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UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE

AD HOC WORKING GROUP ON LONG-TERM COOPERATIVE ACTION UNDER THE CONVENTION
Fifth session
Bonn, 29 March to 8 April 2009

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

1. In addition to the 35 submissions from 28 Parties contained in document FCCC/AWGLCA/2009/MISC.1 and Add.1–3, two further submissions from two Parties have been received.

2. As requested by the Ad Hoc Working Group on Long-term Cooperative Action under the Convention, these submissions have been posted on the UNFCCC website.[1] In accordance with the procedure for miscellaneous documents, they are attached and reproduced[*] in the language in which they were received and without formal editing. The secretariat will continue to post on the relevant web page the submissions received after the issuance of the present document.

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[1] <http://unfccc.int/meetings/ad_hoc_working_groups/lca/items/4578.php>.

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

FCCC/AWGLCA/2009/MISC.1/Add.4

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Submission of Views

Ad-Hoc Working Group on Long Term Cooperative Action
Fourth Session

February 2008

Reducing Emissions from Deforestation and Forest Degradation and the role of Conservation, Sustainable Management of Forests, and the Enhancement of Forest Carbon Stocks

<u>Jointly Submitted by:</u>

Belize, Central Africa Republic, Costa Rica, Dominican Republic, Democratic Republic of Congo, Ecuador, Equatorial Guinea, Honduras, Ghana, Guyana, Kenya, Madagascar, Nepal, Nicaragua, Panama, Papua New Guinea, Singapore, Solomon Islands, Tanzania, Thailand, Uganda, Vanuatu, & Viet Nam.

The Fourth Session of the Ad Hoc Working Group on Long-Term Cooperative Action under the United Nations Convention on Climate Change (UNFCCC), held in Poznan, Poland, invited Parties and accredited observer organizations to provide additional information, views and proposals on Paragraph 1 of the 'Bali Action Plan' by 6 February 2009. For this purpose, a number of like-minded developing countries met to consider these issues in Singapore from 22-23 January 2009. This submission has been prepared in reflection of those discussions and incorporates input from many other developing country Parties.

1. **Scope for a REDD Mechanism:** A REDD Mechanism should be designed to accommodate differing national circumstances and respective capabilities within and between developing countries on issues relating to reducing emissions from deforestation and forest degradation, and the role of conservation, sustainable management of forest and enhancement of forest carbon stocks.

2. **Industrial Country Leadership:** The foundation of any effective international agreement on climate change must be built upon significant and mandatory national/economy-wide emission reductions targets for all industrialized nations – in aggregate, at least 40 below 1990 levels before 2020 and more than 80% below before 2050. Leadership by Annex□1 Parties, in the form of deeper targets than would otherwise be accepted, that are truly additional, and must precede the introduction of a new supply of carbon credits from reduced emissions for deforestation in developing countries.

3. **Developing Country Partnership:** Based upon positive incentives, a REDD Mechanism should establish a pathway to engage in voluntary nationally appropriate mitigation actions (NAMAs) by developing countries in the context of sustainable development, supported and enabled by technology, financing and capacity building, in a measurable, reportable and verifiable manner.

4. **Integrating Emissions Intensive Activities:** Given the linkage between the loss of forest carbon due to rural energy and food production needs, the REDD mechanism may be expanded in the future to include other emissions intensive activities or sectors, such as rural energy and food production, consistent with methods approved by the UNFCCC.

5. **Mobilizing Financial Resources:** To be effective, significant global financial resources must be mobilized that are transparent, adequate, predictable and sustainable over time. To support the range of activities referred to in Decision 2/CP.13, measurable, reportable and verifiable funding must be equitably mobilized from a variety of sources, including increased official development assistance, auctions of authorized allowance units (AAUs), carbon taxes, private sector investment, cap & trade market instruments, etc.
   - *ODA*: As appropriate, Official Development Assistance (ODA) should be transparently increased, additional, predictable and sustainable.

   - *Market Linked Funding:* AAUs are presently granted by the Parties at 'no cost' to Annex-1 Countries. Therefore, if any revenues should accrue to an Annex-1 Party through coordinated commercial dealings with AAUs (such as trading or auctions), then such activities should incur a levy to be used by the Parties for specific purposes of common agreement – such as to support elements of a REDD Mechanism, increased funding of the Adaptation Fund, etc.

