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**AD HOC WORKING GROUP ON LONG-TERM COOPERATIVE ACTION
UNDER THE CONVENTION**

Sixth session

Bonn, 1–12 June 2009

Item 3 (a–e) of the provisional agenda

Enabling the full, effective and sustained implementation of the Convention through long-term cooperative action now, up to and beyond 2012, by addressing, inter alia:

A shared vision for long-term cooperative action

Enhanced national/international action on mitigation of climate change

Enhanced action on adaptation

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

Enhanced action on the provision of financial resources and investment to support action on mitigation and adaptation and technology cooperation

Negotiating text

Note by the Chair*

Summary

This document was prepared by the Chair of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA) in response to the request from the AWG-LCA at its fourth session. The document presents a negotiating text, contained in the annex, which aims to provide a starting point for the negotiations at the sixth session of the group by reflecting ideas and proposals by Parties in a structured and comprehensive but concise manner.

The text takes account of ideas and proposals contained in the most recent submissions from Parties received by the secretariat from the end of the fifth session up to 5 May 2009, of the ideas and proposals submitted previously, including those assembled in document FCCC/AWGLCA/2008/16/Rev.1, and of the proceedings of the fifth session of the AWG-LCA.

* This document was submitted after the due date to enable the Chair to take account of all relevant inputs.

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Introduction

A. Mandate

1. The Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA), at its fourth session,¹ invited its Chair to prepare, under his own responsibility, a negotiating text for consideration at its sixth session, building upon the ideas and proposals of Parties and upon the Chair's assembly document² and taking account of the organization of work under the AWG-LCA. In preparing this text, the Chair was further requested to take account of the proceedings of the AWG-LCA at its fifth session and of further submissions received from Parties by 24 April 2009.

2. The AWG-LCA agreed³ that the negotiating text shall encompass all aspects of the Bali Action Plan (decision 1/CP.13) in a balanced manner; not attribute ideas and proposals to their sources; be drafted in language that does not prejudge the form of the agreed outcome; and be made available by the secretariat in a timely manner, preferably two weeks in advance of the sixth session.

B. Sources, approach and presentation

3. The organization of work on this negotiating text enabled the Chair to take account of ideas and proposals contained in the most recent set of submissions from Parties received by the secretariat from the end of the fifth session up to 5 May 2009. These submissions are contained in document FCCC/AWGLCA/2009/MISC.4. The oral reports from the contact groups as reflected in the Chair's summary of views expressed during the fifth session,⁴ as well as the reports of workshops held during the session were the basis for taking account of the proceedings of that session. Ideas and proposals submitted previously were also drawn upon, as was the above-mentioned Chair's assembly document.⁵

4. In presenting this negotiating text, the Chair aims to provide a starting point for the negotiations at the sixth session by reflecting ideas and proposals by Parties in a structured and comprehensive but concise manner. As is customary in the practice of negotiation, it is envisaged that the text will be a "living document", with Parties modifying it and bringing new ideas to bear. In fact, several Parties have indicated their intention to bring forward additional proposals.

5. The depth of coverage of each element of the Bali Action Plan in this negotiating text varies according to the depth of consideration that each has received to date. A particular case is that of the consideration of a shared vision for long-term cooperative action, in which Parties have yet to engage in clarifying how to integrate in their shared vision the essence of their agreed goals under the four building blocks of the Plan (adaptation, mitigation, technology and financing). A placeholder for such integration is provided in the relevant chapter of the negotiating text.

6. The text is intended to reflect proposals and options in sufficient detail to convey their essence, without including all details of content and modalities for implementation that were provided by the proposing Parties. The text does include indications given by Parties of the need for elaboration of such details; however, there are other elements not so indicated that may also be deemed to require elaboration, once the Parties determine which options to develop further. Parties are invited to consider, in their negotiations on the different aspects of the Bali Action Plan, what level of detail should be achieved in their agreed outcome and what may be left for further elaboration by the Conference of the Parties (COP).

¹ FCCC/AWGLCA/2008/17, paragraph 26 (b).

² FCCC/AWGLCA/2008/16/Rev.1.

³ FCCC/AWGLCA/2008/17, paragraph 27.

⁴ FCCC/AWGLCA/2009/9.

⁵ Submissions received since 5 May will be issued for the sixth session as document FCCC/AWGLCA/2009/MISC.4/Add.1.

7. In cases where several Parties have made proposals on a given issue, these proposals have been grouped together to the extent possible and differences indicated in the form of options. Such options are presented in one of the following ways:

- (a) Numbering distinct options using option headings and including annotations in italics to orient the reader when needed;
- (b) Showing variations among similar proposals by using curly brackets;
- (c) Noting in a footnote alternative terms used by Parties to refer to a concept, provision, process or institution.

8. Taking account of past practice,⁶ views of Parties that oppose the inclusion of certain proposals do not figure in this negotiating text. This is on the understanding that the inclusion of a proposal is without prejudice to the views of Parties that may not support the elaboration of any text at all on the issue in question.

9. Numerous implicit and explicit interrelations exist among the proposals and options contained in this text. Such interrelationships are explicitly noted in this document only in cases where a particular proposal was presented in a broader context, typically in relation to institutional arrangements.

10. In general, references by Parties to relevant Articles and provisions of the Convention are reflected in footnotes to the sections to which they relate.

11. A number of explanatory paragraphs in narrative form have been included in the text to provide clarification and guidance to the reader on specific issues, sections or subsections. These paragraphs are presented in italics and do not constitute substantive paragraphs of the negotiating text.

C. Structure

12. The Chair's negotiating text is contained in an annex to this introductory note. Its four chapters encompass all aspects of the Bali Action Plan in a structure that seeks to facilitate the evolving organization of work of the AWG-LCA on the agreed outcome. The chapters are as follows:

- (a) Chapter I: A shared vision for long-term cooperative action;
- (b) Chapter II: Enhanced action on adaptation;
- (c) Chapter III: Enhanced action on mitigation;
- (d) Chapter IV: Enhanced action on financing, technology and capacity-building.

13. The detailed structure of the text is set out in a box at the end of this introduction.

D. Legal form of the agreed outcome

14. In their submissions, Parties have presented a number of options with respect to the legal form of the agreed outcome envisaged in the Bali Action Plan. It may be inferred from these submissions that any outcome is likely to include decisions by the COP.

15. Several Parties have expressed the view that decisions by the COP would suffice to ensure an agreed outcome that would enable the full, effective and sustained implementation of the Convention through long-term cooperative action. One view among these envisages a set of COP decisions that would be legally binding by nature, emanating from the obligations and commitments of the Parties under the Convention.

⁶ See document FCCC/AGBM/1997/3/Add.1, paragraph 8.

16. Other Parties favour an agreed outcome in the form of a new legal instrument or instruments within the framework of the Convention. Among these, one view is that such an instrument should be separate from the Kyoto Protocol, while another view favours a single, unified legal instrument that would build on the Kyoto Protocol and incorporate its commitments. In this connection, the view was also expressed that a pathway to the integration of separate legal instruments could be provided, *inter alia*, by their provisions for entry into force. Some other Parties have referred to an agreed outcome in the form of an “agreement”, either without specifying, or expressly not addressing, its relationship to the Kyoto Protocol.

17. In their submissions related to the negotiating text, some Parties have proposed specific legal instruments for adoption at COP 15, namely a new protocol to the Convention,⁷ an “implementing agreement” under the Convention and, as an option, one or more amendments to the Convention. Another option advanced by Parties envisages a treaty outcome that could incorporate national schedules. Some of the above-mentioned options could potentially contain binding as well as non-binding elements. With respect to the option of amending the Convention, several Parties have expressed the view that consideration of amendments to the Convention is not within the remit of the AWG-LCA.

18. Against this variegated background of legal options that have yet to be considered by the AWG-LCA, the Chair has sought to prepare a negotiating text using “language that does not prejudge the form of the agreed outcome”, as required by his mandate. The following guidelines have been applied to respect this guidance on language:

- (a) Generic language focusing on substance (as provided by most Parties) has been used wherever possible;
- (b) In cases where specific decision text or legal instruments have been proposed, the negotiating text reflects the substantive content of these proposals, but not their formal nature.

19. A question requiring careful attention in the light of this guidance has been that of the use of auxiliary verbs that define action, notably “shall” and “should”.⁸ It was decided, for the purpose of this text, to use “shall” or “should” as proposed by Parties when their views are presented as options in the text or when the context for the use of these words is otherwise clear. In other cases, or when alternative auxiliary verbs are proposed in relation to similar proposals, “shall” or “should” or both are enclosed in curly brackets. In addition, it is considered that, since “shall” is commonly used both in decision text⁹ as well as in legal instruments, its use in this negotiating text does not prejudge the form of the agreed outcome.

20. Such rules of thumb are more easily set than applied in a complex text such as this one. The Chair hopes that their application will help the Parties to use the negotiating text and is confident that the Parties will be able to improve it in this aspect, as in others. Further, it is the understanding of the Chair that, once the Parties have decided which legal form or forms shall be used to express their agreed outcome, the drafting of the outcome will be adjusted to use the appropriate language.

⁷ In making the proposal for a new protocol, the Party concerned has invoked the procedure envisaged in Article 17 of the Convention.

⁸ Among other auxiliary verbs used in proposals, “must” may be considered as equivalent to “shall”.

⁹ This may be inferred from several decisions adopted by the COP, as well as from draft decision text submitted by Parties for use in compiling the present text.

Structure of the negotiating text

I. A SHARED VISION FOR LONG-TERM COOPERATIVE ACTION

II. ENHANCED ACTION ON ADAPTATION

A. Objectives, scope and guiding principles

B. Implementation of adaptation action

C. Means of implementation

D. Risk reduction, management and sharing

E. Institutional arrangements

F. Monitoring and review of adaptation action and support

III. ENHANCED ACTION ON MITIGATION

A. Mitigation by developed countries

1. Nationally appropriate mitigation commitments or actions by developed countries

2. Measurement, reporting and verification of commitments or actions

3. Compliance with quantified emission limitation and reduction objectives

B. Mitigation by developing countries

1. Nationally appropriate mitigation actions by developing countries

2. Means of implementation

3. Measurement, reporting and verification of actions

4. Measurement, reporting and verification of support

5. Institutional arrangements

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

1. Objectives, scope and guiding principles

2. Means of implementation

3. Measurement, reporting and verification of actions

4. Measurement, reporting and verification of support

5. Institutional arrangements, including funds

D. Cooperative sectoral approaches and sector-specific actions

E. Various approaches to enhance the cost-effectiveness of, and to promote, mitigation actions

F. Economic and social consequences of response measures

IV. ENHANCED ACTION ON FINANCING, TECHNOLOGY AND CAPACITY-BUILDING

A. Enhanced action on the provision of financial resources and investment

1. Objectives, scope and guiding principles

2. Generation of financial resources

3. Institutional arrangements, including funds

B. Enhanced action on technology

1. Objectives, scope and guiding principles

2. Cooperation on technology research, development, diffusion and transfer

3. Institutional arrangements

C. Capacity-building

Annex**Negotiating text****I. A shared vision for long-term cooperative action¹**

Note: This section of the negotiating text (paras. 1–9 below) illustrates how elements from Parties' proposals could be woven into an introductory statement on a shared vision.

1. Warming of the climate system, as a consequence of human activity, is unequivocal. As assessed by the Intergovernmental Panel for Climate Change (IPCC) in its Fourth Assessment Report, the serious adverse effects of climate change, notably those on crop production and food security, water resources and human health, as well as on housing and infrastructure, are becoming a major obstacle to efforts to promote sustainable economic and social development and to reduce poverty, which are the first and overriding priorities of developing countries.
2. The adverse effects of climate change will be felt most acutely by those segments of the population who are already in vulnerable situations owing to factors such as geography, poverty, gender, age, indigenous or minority status and disability. These adverse effects also undermine the equitable development needs of present and future generations.
3. Deep cuts in global emissions will be required to prevent dangerous interference with the climate system and achieve the ultimate objective of the Convention. Early and urgent action to this end is necessary. A delay in reducing emissions will significantly constrain opportunities to achieve lower stabilization levels of greenhouse gases (GHGs) and increase the risk of more severe climate change impacts.
4. An economic transition is needed that shifts global economic growth patterns towards a low-emission economy based on more sustainable production and consumption, promoting sustainable lifestyles and climate-resilient development while ensuring a just transition of the workforce. The active participation of all stakeholders in this transition should be sought, be they governmental, private business or civil society, including the youth and addressing the need for gender equity.
5. Developed country Parties must show leadership in mitigation commitments or actions, in supporting developing country Parties in undertaking adaptation measures and nationally appropriate mitigation actions (NAMAs),² and in assisting them through the transfer of technology and financial resources to move towards a low-emission development path.
6. Urgent and immediate adaptation needs of developing countries that are particularly vulnerable to the adverse effects of climate change require special attention. Countries lacking sufficient capacity to respond to the challenges of climate change require access to opportunities to obtain this capacity in a timely manner.
7. The urgent need to confront dangerous climate change requires political determination to continue building an inclusive, fair and effective climate regime, one that takes into account the need of

¹ In its paragraph 1 (a), the Bali Action Plan calls for a shared vision for long-term cooperative action, including a long-term global goal for emission reductions, to achieve the ultimate objective of the Convention, in accordance with the provisions and principles of the Convention, in particular the principle of common but differentiated responsibilities and respective capabilities, and taking into account social and economic conditions and other relevant factors.

Parties refer to the following Articles of the Convention in submissions related to this section: Article 4, Article 7.

² In this document, the acronym "NAMA" is used only in the context of nationally appropriate mitigation actions by developing countries.

developing countries' need for development space, and is based on a new and equitable global partnership that drives cooperative action to enable the full, effective and sustained implementation of the Convention.

