structure of the international framework beyond 2012 should be crystallized in one protocol. Therefore, the legal issues derived from the works of AWG-LCA and AWG-KP should be considered in a joint meeting of the two AWGs and a legal expert group under the joint meeting should be established.
- The text of any proposed protocol or the text of any proposed amendment to the Kyoto Protocol shall be communicated to the Parties by the secretariat at least six months before the ordinary session at which it is proposed for adoption (Article 17.2 of the Convention and article 20.2 of the Kyoto Protocol). If the COP pursues adoption of a legal document on the international framework beyond 2012 at COP15 in Copenhagen which is scheduled from 30 November to 11 December 2009, it is required to prepare the text of a new protocol or the text of amendment to the Kyoto Protocol by the end of May 2009.

- Japan proposes to establish the above-mentioned legal expert group as soon as possible, which considers and prepares the text of a new protocol or the text of amendment to the Kyoto Protocol by the end of May 2009.

4. Work programme for 2009

- It is necessary to share the issues with the AWG-KP, and also the work programme should continue to be as flexible and iterative as possible.
- Consideration will require expert knowledge on mitigation, adaptation, technology and finance, and inputs from businesses and academies by sector will be useful. In addition, inputs from the outcomes of the workshops hosted by UNFCCC Parties and other relevant organizations should be taken into account. Japan is planning to organize a workshop on methodologies of sectoral approaches before the session in Bonn in March, which could be useful inputs for both the AWG-LCA and the AWG-KP.

5. Procedure of consideration of the work programme for 2009

- From the above standpoint, the 2009 work programme of the AWG-LCA should be consistent with that of the AWG-KP. In order to ensure this consistency, it is one of the ideas that the two work programme will be discussed in Poznan in a joint contact group of the AWG-LCA and the AWG-KP.

PAPER NO. 18B: JAPAN

Japan's Submission on Application of sectoral approaches

Sectoral approaches are useful in two ways: 1) they contribute to setting fair, ambitious and achievable national emission reduction targets for developed countries, and 2) they promote actions by developing countries through diffusion and transfer of the best available technologies (BATs) and practices. Japan considers that sectoral approaches be one of the underlying essentials in the future framework.

1. Sectoral approaches in the international framework beyond 2012
(See Annex 1 for the image of how sectoral approaches may be stipulated in the future framework.)

(1) MRV mitigation commitments or actions by developed countries and MRV mitigation actions by developing countries
i) Setting emission(QELROs) targets of developed countries while ensuring comparability
Sectoral energy efficiency, carbon intensity and analysis of mitigation potential should be placed as one of the methodologies to ensure comparability of emission reduction targets among developed countries.

ii) Setting MRV mitigation actions by developing countries
Sectoral intensity targets* should be set as responsible actions by major developing countries, and be set on the basis of analysis of energy efficiency, carbon intensity and mitigation potential.

*Japan also proposes that major developing countries set economy-wide intensity targets, in addition to their sectoral intensity targets for major sectors.

iii) In troducing MRV mechanism
Measurement, reporting and verification system for major sectors should be introduced in order to promote effective actions from a long-term perspective.

(2) Cooperative sectoral approaches and sector-specific actions
A group for sectoral technology cooperation, with the participation of public and private experts, should be established under the UNFCCC in order to promote the transfer and diffusion of technologies.

(3) Financial Support
Additional proper financial support[1] should be considered in order to efficiently support substantial actions by developing countries.

2. Case study of sectoral approaches in the iron and steel sector (See Annex 2 for details.)

This section shows with the case of iron and steel sector, how sectoral approaches work as a means to promote mitigation potential analysis, set intensity target and accelerate technology transfer as is indicated in Section 1.

Step 1. Decide scope of calculation

The Asia Pacific Partnership on Clean Development and Climate (APP) partners have common calculation methodologies of emission and energy consumption (including boundaries and indicators) on iron and steel production process.
World Steel Association also shared the basically same methodologies with its member countries.

Step2. Identify effective energy saving and environment technologies (facility) / practices (process)

APP partners shared the State-of-the-Art Clean Technologies (SOACT) relating to environmental protection and energy saving. 64 technologies are identified.

Step 3. Assess the state of introduction of reduction technologies and practices by each country

[1] Additional proper financial support might include sectoral crediting system.

APP partners are addressing to establish common methodology to identify performance benchmarking. Using data hub (DH) and expert group (EG), APP partners are decided to establish comprehensive database of steel mill. Data collection rules and formula have been decided and the data collection has started.
World Steel Association also will organize an experts group in order to check data credibility and definition of applicable energy saving technologies and operating practices.

Step 4. Analyze the reduction potentials of each country

The reduction potentials are estimated if BATs and best practices are applied, while considering the introduction rate of reduction technologies and the efficiency of existing facilities as well as their cost. Within the Steel Task Force under the APP, analysis on mitigation potential is now progressing through identifying and examining 10 energy-saving technologies.
The intensity level of the iron and steel sector in each country will be estimated based on the current data of CO2 emissions or energy use per crude-steel production of each country, which will be derived from the data on technology introduction rate and efficiency data of existing facilities. The Steel Task Force is now doing this work by collecting the data of each country.
The International Energy Agency also publishes its data on the calculation of the emission reduction potential of the iron and steel sector in each country, on the basis of applying the BATs.
Activities as such would contribute to clarifying steps for technology transfer and diffusion.

Step 5. Identify barriers

Projects to dispatch experts to steel plants in APP partner countries are now under progress. Experts make performance assesment and recommendations of improvement to support introduction and diffusion of technologies and best practices for environmental protection and energy conservation.

Step 6. Set the sectoral indicators/targets

<Developed countries>

Set intensity indicators in the iron and steel sector based on reduction potential in the comparable manner, taking into consideration production forecast and national circumstances.

<Major developing countries>

Set intensity target in the iron and steel sector based on reduction potential and their capacities. Each country should also provide an estimate of total volume of its emission from the iron and steel sector as reference, based on its production forecast.

*APP is a multilateral public-private partnership for regional cooperation started in 2005 by the initiative of the United States. The seven partner countries (Australia, Canada, China, India, Japan, South Korea, United States) represent more than half of the global economy and the world's CO2 emission. Task Forces are working in eight sectoral areas to deal with issues identified in the Work Plan and to develop Action Plans endorsed by all Partners.

* The World Steel Association, which covers 85% of world steel production and has the participation of major steel-producing countries (China, EU27, Japan, United States, Russia, Brazil, Ukraine, South Korea, etc.), is also proceeding with coordinated efforts in cooperation with APP activities.

3. Advantages of sectoral approaches

(1)Set ambitious and achievable emission reduction targets for developed countries and ensure comparability

In order to set ambitious and achievable national emission reduction targets for developed countries and realize their steady implementation, it is useful to clarify the concrete path toward emission reduction. Further analyses should be done in each developed country. (See Japan's submission to the AWG-KP for further details of analyses of reduction potential). Furthermore, sectoral efficiency analyses can be utilized in order to evaluate the efforts of each country objectively and ensure comparability of their targets among developed countries.

(2)Accelerate effective actions by developing countries through improving intensities
Sectoral approaches realize sustainable development through accelerating the improvement of intensities in major sectors. Many measures to improve intensities are no-regret and co-benefits such as simultaneous achievement of energy conservation and environmental protection.

(3)Promote transfer of technologies and practices through cooperative sectoral approaches and sector-specific actions
The path towards promotion of technology transfer to developing countries will be clarified by identifying BATs and best practices and barriers against their diffusion in each sector. At the same time, the necessary technology transfer, financial support, and capacity building for reduction measures can be facilitated through identifying BATs and best practices. Such international collaborative efforts will lead to the global reduction of GHGs, while also avoiding leakages of carbon dioxide caused by factory transfers.

Thus, sectoral approaches should be treated in the future framework as a mean to promote mitigation potential analysis, set intensity target and accelerate technology transfer as mentioned above.

Possible Image of Sectoral Approaches in the Framework beyond 2012

[Mitigation]

- Developed countries should;

1. ensure that their aggregated emissions of the GHGs between 2013 to 20xx do not exceed their QELROs inscribed in Annex X1, while eusuring comparability[2] of efforts for each country[3], taking into account national economic and social indicators, including sectoral indicators,
2. incorporate complementary sectoral information including sectoral indicators in their annual inventory. The COP/equivalent body should periodically review the progress.

- Major developing countries[4] should;

1. ensure that the average levels of their economy-wide carbon intensities between 2013 and 20xx do not exceed the targets inscribed in Annex Y1.
2. take action for the achievement the sectoral intensity targets of energy/carbon intensive sectors[5] between 2013 and 20xx inscribed in Annex Y2 based on their national circumstances and capabilities.
3. incorporate the information on their progress in achieving targets in Annexes Y1 and Y2 in their annual inventory for the purpose of ensuring their compliance under the proper support by developed countries. The COP/equivalent body should periodically review the actions.

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[2] The comparability of efforts by developed countries is ensured based on the following;
a) Sectoral carbon intensity or energy efficiency
b) Total abatement cost per GDP, marginal abatement cost
c) Industrial structure, energy composition
d) Population, demographics
e) Natural and geographical characteristics (including land area and climate conditions such as temperature, etc.)

[3] Developed countries may, individually or jointly, fulfill their agreed reduction targets.

[4] "Major developing countries" means countries which are expected to take further mitigation actions, based on their economic development stages, response capabilities, shares of GHG emissions in the world, etc.

[5] "Carbon/energy intensive sectors" means sectors, of which energy consumptions/carbon dioxide emissions are significant. Intensity of each sector should be measured with indicators. Rules and guidelines for measurement of sectoral indicators should be decided by the COP, taking into account relevant international activities (e.g. ISO, IEC, APP, IAI and World Steel Association). As for these indicators, it is necessary to have further consideration based on national and sectoral circumstances.

[Cooperative sectoral approach and sector specific actions]

- An advisory group for sectoral technology cooperation[6] should be launched with sub-groups for each energy/carbon intensive sector in order to support the actions by developing countries through promoting transfer and dissemination of technology. It should regularly report its activities to the COP/equivalent body.

[Financial support]

- Additional proper financial support[7] should be provided to the measurable, reportable and verifiable sector-wide emission reduction activities in order to incentivize major developing countries to make a demonstrative progress in achieving their intensity targets.

(Example of Annex X1)[Economy-wide commitments by developed countries]

	Aggregated amounts (tons-CO2)	*Changes from base years (%)*	
Developed countries	*T*	*U% (compared to 1990)*	*V% (compared to 200x)*

(Example of sectoral indicators for developed countries)

- Iron and steel sector
  - + [BF-BOF]: kg-CO2/ ton-crude steel
  - + [EAF]: kg-CO2/ ton-crude steel
- Cement sector: kg-CO2/ ton-clinker, MJ/t-clinker, kWh/t-clinker
- Aluminum sector: kg-CO2 equivalent PFCs/ ton-primary aluminum product
- Power generation sector
  - + Thermal efficiency of Coal fired power plant (%)
  - + Share of non-carbon power plants (%)
- Road transport sector: Fuel economy

(Example of Annex Y1)[Economy-wide actions by major developing countries]

	Economy-wide intensity(CO2/GDP) or(millions tons of oil equivalent/GDP)
Developing countries	*L*

[6] Japan suggests to consider about launching this advisory group under the framework beyond 2012 with the following characteristics.

- The group consists of the experts from governments, private sectors (international industrial organization) and international organizations (e.g. IEA) with relevant expertise.
- The main areas to be covered by the group are as follows:
  - Identification of effective technologies
  - Analyses of the current situation of technology transfer and diffusion (evaluation of efforts by each developing country)
  - Analysis of barriers to technology transfer
  - Identification of measures to accelerate technology transfer (actions to be taken by the public and private sectors in both the supply and demand sides)
  - Review of the results of these measures (to guarantee a direct link to the actual MRV actions)

[7] Additional proper financial support might include sectoral crediting system.

(Example of Annex Y2)[Sectoral actions by major developing countries]

	Iron and steel sector		*Cement sector (kg-CO2/ ton-cement or (MJ/t-clinker)*	*Aluminum sector (kg-CO2 equivalent/ ton-primary aluminum product)*	*Power generation sector*		*Road transport sector (Fuel economy)*
	[BF-BOF] (kg-CO2/ ton-crude steel)	*[EAF] (kg-CO2/ ton-crude steel)*			*Thermal efficiency of Coal fired power plant (%)*	*Share of non-carbon power plants (%)*	
Developing countries	*M*	*N*	*O*	*P*	*Q*	*R*	*S*

Note: Figure of intensity target for each sector will be filled in each box from M to S above.

The case of Iron and Steel Sector

Step 1. Decide scope of calculation

(Common Methodologies)
The Asia Pacific Partnership on Clean Development and Climate (APP) partners agreed on common calculation methodologies (including boundaries and indicators) to calculate CO2 emission from steel plants. World Steel Association also shared the basically same methodologies with its member countries.

Step 2. Identify effective energy saving and environment technologies (facility) / practices (process)
cover from state of the art clean technology to standard technology)

(SOACT Handbook)
APP partners shared the State-of-the-Art Clean Technologies (SOACT) relating to environmental protection and energy saving. Within the handbook, 64 technologies are identified. (22 of environmental protection technologies and 42 of energy saving technologies) This handbook is already open to the public on the website (http://asiapacificpartnership/org/). Efforts to update this handbook will start in the near future. World Steel Association will also organize an experts group from member companies upon completion of data collection in major steel producing countries in order to identify check definition of applicable energy saving technologies and operating practices.

[Example]
Blast furnace gas(BFG) recovery, Coke oven gas(COG) recovery, Basic oxygen furnace(BOF) gas recovery, Coke dry quenching(CDQ), Top gas recovery turbine(TRT), Coal moisture control(CMC), Pulverized coal injection(PCI), Sinter waste heat recovery, Hot stove waste heat recovery, Basic oxygen furnace(BOF) gas sensible heat recovery

Step 3. Assess status quo of reduction technologies, practices introduction of major economies census / sample research)

(Mechanisms for Data Collection)
APP partners are addressing the necessity to establish common methodology to

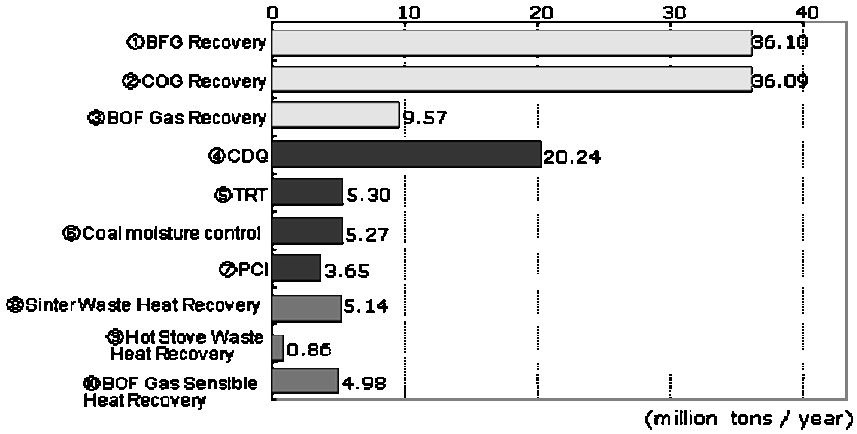
identify performance benchmarking. (Both major processes are classified: Integrated (Blast Furnace and Basis Oxygen Furnace (BF-BOF)) and Electric Arc Furnace (EAF),) APP Partners have spent a lot of time to improve quality and quantity of the data. Using data hub (DH) and expert group (EG), APP partners are decided to establish comprehensive database of steel mill. (Data Collection rules and formula are decided and the data collection has started.) World Steel Association also will organize an experts group from member companies upon completion of data collection in major steel producing countries in order to check data credibility and definition of applicable energy saving technologies and operating practices.

Step 4. Consider reduction potential (Concrete items to consider: timing of capital investment/ technology price and economic power / policy assistance. Etc)

(Reduction Potentials)

APP partners estimated reduction potentials based on the research on introduction rate of the identified SOACT. Reduction potentials by 10 energy saving technologies were estimated to be 127 million CO2 ton per year. However, these potentials are provisional ones. Further data collections, validation of these analyses in cooperating with third party and considerations on national circumstances including abatements cost and barriers are needed in order to use these potentials in setting mid-term targets. These reduction potentials will be updated in the near future.

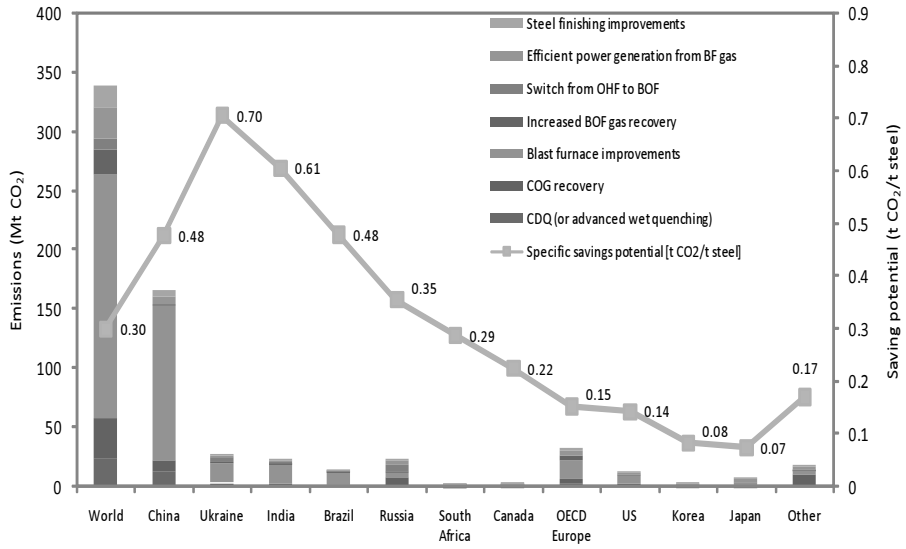
Figure: Reduction potentials by 10 energy saving technologies (Total of six countries)



(Source: APP)

IEA estimated reduction potentials based on the assumption of Best Available Technology (BAT) were to be applied worldwide. IEA has reported them to G8 Hokkaido Toyako Summit. Reduction potentials with existing effective energy saving technologies were estimated to be 340 million CO2 ton per year. Figures provided below show a breakdown of the technological efficiency potentials by country based on current production volume and current technology.

Figure: CO_2 Reduction Potential in Iron and Steel, Based on Best Available Technology



(Source: IEA)

Step 5 Identify barriers

(Performance Assessments)

Projects to dispatch experts to steel plants in APP partner countries are now under progress. Experts make performance assessments and recommendations for improvement in supporting introduction and diffusion of technologies and best practices for environmental protection and energy conservation.

A) India: 6 steel plants were selected by Ministry of Steel of India

SAIL Rourkela : Assessment conducted by Japanese experts in January 2008

Tata Steel Ltd. (Jamshedpur), Rashtriya Ispat Nigam Ltd. (Visakhapatnam)

: to be conducted by Japanes experts in December 2008

Other 3 Plants: to be conducted by the experts of APP partner countries after FY2008

B)China: 3 steel plants have received 3 ~ 4 specialists/experts in each site in December 2007 for the assessment.

A follow-up meeting has been held in China in November 2008 to

-discuss possibility to proceed to actual cooperation stage, and how to overcome barriers if any

-discuss possibility to conduct more assessments in other sites

"Guidelines for Technology Deployment and Cooperation under the APP Steel Task Force" is now being drafted to establish conceptual methodology for implementing individual project including the method of project start-up following performance assessments.

Step 6.Decide/Set the sectoral indicators/targets

<Developed economies>

Set intensity indicators in the iron and steel sector based on reduction potential in the comparable manner, taking into consideration production forecast and considering national circumstances.

<Major developing economies>

Set intensity target in the iron and steel sector based on reduction potential and their capacities. Each country should also provide an estimate of total volume of its emission as reference, based on its production forecast.

(Mid-term sectoral target setting)

- APP partners are now discussing how to set comparable and fair mid-term target methodology which appropriately reflects the level of efforts of each country and their capabilities. Conceptual image of mid-term target setting will be open to the public in the near future.
- World Steel association insisted that it is necessary to involve all major steel producing countries and to improve emissions per unit, rather than to limit the production of the plants with good emission performance.

PAPER NO. 18C: JAPAN

Japan's submission on shared vision

Japan would like to outline its views on shared vision for the workshop on "Shared vision for long-term cooperative action" at the forth session of the AWG-LCA in Poznan.