- *Integrating Funding Sources:* Innovative bond instruments could mobilize greater capital in the short-run by securitizing future revenues from AAU auctions along with auctioned REDD emission reduction credits resulting from pre-2012 demonstration activities to cover interest and principal payments over a 5 – 10 year term. Such bond instruments could enhance understanding for REDD Mechanisms and foster North-South and public-private partnerships.

- *Compliance Markets:* In order to mobilize the required resources to effectively implement REDD activities on the necessary global scale, a REDD Mechanism must include a thoughtfully constructed 'market window' as outlined below.

6. **Stepwise Implementation:** To maximize participation in REDD activities, developing country Parties may engage in a voluntary stepwise approach. Movement between categories is voluntary. In certain cases, activities between categories may be simultaneous depending on national circumstances, respective capabilities, and capacity needs.

Category I – *Readiness and Capacity Building*

- *Scope:* Voluntary analysis, capacity, policy frameworks, institutional review, stakeholder engagement, internal financial mechanisms, and monitoring, accounting and verification to support initial demonstration activities.

- *Financial Sources:* Primarily by new and additional official development assistance (ODA), and augmented as required by, inter alia, revenues generated from the auction of AAUs and carbon taxes within Annex-1 countries.

Category II – *Expanding Implementation under the Convention*

- *Scope:* Positive incentives to support the scaling-up of demonstration activities including a range of national, sub□national, local and project□level activities in developing countries under the Convention.

- *Financial Sources:* Primarily by revenues generated from the auction of AAUs and carbon taxes within Annex-1 countries, and as required by new and additional official development assistance (ODA).

- *Flexible Implementation:* Provides an opportunity to develop internal policies and strategies for implementation based upon respective capabilities and national circumstances.

- *Methods:* Application of IPCC 1996 methodologies approved by the UNFCCC, encouraging the use of the 2003 IPCC GPGs, and the guidance provided by Decision 2/CP.13 and Decision SBSTA/2008/L.23.

- *Integration into National Accounting:* To facilitate the implementation of National monitoring and accounting systems, the SBSTA Chair should convene an Experts Group to explore methodologies to integrate activities at various scales into National monitoring and accounting systems.

- *Demonstration Trading:* Establishment of a voluntary ‘Demonstration Trading’ platform designed to facilitate learning-by-doing, simulate market conditions, and pilot market access.

Category III – *MRV Emissions Reductions through a Market Mechanism:*

- *Scope:* Measurable, reportable and verifiable (MRV) emissions reductions units which are fully fungible within market mechanism(s).

- *Financial Sources:* A REDD Mechanism should provide full and equitable participation with global carbon markets including instruments to stabilize dramatic fluctuations in supply and demand that could be supported by funds derived by the auction of AAUs and carbon taxes (see below.)

- *National Monitoring, Accounting and Reporting:* should apply national-scale monitoring, reporting and accounting systems, including the principle of conservativeness and guidance provided by Decision 2/CP.13 and Decision SBSTA/2008/L.23, requiring 2003 IPCC GPG methodologies where utilizing carbon offsets, and subject to the necessary funding and capacity support for their implementation.

- *Reporting:* When reporting, Parties would apply reporting principles already established under UNFCCC (transparent, consistent, comparable, complete and accurate) and may also implement a new principle of conservativeness.

- *Fungible:* Emissions reductions units earned under an agreed national reference emissions level that are measurable, reportable, and verifiable, should be guaranteed direct market access, be fully fungible with AAUs, and transacted at a price equal to those credits transacted by Annex-1 Parties.

- *Credit for Early Action:* Emission reductions undertaken before 2012 that are subsequently integrated into a national accounting system should be permitted for use in achieving future compliance by Annex-1 Parties, subject to independent review by Expert Teams supported by the Secretariat (applying precedent granted to the CDM in the Kyoto Protocol.)

- *Price Floors***:** To encourage broader participation by guaranteeing the livelihoods of rural and indigenous communities, the Parties should agree on a ‘price floor’. Such price floors could be independently supported from the revenues generated from AAU auctions, for example.

- *National Trust Accounts:* To improve participation by domestic stakeholders, donors, and market participants, Parties may choose to transparently address funding inflows, fund management, and disbursement commitments, if appropriate, through independently governed trust arrangements.

- *Reserve Accounts:* On a periodic or annual basis, a proportion of realized emission reductions or removals could be maintained in reserve to provide:
    - a buffer against future emissions that are greater than the emissions reference level, or
    - the opportunity to fulfill shortfalls by other REDD countries.