8. The shared vision for long-term cooperative action shall be guided by the ultimate objective of the Convention and its principles, in particular the principles of equity and of common but differentiated responsibilities and respective capabilities, as well as the precautionary principle, that are enshrined in the Convention to guide the international community in addressing climate change. It also takes into account social and economic conditions and other relevant factors.

9. The shared vision for long-term cooperative action aims to achieve sustainable and climate-resilient development and to enhance action on adaptation, mitigation, technology, finance and capacity-building, integrating the means of implementation needed to support action on adaptation and mitigation, in order to achieve the ultimate objective of the Convention.

Enhanced action on adaptation, mitigation, technology and financing

Note: Parties have expressed the view that a statement on a shared vision for long-term cooperative action should express their political resolve to achieve their goals for enhanced action on adaptation, mitigation, technology and financing. The integration of these interrelated goals in a shared vision statement will thus result in due time from the pursuit of negotiations on these building blocks of the Bali Action Plan. For the time being, proposals by Parties referring specifically to the integration of substantive outcomes under the four building blocks are reflected in the chapters of this text dealing with the respective elements of the Bali Action Plan. A text integrating goals on adaptation, mitigation, technology and financing in the shared vision could be prepared at a later stage.

The exception to this deferral is that the section below (paras. 11–17) presents proposals by Parties concerning a long-term global goal for emission reductions. In accordance with the Bali Action Plan, such proposals have been considered in the context of a shared vision for long-term cooperative action. These proposals include references to the medium-term goals, peaks and pathways considered necessary to achieve a long-term global goal, as well as to review processes. The placement of such material in a statement on shared vision, that is, whether it should be a distinct element or integrated in the statement of mitigation goals, remains to be considered.

10. {...}

A long-term global goal for emission reductions (with related medium-term goals and review process)

11. The shared vision includes a long-term aspirational global goal for emission reductions that is based on science and provides direction to long-term cooperative action, making it sufficiently effective to bring about the deep cuts in global emissions required to achieve the ultimate objective of the Convention {and minimize further climate change impacts on vulnerable developing countries}.

12. The long-term global goal for emission reductions {shall} {should} be set

Option 1

as a stabilization of GHG concentrations in the atmosphere at {400} {450 or lower} {not more than 450} {450} ppm carbon dioxide equivalent (CO₂ eq) and a temperature increase limited to 2 °C above the pre-industrial level. For this purpose, the Parties {shall} {should} collectively reduce global emissions by at least 50 per cent {from 1990} levels by 2050.

Option 2

as a stabilization of GHG concentrations in the atmosphere well below 350 ppm CO₂ eq and a temperature increase limited to below 1.5 °C above the pre-industrial level. For this purpose, the

Parties {shall} {should} collectively reduce global emissions by {81–71} {more than 85} per cent from 1990 levels by 2050.

Option 3

as a global temperature increase limited to 2 °C above the pre-industrial level.

Option 4

as a reduction in global average GHG emissions per capita to about 2 t CO₂.

Option 5

on the basis of

Option 5.1

historical responsibility.

Option 5.2

emissions debt.

Option 5.3

per capita accumulative emission convergence.

Option 5.4

an equitable allocation of the global atmospheric resources.

13. Emission pathways towards the long-term global goal for emission reductions require that global GHG emissions peak {between 2010 and 2013} {by 2015} {by 2020 at the latest} {in the next 10–15 years} {in the next 10–20 years} and decrease thereafter.

14. To this end, {developed country Parties} {Parties included in Annex I to the Convention (Annex I Parties)} {developed country Parties included in Annex II to the Convention (Annex II Parties)}, as a group, {shall} {should} reduce their GHG emissions:

- (a) {By at least 25–40} {By 25–40} {By more than 25–40} {In the order of 30} {By at least 40} {by 45} {by at least 45} per cent from 1990 levels by 2020, {with further reductions to be achieved through policies and measures that promote sustainable lifestyles};
- (b) {And {by more than 95} {in the range of 75–85} per cent by 2050}.

15. Supported and enabled by technology, financing and capacity-building from developed country Parties, the GHG emissions of {developing country Parties} {Parties not included in Annex I to the Convention (non-Annex I Parties)}, as a group, {shall} {should}:

- (a) {{Significantly deviate from the baseline by 2020} {Deviate in the order of 15–30 per cent below the baseline by 2020}};
- (b) {And be reduced by 25 per cent from 2000 levels by 2050}.

16. Option 1

The Parties shall periodically review the overall progress towards the ultimate objective of the Convention and actions related to mitigation, adaptation and means of implementation, in the light of {the best available scientific information} {an assessment of climate change and its impacts} {intergovernmental scientific} as well as relevant technical, social and economic information, and taking

account of observed impacts and efforts made to adapt to climate change, including a comprehensive review not later than 2016, incorporating consideration of future emission reduction requirements and targets in the light of the Fifth Assessment Report of the IPCC.

17. Option 2 (in the case of a long-term global goal as defined in para. 12, option 3, above)

The long-term global goal for emission reductions {shall} {should} be updated to reflect progress in scientific knowledge. To allow for these updates, the 2 °C goal {shall} {should} be broken down into partial targets: initially, a 0.2 °C temperature increase per decade over 10 decades. Every 10 years, the partial target {shall} {should} be evaluated, with a view to possibly redefining it, taking into account advances in scientific knowledge and the reduction of uncertainties.

II. Enhanced action on adaptation³

A. Objectives, scope and guiding principles

18. International cooperation {shall} {should} be enhanced with a view to facilitating, supporting and implementing urgent and immediate, medium- and long-term adaptation action by all Parties at local, sub-national, national, regional and global levels, enabled by means of implementation, to respond effectively, coherently and in a timely manner to current and future impacts of climate change. Such cooperation {shall} {should} take into account the urgent and immediate needs of developing countries that are particularly vulnerable to the adverse effects of climate change.

19. A comprehensive, robust, cooperative and action-oriented adaptation {framework} {programme}⁴ shall be established to enable,⁵ support and implement adaptation action, and to reduce vulnerability and build resilience to the adverse impacts of climate change. It {shall} {should} encompass provisions for:

- (a) Implementation of adaptation action, including:
 - (i) Enabling {activities} {environments} to support adaptation action, including the preparation of national adaptation plans⁶ (as referred to in para. 23 below);
 - (ii) Adaptation actions, including those identified in the national adaptation plans;
- (b) Means of implementation, including finance, technology and capacity-building;
- (c) Risk reduction, management and sharing, including insurance and addressing loss and damages;
- (d) Institutional arrangements;
- (e) Monitoring and review of adaptation action and support.

³ The Bali Action Plan, in its paragraph 1 (c) (i–v), calls for enhanced action on adaptation, including consideration of international cooperation to support urgent implementation of adaptation action; risk management and risk reduction strategies; disaster reduction strategies and means to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change; economic diversification to build resilience; and ways to strengthen the catalytic role of the Convention.

Parties referred to the following Articles of the Convention in submissions related to this section: Articles 3.4, 4.1, 4.3, 4.4, 4.5, 4.7, 4.8, 4.9, 5, 6, 8.2(e), 9, 9.2, 11, 11.5 and 12.1.

⁴ Other formulations proposed include the establishment of a “mechanism” or an “instrument”.

⁵ Other formulations proposed include “stimulate” and “facilitate”.

⁶ Other formulations proposed include “programmes” or “strategies” and retaining the term “national adaptation programmes of action” in an initial phase, with the second phase being termed “national adaptation plans”.

20. Option 1

Adaptation should encompass only action to respond to the adverse effects of climate change.

21. Option 2

Adaptation also encompasses adaptation to the impact of the implementation of response measures.

22. The implementation of the adaptation {framework} {programme} {shall} {should}:

- (a) Be undertaken in the context of the following:
 - (i) Subsidiarity, with adaptation responding to local needs, and decisions being taken at the lowest appropriate level;
 - (ii) The polluter pays principle;
 - (iii) Promoting 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;
- (b) Be legally binding, and include provisions for ensuring the compliance of Annex II Parties with their financial commitments;
- (c) Be supported by new, predictable, sustainable, timely, adequate and stable financial resources additional to official development assistance (ODA);
- (d) Be flexible, bottom-up, results-based and country-driven, involving all relevant stakeholders, with a view to enhancing ownership, at local, subnational, national and regional levels, of the implementation of adaptation actions, including ownership of the means of implementation provided;
- (e) Be undertaken in a holistic and integrative manner, avoiding fragmentation of adaptation action and support thereof;
- (f) Promote coherence and facilitate linkages with other international, regional and national programmes, bodies and stakeholders that are implementing adaptation and related activities;
- (g) Facilitate and promote an integrated best practice approach;
- (h) Be consistent with local, subnational, national and regional development objectives, programmes and plans;
- (i) Be consistent with the principles under the Convention on Biological Diversity, the United Nations Convention to Combat Desertification, and the United Nations Declaration on the Rights of Indigenous Peoples;
- (j) Address the concerns and/or build the resilience of, inter alia:
 - (i) Particularly vulnerable developing country Parties, especially:
 - Least developed countries (LDCs), small island developing States (SIDS) and countries in Africa affected by drought, desertification and floods;
 - Poor developing countries;

- Low-lying and other small island countries, countries with low-lying coastal, arid and semi-arid areas or areas liable to floods, drought and desertification, archipelagic countries, and developing countries with fragile mountainous ecosystems;
 - Countries with unique biodiversity, tropical glaciers and fragile ecosystems;
- (ii) Particularly vulnerable populations, groups and communities, especially women, children, the elderly and indigenous peoples, including through promoting a gender perspective and a community-based approach to adaptation;
 - (iii) Particularly vulnerable ecosystems and species, including through promoting an ecosystem-based approach to adaptation;
- (k) Be guided and informed by sound scientific and technological knowledge, including emerging scientific findings, by continuous learning and evidence-based vulnerability assessment processes, and by traditional knowledge;
 - (l) Build upon experiences and lessons learned from past and ongoing adaptation actions, including national adaptation programmes of action (NAPAs), the Nairobi work programme on impacts, vulnerability and adaptation to climate change, and traditional practices;
 - (m) Adopt a learning-by-doing approach.

B. Implementation of adaptation action

Enabling activities/environments to support adaptation action

23. {Parties} {All developing country Parties} {Particularly vulnerable developing country Parties} {shall} {should} formulate and report on their national adaptation plans, assessing, identifying, costing and prioritizing their urgent and immediate, and medium and long-term, adaptation needs, including needs related to risk management, reduction and sharing, that are consistent with national and sectoral priorities. These plans {should}:

- (a) Catalyse actions in different sectors, promoting efficient and effective use of the financial resources for adaptation provided under the Convention;
- (b) Emphasize programmatic approaches, while also recognizing a place for adaptation projects under certain circumstances;
- (c) Inform domestic action and the provision of increased international financial support, possibly forming a component of a country's sustainable development plan;
- (d) Be used to report on the effectiveness of adaptation actions in meeting stated objectives;
- (e) Consider the synergy between adaptation and mitigation measures, including those within which options concerning reducing emissions from deforestation and forest degradation in developing countries (REDD) are particularly relevant;
- (f) Take into account the dynamics of natural systems.

24. To promote the enabling {activities} {environments} to support adaptation action, {all Parties} {Parties} {all developing country Parties} {shall} {should}:

- (a) Integrate adaptation into development, disaster risk and poverty reduction plans, strategies, tools and policies at multiple levels and across sectors;

- (b) Provide incentives to adaptation through regulatory policies, legislative changes, removal of barriers and other supportive approaches;
- (c) Build capacity, including institutional capacity, through providing financial and technical support for:
 - (i) Operational planning of adaptation, including for detailed project design, costing of adaptation, and increasing adaptive capacity;
 - (ii) Systematic observation, data collection and archiving, analysis, modelling and dissemination;
- (d) Undertake sound vulnerability and adaptation assessments employing a range of decision-making tools and methodologies;
- (e) Share knowledge, information and experience at local, national, regional and international levels;
- (f) Engage in education and training programmes, research and public awareness-raising;
- (g) Encourage pilot projects related to microinsurance and risk pooling;
- (h) Engage in a three-year pilot phase of adaptation activities implemented cooperatively, to catalyse rapid learning about adaptation good practice by supporting enhanced implementation of demonstration projects, programmes and policies in vulnerable countries and communities;
- (i) Establish a short-term work programme up to 2012 in order to support the preparation and implementation of NAPAs, and to support the strengthening of observation systems, the creation of databases for climate data, and targeted capacity-building for long-term planning.

Implementation of adaptation actions

25. The adaptation {framework} {programme} shall support and enhance the implementation of national adaptation plans. Adaptation action includes:

- (a) Specific adaptation programmes, projects, and actions for implementation at local, subnational and national levels, including activities identified in the national adaptation plans, and cross-sectoral and sector-based activities;
- (b) Strategies and measures to reduce, manage and share risk, including early warning systems, insurance-related activities and activities addressing loss and damage from climate change impacts, including those arising from extreme weather events;
- (c) Strategies and measures to build resilience, including through economic diversification;
- (d) R&D, deployment, diffusion and transfer of adaptation technologies, including capacity-building, taking into account sector-specific adaptation technologies, ecosystem-scale intersectoral linkages and endogenous adaptation technologies;
- (e) Activities related to national and international migration/planned relocation of climate refugees.

26. National adaptation plans are to be reviewed and updated {every three to four years}. National adaptation plans could be reported as part of a country's national communication.

27. All Parties are encouraged to engage a wide range of stakeholders, including the private sector and civil society, in supporting and implementing adaptation action in developing country Parties.

C. Means of implementation

28. Taking into account the provisions of paragraphs 31–33 below, developing country Parties {and Parties with economies in transition} {shall} {should} receive access⁷ to finance, technology and capacity-building,⁸ to support adaptation action at local, subnational, national, regional and global levels, including:

- (a) Activities referred to in section B above and paragraph 30 below relating to the implementation of adaptation actions and enabling {activities} {environments} to support those actions;
- (b) Identified adaptation programmes, projects or actions, such as those arising from national sustainable development strategies, poverty reduction strategies, national communications and NAPAs and other relevant instruments;

29. The adverse effects of climate change constitute an additional burden on developing country Parties in reducing poverty and attaining sustainable development and the United Nations Millennium Development Goals. Financial support {shall} {should} be provided on a grant basis {and as concessional loans} to meet the {agreed full {incremental}} cost of adaptation action in developing countries.