6. According to the paragraph 1(a) of the Bali Action Plan, it is necessary to set a long-term global goal for emission reductions for all countries to share the common recognition in addressing long-term challenges. In this context, the global long-term goal plays a central role in a shared vision for long-term cooperative action.
7. In order to achieve the ultimate objectives of the UNFCCC to stabilize the level of the atomospheric GHG concentrations, the global GHG emissions and sinks must be balanced. Accordingly, global GHG emissions will have to peak out in the next 10 to 20 years and be reduced at least by half in the long-term period.
8. Japan, as the chair of the G8 Hokkaido Toyako Summit held in July of this year, proposes that Parties seek to share the goal of achieving at least 50% reduction of global GHG emissions by 2050 in the UNFCCC negotiation, as a shared vision.
   (1) At the G8 Hokkaido Toyako Summit in July of this year, the G8 countries declared that they "seek to share with all Parties to the UNFCCC the vision of, and together with them to consider and adopt in the UNFCCC negotiation, the goal of achieving at least 50% reduction of global emissions by 2050."
   (2) In addition, at the Leaders Meeting of Major Economies on Energy Security and Climate Change held adjacent to the G8 Summit, the leaders affirmed that they "believe that it would be desirable for the Parties to adopt in the negotiations under the Convention a long-term global goal for reducing global emissions, taking into account the principle of equity."
9. This long-term goal should be considered as a non-binding and aspirational shared "vision" that will show a pathway toward the ultimate solution to climate change.
10. In order to reduce the global GHG emissions at least by half, all countries are required to take mitigation measures based on the principle of "common but differentiated responsibilities and respective capabilities" under an enlightened sense of international solidarity, while developed countries should lead the global efforts of reducing emissions by achieving significant reduction of their emissions.
11. Toward the realization of this goal, Japan will promote a transition to the low-carbon society by strengthening policies and measures such as further developments of innovative technologies from a long-term perspective.

PAPER NO. 18D: JAPAN

Japan's Submission on Technology

1. Background

- As the chair of the G8 Hokkaido Toyako Summit, Japan proposes that a long-term goal of globally reducing greenhouse gas (GHG) emissions at least by half by 2050 should be adopted as a shared vision under the UNFCCC.
- In order to achieve this long-term goal, it is absolutely essential to: quickly disseminate energy-efficient and new energy technologies currently in practical use; and steadily promote research and development of innovative technologies that are not yet available practically at present but are expected to contribute to substantial reduction by 2050.
- In order to accelerate the number of initiatives promoted by various countries and organizations to reduce GHG emissions, it is of vital importance for the UNFCCC to take the initiative in establishing a mechanism that accelerates efficient and effective technology development and transfer.

2. Specific Measures

(1) Deployment of practically available technologies

(Basic ideas)

- The private sector owns most climate-friendly/environmentally-sound technologies, and technology transfer is already well under way on a commercial basis in various forms such as product exports, joint ventures, and licensing. In some sectors, developing countries such as China and India have already reached to an advanced stage to lead the world.
- Intellectual property rights (IPRs) and their associated profits contribute to recoup research and development (R&D) investments, provide strong incentives for further technology development and transfer, and also create sources of business competitiveness.
- Therefore, the improvement of such an enabling environment for the private sector is the key for encouraging the involvement of more businesses, which leads to further promotion of technology transfer.
- The actual patterns of technology transfer vary from sector to sector and from country to country, due to differences in the needs on the supply and demand sides, business circumstances, social systems, and other factors (for example difference between the iron/steel and transport sectors).
- Effective activities of technology transfer differ, depending on the social or economic background. Activities of technology transfer include those that have co-benefits to environmental protection, such as improvement in air and water pollution and waste management. Transfer of the "co-benefits technologies" which address the domestic needs in developing countries as well as GHGs abatement, should be promoted by way of various international cooperation activities.
- In order to accelerate technology transfer, analysis on the actual conditions and barriers in each sector is necessary. Based on this analysis, comprehensive solutions to accelerate measurable, reportable and verifiable (MRV) actions by both the public and the private sector on the supply and demand sides based on the principle of "common but differentiated responsibilities and the respective capabilities" should be formulated. For this purpose, enhancing the enabling environment for businesses in host countries including development of legal systems and intellectual property protection is crucial.
- It is also necessary to create a mechanism that can quantitatively evaluate various efforts on technology transfer, including contributions such as capacity building that have not been evaluated quantitatively to date.

(Proposals)

- Under the framework beyond 2012, intensive support for promotion of technology transfer such as identification of technologies to be deployed and matching of companies with of those that own the technologies and of those that require the technologies should be provided to the developing countries that have already taken policy measure, measures on GHG reductions, and made efforts to enhance the business environment to accelerate technology transfer.
- Least developing countries, in spite of the above prerequisites, should be given higher priority for support, mainly capacity-building of businesses on the demand side.
- In order to ensure the effectiveness of such efforts, an advisory group for sectoral technology cooperation[1] to accelerate technology transfer should be established, which consists of relevant experts (from the International Energy Agency (IEA), the EGTT[2] and others) and the industrial communities (international industrial associations and others).
- The advisory group for sectoral technology cooperation aims to support nationally appropriate mitigation actions by developing countries as mentioned in Bali Action Plan. The main areas to be covered by the group are as follows:
  - Identification of effective technologies
  - Analyses of the current situation of technology transfer (evaluation of efforts by each developing country)
  - Analyses of barriers to technology transfer
  - Identification of measures to accelerate technology transfer (actions to be taken by the public and private sectors in both the supply and demand sides)
  - Review of the results of these measures (to guarantee a direct link to the actual MRV actions)

  (*above areas would be conducted in each sector)
- The advisory group for sectoral technology cooperation would regularly report on their work to the COP or other equivalent body.
- In implementing the measures to accelerate technology transfer, the funds that can be used to accelerate technology transfer and a desirable form of such funds should be discussed. At the same time, programs such as the World Bank's Clean Technology Fund (in which funds are furnished based on the cost effectiveness and other aspects of technology transfer in accordance with the plans of the respective countries to be financed) should also be utilized.
- The advisory group for sectoral technology cooperation should be launched under the framework beyond 2012.

(2) R&D for innovative (not practically available) technologies

(Basic ideas)

- In order to achieve the long-term goal, it is essential not only to quickly deploy practically available technologies but also to develop innovative technologies. For this purpose, it is important for the UNFCCC to review the current progress of innovative technology R&D, and to encourage further efforts. It is important to encourage each government to make further efforts on an expansion of investment in the development of energy technologies, to develop and share technology roadmaps and to strengthen international cooperation by utilizing the reports from knowledgeable organizations such as IEA.
- Especially developing and sharing of the technology roadmaps makes possible to analyze current status of technology development in each country and international cooperation, to share the direction of long-term technology development, and to promote systematic development of technologies. Japan has formulated its own technology roadmaps for 21 key innovative technologies, which is known as the "Cool Earth - Innovative Energy Technology Program[3]"

[1] The group may be referred to as Sectoral Technology Cooperation Group (STCG).
[2] The group should take into account the existing work done by relevant organizations such as EGTT.
[3] http://www.meti.go.jp/english/newtopics/data/pdf/031320CoolEarth.pdf

(March 2008). It is essential to share technology roadmaps as such, in order to take advantage of the expertise from the existing roadmaps formulated by some countries and the IEA. The technology roadmaps should be developed by the end of 2010.

- Since innovative technology R&D requires highly advanced technological capability and industrial competitiveness, developed countries should take the leading role in such activities based on the principle of "common but differentiated responsibilities and respective capabilities". It is important that the contributions made for innovative technology R&D should be counted as a part of the overall contributions of developed countries.
- It is necessary to actively involve research institutes and industrial communities in order to accelerate innovative technology R&D through international cooperation. To this end, participants should have shared views on critical elements including appropriate protection for existing IPRs, proper burden sharing and appropriate allocation of the result. We have to keep in mind, as past experiences indicate, that any attempt to strengthen international cooperation in technology R&Ds without such shared views cannot be an effective one, as it does not have active participations of research institutions and private enterprises.
- Technologies that have been made practically available through such processes should be quickly deployed all over the world as a practically available technologies.

(Proposals)

- The UNFCCC should request relevant specialized agencies, including IEA, to review periodically the progress of efforts towards achieving the long-term goal of globally reducing GHG emissions by at least half by 2050 through making analysis on the following issues, and to make recommendations to the COP about areas in which international cooperation should be strengthened:
  - Government R&D budget for energy technology of each country
  - Development of international technology development roadmaps
  - Current situation of innovative technology R&D based on the technology roadmaps mentioned above
  - Current situation of international cooperation for innovative technology R&D
- Under the framework beyond 2012, government's R&D investments in energy technology R&D in each country should also be comprehensively evaluated in a comprehensive manner as a part of overall financial contributions by developed countries (including the evaluation of the amount of fund contributions, the amount of ODA contributions, technological support, purchase of emissions credits at the market, and others).

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http://www.meti.go.jp/english/newtopics/data/pdf/CE_RoadMap.pdf

PAPER NO. 19: MADAGASCAR

Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG LCA)
Submission for a Shared Vision on Long-term Cooperative Action

December the 6th, 2008

Madagascar, one of the least developed countries on earth, centre of mega diversity, is also one of the most vulnerable to and less responsible for climate change. Since it becomes urgent to engage the negotiation phase on the international system now, up to and beyond 2012, Madagascar would like to raise a few concerns that will, hopefully, contribute to building a fair and efficient climate future.

The amounts of funding necessary to adapt and to mitigate climate change are huge. Let's remind that we are talking about an overall US$ 300 billion to 600 billion per year for the coming decades. For Madagascar only, a first rough analysis sets the figure of USD 360 million a year, which represents about 7% of our national GDP. But we can't consider it as a traditional financial transfer from the North to support the development in the South. US$ 360 million is the cost that Madagascar will be supporting every year as a drag to its development and a constant pressure to the degradation of the well-being of its people.

Thus, we suggest there should be two priorities for countries like Madagascar. First, how can we make sure that the climate change remains within 2°C? Then, how do we secure the financial flows and related institutional system to effectively support our countries' adaptation and mitigation efforts.

Long-term global goal for emission reductions: do not press the red button

If developed countries undoubtedly hold major responsibility in creating the climate bomb, a major issue is currently to make sure that no one presses the red button. With all the uncertainties and dark consequences stressed by the IPCC, moving beyond 2°C is like pressing the red button. Madagascar is committed in finding compromise to ensure that this point of no return won't be passed.

To this extent, the world community must soon reach an agreement on two collective objectives. First, the world emissions must be reduced by at least 50% by 2050 compared to 1990. Also, the world emissions must peak between 2015 and 2020. Beyond those common objectives, developed countries must take responsibility for their leading role by reducing their emissions by 25% to 40% by 2020 compared to 1990, and by 75% to 85% by 2050 compared to 1990. Mathematically, those objectives also put responsibilities to the developing countries, and non Annex I countries must take the challenge under the leadership of the big growing economies that hold the keys to such subsequent goals. According to the level of commitment from the Annexe I, the developing world may have to reduce collectively its emissions by 15% up to 30% compared to its business as usual baseline by 2020. On a longer term, by 2050, figures suggest that Non Annexe I countries will have to reduce by 25%* their global emission compared to the year 2000 (absolute reduction). The fact that there must be reductions from developed as well as developing countries will certainly have important consequences in the future international regime. For instance, the offset mechanisms like CDM must make it clear whether they are alleviating the developed or the developing countries burden, and so prevent double accountability.

We, developing countries, are doomed to bear our own objectives, and we must respond to this necessity in respect to our national circumstances. Moreover, the more ambitious the developed countries objectives are, the smaller the burden we will have to bear ourselves. So it is of crucial

interest for developing countries to support the leading developed countries in fixing ambitious targets. The carbon equation of our future is obviously collective.
We call out for all countries to ensure that the shared vision, as well as its international institutional and financial translation, brings clear answers to this major concern for a vulnerable country like Madagascar. To this regard, we invite Annex I countries to follow and reach consensus on the basis of courageous and leading proposals put by Norway or the European Union. We also invite the major and growing economies in Non Annex I countries to move towards inspiring and ambitious diplomatic positions at the image of the efforts those countries are already making on their national scale. Differentiation may represent a fair solution in the long run and should be seriously considered in the agenda toward a third engagement period.
Until then, we press the international community to advance on concrete solutions to ensure that the Least Developed Countries and SIDS are given differentiated responses according to their national circumstances. Every developing country should soon be expected to provide a national strategy to adapt to and to mitigate climate change on its own scale. But systems of priorities or quotas under the Convention should be applied for our countries. Other alternatives could be explored as the enlargement of the scope of programs and projects prone to receive international funding, eased conditionality and fasten processes of selection and disbursement, reduction of co-financing prerequisite, extension of public financial flows to projects that could eventually produce carbon offsets etc.
Madagascar is ready to support any option that could lead to such agreement in Copenhagen.
Secure the financial resources to meet the needs and galvanize the developing countries The financial flows required to address climate change in Madagascar is of unprecedented scale in this arena of international negotiation. We invite the UNFCCC to organise the urgent and necessary space for discussions on this matter. Beyond insufficient market-based instruments, we urge Parties to lead the debate toward additional and ambitious sources of funding, like the commitment by developed countries to dedicate 0,5% of their GDP to climate change in developing countries, an international tax on global monetary transactions or on fossil fuels, or by the use of change reserves. We must go beyond old theories and dogmas that often proved to be debatable, as the current financial crisis reminds us every day.
We face an historical situation, and we must consider historical solutions. Building on the summary by the chair of the workshop on a shared vision for long-term cooperative action, we believe that a shared vision must “provide guidance on the scale of finance and investment needed. Enhanced action on the provision of finance demands predictable, new and additional funding, to which the most vulnerable countries are given simplified and prioritised access”. Least developed country concerns must be eased on this matter to allow us to move on toward Copenhagen with a dispassionate and wise attitude. We need clear and ambitious signals to engage this historical challenge, to galvanize our own national forces. Developing countries are confronted to constant urgency, to numerous and deep barriers to our development. Sound strategic planning is often a luxury, while as regard climate change, it is a must. From this perspective, we invite the LDC to follow enlightened examples of Parties like Papua New Guinea on the way toward planning ambitious objectives on this matter.
Madagascar calls out for an agreement in early 2009 regarding orders of magnitude for both emissions reductions, and the financial support - covering technological and capacity building needs, and based on sufficient and predictable sources. Both categories of objectives will be measurable, reportable and verifiable. We believe that it can be a strong starting point for a fast agreement on institutional architecture and further technical arrangements within each pillar of the Bali Action Plan.

Madagascar invites each Party to the negotiation, according to its common but differentiated responsibility, its respective capacities and its national circumstances, to make a decisive move to answer those two core concerns. We also invite the UNFCCC secretariat to provide the space for such a move.

** the IPCC figures show that the global emissions in 2000 were 44,7GteqCO2, with 20,6Gt from AI countries (46%) and 24,1Gt from NAI countries. Emission reductions by 50% by 2050 suggest bringing global annual emissions down to 22,3Gt. An 80% decrease in AI countries means a AI annual emission of 4,1Gt by 2050, leaving a carbon space of an annual 18,2Gt for NAI countries. The absolute reduction of emissions in NAI countries by 2050 is 5,9Gt, about 25% of 2000 levels.*

PAPER NO. 20: MICRONESIA

Submission to the AWG-LCA and to the Chair's Note summarizing "Ideas and proposals on paragraph 1 of the Bali Action Plan"

The Federated States of Micronesia offer this submission as a contribution to discussions within the AWG-LCA on an appropriate shared vision, including a long-term global goal for emission reductions, as well as on appropriate mitigation commitments by all Annex I countries to the Convention. It focuses on selected aspects of the Chair's Note entitled "Ideas and proposals on paragraph 1 of the Bali Action Plan".

I. SCOPE, NATURE AND ELEMENTS OF A SHARED VISION FOR LONG-TERM COOPERATIVE ACTION

The Bali Action Plan calls for a shared vision for long-term cooperative action for the "full, effective and sustained implementation of the Convention … now, up to and beyond 2012".

The context of a shared vision (paragraph 13)

The Bali Action Plan calls for a shared vision of long-term cooperative action for the implementation of the Convention commencing "now" and continuing "up to and beyond 2012". We note that action commencing "now" is an urgent priority for the Federated States of Micronesia and for other least developed and small island developing countries. The need for timely action to address climate change is also established as part of the UN Framework Convention on Climate Change's ultimate objectives in Article 2, which calls for action to avoid dangerous anthropogenic interference with the climate system:

> …within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner (Article 2).

The scientific basis of a shared vision (paragraph 14)

The IPCC has made a tremendous contribution to our understanding of the causes of climate change, as well as the challenges facing all countries of mitigating and adapting to climate change. We acknowledge the value in particular of the AR4 and its contribution to our deliberations. We must, at the same time, recognize the evolving nature of scientific endeavor as well as the areas not covered by the IPCC report, notably:

- **Consideration of recent studies.** The process for the consideration of scientific studies is lengthy and including a deadline for submissions two years before publication of reports.[1] Consequently,

[1] Hans Joachim Schellnhuber, *Global Warming: Stop worrying, start panicking?*, 105 Proc. of the Nat'l Acad. of Sci. 14239, 14239 (2008) ("The IPCC format, perfected by the late Bert Bolin, is a painstaking self-interrogation process of the pertinent scientific community. In this process, virtually every stone in the cognitive landscape is turned and the findings, however mundane or ugly, are synthesized into encyclopedic accounts. Unfortunately, such an approach is inherently tuned for burying crucial insights under heaps of facts, figures, and error bars."). DAVID SPRATT & PHILIP SUTTON, CLIMATE CODE RED: THE CASE FOR A SUSTAINABILITY EMERGENCY 1 (2008) ("The IPCC's four-year schedule for producing reports requires a deadline for scientific papers that is often more than two years prior to the report's final release. What happens if there is significant new evidence or events that dramatically change [sic] our understanding of climate science in the gap between the science reporting deadline and publication? They don't get a mention, so the IPCC report is out of date before it hits the presses, and in the rapidly changing world of global warming that is a serious problem because it is widely viewed as the climate change Bible.").

information in the AR4 is based principally on studies that are now three years or older, presenting opportunities to introduce new findings as important context for ongoing UNFCCC discussions.

- **Consideration of relevant phenomena.** In some places, the analysis explicitly limits consideration of certain phenomena including rapid dynamical changes in ice flows as well as climate-carbon cycle feedbacks. For example, the report notes that certain risks relating to "large scale singularities" may be larger than projected because "because ice dynamical processes seen in recent observations but not fully included in ice sheet models assessed in AR4 could increase the rate of ice loss".[2]

Our efforts within the AWG-LCA – including our discussions of a shared vision including a long-term global goal for emission reductions – must therefore be brought up to date in light of the most recent scientific information including findings on:

- **Arctic sea loss.** Arctic sea ice loss is running decades ahead of the projections of the IPCC in AR4. Experts predict that summer sea ice could make its first full retreat as early as late summer 2013, based on the substantial melting in 2007 and 2008.[3] As the Arctic ice cap disappears in summer, surface waters absorb more solar radiation, creating a positive feedback, leading to faster melting and warming of the entire Arctic region.[4]
- **Thawing permafrost.** Thawing of permafrost in the Arctic tundra and the release of methane and carbon stores as the Arctic region warms presents a major risk associated with rapid Artic temperature increases.[5]

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[2] *See* INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE [IPCC], *Summary for Policymakers*, *in* CLIMATE CHANGE 2007: SYNTHESIS REPORT 8, tbl. SPM.1, 20 (2007).