- *End of Term Accounting:* To maintain atmospheric integrity within and between international agreements on climate change, at the end of an agreement period, any final quantity of emissions above the reference emissions level could be:
  - deducted from any remaining national 'reserve' accounts, or
  - transferred to a subsequent international agreement on climate change.

7. **Entry into Market Instruments:** Developing countries wishing to voluntarily engage in Category III of a REDD Mechanism, shall inform the Parties of their intention and include the information set out below. Upon receipt of the information, the Subsidiary Bodies shall convene a Contact Group to consider the information provided and make recommendations to the next COP.
   - *Reference Scenario:* a national reference emissions or removal level taking into account historical data and national circumstances, including low rates of historical deforestation and forest degradation, and assessed over a period of at least five years.
   - *Projected Emissions Reductions:* a National REDD Plan, including policy approaches, that states the total projected emissions reductions or removals to be achieved below the reference emissions or removal level during an agreed timeframe.
   - *Early Action:* emission reductions or removals achieved under a national accounting system prior to the request for market entry, subject to independent review by an Expert Team supported by the Secretariat.
   - *Developmental Adjustment:* an adjustment to the reference emissions or removal level, either elevated or reduced, and early action credits taking into account, inter alia, the developmental divergence and respective capabilities of REDD countries.

8. **Contributing to Pricing Stability:** Developed and developing parties should collaborate to encourage general price stability with global carbon markets in order to promote both technological transformation and incentives for emission reductions in developing countries. Therefore, a process to improve market price stability, as described below, should be considered by the Parties:
   - *Registry:* The Secretariat would register the agreed reference emissions or removal level, projected emission reductions or removals, request for early crediting, and when achieved, the periodic or annual realized emission reductions or removals.
   - *Deduction from AAU Allocations:* On a periodic or annual basis, the Secretariat would proportionally deduct the total of the agreed requests for early crediting along with the projected emissions reductions or removals from the respective AAU allocations of Annex-1 countries, in an equitable way, that will be held in a REDD Settlement Account.
   - *Settlement:* On a periodic or annual basis, REDD participants would report realized emissions reductions to the Secretariat, and
     - *Sales:* subject to independent verification, realized emission reductions would be exchanged on an equal basis by the Secretariat for the fully fungible AAUs being held within the REDD Settlement Account.
     - *Proportionality:* the Secretariat would exchange AAUs held within the REDD Settlement Account on a proportional basis between all participating Annex-1 Parties.
     - *Shortfalls:* On a periodic basis, if the supply of realized emissions reductions is less than the total AAU deductions:
       - The shortfall from one REDD country could be fulfilled by another REDD country, or

   - If no fulfillment was made by other REDD participants, the Secretariat would proportionally return the residual AAUs to the participating Annex-1 Parties.
- *Oversupply:* On a periodic basis, if the supply of realized emission reductions is greater than the total AAU deductions available:
   - The oversupply could be used to fulfill shortfalls by other REDD countries, or
   - If there is no shortfall by other REDD countries, the realized emission reductions could be banked for application in future years, or a portion could be made available for offsets, or otherwise addressed by the Parties.

9. **Ex-Ante Crediting:** A further step forward, a developing country Party could be issued allowance credits ‘ex□ante’ against an agreed ‘reference emissions or removal level,’ considering that a REDD Mechanism would effectively constitute a sectoral approach for a system of policy approaches and positive incentives, similar to that applied by Article 3.3 and 3.4 of the Kyoto Protocol.

10. **Additional to the CDM:** A REDD mechanism cannot simply compete with, and lower market prices for, actions taken under the Clean Development Mechanism (CDM). Therefore, while REDD should be addressed within a separate mechanism, a REDD mechanism must be complementary and additional to the CDM.

11. **International Coordination:** Interested donors and bilateral multilateral, and international agencies, should coordinate, under the guidance of the UNFCCC process, related programs and initiatives for efficiency, consistency and to avoid redundancy, to provide at scale, consistent and adequate funding.

12. **Forest Degradation:** Parties should be guided by the most recent methodologies developed by the IPCC and approved by the Parties (IPCC LULUCF Good Practice Guidance), including the recommendations of the Expert Group convened by the SBSTA Chair.