30. {Agreed} full {incremental} cost coverage should be provided for:

- (a) Adaptation technologies and stand-alone adaptation projects;
- (b) Preparation of national adaptation action plans;
- (c) Implementation of NAPAs;
- (d) Resilience-building activities based on vulnerability assessments, including for sustainable livelihood, sustainable agriculture, building community capacities and infrastructures, access to technologies and innovations, etc.

31. In providing support, priority {shall} {should} be given to:

- (a) Supporting adaptation at local and national levels;
- (b) Particularly vulnerable developing country Parties, especially:
 - (i) Poor developing countries;
 - (ii) LDCs and SIDS, and countries in Africa affected by drought, desertification and floods;
 - (iii) Low-lying and other small island countries, countries with low-lying coastal, arid and semi-arid areas or areas liable to floods, drought and desertification, archipelagic countries, and developing countries with fragile mountainous ecosystems;
 - (iv) Countries with unique biodiversity, tropical glaciers and fragile ecosystems;

⁷ Principles and criteria proposed for access to financial resources are indicated in paragraph 166 below.

⁸ Criteria proposed for the scale and the nature of financial support are reflected in paragraph 171 below.

- (c) Particularly vulnerable populations, groups and communities, especially the poor, women, children, the elderly, indigenous peoples, minorities and those suffering from disability.

32. In addition to the above, priority consideration should also be given to ecosystem-based adaptation activities.

33. In prioritizing support, the level of vulnerability, determined by national circumstances, respective financial and technical capabilities, levels of risk and impacts as well as levels of poverty and climate change exposure, should be taken into account.

34. Financial support {shall} {should} generally be provided to adaptation through a programmatic approach {and to project-based adaptation action}.

35. In delivering means of implementation for adaptation action in developing countries, complementarity and coherence shall be ensured among existing international sources of support, including funds under the Convention and bilateral and multilateral funds outside the Convention.

36. Sources of new and additional financial support for adaptation may include assessed contributions, auctioning of assigned amounts and/or emission allowances; levies on CO₂ emissions; taxes on carbon-intensive products and services from Annex I Parties; levies on international and maritime transport; shares of proceeds on the clean development mechanism (CDM), joint implementation and emissions trading; levies on international transactions; fines for non-compliance with commitments of Annex I Parties and Parties with commitments inscribed in Annex B to the Kyoto Protocol (Annex B Parties); additional ODA and bilateral, regional and other multilateral channels (in accordance with Article 11.5 of the Convention).⁹

D. Risk reduction, management and sharing

37. The adaptation {framework} {programme} {shall} {should} :

- (a) Support country-driven projects and programmes aimed at assessing, managing, reducing and sharing the risks associated with climate change, including the impacts of extreme weather events, and of gradual changes;
- (b) Enhance insurance, risk assessment and management, through, inter alia, the implementation of the Hyogo Framework for Action.¹⁰

38. It shall take into account the intrinsic connection between adaptation policies and measures and risk management, insurance and disaster reduction strategies.

39. Activities should include the preparation and implementation of national risk management plans, disaster risk reduction strategies and early warning systems.

40. During the planning and implementation of the projects and programmes mentioned in paragraph 37 above, coherence should be ensured with the implementation of other adaptation action, and with other adaptation-related efforts including under the Hyogo Framework for Action.

41. {A multi-window mechanism}¹¹ {Various mechanisms}¹² for risk reduction, management and sharing {could be} {must be} established to:

⁹ Proposals concerning the generation of new and additional financial resources are reflected in paragraph 173 below.

¹⁰ The Hyogo Framework for Action 2005–2015: Building the Resilience of Nations and Communities to Disasters. Available at <<http://www.unisdr.org/eng/hfa/docs/Hyogo-framework-for-action-english.pdf>>.

¹¹ Parties also referred to “multi-option”.

¹² Parties also referred to “systems”.

- (a) Support particularly vulnerable developing countries;
- (b) Be consistent with the country-driven approach to adaptation;
- (c) Function at the international level.

42. {This mechanism} {These mechanisms} {will} {could}

Option 1

consist of three components:

- (a) A risk management and prevention component to promote risk assessment and risk management tools and strategies at all levels, with a view to facilitating and supporting the implementation of risk reduction and risk management measures;
- (b) An insurance component to address climate-related extreme weather events, and risks to crop production, food security and livelihood;
- (c) A rehabilitation and compensation component to address progressive negative impacts that result in loss and damage.

Option 2

serve as a window to provide rapid financing to cope with the aftermath of extreme climate events, including a compensation mechanism.

Option 3

include innovative financial instruments, for example venture capital funds and climate insurance funds, integrated into the financial mechanism, for addressing the risks associated with climate change.

43. Public-private partnerships {shall} {should} be promoted to catalyse wider engagement of stakeholders including the private sector, in risk reduction, management and sharing, including insurance and addressing loss and damages.

E. Institutional arrangements¹³

44. The Convention should assume a catalytic role in {guiding} {coordinating} adaptation activities at the international level, including cooperative action by all Parties and by relevant international, regional and national organizations and institutions. The Convention process can facilitate the provision of appropriate information on the scientific and technical aspects of adaptation, the sharing of experiences and knowledge in implementing adaptation activities, and the linking of national entities and implementing agencies with necessary expertise.

45. Under the adaptation {framework} {programme}, international institutional arrangements for adaptation {must} {should}:

- (a) Be fair, effective, efficient and transparent;
- (b) Be under the authority, and guidance of, and be fully accountable to, the COP;
- (c) Be supportive of national institutional arrangements;

¹³ Institutional arrangements, including funds, for both adaptation and mitigation financing are presented in detail in chapter IV A 3.

- (d) Ensure that adaptation action is implemented at the most appropriate level, including at local, sub-national, national and regional levels, recognizing the important roles of state and regional governments;
- (e) Encourage the integration of adaptation into development plans, programmes, and priorities;
- (f) Create arenas for sharing information and good practices, and forums where different public and private stakeholders can discuss concrete challenges.

46. To support the implementation of the adaptation {framework} {programme}, {existing institutional arrangements shall be enhanced} {and the following new institutional arrangements¹⁴ should be established}:

Option 1

{An adaptation committee} {A subsidiary body for adaptation} to enhance the implementation of adaptation action in developing country Parties through, inter alia: providing advice and technical support to Parties; developing mechanisms for the transfer of adaptation technologies; planning, organizing, coordinating, monitoring and evaluating international actions on adaptation to climate change, including on the means of implementation.

Option 2

An expert group on adaptation under the subsidiary body for adaptation mentioned in Option 1 above.

Option 3

An adaptation advisory panel evolving from the Least Developed Countries Expert Group to develop broad guidance for developing national adaptation strategies, and provide support for particularly vulnerable countries in developing these strategies.

Option 4

A facilitative mechanism to design and implement a new work programme on adaptation.

Option 5

A mechanism to enhance and support action on adaptation now, up to and beyond 2012, including through overseeing the level of adaptation of developing countries, assessing capacity-building needs, overseeing the creation of the necessary funds and insurance mechanisms and overseeing the effectiveness of funds allocated to adaptation.

Option 6

A mechanism, under the Convention, to enable and support the creation of partnerships among companies and research institutions of developed and developing countries for adaptation technologies and the implementation of adaptation activities.

47. National coordinating bodies should be established to address all aspects of the means of implementation for adaptation, and to strengthen the institutional capacity of national focal points and all stakeholders.

48. Centres and/or networks {shall} {should} be {established} {strengthened}, including:

¹⁴ This section includes proposed institutional arrangements for all aspects of adaptation. Specific institutional arrangements for adaptation finance are contained in paragraph 175, options 1 and 2, below.

Option 1

National centres and networks.

Option 2

Regional centres, networks and initiatives.

Option 3

Virtual regional centres.

Option 4

An international adaptation centre.

49. The above-mentioned centres and networks {should} operate with a view to, inter alia:
- (a) Facilitating the implementation of adaptation action {in all vulnerable developing country Parties, particularly LDCs and SIDS} through promoting research, knowledge sharing, training, capacity-building and the development, diffusion and transfer of adaptation technology;
 - (b) Planning, designing, implementing, monitoring and evaluating adaptation activities, and facilitating informed decision-making at all levels;
 - (c) Coordinating and disseminating information related to regional modeling, for improved vulnerability and adaptation assessments;
 - (d) Assisting Parties to build endogenous capacity for, inter alia: developing analytical tools; undertaking adaptation research and implementation activities; research, development, deployment and transfer of adaptation technologies; awareness-raising; support for pilot projects; and publication of studies on adaptation.
50. The scope of the Nairobi work programme is to be enhanced, and it should become a hub for knowledge and information sharing and capacity-building at regional and national levels.

F. Monitoring and review of adaptation action and support

51. Progress in the implementation of the adaptation {framework} {programme}, including the delivery of means of implementation to developing country Parties, and progress in building resilience and reducing vulnerability, should be monitored and reviewed to ensure the full implementation of adaptation actions and commitments in a measurable, reportable and verifiable manner, and in the context of transparency, mutual accountability and robust governance.
52. Monitoring {and evaluation} entails, inter alia:
- (a) Monitoring and recording financial resources provided by developed country Parties;
 - (b) Monitoring technology transferred to developing country Parties;
 - (c) Monitoring the utilization of financial resources;
 - (d) Evaluating the effectiveness of the implementation of adaptation actions, projects and programmes;
 - (e) Evaluating the sufficiency of financial and technology support to developing country Parties;

(f) Ensuring that effective outcomes are realized from that support.

53. A {mechanism} {system} for monitoring, reporting and/or providing feedback shall be established

Option 1

as part of a compliance mechanism.

Option 2

for all Parties and adaptation actions as part of the overall reporting system under a new climate regime.

Option 3

through utilizing existing mechanisms to monitor and evaluate the provision and effectiveness of adaptation support, such as through multilateral funding and ODA channels.

54. The most vulnerable developing country Parties shall submit their NAPAs for examination on a country-by-country basis, which should result in prioritizing actions requiring assistance for implementation.

III. Enhanced action on mitigation

A. Mitigation by developed countries¹⁵

1. Nationally appropriate mitigation commitments or actions by developed countries

55. All {developed country Parties} {all Annex I Parties and all current European Union (EU) member States, EU candidate countries and potential candidate countries that are not included in Annex I to the Convention} {Organisation for Economic Co-operation and Development (OECD) member countries, countries that are not OECD members but whose economic development stages are equivalent to those of the OECD members, and countries that voluntarily wish to be treated as developed countries} {shall} {should} adopt legally binding mitigation commitments or actions including economy-wide quantified emission limitation and reduction objectives¹⁶ for the period from {1990} {2013} {XXXX} until {2017} {2020} {XXXX}, while ensuring comparability of efforts among them, taking into account differences in their national circumstances. {These commitments or actions shall be inscribed in {Annex ...} {Appendix ...} {Schedule ...} {...}.}

¹⁵The Bali Action Plan, in its paragraph 1 (b) (i), calls for the consideration of enhanced national/international action on mitigation of climate change, including, inter alia, the consideration of measurable, reportable and verifiable nationally appropriate mitigation commitments or actions, including quantified emission limitation and reduction objectives, by all developed country Parties, while ensuring the comparability of efforts among them, taking into account differences in their national circumstances.

Parties referred to the following Articles of the Convention in their submissions related to this section: Articles 1, 2, 3, 4 (as a whole and also with reference to paras. 1, 1(b), 3, 5, 6, 7, 8, 9 and 10) and 12 (as a whole and also with reference to para. 4).

¹⁶The term “quantified emission limitation and reduction objectives” is used in paragraph 1 (b) (i) of the Bali Action Plan and is used in this document without prejudice to the outcome of the negotiations on this matter. Alternative formulations used by Parties include: “quantified emission reduction objectives”, “quantified emission reduction commitments” and “quantitative emissions reductions/removals”.

National circumstances and comparability of efforts

56. With respect to comparability of efforts, elements relating to emission reduction commitments that {shall} {should} be compared include:

- (a) Their {magnitude} {, using tonnes of CO₂ eq as a unit of comparability} {level of mitigation ambition};
- (b) Their {form} {nature} and legal effect;
- (c) Consistency with relevant provisions of the Kyoto Protocol {and related decisions of the COP and the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP) applying to the first commitment period}, including requirements for compliance, monitoring and enforcement;
- (d) Time frames and the application of the same base year established by the Kyoto Protocol.

57. In view of the need to account for diverse national circumstances and to ensure comparability of efforts, the development of quantified emission limitation and reduction objectives {should} {shall} be based on robust, relevant, impartial and credible indicators, taking into account such factors as:

- (a) Historical responsibility for {emissions} {global temperature increase};
- (b) National and regional development priorities;
- (c) Natural and geographical characteristics; resource endowment;
- (d) Availability of low-carbon energy supply options and opportunities for fuel switching;
- (e) {Trends in} emissions {per capita}, {per unit of gross domestic product (GDP)}, {per energy unit} {and population trends};
- (f) Domestic mitigation potential and mitigation costs, aggregate {and marginal} economic costs, domestic achievement of emission reduction and per capita effort;
- (g) Sector-specific circumstances and sectoral energy efficiency and GHG intensity;
- (h) Degree of access to flexibility mechanisms;
- (i) Relative size of the economy; ability to pay {, and economic and technological capacity};
- (j) Extent of transition to a market economy;
- (k) Position on the human development index.

58. Suitable criteria, agreeable to every Party, should be used in defining “developed country Parties”. There should be a dynamic continuum with different commitments, actions and support for different countries based on common, objective criteria.