[3] WORLD WILDLIFE FUND, CLIMATE CHANGE: FASTER, STRONGER, SOONER (2008) [hereinafter WWF, CLIMATE CHANGE], *available at* http://assets.panda.org/downloads/wwf_science_paper_october_2008.pdf ("It is currently forecast that summer sea ice could completely disappear somewhere between 2013 and 2040 – a state not seen on planet Earth for more than a million years."). On September 16, 2007, the Arctic sea ice coverage decreased to 4.13 million square kilometers, its lowest area on record, compared to the previous record low of 5.32 million square kilometers in 2005. National Snow and Ice Data Center [NSIDC], Arctic Sea Ice News Fall 2007, http://nsidc.org/news/press/2007_seaiceminimum/20070810_index.html ("The minimum for 2007 shatters the previous five-day minimum set on September 20–21, 2005, by 1.19 million square kilometers (460,000 square miles), roughly the size of Texas and California combined, or nearly five United Kingdoms."). On September 12, 2008, deemed the low point for summer 2008, the ice measured the second-lowest on record at 4.52 million square kilometers, making it clear that the Arctic is now headed toward full sea ice loss very quickly. NSIDC, Arctic Sea Ice News and Analysis, http://nsidc.org/arcticseaicenews/2008/091608.html ("The Arctic sea ice cover appears to have reached its minimum extent for the year, the second-lowest extent recorded since the dawn of the satellite era. While above the record minimum set on September 16, 2007, this year further reinforces the strong negative trend in summertime ice extent observed over the past thirty years . . . . On September 12, 2008 sea ice extent dropped to 4.52 million square kilometers (1.74 million square miles). This appears to have been the lowest point of the year, as sea has now begun its annual cycle of growth in response to autumn cooling. The 2008 minimum is the second-lowest recorded since 1979, and is 2.24 million square kilometers (0.86 million square miles) below the 1979 to 2000 average minimum."). *See also* SPRATT & SUTTON, *supra* note 1, at 3 ("Dr Wieslaw Maslowski of the Naval Postgraduate School, whose research utilizes US military submarine mapping of the Arctic sea-ice over many decades and focuses on modelling the processes of Arctic sea-ice loss, projected a blue Arctic Ocean free of sea-ice by the summer of 2013, the main reason being that the modelled thickness and volume appear to be decreasing at a much faster rate than the satellite-derived ice extent. Maslowski's work suggests the sea-ice is significantly being thinned by the northward heat flux of warm summer Pacific and Atlantic waters, not just higher air temperatures.") (citations omitted); *id.* at 4 ("The central point is that Arctic is now irreversibly headed to total summer sea-ice loss very quickly and way beyond the expectation of the IPCC, whose Arctic scenarios are no longer credible, and of most scientists' views only two to three years ago.").

[4] *See* Timothy Lenton, Hermann Held, Elmar Kriegler, Jim Hall, Wolfgang Lucht, Stefan Rahmstorf & Hans Joachim Schellnhuber, *Tipping elements in the Earth's climate system*, 105 PROC. OF THE NAT'L ACAD. OF SCI. 1786, 1788 (2008), *available at* http://www.pnas.org/content/105/6/1786.full.pdf ("As sea-ice melts, it exposes a much darker ocean surface, which absorbs more radiation–amplifying the warming.").

[5] MARTIN SOMMERKORN, WWF, A CLOSING WINDOW OF OPPORTUNITY – GLOBAL GREENHOUSE REALITY 2008, at 7 (2008) ("This additional heat absorbed by the surface waters is warming the Arctic Ocean and the arctic

- **Greenland Ice Sheet thinning.** This is attributed in part to sea surface temperature increases.[6] IPCC models do not explain recent observed changes on the Greenland Ice Sheet[7] nor do they fully address ice dynamics.[8]
- **Sea level rise.** Sea level is rising twice as fast as previously predicted. This is partly based on higher-than-projected contributions from the Greenland Ice Sheet.[9] At the current rate of sea level rise, an increase 1.4 meters above 1990 levels is expected over the next century - more than double the amount projected by the AR4.[10]

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atmosphere (Steele et al., 2008; Serreze & Francis, 2006), feeding it into the global climate system, where it contributes to more global warming. There is concern that the additional heat will unleash carbon cycle effects that accelerate global warming at an earlier date than previously assumed. The Arctic holds vast stores of carbon that are vulnerable to regional warming and could be partially released to the atmosphere as methane or carbon dioxide, or both."); *see also* David M. Lawrence et al., *Accelerated Arctic land warming and permafrost degradation during rapid sea ice loss*, 35 GEOPHYS. RES. LETT. L11506 (2008) ("We find that rapid sea ice loss forces a strong acceleration of Arctic land warming in [a climate model] . . . which can trigger rapid degradation of currently warm permafrost and may increase the vulnerability of colder permafrost for subsequent degradation under continued warming. Our results also suggest that talik [a layer of perpetually unfrozen ground that forms above the permafrost table] formation may be a harbinger of rapid subsequent terrestrial change. This sea ice loss – land warming relationship may be immediately relevant given the record low sea ice extent in 2007."). Warming in northern latitudes is also predicted to lead to the drying out of peat bogs, which typically act as effective carbon sinks, and the release of significant amounts of carbon into the atmosphere over time. *See* Takeshi Ise, Allison L. Dunn, Steven C. Wofys & Paul R. Moorcroft, *High sensitivity of peat decomposition to climate change through water-table feedback*, 1 NATURE GEOSCIENCE 763, 763 (2008) ("We conclude that peatlands will quickly respond to the expected warming in this century by losing labile soil organic carbon during dry periods.").

[6] Lenton et al., *supra* note 4, at 1789; *see also* SOMMERKORN, *supra* note 5, at 8 ("The reason for the accelerated losses is accelerated glacier flow, partly attributed to observed regional sea surface temperature increases.").

[7] Lenton et al., *supra* note 4, at 1789 ("[E]xisting ice-sheet models are unable to explain the speed of recent changes. These changes include melting and thinning of the coastal margins and surging of outlet glaciers, which may be contributed to by the intrusion of warming ocean waters.").

[8] SOMMERKORN, *supra* note 5, at 8 ("IPCC 4AR had excluded ice dynamics from estimates of sea level increase because the limited understanding of these processes did not allow adequate representation in models.").

[9] Lenton et al., *supra* note 4, at 1789; *see also* Anders E. Carlson et al., *Rapid early Holocene deglaciation of the Laurentide ice sheet*, 1 NATURE GEOSCIENCE 620, 623 (2008), *available at* https://mywebspace.wisc.edu/aecarlson/web/Carlson_Publications_files/carlson_2008_nat_geo.pdf ("The modern GIS is also ~3 times smaller than the [Laurentide ice sheet (LIS)] at the start of the Holocene, but the LIS was similar in size ~8 kyr BP. At present, ablation, ice streaming and calving control GIS mass loss. However, ice streaming and calving will decrease or cease if the GIS retreats inland, making it more analogous to the LIS. Nevertheless, predictions of the rate of sea level rise from the GIS by the end of this century in the [AR4] are 6–40 times smaller than the estimated rate of LIS mass loss in the early Holocene. Given the similar summer [surface air temperature] responses for these two periods, and the geologic evidence for rapid early Holocene LIS retreat, current projections of GIS melt rates for the coming century may be only minimum estimates even without considering positive feedbacks from ice-sheet dynamics.").

[10] Stefan Rahmstorf, *A Semi-Empirical Approach to Projecting Future Sea-Level Rise*, 315 SCIENCE 368, 368 (2007), *available at* http://www.pik-potsdam.de/~stefan/Publications/Nature/rahmstorf_science_2007.pdf ("A semi-empirical relation is presented that connects global sea-level rise to global mean surface temperature. It is proposed that, for time scales relevant to anthropogenic warming, the rate of sea-level rise is roughly proportional to the magnitude of warming above the temperatures of the pre–Industrial Age. This holds to good approximation for temperature and sea-level changes during the 20th century, with a proportionality constant of 3.4 millimeters/year per °C. When applied to future warming scenarios of the Intergovernmental Panel on Climate Change, this relationship results in a projected sea-level rise in 2100 of 0.5 to 1.4 meters above the 1990 level."); *see also* WWF, CLIMATE CHANGE, *supra* note 3 ("Since 1990, global sea level has been rising one and a half times faster than forecast in the IPCC's Third Assessment Report (published in 2001) (Rahmstorf et al 2007). In addition to this, new studies have projected global sea level rise by the end of the century to reach up to more than double the maximum estimate of 0.59m presented in the Fourth Assessment Report (Rahmstorf 2007, Rohling et al 2008). More than 1.2m sea level rise would put vast coastal areas at risk, in Europe and around the world.").

- **Rapid retreat of alpine glaciers.** Warming as well as the deposition of black carbon, or soot, on glaciers is contributing to rapid glacial retreat in areas such as the Hindu-Kush-Himalayan-Tibetan glaciers, threatening regional food and water security.[11]
- **Intensification of regional weather phenomena.** Intensification of El Niño-Southern Oscillation and future of amplified, "super El Niños."[12] This would cause extreme weather events around the world, including Australasia, Africa and the Americas.[13]
- **Drought and rainfall patterns.** Drought in Amazon Rainforest due to rising in sea surface temperate, particularly in El Niño years.[14] Decreases in Indian Summer Monsoon rainfall, a north-south shift in rainfall over China, and increased surface ozone.[15]
- **Ocean acidification and potential methane escape.** Links are being identified between ocean acidification and coral/marine organism bleaching finding that added to warming, CO_2 can exacerbate bleaching.[16] Methane hydrate deposits on sea floor could escape to the surface with deep-ocean warming.[17]

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[11] V. RAMANATHAN ET AL., UNITED NATIONS ENVIRONMENT PROGRAMME, ATMOSPHERIC BROWN CLOUDS: REGIONAL ASSESSMENT REPORT WITH FOCUS ON ASIA 2 (2008), *available at* http://www.unep.org/pdf/ABCSummaryFinal.pdf ("[I]ncreasing amount of soot, sulphates and other aerosol components in atmospheric brown clouds (ABCs) are causing major threats to the water and food security of Asia and have resulted in surface dimming, atmospheric solar heating and soot deposition in the Hindu Kush-Himalayan-Tibetan (HKHT) glaciers and snow packs.").

[12] James Hansen, Makiko Sato, Reto Ruedy, Ken Lo, David W. Lea & Martin Medina-Elizade, *Global temperature change,* 103 Proc. of the Nat'l Acad. of Sci. 14288, 14290 (2006) ("The 1983 and 1998 El Niños were successively labeled 'El Niño of the century,' because the warming in the Eastern Equatorial Pacific (EEP) was unprecedented in 100 years. We suggest that warming of the Western Equatorial Pacific (WEP), and the absence of comparable warming in the EEP, has increased the likelihood of such 'super El Niños.'").

[13] Joëlle L. Gergis & Anthony M. Fowler, *A history of ENSO events since A.D. 1525: implications for future climate change*, 89 CLIMATIC CHANGE (forthcoming 2008), *available at* http://www.springerlink.com/content/2242tp4610562j55/fulltext.pdf ("ENSO influences extreme weather events such as drought, flooding, bushfires and tropical cyclone activity across vast areas of the Earth, adversely affecting hundreds of millions of people in agriculturally important areas of Australasia, Africa and the Americas.") (citations omitted); *see also* Daniel C. Nepstad et al., *Interactions among Amazon land use, forests and climate: prospects for a near-term forest tipping point*, 363 Phil. Trans. R. Soc. B 1737, 1740 (2008), *available at* http://journals.royalsociety.org/content/d7330302566g25u3/fulltext.pdf ("Rainfall tends to decline in the Amazon when sea surface temperatures rise along the Pacific coast of northern South America through El Niño episodes."); SPRATT & SUTTON, *supra* note 1, at 27 ("[I]n 1998 El Nino-generated forest fires in a drying Amazon poured almost half a billion tonnes of carbon into the air . . . .").

[14] Nepstad et al., *supra* note 13, at 1740 ("A more likely near-term shift in Amazon climate may be associated with changes in sea surface temperature that are usually associated with Amazon drought. Rainfall tends to decline in the Amazon when sea surface temperatures rise along the Pacific coast of northern South America through El Niño episodes."); *see also* Peter M. Cox et al., *Increasing risk of Amazonian drought due to decreasing aerosol pollution*, 453 NATURE 212, 212 (2008) ("We show that reduction of dry season (July–October) rainfall in western Amazonia correlates well with an index of the north–south SST (sea surface temperature) gradient across the equatorial Atlantic.").

[15] RAMANATHAN ET AL., *supra* note 11, at 2 ("[Effects of ABCs] have given rise to major areas of concern, some of the most critical being observed decreases in the Indian summer monsoon rainfall, a north-south shift in rainfall patterns in eastern China, the accelerated retreat of the HKHT glaciers and decrease in snow packs, and the increase in surface ozone. All these have led to negative effects on water resources and crop yields.").

[16] K. R. N. Anthony et al., *Ocean acidification causes bleaching and productivity loss in coral reef builders*, 105 PROC. OF THE NAT'L ACAD. OF SCI. 17442, 17444-45 (2008), *available at* http://www.pnas.org/content/105/45/17442.full.pdf ("The observation that CO_2 triggers bleaching in synergy with warming under high light, and thereby partly drives patterns of net productivity, indicates that predictions of survival thresholds for reef builders under climate change must take account of acidification–warming interactions in the integrated biological and biogeochemical response.").

[17] David Archer, *Methane hydrate stability and anthropogenic climate change*, 4 BIOGEOSCIENCES 521, 521 (2007), *available at* http://geosci.uchicago.edu/~archer/reprints/archer.2007.hydrate_rev.pdf ("If the dissolved methane concentration reaches the saturation value for hydrate formation at the local temperature and pressure conditions,

In the view of Federated States of Micronesia, recent scientific findings on these and other phenomena should be explicitly considered in discussions of the scientific basis of a shared vision including a long-term global goal for emission reduction, as well as for discussions of mitigation commitments for Annex I Parties.

The principles of a shared vision (paragraph 17)

The Bali Action Plan states that the shared vision is for long-term cooperative action commencing "now" and continuing "up to and beyond 2012". The emphasis in the Bali Action Plan on action commencing "now" is complemented by the principle of precaution as set out in Article 2 of the Convention, which states:

> Parties should take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures…

II. A LONG-TERM GLOBAL GOAL FOR EMISSION REDUCTIONS

The nature, principles and quantification of a long-term global goal (paragraphs 26-29)

As stated by AOSIS in its comments on the Chair's Note, the avoidance of climate change impacts on SIDS must be one of the key benchmarks for assessing the appropriateness of any long-term goal. AOSIS therefore sees the long-term target as a stabilization of GHG gas concentrations well below 350 ppm CO2e and temperature increases limited to well below 1.5ºC above the pre-industrial level

A 2ºC increase compared to pre-industrial levels would have devastating consequences on SIDS due to resulting sea level rise, coral bleaching, coastal erosion, changing precipitation patterns, increased incidence and re-emergence of climate related diseases and the impacts of increasingly frequent and severe weather events.

A number of Parties have called for efforts to limit global average temperature increase to 2ºC above pre-industrial levels. They have drawn on figures included in the AR4[18] as the basis for defining and quantifying appropriate further mitigation commitments for Annex I Parties and an appropriate long-term global goal for emission reductions in the context of a shared vision. In evaluating these proposals, it is important to understand the basis of the figures presented by the IPCC in AR4:

- **Likelihood of remaining below 2 degrees C.** The figures (presented in the Box 13.7 on page 776) are based on an analysis of six published studies. These studies used diverse emissions pathways with stabilization levels ranging from 400 ppm CO2-eq to 450 ppm CO2. Only two of the studies estimated the likelihood of the pathways staying below 2ºC. Pathways aiming at 450 ppm CO2-eq assume a period of overshoot, increasing the likelihood of exceeding 2ºC at least temporarily to over

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methane and water will freeze together into methane hydrate or clathrate deposits."); *see also* David Archer, Bruce Buffett & Victor Brovkin, *Ocean methane hydrates as a slow tipping point in the global carbon cycle*, 105 PROC. OF THE NAT'L ACAD. OF SCI. (forthcoming 2008), *available at* http://www.pnas.org/content/early/2008/11/18/0800885105.full.pdf ("The hydrates could be vulnerable to melting with a deep ocean warming of a few degrees Celsius (3–6), which is obtainable given the available inventories of fossil fuel carbon for combustion.").

[18] In particular, reference has been made to the figures included in Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Technical Summary, pages 39 and 90, and Chapter 13, page 776 (as noted in footnote 1 to the Bali Action Plan)

50 percent. It is thus not accurate to suggest these scenarios as a whole "aim to limit global temperature increase to 2ºC."[19]

- **Establishing emissions allowances or rights.** The 25-40 percent range for Annex I emission reductions could be characterized as the creation of emissions allowances or rights, which may be substantially above what should ultimately be required of them on the basis of equity, historical responsibility and common but differentiated responsibility. Given these Annex I allocations, emissions allocations to the non-Annex I countries representing "substantial deviations from baseline" would be required by 2020, according to the IPCC figures.[20]
- **Assumptions about burden sharing.** The IPCC figures say nothing about where physical emissions reductions need to be made, but rather reflect the burden-sharing assumptions reflected in the studies summarized by the IPCC. The burden sharing implications of the figures is therefore unclear and should be clarified by those proposing the figures.[21] Burden sharing – including through actual emissions and through the provision of financing, technology and other forms of support – is a political not merely a scientific question and has significant distributional impacts that should be explicitly discussed by Parties to the Convention.
- **Evaluating historical responsibility.** The IPCC figures include no explicit evaluation of the historical responsibility of developed countries. As noted by the Convention, the largest share of historical emissions has originated in developed countries and that "per capita emissions in developing countries are still relatively low and that the share of global emissions originating in developing countries will grow to meet their social and development needs" (preamble). Any allocation of emissions allowances within a carbon constrained world should take into account the aggregate historical emissions and not merely current emissions of Parties.
- **Scenarios for more ambitious Annex I mitigation commitments.** The 40 percent figure is not the maximum level of Annex I reductions described in the scenarios reviewed by the IPCC. Two of the studies summarized in the table include scenario variants in which Annex I reductions reach 47 percent and 50 percent below 1990 levels respectively. In the IPCC summary these were effectively treated as "outliers" and discarded.[22] These and other more ambitious scenarios for Annex I countries should be considered, particularly in light of concerns about equity and historical responsibility. To the extent that Annex I Parties would not be able to meet such scenarios (e.g. for technical reasons) then other means for satisfying their historical responsibility including financing, compensation or liability could be considered.

In the view of the Federated States of Micronesia, these factors call for efforts to complement use of the AR4 with additional and updated scientific and technical information in the development of a shared vision including a long-term global goal for emission reductions, with the goal of achieving the limits on global temperature and greenhouse gas concentration increases put forward by AOSIS.

The contribution by different groups of countries to achieving a global goal (paragraph 30)

The allocation of emissions allowances (or emissions rights) within a global goal is a distributional question that must be considered in light of considerations of equity as well as effectiveness. It must take into consideration issues of historical responsibility as well as current emissions. It must recognize that the initial allocation of rights (inherent in the setting of Annex I assigned amount units) within a global goal will affect the distribution of resources and wealth on Planet Earth. In particular, we suggest that the current and unsustainable emissions pathways of the Annex I countries should not be "grandfathered" into a new agreement through allowances or "emission rights" that are inconsistent with principles of

[19] *See* Paul Baer, Exploring the 2020 global emissions mitigation gap (Dec. 4, 2008) (unpublished, updates available at www.globalclimatenetwork.com).
[20] *Id.*
[21] *Id.*
[22] *Id.*

effectiveness (based on the emerging science) and equity (based on an equitable effort sharing arrangement).

III. MITIGATION COMMITMENTS BY ALL DEVELOPED COUNTRIES

To be consistent with the goals set out by AOSIS and to avoid further serious climate change impacts, Annex I countries, as a group, would need to reduce their GHG emissions by more than 40% to 1990 levels by 2020, and more than 95% by 2050.

To achieve these goals, we call for action commencing "now" to rapidly reduce emissions in all developed countries, bearing in mind the risks of tipping points and the importance of avoiding the potential for near-term, rapid and non-linear climate changes. Particularly important are efforts by Annex I Parties to fully implement their emission reduction commitments under the Kyoto Protocol, and their commitments under the Convention, particularly those relating to mitigation, adaptation, financing and technology transfer to developing countries.

Deep emissions reductions through action commencing now is particularly important when viewed in light of the risks associated with abrupt, non-linear changes to the climate system. The paleoclimate records show that past climate changes have included both steady, linear changes as well as abrupt, non-linear changes, where small increases in global warming produced large and irreversible impacts once tipping points were passed.

Climate scientists now warn that anthropogenic greenhouse gas emissions are pushing the planet's climate system toward such tipping points sooner than previously expected, and that impacts could be catastrophic.[23] Among potential impacts of passing climate tipping points are:

- Disappearance of Arctic summer sea ice;
- Disintegration of the Greenland Ice Sheet;
- Collapse of the West Antarctic Ice Sheet;
- Shutdown of the Atlantic Thermohaline Circulation;
- Retreat of alpine glaciers (e.g. Hindu-Kush-Himalayan-Tibetan glaciers); and
- Dieback of Amazonian and boreal forests.[24]

As noted in discussion above, many of these phenomena are already experiencing levels of change significantly greater than predicted by existing climate models, including those identified in the AR4 which has been proposed by some Parties as a basis for identifying appropriate ranges for further commitments by Annex I Parties, and for the development of a long-term global goal for emission reductions.