13. **High Forest Cover and Low Rates of Deforestation and Forest Degradation:** Any post 2012 agreement should recognize the need to include highly forested countries which have maintained very low historical rates of deforestation through SMF. Parties with high forest cover having maintained low rates of deforestation and forest degradation, for example, may propose an increase in their emissions reference level.

14. **Permanent Forest Conservation Areas:** For Parties seeking to increase or consolidate permanent forest conservation areas within the context of a REDD mechanism, certain forest areas could be permanently identified as conservation areas.

15. **Role of Local Communities and Indigenous Peoples:** Recognizing the rights and roles of local communities and indigenous peoples, based on national circumstances, REDD activities should respect their traditional knowledge and intrinsic relationship with tropical forests while significantly supporting their social, environmental and economic development and also achieving the ultimate objective of the Convention.

16. **Technology Needs & Institutional Capacity Building:** The capabilities of developing countries, and/or regional centers of expertise, vary greatly when considering the implementation of approved methodologies. In many cases, REDD countries will require an expert team to assist in undertaking a ‘gap analysis’ that identifies currently available in-country capabilities and technology resources

and assesses the gaps and costs required to support full and effective implementation of the relevant IPCC guidelines for the REDD Mechanism.

17. **Ungoverned Areas:** Based upon national circumstances and to avoid perverse incentives, a REDD country may advise Parties of unmanaged or ungovernable geographic areas within its national border that are not included in a REDD mechanism due to such factors as war, rebellion, geographic remoteness, etc.

18. **Extreme Weather Events and Natural Disasters:** For purposes of clarity, the Convention considers only anthropogenic emissions, and therefore, greenhouse gas emissions resulting from extreme weather events and natural disasters affecting forest areas should not be included within any REDD Mechanism.

PAPER NO. 2: CZECH REPUBLIC ON BEHALF OF THE EUROPEAN COMMUNITY AND ITS MEMBER STATES

Prague, 29 March 2009

Subject: Enhanced action on mitigation (1bi, 1bii of the Bali Action Plan)

Fifth session of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA 5) Bonn, 29 March - 8 April 2009

The Czech Republic, on behalf of the European Community and its Member States, welcomes the opportunity to submit further views, ideas and proposals on the elements contained in paragraph 1 of the Bali Action Plan (BAP). This submission builds on earlier submission, in particular the AWG LCA submission of 14 November, 2008 on mitigation that we submitted before the fourth session of the AWG-LCA in Poznan, Poland.

<u>Urgency to act</u>
The Copenhagen agreement must be based on the **best available scientific evidence** as presented by the Intergovernmental Panel on Climate Change (IPCC) in its Fourth Assessment Report (AR4) and by scientific studies published since then. To avoid dangerous climate change the increase in global mean surface temperature needs to stay below 2°C compared with pre-industrial levels. This means that global greenhouse gas (GHG) emissions should peak by 2020 at the latest and be reduced by at least 50% as compared with 1990 levels by 2050 and continue to decline thereafter.

Economics tells us that **early action will reduce costs** and that **no action will result in considerably higher costs.** A Copenhagen agreement has to enable the shift needed towards a low carbon society consistent with the 2°C objective. Delayed action will increase the risk of not obtaining this objective.

<u>Developed Countries - commitments</u>
Developed countries need to take the lead. To achieve a global emissions trajectory consistent with the lowest levels of stabilisation assessed, developed countries should collectively reduce their GHG emissions by 25-40% by 2020 and by 80-95% by 2050 compared to 1990 levels, as indicated in the IPCC AR4.

The Copenhagen Agreement should set binding quantified emission limitation or reduction commitments for developed countries comprising at least all Parties listed in Annex I to the UNFCCC and all current EU Member States, EU candidate countries and potential candidate countries that are not included in Annex I to the UNFCCC. These countries should propose, as soon as possible and no later than by mid year, ***quantified emission limitation or reduction commitments*** for the medium-term, consistent with the achievement of the objectives for this group as a whole.

We invite other non Annex I Parties that are at levels of development and GDP/capita comparable to those of the group of developed countries, notably OECD member countries and candidates for membership thereof, to consider making similar commitments in line with their responsibilities, capabilities and national circumstances.

The EU has already unilaterally committed to reduce its emissions to 20% below 1990 levels by 2020 and proposes that developed countries commit to collectively reduce their emissions of GHGs in the order of 30% by 2020. The EU is committed to move to a 30% reduction as part of a global and comprehensive agreement provided that other developed countries commit themselves to comparable emission reductions and that developing countries contribute with nationally appropriate mitigation actions in the context of sustainable development according to their responsibilities and respective capabilities.