59. An objective, consistent, transparent, thorough and comprehensive technical assessment of the comparability of efforts among Annex I Parties shall be {facilitated} {made} by a technical panel on comparability. The panel shall assess the information provided by Annex I Parties in their annual national communications and report its findings to the COP for further action. If the report indicates questions relating to comparability, the COP shall refer the matter to a compliance committee for attention.

*Mitigation commitments or actions*60. Option 1

Quantified emission limitation and reduction objectives for developed country Parties that are Parties to the Kyoto Protocol shall be those inscribed in Annex B to the Kyoto Protocol as amended, and quantified emission limitation and reduction objectives for those developed country Parties that are not Parties to the Kyoto Protocol shall be as contained in (...). The commitments under the Kyoto Protocol {shall} be taken as a reference; commitments for those developed country Parties that are not Parties to the Kyoto Protocol {shall} be comparable with commitments taken by Annex I Parties under the Kyoto Protocol, including with regard to the base year used to express them.

61. Option 2

Annex I Parties shall, individually or jointly, ensure that their aggregate anthropogenic CO₂ emissions of the GHGs listed in (...) do not exceed, in the commitment period 2013 to {20XX}, their respective assigned amounts inscribed in (...).

62. Option 3

Recalling Article 4.1(b) of the Convention, {developed country} Parties shall implement their respective nationally appropriate mitigation action, including quantitative emission reductions and/or removals in the 2020/(...) time frame, in conformity with domestic law. They shall also formulate and submit low-emission¹⁷ strategies that articulate an emission pathway to 2050, including long-term net emission reductions of at least (...) by 2050. Mitigation action is subject to measurement, reporting and verification.

63. Option 4

Each developed country Party shall establish, regularly update and implement the contents of national schedules, which {shall} {should} include long-term national GHG limitation or reduction pathways, quantified emission limitation or reduction commitments for 2020, and measurable, reportable and verifiable mitigation policies and measures designed to meet those commitments, subject to regular review by the COP. Each national schedule {shall} {should} provide details on the goals, policies and measures that underpin the Party's commitments, including details on (1) expected emission reduction pathways, including mid- and long-term emission reduction goals, and (2) enabling domestic measures, such as emissions trading regimes and renewable energy targets.

64. Option 5

Each Party should decide on a suitable commitment for itself, choosing whether to undertake quantified emission reduction and limitation commitments or nationally appropriate mitigation actions, and whether such commitments or actions will be undertaken voluntarily or in a legally binding context either internationally or domestically.

Approaches to achieve quantified emission limitation and reduction objectives

65. Developed country Parties {shall} {should} achieve their quantified emission limitation and reduction objectives

Option 1

¹⁷Parties in their submissions refer either to "low-emission" or "low-carbon" in their proposals of strategies or plans. For the purpose of this document, "low-emission" is used as a more inclusive term pending the outcome of negotiations on this issue.

mostly through domestic action {and they may acquire, from developing country Parties, emission reduction units provided that the acquisition of emission reduction units is supplemental to domestic action} {, which should fulfill at least 90 per cent of their commitments exclusively from domestic actions. A maximum of 10 per cent of their commitments should be achieved through the use of flexibility mechanisms, including offsets}.

Option 2

domestically. If developed country Parties intend to achieve any proportion of their emission reductions abroad, commitments to undertake deeper emission reductions would be required, as well as clarity on the proportion of emission reductions to be achieved domestically and abroad.

Option 3

internally and not through flexible market mechanisms that allow for the purchase of certified emission reduction certificates.

2. Measurement, reporting and verification of commitments or actions

66. The current system for reporting of national communications and annual inventories under the Convention, with its independent review structure, provides a basis on which to build a system for the measuring, reporting and verification of mitigation commitments or actions by developed countries. In the implementation of measurement, reporting and verification, relevant provisions of Articles 5, 7 and 8 of the Kyoto Protocol and related decisions {should} {shall} be applied, including the procedures for annual reporting and review of national GHG inventories and for periodic reporting and review of national communications. The procedures laid out in Articles 5, 7 and 8 of the Kyoto Protocol {should} {shall} be strengthened such that they apply to the quantified emission limitation and reduction commitments of all developed country Parties, in order to ensure comparability of commitments.

67. *Issues identified by Parties in the context of paragraph 66 above as requiring further elaboration at the appropriate time include modalities for implementing measurement, reporting and verification, including revision or development of relevant guidelines.*

3. Compliance with quantified emission limitation and reduction objectives

68. Compliance with quantified emission limitation and reduction objectives undertaken by developed countries {shall} {should} be monitored and assessed in a robust and credible manner based on agreed procedures for measurement, reporting and verification. The monitoring and assessment of compliance {shall} {should}

Option 1

utilize the relevant procedures implemented under the Kyoto Protocol. These provisions may be enhanced as appropriate, taking into account experiences gained from relevant international agreements.

Option 2

be undertaken within a new compliance system under the COP.

Option 3

lead to the application of penalties for non-compliance, including {increased future reduction commitments by an amount calculated as a multiple of the shortfall in implementation and financial contributions as penalties or fines and paid into an enhanced financial mechanism} {monetary penalties to be paid to the Adaptation Fund}.

69. *Issues identified by Parties in the context of paragraph 68 above as requiring further elaboration at the appropriate time include modalities for the implementation of compliance procedures, including revision or development of relevant guidelines; and the possibility of establishing a new body for compliance and for measurement and reporting.*

B. Mitigation by developing countries¹⁸

1. Nationally appropriate mitigation actions by developing countries

Nature of nationally appropriate mitigation actions

70. Developing country Parties contribute to enhanced mitigation by undertaking NAMAs. These actions should be country-driven, undertaken on a voluntary basis in the context of sustainable development, in conformity with prior needs of sustainable development and eradication of poverty, and determined and formulated at the national level in accordance with the principle of common but differentiated responsibilities and respective capabilities.

71. NAMAs by developing country Parties shall be supported and enabled by technology, financing and capacity-building in accordance with Articles 4.3 and 4.7 of the Convention. NAMAs and support for NAMAs {shall} be undertaken in a measurable, reportable and verifiable manner. The extent of mitigation actions undertaken by developing countries will depend on the effective provision of financial and technological support by developed country Parties.

72. NAMAs can be any actions defined by developing country Parties, including any individual actions and {projects} {large-scale mitigation programmes, beyond projects} in the context of Articles 4.1(b) and 12.4 of the Convention; {and they should be based on ‘a no-lose target’ concept} {and should not generate offsets for developed country Parties}.

73. NAMAs may include:

- (a) Sustainable development policies and measures;
- (b) Low-emission development strategies and plans;
- (c) Programmatic CDM, technology deployment programmes or standards, energy efficiency programmes and energy pricing measures;
- (d) Cap-and-trade schemes and carbon taxes;
- (e) Sectoral targets, national sector-based mitigation actions and standards, and no-lose sectoral crediting baselines;
- (f) REDD-plus¹⁹ activities and other mitigation actions implemented in different areas and sectors, including agriculture.

¹⁸The Bali Action Plan, in its paragraph 1 (b) (ii), calls for the consideration of enhanced national/international action on mitigation of climate change, including, inter alia, NAMAs 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.

¹⁹In this document, actions under paragraph 1 (b) (iii) of the Bali Action Plan (issues related to policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries) are referred to collectively as “REDD-plus”.

74. The NAMAs by developing country Parties

Option 1

{shall} {should} be distinct from the commitments of developed country Parties and should not constitute binding obligations or targets for developing country Parties, or be used as a basis for differentiating among them.

Option 2

{should} {shall} be different for different groups of countries, depending on the level of development of their economies, (particularly in the case of LDCs and SIDS), and on their respective capacities and specific national circumstances, including limited opportunities that may be available for using alternative energy sources.

Option 3

in further implementation of Article 4.1 of the Convention, shall be elaborated in the context of national low-emission development strategies to be developed by all developing country Parties consistent with their capacities and in the context of their broader sustainable development strategies. These low-emission development strategies

Option 3.1

shall include an emission pathway (emission projection planned to be achieved with the implementation of the strategy). The strategies should be put in place no later than 2012 and cover all key emitting sectors.

Option 3.2

for developing country Parties whose national circumstances reflect greater responsibility or capabilities shall be formulated and submitted as low-emission strategies for long-term net emission reductions by 2050, consistent with the levels of ambition needed to contribute to meeting the ultimate objective of the Convention. In this context, these countries shall implement NAMAs in the 2020/(...) time frame that are quantified (e.g. reduction from business-as-usual). These countries shall indicate dates by when they will commit to the types of action undertaken by developed country Parties.²⁰

Option 4

shall be in the form of sectoral and economy-wide GHG emission intensity targets, with a view to substantially limiting the growth of GHG emissions in those developing countries that contribute substantially to global emissions of GHGs. In addition, each developing country Party {should} {shall} develop a voluntary national action plan, including policies and measures for mitigation, which {should} include quantified elements to the extent possible.

Option 5

{shall} {should} be incorporated in national schedules. Each {developing country} Party {shall} {should} establish, regularly update and implement the contents of national schedules, which {shall} include long-term national GHG limitation or reduction pathways, quantified emission limitation and reduction commitments for 2020, and the measurable, reportable and verifiable mitigation policies and measures designed to meet those commitments, subject to regular review by the COP. {Schedules should identify where specific mitigation actions were made possible through previously agreed international support} {Schedules for LDCs should

²⁰ As described in paragraph 62 above.

include a description of intended actions, including those that might benefit from additional international support}.

Option 6

{should} evolve over time to reflect changes in national circumstances assessed in accordance with objective criteria of economic development.

75. Developing country Parties {should} register their ongoing and planned NAMAs, in order to gain international recognition of these actions and to seek financial and technological support to undertake further actions.

76. Actions by developing country Parties that {are qualified as NAMAs and} can be registered comprise

Option 1

actions of three types: (1) actions that are undertaken by developing country Parties and are not enabled or supported by other Parties (“unilateral NAMAs”); (2) actions that are supported by developed country Parties; and (3) actions that are undertaken to acquire carbon credits.

Option 2

only actions that are supported by developed country Parties.

A mechanism to register and facilitate implementation of nationally appropriate mitigation actions and corresponding support

Note: Parties presented four detailed proposals for a mechanism for registering and facilitating implementation of NAMAs and the financial, technology and capacity-building support for NAMAs. The essential elements of these proposals are reflected in paragraphs 77–81 below.

77. Option 1

A NAMA register shall be established as a mechanism to enhance the implementation of the relevant provisions of Articles 4.1, 4.3 and 4.5 of the Convention by facilitating the identification, mobilization and matching of support required to implement NAMAs by developing country Parties and enable international recognition and communication of such actions.

Developing countries may register their NAMAs on a voluntary basis. The level of mitigation effort by developing countries shall be commensurate with the level of support received.

NAMAs may comprise individual mitigation actions, sets of actions or programmes, including sustainable development policies and measures, REDD, programmatic CDM, no-lose sectoral crediting baselines and others.

The register shall initially contain a list of indicative proposed mitigation actions and information related to the assumptions and methodology underpinning the proposed actions, the emissions that would be avoided as a result of the actions (relative to a GHG emission baseline) and the support that would be required for the actions. This information shall be assessed by a technical panel established under the Convention. Once the technical panel has reported that the action and support have been established in line with good practice, a request to the financial and technology mechanism(s) of the Convention, which shall be responsible for matching support to actions, shall be triggered.

Implementation of actions shall be enhanced through support for building institutional capacity in developing countries. After implementation, both the action and the support shall be measured, reported and verified. The register shall be updated annually, to reflect the status of implementation of action and

its support. Following the first measurable, reportable and verifiable report, the NAMA shall be considered registered (and no longer indicative).

International financial and technology support for NAMAs will come from the range of sources mobilized by the financial and technology mechanism(s).

78. Option 2

A registry for NAMAs by developing country Parties shall be established with the aims of recognizing the actions as part of the global efforts to combat climate change and providing a platform for matching those actions, if needed, with measurable, reportable and verifiable support by developed country Parties.

Developing country Parties {shall} be invited to register their NAMAs in the registry and implement them so that their actions can be recognized as climate actions at the international level and supported and enabled by technology, financing and capacity-building, in a measurable, reportable and verifiable manner.

Developing country Parties {shall} also be invited to register in the registry and implement, on a voluntary basis, their unilateral NAMAs taken without technology, financing and capacity-building support, which can be measured, reported and verified according to guidance provided by the COP.

Issues identified by the proposing Party in the context of this option as requiring further elaboration at the appropriate time include: the scope and time frames of NAMAs that are to be registered; the expected contribution of NAMAs to mitigation; modalities to match technology, financing and capacity-building support with NAMAs registered; modalities to measure, report and verify the actions implemented and the support provided; and the modus operandi of the registry.

79. Option 3

A support and accreditation mechanism shall be established with the functions of:

- (a) Registering and pooling all pledges for voluntary mitigation actions by developing countries, and all pledges for financial support and technology transfer by developed countries;
- (b) Providing a platform for matching NAMAs with financial and technology support and with the provision of emission reduction credits for those actions;
- (c) Providing for measurement, reporting and verification of both actions and the corresponding support;
- (d) Recognizing NAMAs as part of the global effort to combat climate change.

The support and accreditation mechanism shall facilitate the implementation of NAMAs through:

- (a) "The support path", involving direct financial and technological support by developed countries, channelled through the financial and technology mechanism(s) of the Convention;
- (b) "The accreditation path", involving provision of emission reduction credits for NAMAs.

Developing countries may choose one or both of the above "paths" to implement NAMAs.

Developing country Parties shall decide when the level of support from both sources mentioned above is sufficient for the implementation of a proposed NAMA. They retain the right to delay implementation of the proposed NAMA if they consider the level of support insufficient.