The catastrophic impacts from these events – should they materialize – would include many meters of sea level rise, water shortages, megadroughts, and famine, and could lead to political instability and resource

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[23] V. Ramanathan & Y. Feng, *On avoiding dangerous anthropogenic interference with the climate system: Formidable challenges ahead*, 105 PROC. OF THE NAT'L ACAD. OF SCI. 14245, 14245 (23 September 2008). (calculating that greenhouse gas [GHG] emissions as of 2005 have committed the planet to warming of "2.4ºC above the preindustrial surface temperatures," which is within the range of predicted tipping points).

[24] Lenton et al., *supra* note 4, at 1790 ("Dieback of the Amazon rainforest has been predicted to occur under ≈ 3-4ºC global warming . . . ."); *id.* at 1791 ("Under climate change, increased water stress, increased peak summer heat stress causing increased mortality, vulnerability to disease and subsequent fire, as well as decreased reproduction rates could lead to large-scale dieback of the boreal forests, with transitions to open woodlands or grasslands.") (footnotes omitted).

wars.[25] Other impacts include release of methane and other global warming gases from permafrost and ocean hydrates, which could set off runaway feedbacks. These and other non-linear events or "singularities" increase the risks associated with climate change, particularly to those countries most vulnerable to climate change.

To help reduce these risks, and on the basis of the principles of precaution, equity, historical responsibility and common but differentiated responsibility and respective capabilities, we call for a much higher levels of ambition by Annex I Parties to the Convention than reflected in any of the ranges for emissions so far proposed in the negotiations – including through the enhancement by Annex I countries of sinks on their territories.

We call on Annex I Parties to be ready to go well beyond reducing 100% of their 1990 levels of emissions over the longer term, in order to provide sufficient atmospheric resources or carbon space for the full realization by developing countries of the Right to Development, and to provide an adequate and predictable basis for the provision of financing and technology, as well as for compensation for restricted development opportunities and for adaptation impacts.

Action commencing now to implement the Convention

In light of these considerations, the Federated States of Micronesia believes that action to reduce emissions commencing "now" as set out in the Bali Action Plan is essential – particularly in order to safeguard the survival and prosperity of least developed countries, small island developing states and other vulnerable countries. In particular, early and rapid action to reduce emissions:

Regardless of the levels of ambition set in the negotiations, action commencing now offers a range of benefits:

- Speeds up efforts to mitigate climate change;
- Buys valuable time to adapt to the effects of climate change;
- Demonstrates leadership in modifying longer term trends in emissions;
- Reduces the risks of "tipping points" for abrupt climate change;
- Builds experience and confidence in the UNFCCC; and
- Fulfils the requirements of the Bali Action Plan for enabling action "now".

Action commencing now also provide a practical way of linking discussions of mitigation and adaptation, as early action to mitigate greenhouse gas emissions both achieves mitigation goals and reduces the future costs associated with adapting to climate change. Consequently, there is considerable value to all Parties in focusing on measures that can secure early emissions reductions.

With respect to Bali Action Plan – in particular paragraphs 1(b)(ii)-(iii), 1(d)(i)-(iii), and 1(e)(v) – additional efforts are needed to promote "fast start" strategies with existing technologies to mitigate climate change in the immediate near-term. These strategies should include those that can start immediately, are effective and efficient, and have strong co-benefits for public health, local communities, and competitiveness, including:

[25] *Id.* at 1788; PETER SCHWARTZ & DOUG RANDALL, AN ABRUPT CLIMATE CHANGE SCENARIO AND ITS IMPLICATIONS FOR UNITED STATES NATIONAL SECURITY (2003), http://handle.dtic.mil/100.2/ADA469325.

- **Technology transfer and deployment.** Expanding investment and speeding deployment of energy efficient technologies, improving energy efficiency[26] and expanding renewables, especially wind, can produce fast mitigation,[27] as can improving urban albedo.[28]
- **Reducing carbon soot.** Promoting strategies to reduce black carbon, or soot, which may be the second largest contributor to climate warming, but which has an atmospheric lifetime of only days to weeks, so reducing it may offer the fastest mitigation.[29]
- **Reducing powerful greenhouse gasses.** Reducing other short-lived forcers such as methane and tropospheric ozone precursors.[30]
- **Enhancing sequestration.** Promoting bio-char carbon sequestration as a near-term carbon mitigation and storage strategy, which removes carbon from the carbon cycle by drawing down atmospheric concentrations of CO_2 in a carbon-negative process and provides near permanent carbon storage

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[26] Group of Eight Summit, Heiligendamm, Ger., June 6-8, 2007, *Growth and Responsibility in the World Economy: Summit Declaration*, ¶ 46 (June 7, 2007) ("Improving energy efficiency worldwide is the fastest, the most sustainable and the cheapest way to reduce greenhouse gas emissions and enhance energy security.").

[27] The IPCC has predicted that renewable energy sources, which have "a positive effect on energy security, employment and on air quality," will be able to provide 30-35% of the world's electricity by 2030. IPCC, *Summary for Policymakers*, *in* CLIMATE CHANGE 2007: MITIGATION 13 (B. Metz et al. eds., 2007). The IPCC has also found that "wind is the fastest growing energy supply sector." IPCC, IPCC SCOPING MEETING ON RENEWABLE ENERGY SOURCES 4 (Olav Hohmeyer & Tom Trittin eds., 2008); *see also* GREENPEACE & GLOBAL WIND ENERGY COUNCIL, GLOBAL WIND ENERGY OUTLOOK 2006, at 38 (2006) ("Under the Advanced wind energy growth projection, coupled with ambitious energy saving, wind power could be supplying 29.1% of the world's electricity by 2030 and 34.2% by 2050."). In its most recent report, the International Energy Agency concludes "[p]reventing catastrophic and irreversible damage to the global climate ultimately requires a major decarbonisation of the world energy sources . . . . The energy sector will have to play the central role in curbing emissions – through major improvements in efficiency and rapid switching to renewable and other low-carbon technologies . . . ." *See* INTERNATIONAL ENERGY AGENCY, WORLD ENERGY OUTLOOK 37-38 (2008).

[28] *See* Hashem Akbari, Surabi Menon & Arthur Rosenfeld, *Global Cooling: Increasing Worldwide Urban Albedos to Offset CO_2*, CLIMATIC CHANGE[0] (forthcoming 2008) (If 100 large urban areas switched their roofs and pavement to highly reflective materials, the authors calculate this would "induce a negative radiative forcing of $4.4x10^{-2}$ Wm^{-2} equivalent to offsetting 44 Gt of emitted CO_2. A 44 Gt of emitted CO_2 offset resulting from changing the albedo of roofs and paved surfaces is worth about $1100 billion. Assuming a plausible growth rate of 1.5% in the world's CO_2-equivalent emission rate, we estimate that the 44 Gt CO_2-equivalent offset potential for cool roofs and cool pavements would counteract the effect of the growth in CO_2-equivalent emission rates for 11 years."); *see also* Hashem Akbari, Leader, Heat Island Group, Presentation at the Fifth Annual California Climate Change Conference: Global Cooling: Increasing World-wide Urban Albedos to Offset CO_2 (Sept. 9, 2008), *available at* http://www.climatechange.ca.gov/events/2008_conference/presentations/2008-09-09/Hashem_Akbari.pdf. In California, which sets strict energy budgets for new construction, residential and some non-residential buildings can receive energy credits toward their energy budgets for installing "cool roofs." Cool roofs can lower roof temperatures up to 100 degrees Fahrenheit, reducing energy use for air conditioning and associated urban heat islands and smog. CAL. CODE REGS. tit. 24 § 118 (2007). Cool roof and reflective pavement are two of California's early action measures implementing California Assembly Bill Number 32, the Global Warming Solutions Act. *See* AIR RESOURCES BOARD, CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY, EXPANDED LIST OF EARLY ACTION MEASURES TO REDUCE GREENHOUSE GAS EMISSIONS IN CALIFORNIA RECOMMENDED FOR BOARD CONSIDERATION, at C-14 (2007).

[29] V. Ramanathan & G. Carmichael, *Global and regional climate changes due to black carbon*, 1 NATURE GEOSCIENCE 221, 222 (2008) ("The BC forcing of 0.9 W m^{-2} (with a range of 0.4 to 1.2 W m^{-2}) . . . is as much as 55% of the CO_2 forcing and is larger than the forcing due to the other GHGs such as CH_4, CFCs, N_2O or tropospheric ozone."); *see also* Mark Jacobson, *Control of Fossil-Fuel Particulate Black Carbon and Organic Matter, Possibly the Most Effective Method of Slowing Global Warming,* 107 J. GEOPHYS. RES. D19 (2002); *see also* Jane Qiu, *The Third Pole*, 454 NATURE 393, 396 (2008) ("Reducing emissions of greenhouse gases and black carbon should be the top priority," according to Xu Baiqing of the Institute of Tibetan Plateau Research.).

[30] *Role of Black Carbon on Global and Regional Climate Change: Hearing on the role of black carbon as a factor in climate change Before H. Comm. on Oversight and Gov't Reform*, 110th Cong. 4 (2007) (testimony of V. Ramanathan).

while also improving soil productivity and reducing the need for fossil fuel-based fertilizer.[31] (Carbon mitigation and storage, including through enhanced coral reef growth, also should be expanded.)

- **Accelerating efforts under other treaties.** Accelerating efforts under the Montreal Protocol on Substances that Deplete the Ozone Layer to reduce ozone-depleting substances, most of which are powerful climate gases.[32] (In November 2008, the 193 Parties to the Montreal Protocol unanimously agreed for the second year in a row to strengthen their treaty to provide additional protection for both the ozone layer and the climate system.[33])

These and other near-term strategies often have strong co-benefits, such as public health benefits from black carbon reductions, soil enhancement from biochar, and increased energy security from efficiency and renewables, providing further incentives to act now to forestall tipping points visible on the horizon.

Early action to address climate change will also help to build the confidence and trust required to secure an effective outcome in Copenhagen. Parties to the Climate Convention are mandated by the Bali Action Plan to commence action "now, up to and beyond 2012". Notably, this action – including action

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[31] Johannes Lehmann, John Gaunt & Marco Rondon, *Bio-char Sequestration In Terrestrial Ecosystems – A Review*, 11 MITIGATION AND ADAPTATION STRATEGIES FOR GLOBAL CHANGE 403, 404 (2006).

[32] *See* Guus J. M. Velders, Stephen O. Andersen, John S. Daniel, David W. Fahey & Mack McFarland, *The importance of the Montreal Protocol in protecting climate*, 104 PROC. NAT'L. ACAD. SCI. 4814, 4814-19 (2007), *available at* http://www.pnas.org/cgi/content/abstract/104/12/4814 (From 1990 to 2010, the Montreal Protocol will have reduced climate emissions by a net of 135 billion tonnes of CO_2-eq., delaying climate forcing by up to 12 years. This is ~ 13% of the forcing due to accumulated anthropogenic emissions of CO_2 and several times the reductions sought under the first phase of Kyoto Protocol.). In 2007, the Montreal Protocol was further strengthened to accelerate the phase-out of HCFCs; that adjustment has the potential to produce mitigation up to 16 billion tones of CO_2-eq. *See* U.S. EPA 2008 Climate Award Winners, Team Award Winners, http://www.epa.gov/cppd/awards/2008winners.html ("The U.S. EPA estimates that, through 2040, the HCFC agreement could reduce emissions by up to 16 billion metric tonnes of carbon dioxide-equivalent. This is equal to the greenhouse gas emissions from the electricity use of more than 70 million U.S. households over the next 30 years."); TECHNOLOGY AND ECONOMIC ASSESSMENT PANEL [TEAP], UNITED NATIONS ENVIRONMENT PROGRAMME, RESPONSE TO DECISION XVIII/12, REPORT OF THE TASK FORCE ON HCFC ISSUES (WITH PARTICULAR FOCUS ON THE IMPACT OF THE CLEAN DEVELOPMENT MECHANISM) AND EMISSIONS REDUCTIONS BENEFITS ARISING FROM EARLIER HCFC PHASE-OUT AND OTHER PRACTICAL MEASURES 8 (2007) [hereinafter TEAP RESPONSE], *available at* http://ozone.unep.org/teap/Reports/TEAP_Reports/TEAP-TaskForce-HCFC-Aug2007.pdf.

[33] At the 20th Meeting of the Parties to the Montreal Protocol, the Parties agreed to begin collecting and destroying unwanted ODSs in existing stockpiles and discarded products and equipment. *See* The Eighth Meeting of the Conference of the Parties to the Vienna Convention and the Twentieth Meeting of the Parties to the Montreal Protocol, Doha, Qatar, Nov. 16-20, 2008, *Advance Report*, at Decision XX/7 (Nov. 27, 2008) [hereinafter *Advance Report*], *available at* http://ozone.unep.org/Meeting_Documents/mop/20mop/MOP-20-9E.pdf. Without immediate action to prevent emissions of ODSs from banks, these sources will release 6 billion tonnes or more of CO_2–eq. into the atmosphere before 2015 and a further 15 billion tonnes of CO_2–eq. thereafter, and will otherwise cancel the hoped for gains of the current climate treaty. *See* TEAP RESPONSE, *supra* note 32, at 12, 27; *see also* IPCC & TEAP, *Technical Summary, in* SPECIAL REPORT ON SAFEGUARDING THE OZONE LAYER AND THE GLOBAL CLIMATE SYSTEM: ISSUES RELATED TO HYDROFLUOROCARBONS AND PERFLUOROCARBONS [SPECIAL REPORT] 9 (2005), *available at* http://arch.rivm.nl/env/int/ipcc/pages_media/SROC-final/SpecialReportSROC.html. The Parties also decided to start discussions on moving hydrofluorocarbons, or HFCs, from the climate treaty to the stricter Montreal Protocol, where HFCs with high global warming potential could be phased-out. *See Advance Report*, *supra*, at Decision XX/8. HFCs have global warming potentials hundreds to thousands of times that of CO_2 and are one of the six GHGs included in the Kyoto Protocol; they are used primarily as a replacement for ODSs phased-out under the Montreal Protocol. *See* IPCC & TEAP, *Summary for Policy Makers*, *in* SPECIAL REPORT, *supra*, at 3. The Parties also provided USD $490 million over three years to assist developing countries to meet their commitments, including the commitment last year to accelerate the phase-out of HCFC, which has the potential to prevent up to 16 billion tonnes of CO_2-eq. emissions if the Parties ensure climate friendly alternatives are used, and not high GWP HFCs. *See id.*; *see also* TEAP RESPONSE, *supra* note 32.

commencing “now” – is foreseen by the Bali Action Plan as necessary “in order to reach an agreed outcome and adopt a decision at its fifteenth session”.

Importantly, efforts to implement the Convention commencing now will help reduce the risks of climate change to all countries, and particularly those who are vulnerable to the effects of climate change. A focus on fast-action strategies offers great advantages particularly to LDCs, small island states and other states vulnerable to extreme weather events and flooding.

We therefore call on all Parties to the UNFCCC to consider what actions they can take commencing “now” to implement the Bali Action Plan’s objective of ensuring the full, effective and sustained implementation of the Convention.

Differentiation

Differentiation – we've already heard the importance of CBDR&RC but that for one group differentiation appears to be off the table.

We obviously need a discussion on what exactly CBDR&RC is.

With respect to elaborating paras 1b(i) and 1b(ii) of the BAP.

The AWG-KP track met yesterday and discussed mitigation potential and national circumstances of some developed countries.

We would recommend parties review these very interesting presentations as they discuss relevant issues for the LCA process e.g. the concept of "comparability", "national circumstances" and "CBDR&RC."

Agriculture

Thank Argentina for reminding us of the ag mitigation paper.

We welcome the completion of the technical paper on challenges and opportunities for mitigation in the agriculture sector. Because the workshop on this topic is in March 2009 we would like to thank the Secretariat for giving us sufficient time to consider this paper properly.

We think the paper provides some very useful recommendations for our work here in the negotiations under the Convention and its Protocol. In particular we would like to draw attention to some important issues that the paper identifies:

We need to recognize that although globally there is technical potential for mitigation in the agriculture sector, in many types of agricultural systems and source categories within the agriculture sector there are barriers to realising this in practice, one such example is the specific agricultural system (whether grazing livestock systems or housed systems).

Without question we need global cooperation on research and development of technologies – however, one size does not fit all and mitigation measures will need to be evaluated at various levels according to particular environmental, social and economic circumstances. In the broader context, countries need to look at their domestic settings to see if these create perverse incentives that tend to increase global emissions from agriculture, or impede the ability to reduce emissions.

We should to give due consideration to the need to produce food for a global population that is expected to continue to grow in the coming decades and the need for this food to be produced in the most efficient manner globally.

We need to build on the Convention – we need to be creative and innovative when considering how to address this important sector in a future climate change agreement. New Zealand remains hopeful that we can all share a vision on this.

REDD

The LCA will establish a framework of policies to reduce greenhouse emissions from deforestation. Virtually all Parties are supportive of the objective.

Many Parties have expressed a desire for significant progress to be made on REDD at Poznan. Despite this agreement there is significant debate over many aspects of a scheme.

We note the work on REDD also going on in SBSTA. That process is now being frustrated by the lack of progress on policy approaches. The LCA must now make the space available to take this issue forward.

We need to ensure sufficient and dedicated time, within the mitigation work programme to discussing REDD under the LCA.

PAPER NO. 21B: NEW ZEALAND

Ad hoc Working Group on Long term Cooperative Action under the Convention

Submission by New Zealand in relation to item 1b of the Bali Action Plan

6 December 2008

1. New Zealand wishes to provide additional input into the Chair's assembly document.

2. Elements of this submission are potentially relevant to a number of the sub-items within item 1b of the Bali Action Plan.

3. New Zealand considers the assembly document could pick up the following notions:

   - Actors, including international organizations, outside of the UNFCCC can promote positive climate results;
   - Flawed concepts such as food miles and other inadequately researched environmental standards can lead to poor climate outcomes and be unnecessarily trade distorting;
   - The maintenance of production-linked and trade-distorting subsidies can lead to distortions in global production and pricing, as well as contributing to inefficient climate outcomes;
   - Competitive unilateral measures by Parties can lead to questionable environmental efficiency which is likely to have perverse effects, including discouraging investment in lower carbon technologies;
   - Policies and measures to address climate change should be designed where possible to foster socio-economic and development co-benefits, for example with respect to agriculture;

4. New Zealand proposes that:

   - Recalling the second sentence of Article 2 of Convention, consideration be given to how policies and measures for mitigation under the Convention can be designed to ensure that food production is not threatened.
   - Consideration be given to what messages can be sent from the AWG LCA process to actors outside of the Convention, including international organizations, to encourage positive climate outcomes. For example, good outcomes from the WTO Doha Round can help reduce harmful effects on the climate, including through substantive outcomes in the agriculture negotiations, and progress to reduce or eliminate tariffs on a range of environmental goods and services.
   - The AWG LCA outcomes could include some considerations Parties can take into account in order to avoid negative spillover effects when designing policies and measures to tackle climate change.

PAPER NO. 22: NORWAY

Comments from Norway on the assembly document prepared by the Chair of the AWGLCA

1. Norway thanks the Chair of the AWGLCA for preparing the assembly document on ideas and proposals on paragraph 1 of the Bali Action Plan (FCCC/AWGLCA/2008/16) before the Poznan conference, and welcomes the opportunity to provide further views and comments received by 6 December to be compiled in a revised version of this assembly document.

2. With regard to paragraph 26 on the nature of and principles for a long-term global goal, Norway would like to clarify that in principle we are of the view that establishing a long term goal should be a starting point for a top down approach in distribution of commitments on reduction of GHG emissions among Parties. We would like the assembly document to reflect this view. A climate first strategy is important to ensure that global efforts are based on what science tells us about how to tackle climate change, where the global cost of action is weighed against the global consequences of inaction. Maximum global emissions for upcoming fixed periods of time should be periodically reviewed and updated to maintain the atmospheric concentration target.

3. On the quantification of a long-term global goal for emission reduction in paragraph 29 it should be clarified that global emissions have to be reduced by 50-85 percent from 2000 to 2050, most likely as much as 85 percent.

4. On nationally appropriate mitigation actions by developing country Parties in the context of sustainable development, supported and enabled by technology, financing and capacity-building, in a measurable, reportable and verifiable manner in section B of the assembly document, we would like to make reference to our views attached in Annex I to this submission.