The distribution of the overall target for developed countries should be guided by considerations of capability and responsibility, making use of a balanced combination of criteria, such as:

- the capability to pay for domestic emission reductions and to purchase emission reduction credits from developing countries;
- the GHG emission reduction potential;
- domestic early action to reduce GHG emissions;
- population trends and total GHG emissions.

Developing Countries - action and support

Developing countries that have already developed national mitigation strategies and programmes could stand as a model for other developing countries. We propose that all developing countries integrate such **Low Carbon Development Strategies and Plans (LCDS) covering all key emitting sectors into national and sectoral strategies** and have these in place no later than 2012. The preparation of LCDSs for the least developed countries should be supported financially and technically.

We call upon the most advanced developing countries to propose ambitious LCDSs, or update existing ones, already before Copenhagen to demonstrate enhanced contributions the global effort.

These LCDSs should become the underpinning structure for linking action with support in a measurable, supportable and verifiable (MRV) manner and for enhanced contributions by developing countries to the global effort consistent with the level of ambition required to keep the 2 degree C objective within reach. Recent analysis indicates that this should result in a deviation of emission growth rates in the order of 15 to 30% below business as usual by 2020 for the developing countries as a group.

We propose that LCDSs should differentiate between those actions that can be undertaken autonomously and those that require support. Some actions will imply low or negative cost and can be implemented unilaterally or with some support for addressing implementation barriers. Other actions may need to be supported and enabled by technology, financing and capacity-building. Combined with the unilateral contribution these actions should lead to an appropriate deviation from baseline by 2020. Further mitigation actions beyond those identified above could be rewarded through international carbon crediting mechanisms.

The EU also proposes to explore the **establishment of a coordination instrument, including a registry of nationally appropriate mitigation actions** (similar to proposals by South Korea and South Africa) to ensure a sufficient level of ambition in the LCDSs and to provide an efficient process to direct support, taking into account the associated emission reductions and capability of each country so as to maximise the emissions reductions achieved with regard to the support provided.

Guidelines should be agreed for these strategies, including on accessing support in terms of technology, financing and capacity-building, and for evaluating the overall level of ambition. To facilitate assessment of the need for support, the LCDSs should include, e.g., assessments of (i) the specific technology and financial needs and costs related to all identified mitigation actions, (ii) obstacles for the effective deployment and diffusion of prioritised technologies related to the mitigation actions, and (iii) needs for related capacity building.

Policy approaches and positive incentives on issues relating to **reducing emissions from deforestation and forest degradation (REDD)** should be included in the LCDS as well. We support the development of financing mechanisms under the UNFCCC, taking into account existing arrangements, to support developing countries reducing emissions from deforestation and forest degradation in order to reduce gross tropical deforestation by at least 50% by 2020 compared to current levels and to halt global forest cover loss by 2030 at the latest. **Support must be performance-based** and provided on the basis of verified results in terms of avoided emissions from gross deforestation and forest degradation, while promoting the role of conservation, sustainable forest management, and enhancement of forest carbon stocks. Incentives provided and measures taken under these provisions should ensure the achievement of co-benefits, including the protection of biodiversity, increased resilience and improved livelihoods in forest regions.

The linking of MRV action with support in a MRV manner requires a well functioning exchange of information between Parties. MRV of actions and resulting emission reductions, also in developing countries, is indispensable as it will provide reliable data to underpin efficient decision making processes for all Parties for the implementation of mitigation actions and technological and financial support. Annual inventories should be provided by all Parties as soon as possible and not later than 2011, at least for the key emitting sectors facilitated by comprehensive capacity building and technical and financial support.

To ensure a more robust and transparent system of MRV for action and support for both developed and developing countries we need to build on and strengthen wherever possible the existing international review processes under the UNFCCC and its Kyoto Protocol.

<u>Carbon market – an issue both for the AWG-LCA and AWG-KP</u>
One avenue for support for enhanced mitigation action in developing countries is through the use of carbon market mechanisms.

We propose to create sector-specific mechanisms. **New sectoral mechanisms will present opportunities for developing countries and have additional benefits compared to existing mechanisms.** They operate at a greater scale than the CDM and therefore provide possibilities for more structural transformation of sectors. They give countries more flexibility on how to take actions within a sector. They could improve the efficiency of the economy. And when they incorporate a cap, they allow for the issuance of significant financial assets on an ex-ante basis (prior to emission reductions) rather than after confirmation of emission reductions.