80. Option 4

A coordinating mechanism shall be established with the functions of:

- (a) Providing a technical assessment of the low-emission development strategies of developing countries and the NAMAs contained therein and of the corresponding needs for support identified. It shall assess, in particular, the contribution of a proposed emission pathway to a substantial deviation from business-as-usual emission projections;
- (b) Matching action to support, in such a way as to maximize cost-efficiency and to strengthen financing for NAMAs, taking into account the capabilities of each country;
- (c) Validating matched action and support.

NAMAs and corresponding support that have been approved by the coordination mechanism shall be inscribed in a register, with a view to recognizing actions undertaken by developing countries with strong measurement, reporting and verification of both national action and support.

Issues identified by the proposing Party in the context of this option as requiring further elaboration at the appropriate time in the context of details necessary for operation of the registry include governance of the coordinating mechanism, including possible supporting technical bodies; specific information on NAMAs and support to be registered; and further modalities and procedures.

Note: Paragraphs 81–82 below present additional elements proposed by Parties that could apply to one or more of the above proposals.

81. The mechanism(s) for registering and facilitating implementation of NAMAs in the context of financial, technology and capacity-building support {should} {shall}:

- (a) Serve as a functional “window” to mechanism(s) for finance and technology under the Convention;
- (b) Allow for confirmation that specific support has been channelled to a specific action. Once this channelling has been confirmed, both support and action {should} become effective within the registry simultaneously;
- (c) Not replicate CDM procedures.

82. The function of the mechanism(s) {shall} {should} include registering:

- (a) The expected outcome of each NAMA in terms of its sustainable development benefits and co-benefits and the GHG emission reductions

Option 1

in relation to the emission baselines or business-as-usual path {, including at a national or sectoral level} {for several time horizons, for example 2020, 2030 and 2050};

Option 2

directly, not based on the definition of a baseline;

- (b) An estimate of the full incremental cost of each NAMA, including for technology transfer and capacity-building;
- (c) Information relating to implementation of each NAMA, including information on support received and the time frame for implementation;

- (d) Any proposed use of a carbon market mechanism, and the associated caps and thresholds.

2. Means of implementation

83. NAMAs by developing countries {should} {shall} be supported {on the basis of {agreed} full {incremental} costs}. The support {should} cover various activities in mitigation, including:

- (a) Activities at different stages of a NAMA, including preparedness, planning and implementation;
- (b) Creating and sustaining enabling environments for mitigation in developing countries;
- (c) Identifying and removing barriers to unilateral actions;
- (d) Undertaking measurement, reporting and verification of actions;
- (e) Technology needs assessments (TNAs);
- (f) Elaboration of low-emission development strategies and plans for {all developing countries} {the LDCs}.

84. Matching action to support shall be undertaken in such a way as to maximize cost-efficiency and strengthen financing for actions. The establishment of mechanisms for matching support and actions {should} take into account the need to ensure environmental integrity of NAMAs and aim at achieving cost-efficient emission reductions. The support {should} be based on the needs identified by developing country Parties to enhance implementation of their NAMAs.

85. Support provided through the registry should not be channelled solely to actions that achieve direct emission reductions. Support {should} be differentiated between different kinds of actions.

86. Incentives for developing country Parties can be provided by linking supporting measures (in technology and finance) with efforts in measurement and reporting.

87. *Issues identified by Parties in the context of paragraphs 83–86 above as requiring further elaboration at the appropriate time include the concept and modalities of matching action with support.*

3. Measurement, reporting and verification of actions

Measurement and reporting

88. Measurement and reporting of NAMAs and their achieved outcomes (including those in para. 82 (a) above)

Option 1

shall be applicable only to the mitigation actions per se.

Option 2

shall cover both national low-emission strategies and NAMAs undertaken in the context of those strategies.

89. Measurement and reporting shall be undertaken under the guidance of the COP {following internationally agreed guidelines that build on, inter alia, existing IPCC guidance} {in accordance with national measuring and reporting procedures and practices} and taking into account countries' national circumstances.

90. Each developing country Party shall {in addition} submit its national GHG emissions inventories of anthropogenic emissions by sources and removals by sinks of all gases not controlled by the Montreal Protocol containing information on

Option 1

how implementation of NAMAs affects GHG trajectories at a national and/or sectoral level or the national baseline.

Option 2

the low-emission development strategy of the country in the context of its broader sustainable development strategy and GHG emission pathway.

Option 3

for major developing countries: quantification of actions and quantified energy intensity targets, as well as mitigation policies and measures designed to implement them (especially in major sectors), based on the requirements which are the same as for developed country Parties.

91. National inventories of developing country Parties shall be submitted {regularly, on a more frequent basis than is current practice under the Convention {every two years} {annually, starting as soon as possible and not later than 2011}.

92. Unilateral NAMAs {and national plans that are undertaken by developing country Parties and are not enabled or supported by other Parties} may be reported through national communications.

93. {Adequate and accessible} {enhanced} financial support and capacity-building shall be provided to developing country Parties to enable them to develop and maintain capacity to prepare national GHG emissions inventories and national communications.

Verification

94. Unilateral NAMAs by developing country Parties

Option 1

{shall} {should} be verified by national entities in accordance with internationally agreed guidelines.

Option 2

should not be subject to verification.

95. Actions that are implemented with international support {and do not result in transfer of carbon credits} {shall} be subject to international verification, together with the support as measured and reported, according to modalities, procedures and guidelines to be established under the authority of the COP. This verification {shall} {should} include international auditing (e.g. by international expert teams).

96. NAMAs that are financed through the carbon market and with market finance {shall} be verified, together with the corresponding support as measured and reported, by institutions accredited by the COP and according to the same multilaterally agreed guidelines.

97. *Issues identified by Parties in the context of paragraphs 88–96 above as requiring further elaboration at the appropriate time include further guidelines, templates, methodologies and modalities for reporting of actions, taking into account the type of actions as well as specific circumstances and capacities of different groups of developing countries, including SIDS and LDCs.*

4. Measurement, reporting and verification of support

98. Developed country Parties shall measure (where measurable) and report support that is provided for NAMAs and {registered under the mechanism(s) referred to in paragraphs 77–82 above}, including the following:

- (a) Allocation and transfer of finance for means of implementation granted over and above ODA, in units of an agreed common currency;
- (b) Technology transfer, including development, application and diffusion, in units established by the COP;
- (c) The agreed full incremental costs of technology transferred to developing country Parties in units of an agreed common currency;
- (d) Support for capacity-building according to indicators and in units established by the COP.

99. Developed country Parties shall report on the measurement of support in their national communications under Article 12.3 of the Convention. Information on the support provided shall be updated annually. The measurement and reporting of support {shall} be based on new methodologies for assessing support.

100. The support shall be verified under an international register in terms of contributions by developed {and developing} countries within their respective capacities.

101. *Issues identified by Parties in the context of paragraphs 98–99 above as requiring further elaboration at the appropriate time include further guidelines, methodologies and modalities for measurement, reporting and verification of support, including provision of a possible compliance mechanism.*

5. Institutional arrangements²¹

International

102. A mechanism or mechanisms to register and facilitate the implementation of NAMAs and support for them (as referred to in paras. 77–82 above) {should} {shall} be established at the UNFCCC secretariat under the authority of the COP, supported by:

- (a) A technical panel established under the Convention to assess both the assumptions and methodology underpinning proposed NAMAs and the support required for the actions;
- (b) A new body established under the COP that will manage the measurement, reporting and verification of NAMAs and their corresponding technology, finance, and capacity-building support.

103. An international institutional framework {shall} {should} be established for measurement, reporting and verification of GHG emission reductions and to provide systematic support for Parties' preparation of national inventories for emissions and removals.

²¹ Institutional arrangements, including funds, for both adaptation and mitigation are presented in detail in chapter IV A 3 below.

*National*104. Option 1

National coordinating bodies shall be established to build institutional capacity in developing countries, and to provide support and facilitate coordination for the submission of NAMAs to the international register to register and facilitate the implementation of NAMAs and support for them (as referred to in paras. 77–82 above). The bodies should also facilitate coordination of mitigation actions undertaken without assistance from developed countries, to ensure international recognition of all mitigation action taken.

105. Option 2

Each Party with GHG emission intensity targets shall have in place a national system for the estimation of anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol. Guidelines for the national systems shall be elaborated.

C. Policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries²²

1. Objectives, scope and guiding principles

106. Developing country Parties contribute to enhanced mitigations actions in the {forestry sector} {land use, land-use change and forestry sector} by reducing emissions, ensuring permanence of existing carbon stocks and enhancing removals, while promoting sustainable forest management.

107. REDD-plus actions {should} be country-driven and voluntary {NAMAs}, and undertaken in accordance with countries' capabilities and national circumstances.

108. Broad country participation, sustainable forest management, permanence and co-benefits such as biodiversity {should} be promoted, and leakage {should} be avoided.

109. Indigenous peoples and local communities {should} {shall} be involved in implementation of actions and their rights respected, consistent with the provisions established under the respective national legislation or, in its absence, in accordance with the United Nations Declaration on the Rights of Indigenous Peoples.

110. Developing country Parties aiming to implement REDD-plus actions {shall}:

- (a) Develop REDD-plus national {implementation plans} {action plans} {strategies}, covering different phases of implementation when appropriate (i.e. a readiness phase, a policy implementation and demonstration activities phase, and full implementation);
- (b) Designate a national authority for implementing REDD-plus actions;
- (c) Establish national reference emission levels and/or national reference levels in accordance with their national circumstances {, which can be reviewed and adjusted over time,} and submit them to (...).

²² The Bali Action Plan, in its paragraph 1 (b) (iii), calls for the consideration of enhanced national/international action on mitigation of climate change, including, inter alia, policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries.

111. Option 1

National accounting of emissions and removals in the forest sector {shall} {should} be established, with the establishment of subnational accounting as an optional interim measure. Each Party should develop a unique emissions accounting and monitoring system for its forestry sector which includes all subnational activities.

112. Option 2

National or subnational accounting of emission reductions from deforestation may be accounted for at either national or subnational level, as decided by each Party.

2. Means of implementation

Note: Owing to the different initial capabilities of developing countries to implement REDD-plus activities, Parties foresee different phases: an initial readiness phase, which can include or be followed by a policy implementation and demonstration activities phase, and a full implementation phase. The options presented in paragraphs 113–114 below relate to support for those phases.

113. The readiness activities phase of REDD-plus actions, and the subsequent policy implementation and demonstration activities phase, including the activities to be implemented up to 2012, {should} {shall} be supported through one or more of the following sources:

Option 1

A readiness fund established under the COP to support capacity-building, technology transfer, policy implementation and institutional arrangements.

Option 2

REDD-plus readiness windows of the relevant Convention funds (e.g. the proposed mitigation fund referred to in para. 175 below).

Option 3

Auctions of allowances for implementation of national policies and measures.

Option 4

Limited access to the market for emission reductions achieved by demonstration activities.

Option 5

A special climate change fund to finance activities, complementary to the financing provided by the Global Environment Facility and by bilateral and multilateral funding, for enhancing the capabilities of developing countries to monitor changes in their forest cover and the associated carbon stocks and for designing and implementing policies that reduce deforestation and forest degradation.

114. The full implementation phase of REDD-plus activities in developing countries, including early actions, {should} {shall} be supported by

Option 1²³

use of public funds, through one or more of the following approaches:

²³ This proposal is presented in conjunction with proposals for adaptation and mitigation funds presented in paragraph 175.

- (a) A specialized fund established under the COP for reducing emissions from deforestation and forest degradation;
- (b) Specialized funds or funding windows established under the COP;
- (c) Trust funds for community forestry accounts, a Convention adaptation fund, by which conservation and sustainable forest management could be supported as adaptation measures, and/or a forest reserve fund for conservation and sustainable forest management under the mitigation fund under the COP proposed in paragraph 175 below.

Option 2

use of markets, such as:

- (a) Access to the carbon market through issuance of carbon credits for emission reductions from deforestation and forest degradation;
- (b) Access to the carbon market for emission reductions from deforestation and forest degradation, and for conservation and enhancement of carbon stocks in existing forest.

Option 3

a combination of market approaches and funds, such as:

- (a) A fund for conservation additional to ODA, international levies and/or market-linked mechanisms;
- (b) Funds for capacity-building, conservation efforts and sustainable forest management. Use of funds or markets would depend on host countries' preferences for activities to reduce emissions from deforestation and forest degradation;
- (c) A market-based approach for supporting enhancement of carbon stocks through sustainable forest management and reduced deforestation; and a non-market-based approach for supporting stabilization of forest cover, conservation and maintenance of carbon stocks through sustainable forest management;
- (d) A special climate change fund complementary to the Global Environment Facility and bilateral and multilateral funding, to support ongoing forest conservation and efforts to enhance forest carbon stocks, while using the certified emission reductions that accrue from project activities, involving the private and public sector to contribute to compliance with part of the countries' quantified emission limitation and reduction commitments under the Convention.

3. Measurement, reporting and verification of actions

115. Option 1

Developing country Parties requesting support {shall} {should} record under the NAMA registry REDD-plus actions undertaken within their REDD-plus national {implementation plans} {action plans} {strategies}, including information on the extent and type of support requested and the nature of the action, and any information received on measurement, reporting and verification of actions, including their outcomes.

116. Option 2

Developing country Parties requesting support {shall} {should} submit to {...} their national REDD-plus {implementation plans} {action plans} {strategies}, including information on the extent and type of support requested, the nature of the actions to be supported, their systems for measurement, reporting and verification of actions, and the outcomes of the actions.

117. When establishing national reference emission levels and/or national reference levels, taking into account national circumstances, developing country Parties that are requesting support shall follow any guidance developed by the COP {and adopted at its seventeenth session} on how to establish the levels, including ways to address leakage.