5. With regard to paragraph 51(g) Norway would like to emphasize that we not only underline the importance of promoting the participation of indigenous peoples and local communities but also the rights and interest of indigenous peoples and local communities, the importance of engaging and sharing benefits with them, and ensuring consistency with the aims of other related international processes and relevant agreements.

6. It should further be reflected in paragraph 147 b) that a provision of new and additional financial resources should be generated independent of national budgetary processes.

7. When the Norwegian proposal of auctioning of allowances is mentioned in the document it should be clarified that the proposal is different from auctioning allowances in domestic emission trading schemes. We therefore prefer “at the international level” being added when reference is made to our proposal (see paragraphs 148 (b), 154 (a), 170 (b) 181 (f)).

8. Norway looks forward to engaging further in constructive discussions on different proposals and ideas brought forward in the process up to now and towards an agreement in Copenhagen next year.

Annex I

Norwegian views on possible improvements to emissions trading and project-based mechanisms

1. According to IPCC we need to see 25-40 percent emission reductions from Annex I-Parties in 2020 to avoid an increase in global mean temperature that exceeds two degrees Celsius. To increase the ability of Annex I Parties to reach such ambitious emission reduction targets the carbon market should be significantly scaled up. In addition to ambitious reductions by Annex-I Parties emissions in developing countries have to substantially deviate from projected baseline emissions within the next decades to achieve a two degree goal.

2. In such a context the present project based mechanisms will not be sufficient to achieve the necessary global emission reductions. This implies that middle income developing countries would need to move beyond the current CDM by net contributing to emission reductions by new type of mechanisms. Contributions from developing countries in the form of nationally appropriate mitigation actions are an issue for the AWGLCA. It is however important that consistency between discussions on these matters in the AWGKP and AWGLCA is ensured. New crediting mechanisms could evolve from existing flexibility mechanisms, but in our view new additional concepts must be developed.

3. We note that there are several party proposals on further exploring sector based approaches and mechanisms that can contribute nationally appropriate mitigation actions in a measurable, reportable and verifiable manner. These mechanisms needs to move beyond projected based mechanisms actively involving the receiving countries in setting policies as a minimum at a sectorial level.

4. We find it in particular interesting to further explore how sector based approaches might provide extended incentives for mitigation. In particular emissions trading could be a means for transferring resources from developed countries to developing countries through a possibility to receive and to surrender allowances, in the context of moving towards a low carbon economy. All Parties should be given the possibility to take part in an extended emissions trading market. It should be looked into how these countries could be prepared for the participation in such new mechanisms, by inter alia introducing capacity building programs to facilitate the measurement, reporting and verifying of emissions in specific sectors. For other mechanisms than emission trading it should in particular be looked into how to ensure that only additional emission reductions are credited, and that only reductions that exceed agreed nationally appropriate domestic mitigation actions should be credited.

Annex II

Norwegian views on enhanced adaptation actions

1. Norway welcomes the assembly paper which we believe provide a valuable input to address enhanced action on adaptation in the LCA process.

2. For many poor the impacts of climate change will pose yet another burden to their everyday life. Reducing vulnerability and strengthen adaptive capacity for poor communities would have to address the causes leading to vulnerability - which is related to many aspects not related directly to climate change. Therefore adaptation to climate change and development are interlinked – and hence, adaptation cannot be seen separately from, but is an integrated part of development. In this perspective, bilateral initiatives, private sector, civil society and communities themselves will have to address adaptation. The role of the UNFCCC process should be a catalytic one – providing an arena for guidance and coordination, and for securing adequate, predictable and sustainable financial resources.

3. Considering the scale of funding required for adaptation the needs will surpass the existing level of funding available through official development assistance and other means, and we need to find a credible long term international solution for financing adaptation. The Norwegian financing proposal is designed to raise adequate, predictable and sustainable financing for adaptation, independent of annual budget allocations, and has the potential to meet the intentions of the Bali Action Plan.

4. To guide enhanced action on adaptation we would like to highlight six basic issues from the assembly paper:

Country-led - Adaptation to climate change is basically a national process. This must be embedded in a future framework for adaptation.

Integration – As a part of the development process adaptation must be integrated into planning structures and planning tools, based on cross-sectoral and multi-level approaches.

Subsidiarity - risks related to climate change are highly contextual and the vulnerabilities of each region, country and community will to a large extent be unique. There is no such thing as one size fits all. Adaptation actions must respond to local needs - therefore adaptation decisions need to involve communities and civil society.

Flexibility - adaptation must be supported through many different means and methods – and adaption will take place over a long time span. Also, adaptation must be a learning-by-doing process. This calls for a flexible framework when it comes to modalities and channels, but different actions should be linked to a national framework.

Good governance – Whatever means, measures and institutional arrangements being brought forward in a new agreement – effectiveness, efficiency and transparency must apply.

Coordination – the cross sectoral nature of adaptation calls for involvement and coordination with a variety of institutions, agencies, private sector and civil society.

5. Norway underscores that experience and lessons learned from adaptation efforts and decades of development assistance, should guide enhanced actions on adaptation. Early actions and pilots needs to be addressed urgently, so that we can learn from good practises. We also support the idea of regional centres for vulnerability assessments and capacity building, within the framework of existing mechanisms and institutions.

PAPER NO. 23: PAKISTAN

Pakistan submission for the Chairman's revised Assembly Document entitled "Ideas and proposals on paragraph 1 of the Bali Action Plan"
(FCCC/AWGLCA/2008/16, the Chair's "Assembly Document")

A shared vision for long-term cooperative action

Shared vision is a bottom up approach which can only emerge following the delineation of a long term cooperative action for now, up to and beyond 2012.

A shared vision already exists in the shape of the Rio Principles, the United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol. We need a shared vision to overcome the implementation deficit.

The **purpose of a shared vision,** which has not been addressed thus far in the Chair's Note, include:

- The shared vision for long-term cooperative action is addressed in order to "enable the full, effective and sustained implementation of the Convention".
- The shared vision is for long-term cooperative action commencing "now" and extending "up to and beyond 2012".
- The shared vision is addressed "in order to reach an agreed outcome and adopt a decision at [the] fifteenth session" of the Conference of Parties in Copenhagen.

In accordance with Article 1 of the Bali Plan of Action, Pakistan has agreed to initiate discussion to explore elements of such a shared vision on long term cooperative action that takes into account the following:

a) Shared vision does not necessarily call for a long term global target measured in terms of greenhouse gas emission reduction. There is a need to widen the notion of shared vision and its long term goals to include measureable, reportable and verifiable mid term and long term targets on scaling up of financial resources and technology development and transfer.

b) A technology transfer-based long-term global goal for emission reduction could be quantified in terms of the mitigation potential, volume and/or value of technologies to be transferred and deployed broken down by technology categories, areas and/or regions.

c) The shared vision is for long-term cooperative action to achieve the ultimate objective of the Convention "in accordance with the provisions and principles of the Convention" including the requirement that the "developed country Parties should take the lead in combating climate change and the adverse effects thereof", as required by Article 3.1, and that they demonstrate they are "taking the lead in modifying longer-term trends in anthropogenic emissions consistent with the objective of the Convention" as set out in Article 4.2.

d) Annex I countries must reduce their emissions by more than 40% of their 1990 emissions levels by 2020 and by more than 95% of their 1990 emission levels by 2050 through a second and subsequent commitment periods under the Kyoto Protocol in accordance with Article 3.9 of the Kyoto Protocol.

e) Concrete measureable, reportable and verifiable actions on the part of the Annex 1 countries to enhance the implementation of the convention could be aided by enhanced voluntary actions by the developing countries;

f) Guided by the evolving scientific evidence which must include analysis of social and economic conditions and other factors, taking into account that "economic and social development and poverty eradication are the overarching priorities of developing country Parties" as set out in Article 4.7.

g) Does not deviate and remain in accordance with the core principle of common but differentiated responsibilities and respective capabilities and takes fully into account the inter-generational equity and historical responsibility including the requirement that "extent to which developing country Parties will effectively implement their commitments under the Convention will depend on the effective implementation by developed country Parties of their commitments under the Convention related to financial resources and transfer of technology and will take fully into account that economic and social development and poverty eradication are the first and overriding priorities of the developing country Parties" as set out in Article 4.7.

h) It is grounded in multilateral agreement within the UNFCCC and its Kyoto Protocol alone.

Enhanced action on mitigation of climate change

In relation to the nature of national mitigation commitments or actions by developed countries, the document should recognize:

- Emissions reductions by Annex I Parties significantly deeper than those proposed by the IPCC in its Fourth Assessment Report are required on the basis of: 1) emerging scientific information; 2) equity and historical responsibility; 3) embedded emissions (e.g. in infrastructure); 4) national capabilities and factor endowments;
- The quantification of national commitments for developed countries is an issue to be addressed within the AWG-KP and not the AWG-LCA. The indication of unilateral actions, even though positive, cannot replicate the need for a multilateral agreement.
- Annex I countries must reduce their emissions by more than 40% of their 1990 emissions levels by 2020 and by more than 95% of their 1990 emission levels by 2050 through a second and subsequent commitment periods under the Kyoto Protocol in accordance with Article 3.9 of the Kyoto Protocol.
- These emission reductions by developed countries must be undertaken domestically, with commitments to undertake deeper emissions reductions required if developed countries intend to undertake any proportion of their emissions reductions abroad (and clarity on the proportion of emissions reductions to be undertaken domestically and abroad).
- Based on their historical responsibility (e.g. since 1750) developed countries must undertake commitments for "negative emissions" (i.e. cuts well over 100% of their 1990 levels) in order to provide sufficient atmospheric resources or carbon space for the full realization by developing countries of the Right to Development, and to provide an adequate and predictable basis for the provision of financing and technology, as well as for compensation for restricted development opportunities and for adaptation impacts.

As part of the discussions of shared vision, a number of Parties have proposed a global goal reflecting a proposed level of emissions reductions (e.g. 50% of 1990 emissions by 2050) or a temperature level (e.g. 2 degrees). In discussions of further commitments for Annex I parties, some Parties have also come out with levels of emissions reductions for Annex I parties.

- There is a need for an empirical data and an impact assessment analysis of various proposed emission cuts by Annex-1 countries and what these proposed cuts imply for the developing countries. More specifically what default obligations do they levy on the developing countries and the likely effects of various scenarios on the development prospects of developing countries.

Enhanced action on technology development and transfer to support action on mitigation and adaptation

Implementation of article 4.5 is the key to enhanced action of technology development and transfer.

There is no doubt that thus far technology transfer has not kept pace with the needs.

The key concern that has been and should be at the center of discussion and future actions is to make technology accessible to all those affected. We must bring about flexibilities in the intellectual property rights regime. Approaches include:

a) An international system or an agreement or declaration on compulsory licensing for climate friendly technologies along the lines of that undertaken in the health sector;

b) Joint technological or patent pools providing and transferring technologies to the developing countries at low cost, an idea which earlier guided the discussion on health and TRIPS;

c) Limited time patents. This body could consider calling for reducing the life of patents on climate friendly technologies, so that they could be commercialized quickly;

d) And most importantly, the provision of Incentives (tax exemption, subsidies etc) for the owner of technology for differential pricing;

e) Along the lines of World Health Organizations (WHO), an in-depth study of issues and proposals through an UNFCCC led Commission on Innovation, Intellectual Property Rights and Access to Climate Technologies and a follow-up working group and action plan, including a global strategy and global initiatives (along the lines of the WHO Commission) and the G77 and China proposal for an enhanced technology mechanism under the UNFCCC.

PAPER NO. 24A: PHILIPPINES ON BEHALF OF THE GROUP OF 77 AND CHINA

Submission of the G-77 and China

Contact Group on Mitigation and Means of Implementation

- The G77 and China recognizes the importance of enhancing ambitious national and international mitigation action, in the context of long term cooperative action, directed towards achieving the ultimate objective of the Convention.

- National and international mitigation action must effectively respond to the serious challenge of climate change, respecting the right to development and the legitimate priorities of sustainable development and poverty eradication in developing countries.

- As indicated in Article 2 of the Convention, stabilization of green house concentrations "should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner."

- Mitigation action should be strengthened jointly with efforts to substantially improve support for adaptation to the negative effects of climate change.

- As in all other aspects of AWG-LCA work, our discussions on mitigation are guided by the Convention and the BAP. Both are explicit as to the distinct nature of the mitigation commitments of Annex I and the mitigation actions of non-Annex I parties. As we work, in a cooperative context, to face the climate change challenge, we will do so in a way that respects the principles of the Convention, specially common but differentiated responsibilities and respective capabilities.

- Based on the Convention and the BAP, the G77 and China expresses its firm rejection of any proposal directed towards differentiating between non-Annex I parties, such as amendments to the Convention or any of its Annexes with a view to establishing new categories of countries.

- The AWG-LCA must effectively address the issue of comparability of commitments among Annex I parties. A global effort demands that all Annex I parties take on measurable, reportable and verifiable commitments, including quantified emission limitation and reduction objectives, that are compatible with their level of historical responsibility for climate change and economic and technological capacity.

- While noting the midterm quantified emission reduction targets announced by some Annex I parties, we emphasize that much deeper reduction commitments are required and these must result from a multilateral agreement. These emission reduction commitments must reflect their historical responsibility as well as evolving scientific evidence.

All mitigation commitments or mitigation actions must take into consideration the need to minimize the adverse effects of these mitigation commitments or actions on developing country Parties, specially those identified in Articles 4.8 and 4.9 of the Convention.

- It is necessary to focus attention on the crucial issue of means of implementation, in order to generate a significant increase in the level of measurable, reportable and verifiable support offered to non-Annex I parties in technology, financing and capacity building.

- In line with article 4.7 of the UNFCCC, such an increase would allow non-Annex I parties to enhance their national mitigation effort in a measurable, reportable and verifiable way, adding to the actions they have already undertaken, without restricting their sustainable development.

- The G77 and China emphasizes that the current global financial situation does not justify any rolling back on financing commitments under the Convention. Short term financial difficulties, however serious, should not limit the support necessary to deal with the common long term interest of facing climate change.

PAPER NO. 24B: PHILIPPINES ON BEHALF OF THE GROUP OF 77 AND CHINA

Shared Vision

December 5, 2008

- The Shared Vision on long term cooperative action is composed of the four building blocks of the Bali Action Plan to enable full, effective and sustained implementation of the Convention, now, up to and beyond 2012, in order to achieve its ultimate objective, as set out in Art. 2, which balances stabilization, adaptation and sustainable development.
- In accordance with the Convention, the Shared Vision must promote the right to development *{UN Declaration on the Right to Development and UNFCCC, Article 2}* and integrate the legitimate priority of sustainable development and poverty eradication in Non Annex I Parties {*UNFCCC Preamble}.*
- The Shared Vision shall be guided by the provisions and principles of the Convention. These include, in particular the principles of common but differentiated responsibilities and respective capabilities, equity {*Article 3.1}* , precaution {Art. 3.3} and prevention *{Rio Declaration and UNFCCC Art. 3.3}*.
- On financing, developed country Parties must fully implement their commitments to provide new and additional, adequate and predictable financial resources, necessary for mitigation and adaptation in developing countries. {Articles 4.3 and 4.4}. Efforts to address climate change should not be impaired by the current financial crisis, and should receive an equally urgent global response. Under a shared vision for long-term cooperative action, financing and technology transfer must be measurable, reportable and verifiable. To this end, the G77 and China has submitted a proposal on financial architecture.
- With regard to technology, Annex I Parties must fully implement their commitments on technology development and transfer, including providing financing and support, transfer of and access to environmentally sound technologies and know-how to developing countries {Article 4.5} for mitigation and adaptation. To this end, the G77 and China has proposed a multilateral technology fund under the authority of the COP and with the appropriate governance structure. The Fund should implement a Technology Action Plan to enhance action at all stages of the technology cycle.
- With regard to the relationship between adaptation and mitigation both adaptation and mitigation must be addressed as equal priorities, redressing past imbalance and giving both their rightful place. If Annex I Parties do not reduce their increasing emissions and take urgent mitigation actions, the cost of adaptation would significantly increase.
- In respect to adaptation, negative impacts are already occurring worldwide; Non-Annex I Parties are the most vulnerable and have already been forced into adaptation without appropriate support and at their own cost. Annex I Parties have the commitment to provide assistance to Non Annex I Parties in order to meet the costs of urgent implementation of adaptation actions and building long term resilience, including, where appropriate, ecosystem based adaptation and use of traditional knowledge.
- With regard to mitigation, we note the midterm quantified emission reduction targets announced by some Annex I Parties. All Annex I Parties, given their historic responsibility, and as shown by the latest scientific evidence, are obliged to reduce their emissions deeply, primarily domestically, as mid term absolute emission reduction commitments that are measurable, reportable and verifiable, and to achieve even deeper reduction targets by 2030 and 2050.
- Building on their current domestic efforts, Non Annex I Parties could further advance nationally appropriate mitigation actions in the context of sustainable development and if supported and enabled by technology, financing and capacity building, in a measurable, reportable and verifiable manner *{BAP }*.

- In conclusion, Non-Annex I Parties envision a long term goal which successfully integrates the means of implementation (finance, technology, and capacity building) needed to support mitigation and adaptation actions, delivered through a coherent approach and based on best available scientific information.

PAPER NO 24C: PHILIPPINES ON BEHALF OF THE G77 AND CHINA

The Group of 77 and China

Submission of general views

On the Ad Hoc Working Group on Long-term Cooperative Action (AWGLCA)

6th December 2008, Poznan, Poland

The important discussions over the past year on enabling the full, effective and sustained implementation of the Convention through long-term cooperative action now, up to and beyond 2008 have allowed us to explore the issues in a thorough manner and we look forward further elaboration and concretisation of our ideas as we move to Copenhagen.

It will be vital at this juncture for us to begin to focus on how objectives can be met. In that regard, the Group of 77 and China would like to refer to our submissions on a financial mechanism and on technology.

The Group of 77 and China's proposal on an enhanced financial mechanism is geared at ensuring the effective implementation of the Climate Change Convention. The proposal calls for enhanced financial resources and investment to support action on mitigation and adaptation as well as the development and transfer of technology, as required by the Bali Action Plan.

The Group of 77 and China has also proposed the establishment of a new technology mechanism under the UNFCCC to accelerate the development and transfer of technology and to support the effective implementation of the UNFCCC's provisions relating to technology and finance. This submission builds on statements and proposals made by the Group, and seeks to address the shortfall in implementation by developed countries of their obligations to provide technology and associated finance and capacity building to developing countries to enable them to implement the Convention. The proposal also seeks to advance the work of the Bali Action Plan, which calls for "enhanced action on technology development and transfer."

The Group of 77 and China would like to reiterate the significance of work on adaptation in the AWG-LCA for our Group. Given the vulnerability of our members to the impacts of climate change we hope that we will make considerable progress on the issues related to it during the course of this meeting. Similarly we note the importance of the mitigation issues in the Chairs assembly of issues and will engage actively in the discussion around this issue.

As we move past the mid-point of the scheduled time frame and we take stock of the work that has been completed thus far we must note that, the schedule for climate change meetings is overwhelming to many delegations from developing countries. Therefore we must organise our work in 2009 in a manner that allows effective participation of all members.

The effective participation of developing countries in the AWG-LCA process would also enquire that the group held coordination meetings outside the main sessions of the AWG-LCA. The full effective and balanced participation of all parties is a prerequisite for a successful and positive outcome in this session. The green room experience in Bali is an experience that must not be repeated at this session.

The Group would like to reiterate that the AWG-LCA builds upon other processes under the Convention but does not replace them. In this regard, the clear mandate of the AWG-LCA is to work towards enabling the full, effective and sustained implementation of the Convention through long-term cooperative action, now, up to and beyond 2012.

While we work towards this goal we should always work in accordance with the provisions of the Convention, in particular the principle of common but differentiated responsibilities and respective capabilities.

PAPER NO. 25A: RUSSIAN FEDERATION

06.12.08

Ideas and proposals on the elements contained in paragraph 1 of the Bali Action Plan

Submission of the Russian Federation

The Russian Federation welcomes the opportunity to present the ideas and proposals on the elements contained in para 1 of the decision 1/CP.13 (Bali Action Plan). In this submission we present our ideas on 1(c) and (d).