The further development of carbon market mechanisms requires a common understanding in the AWG-KP and in the AWG-LCA. It is a relevant issue for the AWG-KP as the mitigation actions of both developed and of developing countries will need reflection in the market mechanisms, in the CDM and in new mechanisms. Such further development of the global carbon market in developing countries will be highly relevant for the scale of the market. It is also relevant for the AWG-LCA, as the use of these mechanisms could be included in the low-carbon development strategies and generate substantial revenues.

<u>HFCs</u>
The accelerated phase-out of HCFCs mandated under the Montreal Protocol may further add to a rapid increase in the use of HFCs, many of which are very potent GHGs. The EU therefore proposes that the Copenhagen agreement includes an international emission reduction arrangement for HFC emissions.

<u>Bunker fuels</u>
All sectors of the economy should contribute to limit emissions, including international maritime shipping and aviation, a large and rapidly growing source of GHG emissions. Global emission reduction targets for these sectors should be incorporated into the Copenhagen agreement and Parties need to commit to work through ICAO and IMO to enable international agreement before the end of 2010 to be

approved by 2011. Also in this context the EU acknowledges that market-based instruments can ensure cost-effective emission reductions.

<u>Enhanced support</u>
The EU highlights that the latest estimates from the European Commission indicate that the net global incremental investment, both public and private, to reduce global greenhouse gas emissions to a level compatible with the 2°C objective needs to increase to around EUR 175 billion per year in 2020. Current analyses also indicate that more than half of this will have to be made in developing countries.

Many actions have low incremental costs or even generate a net benefit in the medium-term. However the EU recognises that substantial support of an appropriate scale from both private and public sources will be required in order to ensure the necessary investments are made.

Adequate, predictable and timely financial support for implementation of a Copenhagen agreement is crucial and the EU is prepared to take its fair share as part of a comprehensive Copenhagen agreement.

Private funding will be, via appropriate policy frameworks, the main source of necessary investments. Complementary ***public finance*** is needed in areas that cannot be adequately financed by the private sector ***to leverage private investments and to provide incentives for additional efforts.*** Carbon market related support also has the potential to play a significant role in reducing emissions.

Significant domestic and external sources of finance, both private and public, will be required for financing mitigation and adaptation actions, particularly in the most vulnerable developing countries. Further discussions on generating financial support should focus on *inter alia:*
- a contributory approach based on an agreed scale
- market-based approaches based on auctioning arrangements
- a combination of these and other options.

These options could potentially be complemented by funding resulting from a global instrument addressing international aviation and maritime transport. The EU is of the view that all funding for climate change from bilateral and multilateral channels inside and outside the UNFCCC should be recognised and remains important.

<u>Technology</u>
Significantly enhanced deployment and diffusion as well as research, development and demonstration (RD&D) of low-carbon climate resilient technologies are needed to support the practical implementation of mitigation and adaptation efforts by all countries.

To ensure that support for mitigation related technologies in developing countries is adequate and appropriate, LCDSs should assess the technology needs to implement appropriate mitigation action. The integration of technology needs will assist in developing tailor-made solutions according to national circumstances. LCDSs should also include public policies that assist the creation of enabling environments.

Provisions on financing technology related research, development, deployment and diffusion should form an integral part of the Copenhagen agreement. These should lead to a substantial increase of private and public energy-related RD&D compared to current levels, working towards at least a doubling of global energy-related RD&D by 2012 and increasing it to four times its current level by 2020, with a significant shift in emphasis towards safe and sustainable low greenhouse-gas-emitting technologies, especially renewable energy.

Cooperation on RD&D efforts between developed and developing countries as well as public and private sector actors is essential in achieving common technology goals. For that reason developed countries should commit to working with developing countries to explore how joint RD&D efforts could be taken forward as part of the Copenhagen agreement.

Also, we recognise the value of establishing and strengthening national and regional centres of technological innovation, and networks between these, to promote technology development and transfer, stimulate capacity-building and improve access to information.

<u>Periodic Review</u>
A periodic review of progress towards the ultimate objective of the Convention and actions related to mitigation, adaptation and means of implementation as an integral part of the Copenhagen agreement is needed.

A comprehensive review with consideration of future emission reduction requirements and targets needs to take place not later than 2016 in light of the Fifth Assessment Report of the IPCC.

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