118. Parties aiming to implement REDD-plus actions shall, {under the NAMA registry as mentioned in paragraph 115 above} {on the basis of their national REDD-plus {implementation plans} {action plans} {strategies}}:

- (a) Report information on the implementation of national REDD-plus {implementation plans} {action plans} {strategies}, readiness activities, including policy implementation and demonstration activities, and identified co-benefits;
- (b) Measure and report the quantitative reduction of GHG emissions achieved and/or the change in carbon stocks in relation to the reference emission level.

119. Robust national monitoring systems for emission reductions and/or carbon stock changes {shall} {should} be developed following relevant methodological guidance to be provided by the COP, on the basis of the advice received from the Subsidiary Body for Scientific and Technological Advice (SBSTA) including the use of {relevant IPCC guidelines and methodologies} {the most recent IPCC guidelines for GHG inventories}.

120. Measurement, reporting and verification of REDD-plus actions shall be carried out in accordance with guidelines to be agreed by the COP. These guidelines shall cover, inter alia, eligibility criteria for access to support, take into consideration the advice resulting from the outputs of the work programme on methodological issues established under the SBSTA,²⁴ and the type of support required, while recognizing that higher levels of measurement, reporting and verification will be required for market-based eligibility.

121. Verification of REDD-plus actions shall be carried out by expert review teams or a measurement, reporting and verification technical panel.

4. Measurement, reporting and verification of support

122. Option 1

Parties, when providing support to REDD-plus actions in developing countries, {shall} {should} enter information into the NAMA registry on the extent and type of support to be provided, and the nature of the action to be supported.

123. Option 2

Parties, when providing support to REDD-plus actions in developing countries, {shall} {should} provide information on the extent and type of support, and the nature of the action for which the support is provided.

²⁴ The SBSTA is carrying out a programme of work on methodological issues relating to decision 2/CP.13, paragraph 11 (FCCC/SBSTA/2008/13, para. 47). It will report back to the COP at its fifteenth session with the aim of providing advice on methodological issues related to measuring and reporting, and reference emission levels.

124. Measurement, reporting and verification of support provided for REDD-plus actions {should} be carried out.

5. Institutional arrangements, including funds

125. Option 1

The financial arrangements to support REDD-plus actions should be included as part of the broader financial framework proposed to support NAMAs in developing countries (see paras. 115 and 122 above and chapter IV below).

Option 1.1

Specialized funds, funding windows and a board shall be established by the COP, as well as mechanisms to link the various funds. Each of the funds could be advised by an expert group or committee supported by a technical panel/technical panels.

126. Option 2

The financial arrangements to support REDD-plus actions should be developed for REDD-plus activities in developing countries, and should:

- (a) Be under the guidance and authority of the COP;
- (b) Ensure full transparency, efficiency, effectiveness, openness and the equitable and balanced representation of all Parties;
- (c) Provide coherence and coordination between various sources of financing.

127. Option 3

A specific body shall be established to supervise REDD-plus actions. An entity or group of entities or bodies shall be designated by the COP to verify and certify the emission reductions achieved.

128. *Issues identified by Parties in the context of paragraphs 110–127 above as requiring further elaboration at the appropriate time include rules and modalities in relation to activities or necessary arrangements, provisions for linking the information on readiness and implementation of REDD-plus actions with the financial resources.*

D. Cooperative sectoral approaches and sector-specific actions²⁵

129. Cooperative sectoral approaches and sector-specific actions {shall} {should} enhance the implementation of Article 4.1(c) of the Convention. To this end, these approaches and actions {should}:

- (a) Be applied at the national level {only};
- (b) Be tailored to national sector-specific needs and priorities and consider social and economic conditions and other relevant factors;
- (c) Be aimed at strengthening cooperative actions within any phase of the technological cycle and facilitate the management of technical and financial resources for the implementation of NAMAs;
- (d) Assist in fostering initiatives in R&D, capacity-building and technological cooperation;

²⁵ The Bali Action Plan, in its paragraph 1 (b) (iv), calls for the consideration of enhanced national/international action on mitigation of climate change, including, inter alia, cooperative sectoral approaches and sector-specific actions.

- (e) Assist in achieving the levels of financing and technology transfer necessary to address climate change in a measurable, reportable and verifiable manner;
- (f) Facilitate the identification of best practices and best available technologies for each sector through cross-border analysis and promote the transfer of those best practices and best available technologies from developed country Parties through analysing reduction potentials and setting indicators.

130. Cooperative sectoral approaches and sector-specific actions should be implemented as analytical tools to inform national mitigation efforts, taking into account the capabilities of each sector, and should contribute to the enhancement of Parties' measurable, reportable and verifiable actions in order to ensure environmental integrity. Bottom-up sectoral analysis may be used as a tool for analysing mitigation potential, based on recent scientific findings and existing knowledge. Cooperative sectoral approaches and sector-specific actions may also be used as instruments for both market and non-market mechanisms.

131. Priority areas shall be identified sector by sector and technology by technology. The most climate-sensitive sectors, including GHG-intensive and climate-vulnerable sectors, shall be fully considered for the development, transfer and deployment of environmentally sound technologies. A list of major environmentally sound technology needs shall be assessed regularly, to include analysis of reliability, costs, penetration range, sectoral share of market production capacity and market obstacles. Measures shall be taken to overcome obstacles to development, transfer and deployment of technologies in specific sectoral contexts.

132. The implementation of cooperative sectoral approaches and sector-specific actions should not replace the national targets of developed country Parties or lead to new commitments for developing country Parties, trans-national or national emission reduction targets, arbitrary or unjustifiable discrimination or disguised restriction on international trade, or the application of global uniform and equal standards for Parties.

133. Cooperative sectoral or sector-specific actions by developing countries to control their GHG emissions represent modalities of their implementation of Article 4.1 of the Convention. Annex II Parties must therefore meet their commitments for the provision of support for these actions to developing countries in accordance with Articles 4.3, 4.5 and 4.7 of the Convention.

Agriculture

134. Parties shall cooperate in R&D of mitigation technologies for the agriculture sector, recognizing the necessity for international cooperative action to enhance and provide incentives for mitigation of GHG emissions from agriculture, in particular in developing countries. Consideration should be given to the role of soils in carbon sequestration, including through the use of biochar and enhancing carbon sinks in drylands.

International bunker fuels

135. All sectors of the economy should contribute to limiting emissions, including international maritime shipping and aviation. Sectoral approaches could address emissions that cannot be attributed to any particular economy, and multilateral collaborative action would be the most appropriate means to address emissions from international aviation and the maritime transport sector.

136. Option 1

The International Maritime Organization shall be encouraged to continue without delay its activities for the development of policies and measures to reduce GHG emissions, and specifically:

- (a) To achieve, through the use of its policies and mechanisms, total GHG emission reductions which are at least as ambitious as the total GHG emission reductions under the Convention;
- (b) To report regularly to the COP {and its subsidiary bodies as appropriate} on relevant activities, emission estimates and achievements in this respect;
- (c) To report to the COP {at its seventeenth session} on policies, established measures, measures under development, and expected emission reductions resulting from these measures.

137. Option 2

Parties shall take the necessary action to reduce emissions of GHGs not controlled by the Montreal Protocol from aviation and marine bunker fuels.

Global reduction targets for such emissions from aviation and marine bunker fuels shall be set as equal to, respectively, {X per cent} and {Y per cent} below {year XXXX} levels in the commitment period {20XX to 20XX}. Units from existing and potential new flexibility mechanisms may contribute towards achieving these targets.

Parties shall work through the International Civil Aviation Organization and the International Maritime Organization to enable effective international agreements to achieve these targets to be approved by 2011. Such agreements should not lead to competitive distortions or carbon leakage. Parties shall assess progress in the implementation of this work, and take action to advance it, as appropriate.

138. Option 3

{Parties} {Annex I Parties} shall pursue limitation or reduction of emissions of GHGs not controlled by the Montreal Protocol from aviation and marine bunker fuels, working through the International Civil Aviation Organization and the International Maritime Organization, respectively.

E. Various approaches to enhance the cost-effectiveness of, and to promote, mitigation actions²⁶

139. Parties {shall} {should} cooperate, as appropriate, to enable cost-effective mitigation at the least economic cost through the use of environmentally effective, market-based instruments that provide economic incentives to achieve maximum private-sector participation. Policies in developed and developing countries {shall} promote the flow of funding to developing countries in order to catalyse mitigation actions at the scale that will be necessary to address the climate challenge.

140. Eligibility criteria for project activities linked to market-based mechanisms should be established to ensure a fair distribution of projects across regions and mitigation technologies and to ensure fair access to financing schemes, including through the advance payment of future carbon credits to cover the full incremental costs of project activities.

141. Co-benefits should be included as eligibility criteria for project activities; these may include technology transfer, capacity-building, employment creation and positive environmental impacts. {These criteria shall be defined by a new body to be created under the Convention.}

142. Actions enabled through support that is provided by market mechanisms require a level of measurement, reporting and verification that ensures a high degree of international confidence.

²⁶ The Bali Action Plan, in its paragraph 1 (b) (v), calls for the consideration of enhanced national/international action on mitigation of climate change, including, inter alia, various approaches, including opportunities for using markets, to enhance the cost-effectiveness of, and to promote, mitigation actions.

143. The use of market-based mechanisms {shall be supplemental to domestic actions for the purpose of meeting quantified emission limitation and reduction commitments} {should comprise not more than 10 per cent, including offsets, of the quantified emission limitation and reduction commitments of developed country Parties} {shall not provide credits for offsetting the quantified emission limitation and reduction targets of developed country Parties}.

144. A four-year programme of work on opportunities for rapid, near-term climate mitigation shall be established as a precautionary measure to complement ongoing measures to mitigate climate change over the medium and long term, with the goal of achieving significant near-term results through, for example, reducing emissions of substances that are short-lived in the atmosphere such as black carbon (soot), promoting the phase-down of hydrofluorocarbons (HFCs) and biosequestration. {An arrangement shall be established to reduce emissions of HFCs}.²⁷

145. Mitigation commitments and actions {shall} {should} be comprehensive in addressing all GHG sources in all sectors, as well as GHG sinks. {A metric based on global warming potential {shall} {should} be used.} In deciding on inclusion of new GHGs, it is important to consider whether the technical information on these gases is available and whether inclusion of each gas is appropriate from a viewpoint of effective implementation.

146. *Issues identified by Parties requiring further elaboration at the appropriate time include further modalities and procedures that prevent double counting between any of the mechanisms and other support.*

A crediting mechanism for nationally appropriate mitigation actions

147. A NAMA crediting mechanism {shall} {should} be established, under which credits may be generated for the verifiable emission reductions achieved by the NAMAs by developing country Parties in order to assist them in achieving sustainable development and contributing to the global efforts to combat climate change.

148. The NAMA crediting mechanism shall be subject to the authority and guidance of the COP and shall be supervised by a dedicated body constituted by the COP or by the Executive Board of the CDM.

149. NAMAs financed through the NAMA crediting mechanism shall be verified, together with the corresponding support as measured and reported, by institutions accredited by the COP and in accordance with guidelines developed under the authority of the COP. Where independent third-party verification is used, it shall result in a verification report considered by a body under the authority and guidance of the COP.

150. *Issues identified by proposing Parties requiring further elaboration at the appropriate time include modalities for the implementation of the NAMA crediting mechanism, including the scope of NAMAs eligible for crediting, appropriate criteria and standards, and methodologies for measuring and verifying emission reductions.*

Sectoral crediting

151. A sectoral crediting mechanism, subject to the authority and guidance of the COP and supervised by {a body}, shall be established to enable developing countries to strengthen their contribution to the ultimate objective of the Convention and to access carbon markets, to assist developed countries in achieving compliance with part of their quantified emission limitation and reduction commitments, and to promote sustainable development.

²⁷ The issues relating to HFC and perfluorocarbon emissions as well as additional new gases and methodological proposals for the measurement of GHGs are also being considered by the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol and by the SBSTA.

152. Developing countries that have absolute sectoral emission thresholds and meet requirements (to be developed) may participate in sectoral crediting.

153. Developing countries may propose absolute sectoral emission thresholds, as part of their low-emission development strategies.

154. {Certified emission reductions} {other fungible units} may be issued {by a specific body} in respect of sectoral emission reductions beyond the absolute emission threshold.

155. *Issues identified by proposing Parties in the context of paragraphs 151–154 above as requiring further elaboration at the appropriate time include:*

- *Preparation, submission, review and approval of proposals for inscribing absolute sectoral emission thresholds;*
- *Monitoring, verification and reporting of emissions and accounting of units;*
- *Modalities and procedures for sectoral crediting.*

Sectoral trading

156. Developing countries that have sectoral emission targets and meet requirements (to be developed) may participate in international emissions trading. Developing countries may propose sectoral emission targets as part of their low-carbon development strategies.

157. Any trading pursuant to paragraph 156 above for the purpose of meeting sectoral emission targets shall be supplemental to domestic actions.

158. *Issues identified by proposing Parties in the context of paragraphs 156–157 above as requiring further elaboration at the appropriate time include:*

- *Preparation, submission, review and approval of proposals for sectoral emission targets;*
- *Monitoring, verification and reporting of emissions and accounting of units;*
- *Modalities and procedures for sectoral trading.*

F. Economic and social consequences of response measures²⁸

159. Parties shall strive to implement policies and measures to respond to climate change in such a way as to minimize adverse effects, including the adverse effects of climate change, effects on international trade, and social, environmental and economic impacts on other Parties, especially developing country Parties, and in particular those identified in Articles 4.8 and 4.9 of the Convention, taking {fully} into account Article 3 of the Convention {, in particular Article 3.5}.

160. Adverse economic and social consequences of response measures {shall} {should} be addressed by promoting and supporting economic diversification and the development and dissemination of win-win technologies in the affected countries, paying particular attention to the needs and concerns of the poorest and most vulnerable developing country Parties.

²⁸ The Bali Action Plan, in its paragraph 1 (b) (vi), calls for the consideration of enhanced national/international action on mitigation of climate change, including, inter alia, and economic and social consequences of response measures.