1. All the countries face climate change. Climate change in the Russian Federation due to its environmental and geographical specialties occurs in a variety of ways. The list of dangerous (extreme) weather and climate phenomena which are increased lately in number and frequency over almost the whole territory of the Russian Federation includes storms, floods, droughts, extremely high and low temperature. That explains why the solving of the problems of adaptation to climate change is also a complicated task. For example, adaptation in Arctic and permafrost melting regions in Siberia differs from those in Southern regions.
2. Climate changes occur on global, regional and local levels. We suppose that adaptation measures also should be taken on all levels in order to ensure the most effective cooperation between the countries on regional and international levels.
3. Apart from the listed approaches, the sectoral approach is also a perspective direction for activation of the international cooperation in the field of adaptation.
4. We believe that adaptation to climate changes should be included into national plans for development and should be one of the priorities on the way to the sustainable development. That is why the funding for adaptation on the national level should not be dependent exclusively on the external support and the Governments of the countries should spare no efforts in order to mobilize internal financial efforts. International financial mechanisms should be additional but not the only source of funding for national adaptation strategies.
5. We believe that the experience of national hydrological and meteorological services in the field of observations and forecasting of natural hazards, education, training and public awareness; and also the experience of the World meteorological organization in coordination of such an efforts, establishment of regional centers and participation in various partner environmental programs should be taken into account in scheduling of adaptation measures on national and international levels.
6. The Russian Federation would like to note the progress in the field of adaptation in the framework of UNFCCC implementation, in particular in issues of capacity building, development and implementation of adaptation measures, and development of technologies. In future we should pay our attention to the implementation of adaptation technologies, funding for adaptation and assessment of the effectiveness of adaptation measures on cost-benefit basis; and also explore the vulnerability and possibilities for adaptation in different sectors of economy. However, we will not have to start from the very beginning and that is why the further development of cooperation in the field of adaptation is seen to be successful.

PAPER NO. 25B: RUSSIAN FEDERATION

Российская Федерация

Дополнения к заявлению Российской Федерации о соображениях и предложениях по пункту 1 Балийского плана действий
(FCCC/AWGLCA/2008/MISC.5 и FCCC/AWGLCA/2008/16)

При выработке и реализации мер долгосрочного сотрудничества необходимо применить комплексный подход, учитывающий все факторы смягчения изменения климата. В частности, при выполнении обязательств должно быть обеспечено равноправное участие всех экономических секторов, включая сектор землепользования, изменений в землепользовании и лесного хозяйства.

Учет поглотительных и аккумулирующих свойств лесов независимо от их географического положения является важным элементом долгосрочного сотрудничества в области сохранения климата. Необходимо сфокусировать внимание на усилении роли устойчивого лесоуправления и рационального и прозрачного природопользования во всех странах-участницах климатического процесса. Диверсификация подходов с учетом природно-климатических и социально-экономических особенностей стран позволит наиболее эффективно использовать потенциал лесного сектора для смягчения антропогенной нагрузки на климат.

На новом этапе сотрудничества необходимо уделить самое пристальное внимание возможности защиты климатической системы путем воздействия на различные климатообразующие факторы.

Informal Translation

Russian Federation

The addendum to the submission on ideas and proposals on the elements contained in paragraph 1 of the Bali Action Plan
(FCCC/AWGLCA/2008/MISC.5 и FCCC/AWGLCA/2008/16)

A comprehensive approach with account of all climate change mitigation factors should be applied within the development and implementation of long-term cooperative action under the Convention. In particular, equal involvement of all economic sectors including the land-use, land-use change and forestry sector should ensure the implementation of the national commitments.

The account for absorption and cumulative capacity of forests inspite of their geographical location is an important element of long-term climate conservation cooperative effort. The primary focus should be on the enhancement of sustainable forest management and rational and transparent environmental management in all countries participating in the climate process. The diversification of the approaches based on natural and climate, and social-economic features of the countries would enable the most efficient use of forest sector potential for mitigation human load on climate.

At the new stage of cooperation, it is vitually important to pay the highest attention to the possibility of climate system protection through the direct influence on various climate forcing factors.

PAPER NO. 26: SAUDI ARABIA

Submission from Saudi Arabia
AWGLCA

Dec 6, 2008

MRV for the Impact of Response Measures

For Annex I Parties:

- Mitigation commitments for Annex I Parties are measurable, reportable and verifiable
- Reporting for mitigation shall also include reporting on the cost and impact assessment of the mitigation actions, policies and measures, particularly on developing countries.
- Efforts to meet the commitment to avoid or minimize the adverse impact of the actions, policies and measures shall also be reported.
- The verification process of the mitigation must also include verification of the impacts assessment and efforts to reduce the adverse impacts of actions, policies and measures on developing countries.
- Review on the fulfillment of the mitigation commitment shall also include a review on the compliance with avoiding or minimizing the adverse impacts of actions, policies and measures on developing countries.

For Non-Annex I Parties

- Mitigation actions for developing countries supported and enabled by finance and technology, in a measurable, reportable and verifiable manner.
- The system of reporting on the mitigation actions of developing countries should also include reporting on the cost and impact assessment of the mitigation actions, policies and measures, particularly on other developing countries; including efforts to minimize these impacts

PAPER NO. 27: SOUTH AFRICA

Proposal by South Africa
on elements for the concepts of measurable, reportable and verifiable, and related issues of measuring comparability and compliance
Responding to the call for submissions on all elements of the Bali Action Plan
6 December 2008

In the Bali Action Plan, we are working on the full, effective and sustained implementation of the Convention. Parties agreed to include the novel concepts of measurable, reportable and verifiable (MRV) applied to mitigation commitments by developed countries and mitigation actions by developing countries, supported by MRV technology, finance and capacity building. In the broader context of the Bali Roadmap, Parties agreed that the commitments must be comparable among all developed countries, which needs to be supported by a robust compliance system.

SCOPE OF MRV

In this context, Parties agreed that these concepts will be applied in three distinct, but inter-related areas:

- MRV mitigation commitments by developed countries: "Measurable, reportable and verifiable" refers to legally binding emissions reduction commitments that are absolute, and that are verified for compliance. (para 1.b(i))
- MRV mitigation actions by developing countries: "Measurable, reportable and verifiable" applies to mitigation actions by developing countries, which are relative reductions, or 'deviations from baseline', conditional on technology, finance and capacity building support in a measurable, reportable and verifiable manner. (para 1.b(ii)
- MRV of the means of implementation (finance, technology and capacity-building) : Para 1b(ii)of the Bali Action Plan re-states the balance in FCCC Art 4.7 – that the extent of developing countries' mitigation efforts depends on support by developed countries. This means that MRV applies to mitigation actions and the support (finance, technology and capacity-building) must be made measurable, reportable and verifiable.

It must be clearly understood that the concept of MRV will be applicable to both developed countries and developing countries, but what will be MRV'able and where it will be MRV'ed need to be clearly distinguished in each case.

EXPLANATION: HOW MRV MIGHT BE APPLIED IN EACH OF THE 3 INSTANCES

MRV mitigation commitments by developed countries

MRV must be negotiated multi-laterally, unilateral definitions of comparability are unacceptable. Comparable commitments or actions must lead to comparable outcomes. The unit of measurement of comparability is tons of CO_2-eq. This would be the case even if some commitments are made under the Protocol and another developed country Party's commitments are under the Convention. The tons of CO_2-eq reduced in absolute terms must be comparable, to enable Annex I Parties *as a group* to remain within the range indicated by the lowest stabilisation level assessed by the IPCC. In numerical terms, Annex I countries shall reduce their emissions toward the upper end of the range of 25% to 40% below 1990 levels by 2020 and by 80% to 95% below 1990 levels by 2050, to make a meaningful and fair contribution to achieving the lowest level of stabilisation assessed by the IPCC's Fourth Assessment Report.

For the purpose of MRV for developed countries, the procedures in Articles 5, 7 and 8 of the Kyoto Protocol could be usefully strengthened to apply to their mitigation commitments or actions, including quantified emission limitation and reduction objectives, in order to ensure comparability of commitments.

Mitigation commitments by all developed country Parties could be reported through their national communications, and verification shall be conducted through in-depth review, improving procedures to enhance the implementation of Article 4.1 of the Convention.

MRV mitigation actions by developing countries

MRV applies to mitigation *actions* by developing countries, which are relative reductions, or deviations from baseline in IPCC language. What we measure is whether the action takes place.

Emissions in developing countries shall reduce in relative terms, that is deviate below baseline emission trajectories, for some regions by 2020 and for all regions by 2050, to make a meaningful and fair contribution to achieving the lowest level of stabilisation assessed by the IPCC's Fourth Assessment Report.

Reporting options for nationally-appropriate mitigation actions (NMAs) by developing countries could be done

- through national communications
- in a register of SD-PAMs / NAMAs that could be established and should remain open up to 2020 or 2025 for registration of voluntary pledges of NAMAs by developing countries

The application of "verifiable" to unilateral mitigation actions by developing countries should be done through national verification, which could be conducted according to internationally agreed guidelines.

MRV commitments by developed countries to provide the means of implementation (finance, technology and capacity-building)

Para 1b(ii) re-states the balance in FCCC Art 4.7) – that the extent of developing countries' mitigation efforts depends on support by developed countries – but raised to a higher level. Both the mitigation actions and the support (finance, technology and capacity-building) must be made measurable, reportable and verifiable.

The setting of a target for the scale of financial flows to support mitigation in developing countries would be the simplest indicator against which to measure, report and verify the commitments by developed countries to provide finance. Options to consider in this respect might include 0.5% of GDP of Annex II Parties as a group or $200 billion annually, to be reached by 2020 or 2030.

In order to demonstrate measurable, reportable and verifiable progress towards the targets in x above, each developed country Party shall report the direct financial transfers and indirect contributions through quantifiable technology and capacity-building support made in its national communication every x year(s).

The performance indicators for technology transfer developed by the joint SBSTA/SBI contact group can be a useful tool a basis for further enhancing the measurement, reporting and verification of technology.

Assessment of comparability of mitigation commitments of Annex I Parties

The assessment of comparability needs to be made by both the COP and the CMP for Kyoto Annex I Parties. Such an assessment could be facilitated by a Technical Panel on Comparability. The Panel will assess the information provided by Annex I Parties in their annual national communications and report its findings to the COP and CMP for further action.

Compliance applied to commitments by developed countries

The process of applying MRV needs to be supported by a robust compliance system, that can address issues of non-compliance flowing from the MRV process. Such a compliance system can be built on the existing mechanism, but enhanced / broadened. The compliance system should be strengthened by allowing the application of legally binding consequences for non-compliance with commitments by all developed countries.

PAPER NO. 28: SURINAME

Submission to AWG-LCA by the Republic of Suriname on decision 2/CP 13 of the Bali Action Plan

Date: 06 December 2008

The Republic of Suriname, is a High forest cover (91%) Low Deforestation rate (less then 0.2%) country (HFLD-country), with a conservation history of more then 50 years. More than 13% of the national territory is currently protected by law, whereas, there are plans to increase this percentage in the future, as part of carbon offset arrangements.

The Republic of Suriname supports the establishment of a REDD regime with a broadened scope, that will allow for flexible approaches in establishing emission reference levels by low deforestation countries and that will include conservation, as well as, the protection and enhancement of carbon reservoirs in existing forests.

International displacement of emissions can only be prevented, if a regime is devised that will attract global participation and mutual commitment. Such a regime must provide for sufficient positive incentives to countries with a high forest cover, combined with a low deforestation rate. In this respect, various approaches should be considered, to cover different national circumstances. Suriname is of the opinion that the conservation of existing forests, as well as, the protection and enhancement of carbon reservoirs in existing forests, must be included in any regime that should lead to global reduction of emissions, from deforestation and forest degradation. Sustainable forest management should be part of all efforts, in this regard, to ensure permanence.

Special consideration should be given to high forest cover and low deforestation countries that are in their early stages of development. These countries should have the possibility, to initially apply a sub-national approach, in terms of emissions reduction and avoidance of emissions.

In order to enable developing countries to fully participate in emission reduction and emission avoidance activities, sufficient funds should be made accessible to further develop their respective capacities and institutional arrangements, to assess, monitor and report emissions and carbon stocks; and to implement policies to conserve, protect carbon reservoirs and to reduce deforestation and forest degradation.

It is highly desirable that the AWG-LCA provides the necessary policy guidance to SBSTA on all outstanding issues regarding the Bali Action Plan decision 2/CP13.

PAPER NO. 29: SWITZERLAND

Cooperative sectoral approaches and sector-specific actions

Submission by Switzerland

Switzerland welcomes the invitation contained in the Bali Action Plan (Decision 1/CP.13) and in the conclusions of the first and second sessions of the AWG-LCA to submit views on, among others, "Cooperative sectoral approaches and sector-specific actions, in order to enhance implementation of Article 4, paragraph 1(c), of the Convention" (Decision 1/CP.13, paragraph 1(b)(iv)). Also, as a conclusion of its third session, the AWG-LCA invited its chair to prepare a document compiling the views submitted by Parties, to which Switzerland is pleased to contribute with the present submission.

With this submission, Switzerland is proposing to further explore options for developed and developing countries.

1. Principles

Sectoral[1] approaches and sector-specific actions are referred to in the Bali Action Plan as a means to enhance GHG mitigation. We consider that sectoral approaches could be part of the future mitigation regime to fully use the mitigation potentials in both developed and developing countries. A sector-by-sector analysis in each developing country willing to do so as a complement to domestically defined objectives, could pave the way for nationally appropriated mitigation actions (NAMAs) supported by technology and finance transfer, as well as capacity building, in a measurable, reportable and verifiable (MRV) manner.

Sectoral approaches should fulfil the following conditions:

- The economic activities (and underlying technical processes) covered are comparable within and among countries;
- They address competitiveness concerns of energy intensive, internationally competing industries;
- They are based on a realistic evaluation of the mitigation potential at a sector level and
- They are a way of learning by doing for newly developing countries participating in sectoral approaches, by covering only a few sectors and all national emissions of the respective sectors.
-

[1] "Sectoral approaches" mean very different things to the various stakeholders. It is therefore useful to describe a few of them:

- *Transnational sectoral approach:* Global industry of one sector agrees to a certain emission or technology standard. This could involve quantification of emissions and participation in emission trading. An example is the agreement in the automotive industry to reach a standard of emissions/km for new cars.
- *Country-specific sectoral crediting:* Emission reductions within a sector of a country below a baseline are credited, similar to CDM but at the sectoral scale. The baseline is country specific, either based on, or only informed by, international benchmarks.
- *National emission target based on sectoral considerations:* A quantitative nation-wide emission reduction target determined by analyzing the reduction goals in each country for each sector in detail and totalling the results with a bottom-up process. To be applied to all major economies including those in the developing countries. This is the Japanese notion of a sectoral approach presented at the UNFCCC meetings in Bangkok in March 2008 and in June 2008.
- *Policy-based approach:* Countries pledge to implement certain policies in a sector. Emission reductions are not credited.
- *Technology-based approach:* Coordination of R&D activities and support for diffusion and deployment of efficient technologies. An example would be the Asia Pacific Partnership (APP)

2. Possible elements for a sectoral arrangement

The options presented hereunder are generic for any sector in developed countries on the one hand (options 1 in Table 1 below) and in developing countries on the other hand (options a and b in Table 1 below). For the latter options with a bottom-up approach (sectoral NAMAs), a facilitative mechanism is needed including financial, technological and capacity building support from developed countries. CDM crediting can also be supportive of sectoral NAMAs.

Concerning participation of countries in sectoral approaches, various scenarios may be considered. For example, in a first phase, only developed countries could implement sectoral arrangements with absolute economy wide caps. In a second phase, developing countries could progressively join in with intensity targets, binding or no-lose, and with the technological and financial support from developed countries.

Switzerland thinks that an inclusion of all countries, developed and advanced developing countries, in mitigation efforts as soon as possible is crucial, based on a mix of the options presented hereunder in Tables 1 and 2. The mix has to be negotiated and defined sector by sector as each country needs its own mitigation solution.

Table 1: Sectoral approaches options that Switzerland is willing to further explore.

	Option	***Absolute / intensity target***	***Binding / no lose***	***Stringency***	***Trading entities***
Developed countries	**Option 1:** Absolute economy-wide and absolute sectoral caps	Absolute	Binding	International benchmark	Companies
Developing Countries	**Option a:** Baseline & credit system	Intensity	Binding	International benchmark	Companies
	Option b: Sector no-lose targets	Intensity	No-lose	Negotiated country-by-country	Credits issued initially to the government, which passes on the incentive to companies

Table 2: Evaluation of the options.

	Environmental effectiveness	***Cost effectiveness***	***Equity and distributional issues***	***Technical and institutional feasibility***
Option 1	Effective if implemented as planned, since under national cap (1)	Allows full trading (1)	Possible over-allocation if production short of projection (2)	Current practice (1)
Option a	Effective if implemented as planned, but dynamic (1)	Allows full trading (1)	Equal treatment of all installations in all countries. But may not correspond to "common but differentiated responsibilities". Support by developed countries (technology transfer and capacity building) or delayed implementation could make it more acceptable (3)	Relatively simple approach, but may be difficult to enforce; may be major shift from current government policy; → can be overcome if accompanied by strong support in the form of capacity building and financing etc… (2)
Option b	Depends on the targets; can be used as stonewalling tactic (1)	Allows international trading with host country government; policies of host government may result in less cost effective reduction requirements (2)	National distributional issues are left to the host country government; benefits can be used to gently restructure the sector (2)	Requires more government capacity, but can be tailored to national needs and policy environment (2)

(1) Aspects where we do not see major barriers to the use of the mechanisms.

(2) Existence of certain issues that need to be addressed during the design and implementation of an option.

(3) Existence of barriers for implementation that need to be adequately addressed.

We propose that the AWG-LCA deals with sectoral approaches in its programme of work and, as appropriate, discuss these matters under mitigation and technology transfer.

PAPER NO. 30: SWITZERLAND ON BEHALF OF THE ENVIRONMENTAL INTEGRITY GROUP

Submission by SWITZERLAND on behalf of the Environmental Integrity Group (Republic of Korea, Lichtenstein, Mexico, Monaco and Switzerland)

MRV

1. Developed and developing countries are implementing already commitments/national appropriate mitigation actions (NAMAs) respectively. All Parties deserve recognition for their commitments and NAMAs. This is achieved by submitting information.

2. To facilitate the submission of this information, we propose to open an international voluntary registry in the UNFCCC Secretariat in order to allow developing country Parties to record and update at any time information on national and international appropriate mitigation actions that they undertake. The registry shall be open to all Non-Annex I Parties.

3. The Members of the Environmental Integrity Group (EIG) support MRV as one of the pillars of the implementation of the Bali Action Plan. Both Annex I and non-Annex I EIG Members have significant experience on MRV demonstrated under the process of their national communications.

4. Among the principles that should guide MRV are:

- Establishment of a process to facilitate the provision of information by Parties on their actions in fulfillment of the Bali Action Plan
- Friendly, non-confrontational, helpful and facilitative process allowing Parties to implement and strengthen actions
- No additional commitments should derive from MRV
- Using existing provisions on reporting and verification of the submitted information
- Differentiation of MRV for the commitments of developed countries and mitigation actions by developing countries in accordance with the provisions of decision 1/CP.13 paragraph 1 b i) and 1 b ii)
- MRV should neither be of “judicial” nature nor a “compliance” process entailing any sanction for Parties.

5. Capacity building for MRV should be envisaged in this context.

6. The COP should adopt a decision on MRV based on the principles listed in paragraph 4.

7. The Secretariat should be requested to compile in a document to be made available to Parties for the AWG-LCA 5 the existing COP and CMP provisions on reporting and verification that may be used for MRV.

PAPER NO. 31: TRINIDAD AND TOBAGO

Submission by Trinidad and Tobago to the UNFCCC

Technology Transfer Framework and Modality under the Ad-Hoc Working Group on Long Term Cooperative Action

Discussions under the AWG-LCA on technology transfer, mitigation and adaptation have involved an exchange of views among Parties on issues related to financing technology transfer, issues related to adapting to climate change, the role of Official Developmental Assistance (ODA) in adaptation and the global effort in mitigating climate change.

Trinidad and Tobago, proposes a technology transfer framework and modality that attempts to address the concerns raised in respect of the issues identified above. Trinidad and Tobago believes that the achievement of solutions to the ever increasing complexity of the global climate change problem requires innovative and creative thinking and developing means and ways that can produce results that have not been previously achieved by utilizing the same approaches, albeit sometimes in different forms.

The proposed technology transfer framework does not attempt to provide a panacea for technology and technology transfer issues but rather seeks to provide a modality that may supplement or complement a more comprehensive framework. It is premised on the need for technology transfer to developing country Parties to assist them in implementing the UNFCCC, address issues related to financing technology transfer for adaptation and mitigation and at the same time resulting in emissions reduction in developing countries through a technology medium. The framework is elucidated using a series of paradigms aimed at incentivising action by both Annex I and non-Annex I Parties.

Paradigm 1: Technology transfer for mitigation based on a "technology objective"

The framework under this paradigm is one based on "technology targets" or "technology objectives". A developing country identifies a "developmental baseline", or a projected developmental path based on its developmental priorities and objectives and the associated emissions that may result from following that particular developmental pathway. The developmental baseline and emission pathway would be determined and verified using a suitable methodology. The developing country, using the reference developmental baseline can then determine a "technology target" or "technology objective" that can assist it in pursuing a cleaner developmental path, by, for example, determining that it may want to replace or supplement traditional energy use (based on fossil fuel use for example) by a fixed percentage of energy efficient technology or renewable energy or a mixture of clean technologies over a fixed time period. The developing country will determine the priority technology applications for it to follow a clean path of development, which would be informed by, inter alia, technology needs assessment, and which would form part of the "technology target" or "technology objective" aimed at satisfying development priorities and goals.

The "technology target" or "technology objective" will be met in technology terms by Annex I Parties as provided for under the UNFCCC, and can be effected through the public, private or both sectors, as will be determined by Annex I Parties through appropriate domestic policy. There are many low-cost, no-cost technologies already available that can be applied to a clean path of development without necessitating the application or development of cutting edge technology at this stage. Technologies can then be replaced or improved over time through re-financing, joint technology development or joint research.

This paradigm would:

- provide incentives for developing countries to pursue cleaner developmental paths while at the same time result in emissions reduction in non-Annex I Parties; the extent of emissions reduction would be based on the level of ambition of "technology targets" or "technology objectives";
- meet the objective of Annex I Parties to engage non-Annex I Parties in emission reductions through technology transfer;
- supplement the facilitation of financing of technology transfer without formally establishing a fund and can be facilitated through bilateral, regional or multilateral approaches involving multilateral agencies and/or based on a "technology portfolio" approach by considering only a few or several technologies on a low-cost-no-cost basis;
- provide an opportunity for involving the private sector utilizing technology transfer through appropriate incentives as determined by the Annex I Parties that can include, but not be limited to, research subsidies and tax incentives for transferring technologies to non-Annex I Parties, as well as addressing issues related to intellectual property rights (IPRs);
- provide an opportunity for the participation of the private sector in an inter-governmental process through Annex I Parties.

<u>Paradigm 2: Technology transfer for adaptation based on an "additionality" opportunity on development objectives</u>

Under this paradigm, development projects between developed and developing countries through Official Development Assistance (ODA) can provide an opportunity for "climate-proofing" projects by enhancing resilience and minimizing vulnerability to the adverse impacts of climate change. The technologies that may be required to address vulnerability to the adverse impacts of climate change or those required for climate-proofing a particular project based on identified vulnerabilities, would be additional to what would have occurred in a business-as-usual scenario under typical ODA conditions. This additionality would be over and above ODA funding and can also address mitigation technologies such as energy

efficiency and renewable energy employed in such ODA projects. Illustrative examples of the paradigm are shown as a schematic representation in **Annex I**.

Financing additionality

The costs of the technology "top up" can be met by donor countries involved in ODA or can be financed through the Adaptation Fund or other adaptation funding mechanism under the UNFCCC, subject to satisfying relevant criteria as may be determined.

Methodologies to be developed

Methodologies would have to be developed for:

- developmental baseline setting for developing countries
- technology priority setting
- setting technology targets
- differentiating "over and above" ODA

Additionality verification

The "top-up"" or ""additionality" can be verified by a suitable institutional mechanism under the UNFCCC, tapping on relevant expertise.

- **ANNEX I**

Illustrated examples of Paradigm 2

Example 1.

Error! Objects cannot be created from editing field codes.

Example 2.

Error! Objects cannot be created from editing field codes.

PAPER NO. 32: TURKEY

Information, Views and Proposals by Turkey Regarding Paragraph 1 of the Bali Action Plan of the Ad Hoc Working Group on Long term Cooperative Action Under the Convention

Please note that, this document is complementary to previous submissions of Turkey.

A Shared Vision for Long-Term Cooperative Action

Turkey believes that the shared vision should be **realistic and inclusive**, by considering the concerns, views and demands of all Parties and it should develop a broad understanding that can reflect the positions of all members of the UNFCCC family.

Shared vision shall reflect the principles of the Convention, namely, “equity, common but differentiated responsibilities and respective capabilities”.

The ultimate objective of the Convention can be **translated** into a shared understanding of putting the world on a pathway towards a low carbon society and elaborate on the establishment of the necessary incentives which will facilitate and motivate the involvement of all Parties through a fair, equitable, flexible and dynamic approach. Turkey believes that this vision shall **reinforce** the economic development rights of the Parties and shall promote it in a sustainable manner.

And finally, we believe that it should be the sum total of the four building blocks of Bali Action Plan once they are discussed and finalized.

Enhanced National/International Action on Mitigation of Climate Change

Turkey believes that differentiation and classification among Parties in terms of national capacity, economic development level and respective capabilities form a fundamental component of a successful post-2012 agreement and has to take into account the national capacities and special circumstances of the Parties under the principles of "common but differentiated responsibilities" and "equity and respective capabilities".

In the current regime, there are considerable number of non-Annex-1 countries, the development levels of which are higher that the OECD averages. Furhermore, there are some Annex-1 countries, the development levels of which are lower than Non-Annex-I parties. This was one of the main drives of using terms “developed countries” and “developing countries” instead of referring to the Annexes in the Bali Action Plan. We believe that the indicators for Turkey show the patterns of developing countries, and this was recognized by a decision of the COP 7 held in Marakesch in 2001. Turkey has not completed her industrialization process yet. Turkey is neither a wealthy nor a rich country. Therefore, we consider that differentiation among developed Parties needs to be done before we actually proceed with defining the nationally appropriate commitments or actions.

In this respect, the definitions of “developed countries” and “developing countries” should be revised to reflect the new developments in the world economy since the adoption of the Convention. Turkey believes that differentiation among developed Parties on the basis of composite indicators is crucial in identifying future commitments or actions in terms of mitigation or techological and financial supports.

Developed Parties can be differentiated based on the national circumstances, historical responsibilities, development levels, economic and social indicators, such as GDP per capita, energy consumption emissions per capita, population growth rate, import dependency, foreign debt, and human development index. In this context, AWG-LCA should establish a list of parameters and criteria to differentiate

developed Parties. In developing such a composite indicator, input could be provided by relavant international institutions.

As a matter of fact, OECD has very recently published a report namely “Differentiating Countries in terms of Mitigation Commitments, Actions and Support” in collaboration with International Energy Agency. We believe that such assessment shall provide vision for differentiation efforts.

Last but not the least, the new system we build should be fair, dynamic and flexible in nature in order to capture the future developments accordingly.

Enhanced Action on Adaptation

Turkey believes that, in order to formulate and implement adaptation strategies; financial and technical support should be scaled up, knowledge share should be enhanced, institutional arrangements for adaptation should be in place, and resilience should be build against the negative impacts.

Additionally, adaptation actions are needed to be integrated into all levels of planning. Furthermore, ways to strengthen international cooperation in the implementation of adaptation actions should be identified.

We are in the opinion that, to incentivize implementation of adaptation actions, enabling environments shall be created, including regulatory policies, legislative changes and capacity-building.

In this context, financial and technical support is necessary for the development of adaptation plans; for integrating them into the sectoral plans and risk reduction strategies; for the development of adaptation specific technologies; for capacity improvement, information exchange and for increasing public awareness.

Within this scope, the variety of actors and processes engaged in actions that are relevant to adapting to climate change will require coordinated efforts on many fronts. These efforts should be effectively coordinated with efforts by other multilateral bodies and stakeholders.

One of the important issues among many others is the management and reduction of the risks. In this context, we believe that there is need for an international insurance mechanism. Adaptation should be based on the effective use of early warning systems and risk assessments to identify priorities for short- and long- term adaptation. Development of methodologies and an outline for risk reduction strategies are essential. Risk management approaches must include capacity-building to ensure institutional preparedness. Climate risk information should be enhanced through establishing a regional information system on short-, medium- and long-term climate change risks. Collaborative mechanisms should be developed to facilitate needs- requirements- driven activities in climate related risk management.

Last but not least, economic diversification should be considered as being integral to the dual goals of building resilience to climate change and achieving sustainable development.

Enhanced Action on Technology Development and Transfer to Support Action on Mitigation and Adaptation

Turkey recognizes the urgent need for accelerated adaptation and mitigation efforts to eliminate negative impacts of the global climate change. It is a fact that developing countries in the world face great difficulties to implement effective policies to combat the climate change for inherent economical limitations and unavailability of cleaner technologies. The apparent lack of financial and technological means for a great majority of the UNFCCC Parties could impede the climate change regime that COP endeavours to bring into existence.

The current mechanisms of technology transfer and their financing are inadequate in terms of responding the requirements of the Parties. The current system lacks accessibility to newer technologies which further disturbs the "equity" principle of the Convention. Additionally, presence of some market-driven trade barriers are also a factor for discouragement in advancement of environmentally sound technologies in the developing countries due to disabling scale of economies.

In this regard, in the post-2012 climate regime, it is essential to establish an effective mechanism that ensures developed countries carrying broad historical responsibility to take the lead on the development, deployment, adoption, dissemination and transfer of environmentally sound technologies along with mechanisms for their financing.

It is of utmost importance to engage and provide public and private sectors with the right incentives at all stages of the technology development process. Within this framework, innovative financing is of crucial importance.

Turkey proposes that **a new technology transfer mechanism** financed by a fund/body under the Convention should be formed with contributions of Annex–II countries as per Article 4, paragraphs 3, 4 and 5 of the UNFCCC. In this mechanism, concessionary loans, export loans or tax incentives could be used to attract investment in technology development and transfer as well. The Mechanism should be tailored to the needs of all Non-Annex–II Parties of the Convention.

Without any differentiation between developed and developing countries, the support should be determined by taking into account GHG reduction and technology diffusion potentials of the countries. Furthermore, irrespective of the status of the project hosting country, a reduction credits trading system to be established among sectors and/or countries would shift the technology transfer from one-way mechanism to a bilateral arrangement.

We think that **a technological information transfer agreement** with the aim to facilitate global availability of environmental-friendly products and manufacturing systems shall be elaborated between the relevant Parties. In essence, this agreement should allow transfer of technologies to recipients through fair and equitable means without any obstacle for local availability and application of developed technologies while eliminating disabling restrictions on their horizontal and vertical dissemination and diffusion. Such an Agreement will be a useful tool to promote cooperative activities among all Parties to share experience and best practices in various technology sectors.

As to the effective dissemination of information on the existing technologies, establishment of a global **data pool** should also be a priority task. An easily accessible **technological information system** should be set up to register all Best Available Techniques and Best Environmental Practices. This system could be sector-specific and be continuously updated to provide information on technologies and best practices including information on intellectual property rights and licensing, state of availability, applicable costs and GHG gas emissions reduction efficiency potentials.

It would be beneficial to hold workshops and round table discussions on innovative financing and enabling environments for successful technology cooperation. In this regard, topics on;

- better use of existing financial instruments,
- a wider process of technology capacity building in developing countries,
- dissemination of expertise in determining the cost-effectiveness of technology options,
- enhance the participation of developing countries in international technology cooperation,
- raise awareness of successful examples of technology cooperation and partnerships,

with effective private sector participation, should play an active role in this process.

Enhanced Action on the Provision of Financial Resources and Investment to Support Action on Mitigation, Adaptation and Technology Cooperation

Turkey believes that all nations have to define their own respective capabilities for contributing to the global effort to cope with climate change.

In accordance with the principle of "common but differentiated responsibilities and respective capabilities", Turkey would like to internalize global efforts to combat with climate change. While doing this, Turkey is aware of her capabilities both in financial and technological terms. Since then, Turkey needs to benefit from international financial facilities that will be inaugurated for adaptation and emission control.

Turkey is currently undertaking all efforts with the limited national resources. However, international funds, which seem the most realistic and practical one, should be introduced to support the efforts. For the post-2012 regime, new and innovative mechanisms should be introduced and the current mechanisms should be revised so that countries like Turkey could benefit from all.

PAPER NO. 33: UNITED STATES OF AMERICA

Submission on the AWG-LCA Chair's Assembly Document
United States of America
December 6, 2008

We thank the Chair for his hard work in assembling Party comments on paragraph 1 of the Bali Action Plan. The assembly document represents an excellent start in capturing the variety of views expressed by Parties. We note that the elements of paragraph 1 of the Bali Action Plan are to be addressed "inter alia," and thus are guideposts for our deliberations, and are not exclusive in nature.

We would suggest that the document's structure could evolve if it proves more helpful in achieving an agreed outcome. In addition, while the headlined sections in the compilation document are useful tools in pulling together the many proposals and suggestions by Parties at the current stage, we suggest that these could be reordered, supplemented, or removed if this facilitates consensus leading up to Copenhagen.

We have the following suggestions on how to most clearly present the range of Party comments.

Shared Vision

Concise, Visionary Overview. Parties have proposed many ideas on the role of a shared vision. We would like to see the assembly document reflect the idea that a shared vision might operate as a kind of chapeau, either in the same text or in a separate decision, to the four elements that operationalize the actions envisaged in the Bali Action Plan.

The document might also reflect the view that a shared vision ultimately be relatively concise – visionary and inspirational – and indicate our shared sense of resolve, our optimism that we can meet the objective of the Convention, and the view that we will take a strategic, pragmatic approach to reach that objective in the context of sustainable development.

We believe the vision should reflect that an approach to climate change is most likely to be effective and sustainable if it results in actions that are commensurate with all Parties' capabilities to act.

Mitigation

Common Elements. Parties' proposals have included elements that would be common to all Parties, and elements that differ among Parties. Such common elements can serve as a useful starting point for considering future Party actions. We would suggest that we consider common aspects in a common part of the text, rather than as subsets of differentiated actions.

We suggest that paragraph 41(d) reflect the option that at least some developing countries (such as major emitters and emerging economies) should be taking the same kinds of mitigation actions as developed countries.

In paragraph 42, it would also be useful to include the concept that, in order for nationally appropriate mitigation actions to be recognized, they need to be measured, reported and verified internationally.

In paragraph 44, we suggest including the view that verification be the same among all Parties.

In paragraph 45, we support the view expressed by Parties that we will need significantly enhanced and more regular reporting of mitigation policies and emissions globally. To this end, developing countries

should develop and maintain capability to report emissions inventories and report them on a regular basis.

In paragraph 47, we suggest exploring how, in the context of enabling nationally appropriate actions, measurable, reportable, and verifiable support has both developed and developing country aspects.

In paragraph 63, we suggest adding this objective: Serve as a means of identifying mitigation opportunities and barriers in the overall context of national climate actions, in order to facilitate an efficient and effective mitigation response at the national level.

In paragraph 66, with regard to the role of the Convention vis-à-vis other venues for sectoral approaches, we suggest including the idea that the UNFCCC can advance some activities (measuring systems to provide a means to recognize the benefits of sectoral actions, capacity building to enable sectoral actions), but that other more targeted fora (e.g., public-private partnerships) are better suited to addressing others.

In Section E, we would suggest adding an additional concept in this section: "Recognizing the contribution of the research, development and demonstration to mitigation efforts, including its important role in cost-reduction, which leads to more rapid and broader diffusion of technologies."

In Section G, we would suggest adding an additional concept in this section: "Provide information on opportunities for R & D cooperation on those technologies which offer the largest potential for reducing GHG emissions, and to facilitate and foster collaborative arrangements."

Adaptation

Role of Domestic Planning. We would suggest clearly reflecting the view that domestic governments (both developed and developing) have the leading roles to play in creating enabling environments for adaptation, and in incorporating adaptation into national policies and planning.

Prioritizing Action. We suggest including the view that it will be necessary to prioritize action, just as we prioritize our actions to ensure efficiency in other important processes.

Building on Previous Work. Finally, we suggest acknowledging the often extensive work already accomplished or underway and the need to build on the good work already being done.

Views on Adaptation Structure

Institutional arrangements. To reduce redundancy, some proposed solutions could be consolidated into more integrated responses. For example, we and others have suggested a framework for action that would comprise a broad approach to adaptation. Currently, pieces of the framework are sprinkled through paragraphs 93-120. A more consolidated approach to this proposed framework would make it easier for readers to understand the content of the proposal.

Institutional Arrangements. Currently, it is difficult to find all of the suggestions on institutional arrangements. In order to bring these ideas together for easy consideration, we suggest consolidating the bullets under paragraphs 95 and 97(c) with existing bullets under the heading for institutional arrangements in paragraph 105.

Networks and Regional Centres. Separating out networks and regional centres into their own section divorces them from their connection to institutional arrangements and knowledge sharing. The bullets under paragraph 104 might fit better under paragraphs 102-03 and 105-06.

In paragraph 9, to fully capture the idea reflected in subparagraph 94(e), we suggest: "For adaptation to be effective, it should be integrated into national and subnational development and sectoral planning and policies."

In paragraph 95, our vision of a framework, as reflected in subparagraph 95(a), is not quite described by the current phrasing. Our view is that "The purpose of such a framework should be to lay out the range of actions needed to promote country driven adaptation strategies, with a view to leveraging the enormous capability that already exists in many institutions at all levels for promoting resilience in climate sensitive sectors. The framework should support national and international priorities for adaptation in a range of sectors, and promote climate resilient development in a manner that is practical, informed by the best science, environmentally sound and economically efficient, and that promotes on the ground results."

In paragraph 98, we suggest the following additions:

Governments (both developed and developing) have leading roles to play in creating enabling environments for adaptation. These roles or actions include:

- Identifying major vulnerabilities to climate change in key sectors and resources
- Integrating adaptation considerations (and mitigation as well) into national and subnational planning and programs, where climate may have impacts. These programs include national development programs, where they exist, as well as strategies and programs in relevant sectors.
- Improving the environment for doing business, particularly for small and medium enterprises, by combating corruption and reducing bureaucratic barriers to private sector business activity.
- Creating legal and regulatory conditions that facilitate adaptation (for example, building codes, land use planning, and strengthening policy coherence among sectors). This activity may require analytical studies to identify where legal and regulatory changes may be needed.
- Reducing perverse incentives that encourage mal-adaptation.
- Enhancing or developing the needed information and knowledge base (both biophysical and socioeconomic), including improving scientific research, data systems and data collection, to support adaptation and catalyze adaptation investments.
- Educating stakeholders at all levels about adaptation options and the benefits of reducing vulnerability to climate-related risks.
- Recognizing the necessary role that countries must take on to enable adaptation to be properly addressed in a sustained manner.

In paragraph 99, we suggest this paragraph include the idea that "existing institutional arrangements be used to the extent possible."

In paragraph 100, we suggest adding the idea that financial support be directed at "the highest priority actions, building on expertise and experience of relevant institutions."

To fully reflect our idea, the idea in subparagraph 100(g) might better read, "For adaptation to be effective it should be integrated into national and subnational development and sectoral planning and policies."

In paragraph 104, we suggest adding the following idea: "Existing institutions and networks with expertise in disaster risk reduction, climate resilience and climate resilient development should be used to maximize efficiency and effective delivery of service."

In paragraph 112, we hope that this section of the paper will be informed by the workshop and the discussion among Parties that ensued.

We suggest adding the following idea: "Adaptation to climate change should incorporate risk management strategies and should be integrated into sectoral, national and sub-national development

planning and programs. Climate adaptation and disaster risk reduction activities should support established development priorities, in order to achieve economic growth that is resilient to current variability and future climate change."

We suggest adding the following idea: "Maximize "no regrets" solutions, that is, solutions that make sense on their own economic merit to ensure the most vulnerable are beneficiaries of adaptation solutions."

We suggest adding the following idea: "Referring to the Hyogo framework as a resource and foundation for action and considering how best to highlight relevant ideas from the framework for climate change adaptation."

We suggest adding the following idea: "Development and application of a wide range of tools and approaches aimed at reducing harm from occurring, particularly for the most vulnerable."

Technology

Fostering Domestic Enabling Environments. We would suggest reflecting the view that a key focus of the UNFCCC on technology could be to facilitate the creation of effective domestic environments for innovation and dissemination of environmentally sound technologies in the broader context of mitigation and adaptation strategies. The document might best reflect the notion that it is important to build and focus on existing frameworks and institutions.

Treatment of Intellectual Property Rights. The document should reflect the view that protection by countries of intellectual property rights is an essential component of an overall strategy to promote technology innovation, diffusion and transfer.