161. Developed and developing countries {shall} {should}:
- (a) Assess the economic, cultural, environmental and social effects that result from mitigation strategies and measures;
 - (b) Consider how to avoid negative spillover effects when designing policies and measures to tackle climate change;
 - (c) Provide information in their national communications on any impacts arising from the implementation of their commitments under the Convention and any related instruments;
 - (d) Undertake comprehensive studies of direct costs and impacts of response measures, as well as associated indirect costs and impacts on other Parties, especially on developing country Parties identified in Articles 4.8 and 4.9 of the Convention.
162. Efforts to assess the potential effects of response measures should not constrain or hinder progress in addressing climate change.
163. Developed country Parties {shall} {should} provide support to developing countries, particularly those specified in Articles 4.8 and 4.9 of the Convention, in order to address issues related to economic diversification, risk assessment, modelling and insurance to prevent the adverse effect resulting from the spillover effects.
164. A forum shall be established, under the {COP} {Subsidiary Body for Implementation}, to provide a venue for Parties to share information, experiences and views on the economic and social consequences of response measures, so as to enhance the efforts of Parties to analyse and understand these consequences and to identify innovative policy responses and technologies to address adverse consequences. This forum shall be open to participation from all Parties and intergovernmental organizations and mobilize expertise from the scientific and modelling communities and the private sector. The work of the forum should lead to a comprehensive framework to address adverse consequences by, inter alia:
- (a) Enabling all Parties to select appropriate and effective policies and measures that achieve the desired mitigation results while avoiding or reducing the adverse impacts of these policies and measures on the sustainable development of other Parties, particularly developing country Parties;
 - (b) Enabling developing country Parties confronted by unavoidable adverse consequences of policies and measures to strengthen their resilience and adaptive capabilities and to undertake economic diversification, integrating these responses in their sustainable development processes.
165. The forum should implement a work programme that includes the following components:
- (a) Insurance and financial risk management;
 - (b) Modelling, analytical and methodological tools;
 - (c) Economic diversification.

IV. Enhanced action on financing, technology and capacity-building

A. Enhanced action on the provision of financial resources and investment²⁹

1. Objectives, scope and guiding principles

166. The operationalization of the financial mechanism³⁰ {shall} be guided by the following principles:

- (a) Full transparency, fairness, predictability, efficiency and effectiveness, and the equitable and balanced representation of all Parties {shall} {should} be ensured;
- (b) The financial mechanism {shall} function under the {authority and} guidance of {and be fully accountable to} the COP {, which shall decide on its policies, programme priorities and eligibility criteria};
- (c) Coherence in the global financial architecture for financing under the {authority and} governance of the COP and coordination between various financial resources and individual funds {shall} {should} be ensured in order to reduce fragmentation in the implementation of the Convention and promote access to the variety of available funding sources;
- (d) All developing country Parties {shall} {should} be eligible to access the financial resources {with special attention to the needs of vulnerable countries};
- (e) Access to financial resources {shall} {should} be simplified and improved {including through direct access by recipient countries}, and provided in an expeditious, effective, equitable and timely manner;
- (f) Delivery of financial resources {shall} {should} follow a programmatic approach, using a project approach when appropriate, and be country-driven;
- (g) Delivery of financial resources {shall} {should} strive to leverage other financing, {including private-sector financing through carbon markets and/or other measures};
- (h) Financial resources {shall} {should} be provided in the form of {grants} {grants and concessional loans {for specific programmes}};
- (i) {Mutual} accountability {with a compliance mechanism} and sound financial management {taking into account the principles of aid effectiveness as set out in the Paris Declaration on Aid Effectiveness}.

167. Option 1

The public sector shall be the major source of funds, while market mechanisms and other private-sector sources would play a complementary role in addressing climate change.

168. Option 2

Public finance shall be provided in areas that cannot be adequately financed by the private sector to leverage private investments and to provide incentives for additional efforts. Private funding will be,

²⁹ The Bali Action Plan, in its paragraphs 1 (e), calls for enhanced action on the provision of financial resources and investment to support action on mitigation and adaptation and technology cooperation. Parties referred to the following Articles in submissions related to this section: Articles 4.1, 4.3, 4.4, 4.5, 4.8, 4.9, 11.1, 11.2 and 11.5 of the Convention.

³⁰ Some proposals referred to this matter as “financial framework”, “architecture”, “financial architecture”, “global financial architecture”, “global structure” and “new financing architecture”.

via appropriate policy frameworks, the main source of necessary investments. Carbon market related support also has the potential to play a significant role in reducing emissions.

169. Option 1

Financial resources provided through mechanisms/institutions outside the Convention shall not be regarded as fulfilment of commitments by developed country Parties under Article 4.3 of the Convention, and their commitments for measurable, reportable and verifiable financing, as referred to in paragraph 1 (b) (ii) of the Bali Action Plan.

170. Option 2

The developed country Parties and other developed Parties included in Annex II to the Convention {and other Parties according to agreed eligibility criteria} {and other Parties in a position to do so} may also provide, and developing country Parties may avail themselves of, financial resources through bilateral, regional and other multilateral channels {with a robust system of measurement, reporting and verification of financial resources provided through these channels}.

2. Generation of financial resources

171. In order to meet the scale of financial resources required {and the commitments under Articles {4.1}, 4.3, 4.4 and 4.5} to support enhanced action on adaptation and mitigation by developing country Parties and for technology cooperation and capacity-building, developed country Parties {and Annex II Parties} {and other Parties according to agreed eligibility criteria, which shall be updated through a periodic review} {shall} provide scaled-up, new and additional, {over and above {existing} ODA}, sustainable, adequate, predictable and stable financial resources, in a measurable, reportable and verifiable manner.³¹

172. The generation of financial resources shall be guided by the principles of the Convention, in particular the principles of equity and common but differentiated responsibilities and respective capabilities, and take into account the consideration of {the polluter pays principle,} {and historical responsibilities}.

173. New and additional financial resources {shall} be generated through a combination of various sources, including:

Option 1

An assessed contribution from

Option 1.1

developed country Parties, based on the principles of equity, common but differentiated responsibilities and respective capabilities, {GDP}, {the polluter pays principle} {current emission levels} {historical responsibility}, amounting to {{0.5–1} {0.8} {2} per cent of gross national product} {0.5–1 per cent of GDP}.³²

Option 1.2

all Parties except LDCs based on a set of criteria, including GHG emissions, GDP and population.

³¹ Some proposals suggest that financial resources to support action on mitigation should amount to approximately USD 200 billion per year by 2020, and financial resources to support adaptation actions should amount to at least USD 67 billion per year by 2020.

³² Some proposals suggest that this option be used to provide funding for adaptation.

Option 2

The auctioning of {assigned amount units} {emission allowances} at international {and domestic} level{s}.³³

Option 3

{A uniform global levy of USD 2 per tonne of CO₂ for all fossil fuel emissions, with a tax exemption of {1.5} {2.0} tCO₂ per inhabitant with an exemption for LDCs} {Taxes on carbon-intensive products and services from Annex I Parties}.³⁴

Option 4

Levies on emissions from international aviation {and maritime transport}.

Option 5

An international air passenger adaptation levy/green levy on air fares {, except on journeys originating in and destined for LDCs}.

Option 6

A share of proceeds of {2} {3–5} per cent on CDM and {2} {4} {8} {10} {12} per cent on {joint implementation and emissions trading.} {market-based mechanisms under the Kyoto Protocol} {and new sectoral market mechanisms} {extended to other carbon market transactions}.³⁵

Option 7

A global levy on international monetary transactions.

Option 8

Penalties or fines on non-compliance of developed country Parties with their emission reduction and financial resources commitments.³⁶

3. Institutional arrangements, including funds³⁷

Note: Proposals for the establishment of new funds are reflected in paragraph 175 below. In proposing the establishment of such funds, Parties in some cases also proposed a governance structure for the funds. Such proposals are reflected in paragraph 174 below. Other proposals relevant for the establishment of institutional arrangements, including facilitative mechanisms, are referred in paragraphs 46–49 and 102 above and 196 below.

174. Institutional arrangements for the operationalisation of the financial mechanism of the Convention defined in Article 11 {shall} {include}

Option 1

a {board} {executive body} accountable to the COP to manage the financial mechanism and the related facilitative mechanism and bodies, with the support of a secretariat {of professional staff contracted by the board} a scientific advisory panel, a monitoring and evaluating panel, and a trustee or trustees, to address all aspects of the means of implementation for developing countries, for both adaptation and mitigation.

³³ Some proposals suggest that a percentage of these resources be used to provide funding for adaptation.

³⁴ Some proposals suggest that this option be used to provide funding for adaptation and/or technology cooperation.

³⁵ Most proposals suggest that this option be used to provide funding for adaptation.

³⁶ Some proposals suggest that this option be used to provide funding for adaptation.

³⁷ Specific proposals related to REDD-plus are reflected in paragraphs 113 and 114 above.

Under the {authority and} guidance of the COP, the {board} {executive body} shall:

- (a) Establish, supervise and manage specialized funds and funding windows under its governance, and a mechanism to link various funds;³⁸
- (b) Establish a consultative/advisory group of all relevant stakeholders;
- (c) Establish an independent assessment panel for transparent and efficient governance;
- (d) {Be supportive of the existing national institutional arrangements to coordinate activities and financial resources} {. Authorize the national entities of developing country Parties as designated by such Parties to approve activities, projects and programmes for funding, subject to the guidelines and procedures approved by the COP};
- (e) Manage a registry and certification system for receiving financial resources in compliance with the financial commitments of developed country Parties under Article 4.3 of the Convention.

Option 2³⁹

an executive council that will report annually to the COP on matters related to a proposed fund, constituted by representatives of all participant countries, contributors and beneficiaries, grouped in a balanced and practical way. Country representatives would be from finance ministries or their equivalent. The executive council will be supported by a scientific committee, to be established in consultation with the IPCC and a multilateral banks committee.

Option 3

establish a means to, inter alia, draw on public/private-sector expertise; recommend steps intended to mobilize domestic and international financing from a variety of domestic, bilateral, regional, and multilateral sources, including carbon markets; recommend ways to improve the effectiveness and efficiency of the Parties' aggregated efforts to mobilize investment; and address concerns of competition, targeting and overlap of such efforts.

Option 4

make efficient and effective use of current institutions, including funds, with financial support provided by developed country Parties and availed of by developing country Parties through bilateral, regional and other multilateral channels, in accordance with Article 11.5 {with a robust system of measurement, reporting and verification of financial resources provided through these channels}.

Funds

175. Institutional arrangements on funds {shall} include {the relevant existing funds}⁴⁰ {as well as the following new funds}:

³⁸ This proposal is presented in connection with proposals on funds reflected in paragraphs 175, options 1, 4, 5 and 6, below.

³⁹ This proposal is presented in connection with proposals on funds reflected in paragraph 175, option 7, below.

⁴⁰ In presenting their proposals, Parties have mentioned the Least Developed Countries Fund and the Special Climate Change Fund.

Options for specialized fundsOption 1⁴¹

An adaptation fund under the guidance and authority of the COP, to complement the Adaptation Fund established under the Kyoto Protocol, including a window to address loss and damage from climate change impacts, including insurance, rehabilitation and compensatory components, and a window for risk reduction and management related to climate change.

Option 2

Multilateral adaptation fund for low and medium income countries, with revenues partly channelled into national climate change funds for financing national climate change policies according to the country's specific needs and legal frame. The multilateral adaptation fund will provide funding for a prevention pillar and an insurance pillar.

Option 3

Solidarity funds and insurance mechanisms, including micro-insurance.

Option 4⁴²

Mitigation fund.

Option 5⁴³

Multilateral climate technology fund⁴⁴ {to support the implementation of the technology mechanism} for the provision of technology-related financial resources on a grant or concessional basis. The fund shall be used as a catalyst to provide stakeholders with incentives to implement the development, deployment, diffusion and transfer of technologies by meeting the full incremental costs for, inter alia, the deployment and diffusion of technologies in developing countries and full costs of activities such as technology R&D and demonstration of technologies, capacity-building, technology needs assessments, information sharing and construction of policy instruments.

Option 6⁴⁵

Capacity-building fund.

Options for funds for multiple usesOption 7⁴⁶

A world climate change fund or green fund, to {establish linkages between} scale-up funds for mitigation actions, support efforts on adaptation and provide technical assistance and promote the transfer and diffusion of clean technologies. All Parties could benefit according to specified criteria. Once its operations stabilize, the fund could establish functional connections with existing or potential carbon units, such as those from mechanisms established under the Kyoto Protocol.

⁴¹ This proposal is presented in the context of the proposals reflected in paragraph 174, option 2, above.

⁴² This proposal is presented in the context of the proposals reflected in paragraph 174, option 2, above.

⁴³ This proposal is presented in the context of the proposals reflected in paragraphs 174, option 2, above and 196, option 2, below.

⁴⁴ Other formulation proposed "a multilateral technology acquisition fund".

⁴⁵ This proposal is presented in the context of the proposals reflected in paragraph 174, option 2, above.

⁴⁶ This proposal is presented in the context of the proposals reflected in paragraph 174, option 3, above.