In paragraph 122, we suggest reflecting the view that we should "ensure that finance and technology diffusion support occurs in a manner that maximizes their effectiveness and is a component of overall strategies by all countries to undertake efficient and effective mitigation approaches, including by addressing barriers and promoting effective domestic enabling environments."

We also suggest reflecting the view that "we acknowledge the essential role of private sector investments in technology innovation and diffusion."

In paragraph 124, we suggest that paragraph 124(c) (reflecting our view) be amended to state "On an individual basis, Parties can strengthen legal and economic institutions to promote the protection and enforcement of IPR, promote competitive and open markets for ESTs, and provide a well-defined, efficient and transparent system of contract enforcement."

In paragraph 128, we suggest adding the idea that "any approach to incentivize technology cooperation should occur as an effective and integrated component of broader mitigation and adaptation strategies."

In paragraph 132, we suggest adding two ideas:
- "Fully consider how to provide enhanced focus on effective enabling environments to attract investment for technology development and transfer."
- "Recognize the critical catalytic role that enabling environments play in facilitating deployment, diffusion, and transfer of technologies."

In paragraph 137, we suggest adding the concept that we consider "encouraging cooperative partnership between governments and industry to promote the development, diffusion and transfer of technologies."

Finance

Utilizing the Full Range of Finance Tools. We would suggest adding the view that Parties consider the full range of financing tools at our disposal and take account of these tools' comparative advantages so that each is being used as effectively as possible. These tools could include domestic and international private investment, public sector financing, multilateral mechanisms such as the new Climate Investment Funds at the World Bank, and carbon markets.

Ensuring that financing is used efficiently and effectively. We would suggest reflecting the view that it is important to allocate financial support strategically by linking it to nationally appropriate mitigation actions that are measurable, reportable, and verifiable internationally. We would also suggest including recognition that national capabilities can help determine what is "nationally appropriate" – and should inform the level and type of international support.

We would suggest inclusion of an opening section indicating general concepts (similar to other sections of the assembly document.) We would suggest that this section include the following ideas:

- "All Parties should develop and implement programs to mobilize financial resources, including domestic resources, to address climate change, and in particular programs that contribute to sustainable development."

- "The efforts of Parties to assist other Parties in mobilizing financial resources to address climate change should complement and build on national actions."

- "All Parties may and should avail themselves of tools inside and outside the purview of the Convention to mobilize investments that address climate change."

- "All Parties should formulate, develop and implement policies and programs that foster enabling environments to promote and leverage private sector investment in environmentally sound technologies."

We thank the Chair for this opportunity to submit comments, and we welcome further discussion and consideration of the ideas expressed in the assembly document and by Parties during this session.

PAPER NO. 34: VENEZUELA (BOLVARIAN REPUBLIC OF)

Grupo de Trabajo Especial sobre la Cooperación a Largo Plazo en el marco de la Convención

REPÚBLICA BOLIVARIANA DE VENEZUELA

PROPUESTAS ESPECÍFICAS SOBRE LOS ELEMENTOS CONTENIDOS EN EL PÁRRAFO 1 DEL PLAN DE ACCIÓN DE BALI

06/12/2008

INTRODUCCIÓN

En la segunda sesión del Grupo de Trabajo sobre Cooperación a Largo Plazo, Bonn 2008, (GTCLP), invitó a las Partes a que presentarán *"ideas y propuestas y, según procediera y en la medida de lo posible, a que hicieran por escrito propuesta específicas sobre los elementos contenidos en el párrafo 1 del Plan de Acción de Bali, teniendo en cuenta las conexiones entre ellos y los subpárrafos concretos en cada uno de los elementos, a fin de centrar el examen de los cinco elementos por el Grupo"*, solicitud establecida en el documento FCCC/AWGLCA/2008/L.5, párrafo 3. A continuación, se identifican los puntos que la República Bolivariana de Venezuela estima deben ser considerados por el GTCLP.

I. VISIÓN COMPARTIDA

1. Proceso Global

El cambio climático es un fenómeno global que amenaza la supervivencia de la humanidad, y debe ser tratado con prioridad por la comunidad internacional en conjunto, bajo los principios de las responsabilidades comunes pero diferenciadas, sus capacidades respectivas, sus condiciones sociales y económicas, y la responsabilidad histórica en función de la contribución que los países desarrollados han hecho en el incremento del fenómeno climático en referencia.

La Convención Marco de las Naciones Unidas sobre Cambio Climático, en su sección preambular, hace referencia a que los cambios del clima en la Tierra y sus efectos adversos son una preocupación común de toda la humanidad, en consecuencia la lucha contra el cambio climático es un proceso global, razón por la cual es necesario tener una visión compartida para acordar medidas concretas que reviertan los principales procesos antrópicos causantes del problema, teniendo siempre presente que los países en desarrollo tienen una muy baja participación en el incremento de los Gases de Efecto Invernadero (GEI), pero son los más vulnerables a los efectos adversos del cambio climático.

2. Aspectos Centrales de la Visión Compartida

2.1. Naturaleza de la Visión compartida: Vigencia de la Convención

Para la República Bolivariana de Venezuela, la **visión compartida** de la cooperación a largo plazo se fundamente en la vigencia del régimen jurídico para el tema de cambio climático, el cual ya está definido y adoptado en la Convención Marco de Naciones Unidas sobre Cambio Climático (CMNUCC). En este orden de ideas, es necesario subrayar lo estipulado en el artículo 2 de la Convención que establece que todo instrumento jurídico *conexo* que adopte la Conferencia de las Partes debe tener como objetivo la estabilización de las concentraciones de gases de efecto invernadero en la atmósfera a un nivel que impida interferencias antropógenas peligrosas en el sistema climático.

El régimen jurídico para cambio climático es lo suficientemente flexible y adecuado a las realidades, asimetrías, circunstancias y necesidades de cada uno de los países, incluyendo las regiones a las que pertenecen.

Se reitera que la visión compartida referida en el Plan de Acción de Bali, se sustenta en la aplicación plena, eficaz y sostenida de los principios, normas y conceptos contenidos en la Convención. En ese orden de ideas, es necesario que para alcanzar el consenso las Partes no se incorporen conceptos e ideas

ajenos o extraños a la Convención, como por ejemplo “sociedades de baja emisión en carborno” (low-carbon society). El término adoptado por la Convención es el de “desarrollo sostenible”.

2.2. Ámbito de aplicación de la Visión Compartida

El ámbito de aplicabilidad de la **visión compartida** subyace en el objetivo último de la Convención, establecido en su artículo 2, el cual es la **estabilización** de la concentración de los GEI en la atmósfera, a un nivel que permita en un plazo suficiente que los ecosistemas se adapten al cambio climático, asegure la producción de alimentos y prosiga el desarrollo económico de manera sostenible.

Para alcanzar la estabilización de los GEI es imperativo que todos los países, desarrollados y en desarrollo, avancen hacia un modelo de desarrollo sostenible, lo cual implica transformaciones no sólo en el orden tecnológico en los esquemas de actividad económica, sino en los patrones de conducta colectiva e individual.

El desarrollo sostenible, como el modelo económico pertinente para alcanzar el objetivo último de la Convención, debe tener un enfoque transversal en los pilares de la estrategia para enfrentar el cambio climático: mitigación y adaptación; transferencia tecnológica y financiamiento.

2.3. Contexto de la Visión Compartida

El contexto de la visión compartida es el reconocimiento que las estrategias de respuesta integral al cambio climático necesariamente debe atender las circunstancias especiales y particulares de los países en desarrollo, para el logro de un crecimiento económico sostenido y la erradicación de la pobreza.

2.4. Base científica de la Visión Compartida

A la luz de los conocimientos científicos y tecnologías existentes los países desarrollados tienen capacidades para avanzar en la reducción o limitación de sus emisiones de GEI. No puede justificarse la falta de total certidumbre científica para prever, prevenir y reducir al mínimo las causas del cambio climático y mitigar sus efectos adversos. El *principio de precaución*, ante la serie de expresiones del cambio climático actual que se han evidenciado en los últimos años, produciendo grandes calamidades ambientales, sociales y económicas, se superpone al argumento de la insuficiente base científica como justificativo para continuar incrementando la emisión de gases de efecto invernadero por los países desarrollados.

3. Parámetros de la Visión Compartida

3.1. Urgencia para enfrentar el cambio climático

El Plan de Acción de Bali hace un llamado a *mejorar urgentemente la aplicación de la Convención.* Esto implica la necesidad de actuar de manera inmediata, acelerada e intensificada en la aplicación de los compromisos y principios para enfrentar el cambio climático, en concordancia con el “plazo suficiente” establecido en el artículo 2 de la Convención Marco.

En este contexto, no se puede obviar la responsabilidad y deuda histórica de los países desarrollados en el calentamiento global y la obligación de los países Anexo 1 de la Convención en limitar y reducir la emisión de gases de efecto invernadero.

La implementación urgente, debe hacer hincapié en la acelerada e intensificada acción nacional o doméstica de los compromisos cuantificados de limitación y reducción de las emisiones de gases de efecto invernadero de los países Partes del Anexo I.

La Visión Compartida en el proceso de negociación iniciado en Bali, debe resaltar que la urgencia en la aplicación de la Convención se fundamenta en la necesidad de avanzar hacia compromisos reales de cooperación en el financiamiento y la transferencia tecnológica por parte de los países del Anexo I hacia los programas de cooperación que den respuesta a los procesos de adaptación requeridos por los países en desarrollo. La visión compartida debe materializarse de manera efectiva y sin condicionamientos de ningún tipo por ser la adaptación al cambio climático un componente sustancial de la cooperación que se comprometió a brindar el conjunto de países desarrollados y que hasta ahora se ha pretendido

condicionar a la aceptación e implementación de proyectos basados en Mecanismos para un Desarrollo Limpio (MDL).

3.2. Aplicación plena, eficaz y sostenida de la Convención

Para la República Bolivariana de Venezuela una aplicación plena, eficaz y sostenida de la Convención, es necesario el cumplimiento efectivo de los compromisos asumidos por los países desarrollados, así como el establecimiento de un mecanismo de seguimiento del cumplimiento de las Partes de los compromisos contenidos en la Convención. Por lo cual se considera que los conceptos de "aplicación plena", "efectiva" y "sostenida" previstos en el Plan de Acción de Bali, deben entenderse en los siguientes términos:

- Aplicación PLENA: se refiere a que se observen, respeten y cumplan todas y cada una de las disposiciones y compromisos contemplados en la Convención.
- Aplicación EFICAZ: alude a que los resultados de todas las acciones que se implementen contribuyan al alcance positivo del objetivo que establece la Convención: "la estabilización de las concentraciones de gases de efecto invernadero en la atmósfera a un nivel que impida interferencias antropógenas peligrosas en el sistema climático." Para alcanzar resultados de manera eficaz es necesario que los países desarrollados cumplan con sus compromisos de cooperación en el orden tecnológico y financiero, con los países en desarrollo.
- Aplicación SOSTENIDA: se refiere al cumplimiento de los compromisos de forma continua, cuya acción tenga como fin la implementación de políticas orientadas a la preservación del ambiente y mantener las actividades antrópicas en niveles de equilibrio social, ambiental y económico (desarrollo sustentable)

3.3. Cooperación a Largo Plazo que comience ahora y se prolongue más allá de 2012

Todas las medidas que sean tomadas por los países con el objeto de disminuir los efectos del cambio climático, deben estar enmarcadas en la cooperación dentro de la Convención, fundamentada en el principio de las responsabilidades comunes pero diferenciadas, teniendo en cuenta las particularidades sociales, culturales y económicas de cada uno de los países.

La cooperación debe abarcar los cuatro pilares de la lucha contra la problemática ambiental, los cuales son: mitigación, adaptación, financiamiento y transferencia de tecnología. La cooperación en estas cuatro áreas debe tener metas a corto, mediano y largo plazo, con el objetivo de dar un cumplimiento y seguimiento efectivo de los compromisos.

Hacer una referencia sobre la cooperación más allá del 2012, sin establecer una meta específica, pudiera promover medidas a largo plazo que no tendrían un efecto de reducción del fenómeno.

Para una cooperación a largo plazo, se hace necesario conocer la temporalidad a la cual hace referencia el Plan de Acción de Bali para lograr el objetivo final de la Convención, conforme a las disposiciones y principios de la Convención, en particular el principio de las responsabilidades comunes pero diferenciadas y sus capacidades respectivas, y considerando las condiciones sociales y económicas y otros factores pertinentes.

La cooperación a largo plazo (la cual incluye el corto y mediano plazo), debe estar orientada a acciones de adaptación y de tránsito hacia un modelo de desarrollo sostenible. La reducción de emisiones (mitigación) debe manejarse a corto y mediano plazo, tomando en cuenta la urgencia de la estabilización de las emisiones de GEI.

En el cumplimiento de sus disposiciones todos los países deben dirigir sus esfuerzos y acciones hacia la vía del desarrollo sustentable, tomando en cuenta las condiciones específicas de las partes y estar integrado a los planes nacionales de desarrollo (artículo 3.4 de la Convención).

3.4. Conclusión acordada

La comunidad internacional debe tomar medidas inmediatas para atacar los efectos del cambio climático sobre la humanidad. Estas medidas deben dirigirse a las áreas de mitigación, adaptación, financiamiento

y transferencia de tecnología, y todas estas acciones deben ser enmarcadas dentro de la Convención Marco de las Naciones Unidas sobre el Cambio Climático, haciendo prevalecer el respeto al principio de las responsabilidades comunes pero diferenciadas.

En función de lo anterior, los países desarrollados deben asumir su responsabilidad frente al mundo y cumplir con los compromisos adquiridos para la disminución de los efectos del cambio climático. El objetivo del Plan de Acción de Bali es llegar a un RESULTADO CONSENSUADO por todos los países Partes, a los fines de tomar una decisión en la COP-15 (2009), que permita estabilizar las condiciones de la atmósfera en un nivel que minimice los perjuicios a la humanidad.

Esta conclusión acordada debe estar basada en:

- Compromisos de implementación de las actividades económicas bajo un modelo de desarrollo sostenible.
- Fortalecimiento de los programas nacionales de mitigación de GEI y adaptación al cambio climático, por parte de los países desarrollados.
- Fortalecimiento de una cooperación más amplia en materia de adaptación y transferencia de tecnología de los países desarrollados hacia los países en desarrollo, que incluya la promoción e intercambio de información e investigaciones entre los centros académicos de investigación de los países desarrollados y en desarrollo.
- Creación de mecanismos de financiamiento y transferencia tecnológica bajo el marco de la Convención.

II. *MITIGACIÓN*

Al reafirmarse la responsabilidad histórica de los países desarrollados, se debe contar con un mayor compromiso de estos países, mediante reducciones domesticas. Se reafirma también la vigencia del principio de responsabilidades comunes pero diferenciadas, de manera que sean los países desarrollados los que asuman compromisos de reducción de emisiones, y no los países No Anexo 1, en detrimento de su potencial de desarrollo.

Se considera necesario crear y diseñar un mecanismo que permita monitorear las medidas de mitigación de los países desarrollados desde un enfoque mensurable, notificable y verificable (MVR), según lo establece el párrafo 1.b) *i)* del Plan de Acción de Bali.

La comunidad internacional debe plantearse un cambio en el modelo actual de consumo, por un modelo que promueva la sustentabilidad de las relaciones entre la actividad económica y el medio ambiente.

Es necesario que las medidas o acciones de mitigación estén centradas en el principio de prevención o precaución, para evitar la adopción de mecanismos tecnológicos que puedan ocasionar daños graves o irreparables antes de alcanzar sus objetivos de mitigación.

III. *ADAPTACIÓN*

Los países en desarrollo, en especial los países más vulnerables a los efectos adversos al cambio climático, necesitan adoptar las medidas y políticas necesarias para adaptarse al cambio climático, de forma que este fenómeno no afecte su economía y la vida de sus poblaciones en general. En este punto es imprescindible que los países en desarrollo reciban los recursos tecnológicos y financieros, así como la apropiación social del conocimiento, para aplicar las medidas de adaptación. Esta transferencia de recursos debe darse por parte de los países desarrollados, en el marco de sus compromisos adquiridos al suscribir la Convención.

Son necesarios compromisos reales y verificables, por parte de los países Partes del Anexo 1, para la cooperación con los países en desarrollo, en medidas preventivas y de adaptación a los fenómenos naturales que azotan a los países más vulnerables.

Los proyectos desarrollados por los países Partes del Anexo 1 en función de la cooperación con los países en desarrollo, para la ayuda a la prevención y adaptación de fenómenos naturales, no deben estar

enmarcados en mecanismos de dominación económica, política o tecnológica, que puedan menoscabar la soberanía de los países en desarrollo. Es altamente preocupante que los países desarrollados tienden a aportar menos financiamiento para las tareas de adaptación que para proyecto de mitigación, con lo cual se violenta el principio de cooperación contenido en la Convención Marco.

Se debe reconocer el esfuerzo unilateral de los países en desarrollo de promover y materializar políticas, programas y proyectos de adaptación sin haber recibido la cooperación y la transferencia tecnológica y financiera asumida como parte del compromiso de colaboración y cooperación, hoy vigente, de los países desarrollados, hacia los en desarrollo.

IV. FINANCIAMIENTO

Para que los países en desarrollo puedan cumplir con sus obligaciones dimanantes de la Convención se hace necesario la transferencia de tecnología y de recursos financieros masivos del Norte al Sur basada en la responsabilidad histórica de los países desarrollados y la deuda ecológica, destinada a la adaptación en los países en desarrollo, así como en proyectos de desarrollo sostenible.

La vulnerabilidad de los países en desarrollo viene dada por la imposición de condiciones como la liberalización de mercados o la desregularización de sus economías y marcos jurídicos, para el acceso a los recursos de proyectos de mitigación y adaptación.

Es necesario enmarcar la cooperación entre los países desarrollados y en desarrollo, al respeto a la autodeterminación de los pueblos y a la soberanía de las naciones, en el marco del acceso a los recursos económicos para los proyectos de desarrollo sostenible para enfrentar el cambio climático.

El financiamiento para estos proyectos podría ser otorgado a través de mecanismos consensuados por la Convención Marco de Naciones Unidas sobre el Cambio Climático, que tengan como fin último la promoción de soluciones a los efectos de la problemática ambiental en nuestros países, y no fines mercantilistas ni de subyugación económica, que puedan afectar la soberanía o la autodeterminación de las naciones en desarrollo.

Debe garantizarse que la transferencia de recursos financieros de los países desarrollados a los países en desarrollo, se realizará sin comprometer la capacidad de estos últimos de desarrollarse en forma soberana.

Creación de un mecanismo que garantice la transferencia de recursos financieros para la adaptación y desarrollo sostenible, y que las cuotas que conforman esos fondos se basen en el principio de que “el contamina paga”, al cual estarían obligados a contribuir los países Partes del Anexo I.

V. TRANSFERENCIA DE TECNOLOGÍA

Para lograr una cooperación a largo plazo y alcanzar el objetivo fundamental en la lucha contra el cambio climático, se requiere que la transferencia de tecnología por parte de los países desarrollados del Anexo I hacia los países en desarrollo, se realice sin condicionamiento.

Debe garantizarse que el proceso de desarrollo y transferencia de nuevas tecnologías y conocimientos ambientalmente sanos, se realizará en el marco de una apropiación social del conocimiento para el desarrollo y mejoramiento de las capacidades y tecnologías endógenas de los países en desarrollo, sin que esto implique mantener el actual modelo de producción y consumo de los países desarrollados.

La transferencia de tecnología no debe fundamentarse en la obtención del beneficio económico, sino en el deber que tienen los países desarrollados de ejecutar acciones concretas para solventar la problemática ambiental. Es importante reiterar la necesidad de una transferencia real de tecnología de los países desarrollados hacia los países en desarrollo, que no fomente una dependencia a los centros tecnológicos del mundo y que no menoscabe la soberanía de los países en desarrollo.

La no aplicación de proyectos de MDL, es una forma de procurar el fomento de modalidades de cooperación en donde exista una transferencia tecnológica tangible y aprovechable para los países menos desarrollados.

La propiedad intelectual es un concepto que no ha permitido la necesaria transferencia tecnológica que requieren los países en desarrollo. Los países desarrollados tienen una gran deuda en esta materia, y se les debe instar a que cumplan con la misma pero a través de métodos razonables y justos, en contraposición a los MDL.

Creación de un mecanismo que garantice la transferencia de tecnologías para la adaptación y desarrollo sostenible, y que esa transferencia se oriente bajo el principio de la apropiación social del conocimiento, lo cual permitirá avanzar hacia los cambios de patrones de producción y consumo.