176. *Issues identified by Parties in the context of paragraph 175 above as requiring further elaboration at the appropriate time include modalities for the determination of the role of existing funds and entity/ies for the operation of the financial mechanism.*

Institutional arrangements at the national level

177. Parties {shall} {should} establish national coordinating bodies to address all aspects of the means of implementation, strengthening the institutional capacity of national focal points and all stakeholders. These coordinating bodies shall be the national focal points to support the implementation of climate change projects and programmes that have received technology, finance and capacity-building assistance from developed country Parties.⁴⁷

Compliance

178. A {compliance mechanism} {monitoring mechanism} {shall} {should} be established to ensure the full implementation of the commitments of Annex I and Annex B Parties, with reference to their assessed contributions. This body {shall}:

- (a) Review compliance of Annex I and Annex B Parties with their commitments on the provision of financial resources in a timely and predictable manner;
- (b) Define non-compliance parameters and fines, and implement parameters and procedures defined by the COP to retrieve funds derived from fines.⁴⁸

179. *Issues identified by Parties in the context of paragraph 178 above as requiring further elaboration at the appropriate time include parameters and procedures to retrieve funds derived from fines.*

B. Enhanced action on technology⁴⁹

1. Objectives, scope and guiding principles

180. An enhanced {technology mechanism⁵⁰} {framework for technology} {shall} be {established} {developed} to support the short-, medium- and long-term cooperative action on technology and {shall} {should} be guided by the following principles:

- (a) Build on existing activities under the Convention and operate under the authority of the COP and in accordance with relevant provisions of the Convention;
- (b) Address all stages of the technology development cycle including R&D, deployment, diffusion and transfer of affordable environmentally sound technologies to enable all Parties, particularly developing country Parties, to enhance action on mitigation and adaptation;
- (c) Promote coherence by integrating and expanding ongoing activities related to technology;
- (d) {Aim to achieve accessibility, affordability, appropriateness and adaptability of technologies required by developing countries in order to enhance their action on mitigation and adaptation;}

⁴⁷ This proposal is presented in the context of the proposals reflected in paragraphs 47 and 104 above.

⁴⁸ This proposal is presented in the context of the proposals reflected in paragraph 68, option 1, above.

⁴⁹ The Bali Action Plan, in its paragraph 1 (d), calls for enhanced action on technology development and transfer to support action on mitigation and adaptation. In advancing their proposals under this matter, Parties referred to Articles 4.1(c), 4.3, 4.5 and 11.5 of the Convention.

⁵⁰ Other formulations proposed include a “technology transfer mechanism”, “technology facilitative mechanism”, “arrangement” and “technology institutional framework”.

- (e) {Aim to achieve the removal of barriers for technology development and transfer;}
- (f) {Stimulate the formation and development of national and international innovation systems and markets for technologies for mitigation and adaptation, creating favourable investment and enabling environments, and engaging the private sector;}
- (g) Provide for full cost and full incremental cost, as referred to in Article 4.3 of the Convention;
- (h) Take into account the relevance of public finance in supporting technology R&D and to leverage private investment in the deployment, diffusion and transfer of technologies;
- (i) Recognize the role that small and medium-sized enterprises could play in the success of adaptation and mitigation efforts and in economic development;

2. Cooperation on technology research, development, diffusion and transfer⁵¹

Note: Proposals for the implementation of enhanced action on technology are reflected in this section. In advancing their proposals, Parties in some cases also proposed a governance structure for such action. Such proposals are reflected in paragraphs 196–198 below.

Technology action plan

181. A technology action plan shall be drawn up as a starting point for enhanced cooperative action on technology.⁵² It shall aim to accelerate research, development, diffusion and transfer of environmentally sound technologies among all Parties, particularly from Annex II Parties to non-Annex I Parties, in order to support action on mitigation and adaptation and promote a shift to sustainable development paths.

182. To realize the full potential of technology, the action plan shall support all stages of the technology development cycle and articulate with the financial mechanism of the Convention in order to secure the necessary financing.

183. The action plan {shall} {should} include specific policies, actions, and funding requirements for technologies in the public domain, patented technologies and future technologies. The plan shall also include clear actions for the first three years, and be updated for successive three-year periods.

Technology needs assessments, enabling environments and capacity-building

184. Cooperation on technology {shall} {should} be enhanced by the following elements:

- (a) TNAs {to be fully elaborated taking into account the findings of the 2006 TNA review and expanded to cover more in-depth assessments of obstacles in the functioning of relevant technology innovation systems, including detailed assessment of technology capacity and markets. TNAs should also be shared and made publicly available} {to be carried out within the framework of the NAPAs and NAMAs in order to ensure consistency and coherence among the various efforts; TNAs should not constitute a barrier to short-term technology transfer};
- (b) Enabling environments – technology-specific policies and measures should be defined/strengthened and implemented. Policies and measures should include deployment schemes for low-emission technologies and national energy and climate policies;

⁵¹ Technology cooperation in specific technologies and sectors is reflected in paragraphs 129–131 above.

⁵² This proposal is presented in the context of proposals to establish an executive body on technology and a multilateral climate technology fund reflected in paragraphs 175, option 5, above and 196, option 2, below.

- (c) Capacity-building, taking into account the various activities completed or under way on a bilateral or multilateral basis and mainstreamed within an enhanced framework for capacity-building for mitigation and adaptation (decision 2/CP.7);
- (d) Knowledge, technical and other necessary expertise in existing institutions and organizations, including regional centres and networks {shall} {should} be developed, used, shared and sustained at regional and national levels.

Technology road maps

185. Parties {shall} {should} promote the development of innovative technologies and strengthen international technology cooperation, including through the formulation and sharing of national technology road maps. Such road maps {shall} {should} include:

- (a) Identification of technological options for specific sectors;
- (b) Obstacles to the development and transfer of identified technological options;
- (c) Policy instruments and infrastructure required for the deployment, diffusion and transfer of identified technological options;
- (d) Capacity-building needs;
- (e) Opportunities for joint technology R&D between developed and developing countries.

Cooperative research and development

186. Developed country Parties {shall} {should} strengthen their national technology research, development and demonstration programmes and provide appropriate support to developing country Parties through, inter alia:

- (a) Reinforcing North–South, South–South and triangular cooperation with the aim of promoting endogenous technologies of developing countries and prioritizing technologies for mitigation and adaptation that might have high costs but also high potential for GHG mitigation and/or increase resilience to negative impacts of climate change;
- (b) Providing opportunities for participation by developing country Parties in joint R&D programmes for specific technologies and joint - ventures to accelerate deployment, diffusion and effective transfer of technologies from developed to developing country Parties, particularly technologies for adaptation for SIDS, in the absence of win-win solutions and market intervention.

Measures to address intellectual property rights

187. Option 1

Technology development, diffusion and transfer {shall} be promoted by operating the intellectual property regime in a manner that encourages development of climate-friendly technologies and simultaneously facilitates their diffusion and transfer to developing countries.

188. Option 2

Specific measures {shall} {should} be established to remove barriers to development and transfer of technologies from developed to developing country Parties arising from the intellectual property rights (IPR) protection, including:

- (a) Compulsory licensing for specific patented technologies;

- (b) Pooling and sharing publicly funded technologies and making the technologies available in the public domain at an affordable price;
- (c) Taking into account the example set by decisions in other relevant international forums relating to IPRs, such as the Doha Declaration on the TRIPs Agreement and Public Health;

189. Option 3

LDCs should be exempted from patent protection of climate-related technologies for adaptation and mitigation, as required for capacity-building and development needs. Genetic resources, including germplasm of plant and animal species and varieties that are essential for adaptation in agriculture, shall not be patented by multinational or any other corporations.

Incentive mechanism for technology transfer

190. An incentive mechanism for technology transfer for mitigation via projects/programmes that stimulate accelerated diffusion and transfer of existing environmentally sound technologies to developing countries {shall} {should} be established.

191. For the purpose of meeting its quantified emission limitation and reduction commitments and requirements for monitoring, reporting and verification, a Party may transfer to, or acquire from, other Parties emission reduction units resulting from projects and programmes that accelerate the diffusion or transfer of environmentally sound technologies, provided that:

- (a) Voluntary participation is approved by each Party involved;
- (b) Any such project results in measurable, reportable and verifiable reductions of GHG emissions by sources or enhancements of removals by sinks;
- (c) The project contributes to the achievement of the technology targets and objectives of the host Party;
- (d) The host Party has allocated assigned amount units or environmentally sound technology rewards (ESTRs) to the project or programme;
- (e) The project/programme is registered under the Convention;
- (f) Participants in the ESTR mechanism may involve private and public companies.

Voluntary agreements

192. Option 1

Focused voluntary technology oriented agreements, including on partnerships within and outside the Convention and engaging the private sector and civil society organizations {shall} {should} be recognized. Such agreements could include cooperative R&D and large-scale demonstration projects, technology deployment projects, cooperation on specific sectors or gases, and cooperation on climate observation and warning systems for enhancing resilience.

193. Option 2

Technological information transfer agreement/multiple agreements to facilitate the spread of environment-friendly products and a healthy and reliable agricultural production system should be established.

*Technology information*194. Option 1

A technology information platform should be developed and be continuously updated to collect information on sector-specific technologies and best practices on publicly and privately held technologies, including on IPRs and licensing, costs, abatement potentials, and manufacturers of technologies.

195. Option 2

A global database including 'green production' technologies and best practices should be developed through the technology information clearing house (TT:CLEAR).

3. Institutional arrangements

Note: Parties proposed several options for the creation or strengthening of institutional arrangements under the Convention for enhancing action on technology. In proposing these arrangements, Parties in some cases also proposed funds and/or implementation aspects. Proposals on funds for technology are reflected in paragraph 175 above and proposals on implementation aspects of enhanced action on technology are reflected in paragraphs 181–185 above.

196. Institutional arrangements for enhanced cooperative action on technology
{shall} {should} {include}

Option 1

make efficient use of the current institutional arrangements through

Option 1.1

engaging the private sector and encouraging cooperative partnership between governments and industries, recognizing a wide variety of processes, mechanisms and organizations outside the UNFCCC and the critical role of private-sector investment, capacity and expertise.

Option 1.2

the Expert Group on Technology Transfer (EGTT) acting in accordance with decision 4/CP.7 and serving as an advisory body to the SBSTA.

Option 2⁵³

an executive body on technology, as a subsidiary body of the Convention, to enhance the implementation of the Convention by enhancing action on technology development and transfer to support action on mitigation and adaptation. The executive body shall, inter alia:

- (a) Provide advice and recommendations to the COP on the overall implementation of technology action under the Convention;
- (b) Elaborate a technology action plan as a starting point of its work;
- (c) Guide and supervise the disbursement of a multilateral climate technology fund;
- (d) Promote communication and information/knowledge sharing;

⁵³ This proposal is presented in connection with proposals on funds reflected in paragraph 175, option 5, above and proposals on implementation aspects reflected in paragraphs 181–183, above.

- (e) Monitor and assess the performance and progress, using performance indicators, and report to the COP.

Under the guidance of the COP, this body would comprise and be supported by a strategic planning committee, technical panels, a verification group and a secretariat {accountable to the executive body}.

The executive body on technology shall {comprise government representatives elected by the COP with balanced regional representation, who are experts on matters related to technology development and transfer, and be open to input from other experts.} {be open to all Parties. Members of the committee and panels shall be determined by the COP.}

Option 3

a new subsidiary body, or the EGTT, with the role of advisory centre at UNFCCC subsidiary bodies for development and transfer of technologies, and perform the following functions:

- (a) Development of special reviews on existing technologies, including information on estimated cost, risks, benefits and limitations, as well as the required infrastructure, human resources and diffusion potential, taking into account the circumstances of the host Party;
- (b) Elaboration of suggestions on the implementation of the most appropriate financial scheme for a given technology deployment in a given country, including assessment of local capability in production of its components and their servicing;
- (c) Elaboration of regulatory documents, terms and criteria and guidance, and preparation of the respective decisions of the Parties.

Options 4⁵⁴

a technology committee to advise the COP in technology policy issues. The committee should be serviced by a strengthened professional secretariat and advised by a technology panel comprising experts nominated by Parties. The functions of the technology committee include:

- (a) Identifying areas of cooperation with the private sector and making recommendations to the COP for action;
- (b) Reviewing and deciding on technology investments;
- (c) Reviewing and approving technology funding requests;
- (d) Reviewing progress of implementation of the technology action programme;
- (e) Approving procedures and modalities for technology cooperation with the private sector.

Option 5

a new body on technology transfer and financing under the Convention to enhance the implementation of technology transfer mechanisms as well as the associated enabling activities such as capacity-building, technical training, and R&D cooperation, including those activities identified in NAMAs and NAPAs. The new body on technology transfer and financing should

- (a) Coordinate the financing mechanisms, either market or non-market, to be established;

⁵⁴ This proposal is presented in connection with proposals on funds reflected in paragraphs 175, option 5, above and proposals on implementation aspects reflected in paragraph 181–183 above.

- (b) Contribute to the measuring, reporting and verifying of both the actions and the support for the actions;
- (c) Facilitate links for accessing to funds and should reduce diversification among existing sources of funds within the Convention;
- (d) Articulate technology transfer and financing mechanisms under the Convention with other United Nations organizations, multilateral financial institutions established under bilateral or multilateral development programs and other relevant international forums not directly related to climate change, with the assistance of technical panels to be created.

Option 6

an advisory group for sectoral technology cooperation to support the implementation of NAMAs by removing obstacles to and promoting technology transfer and diffusion in all relevant sectors.

The advisory group for sectoral technology cooperation should, inter alia:

- (a) Identify best practices and best available technologies from developed countries and technologies that will be available in the future;
- (b) Identify appropriate ways for promoting transfer of existing best available technologies through analysing emission reduction potentials and setting indicators;
- (c) Advise on promoting technology transfer and diffusion in all relevant sectors;
- (d) Periodically report to the COP on its activities.

National and regional technology innovation centres

197. National and regional technology innovation centres and networks {shall} {should} be {established} {strengthened} to:

- (a) Promote joint R&D activities in the context of South–South, North–South and triangular cooperation;
- (b) Promote the transfer of environmentally sound technologies to developing country Parties;
- (c) Stimulate capacity-building, in particular for endogenous technologies;
- (d) Improve access to information on existing and new technologies;
- (e) {Promote the sharing of IPRs}.

198. Financial resources required to support such centres and networks {shall} {should} be provided by the {multilateral climate technology fund referred to in paragraph 175, option 5, above} {developed country Parties through existing bilateral and multilateral cooperative programmes, partnerships and initiatives}.

C. Capacity-building

Note: Parties have made proposals on enhanced action on capacity-building in the context of enhanced action on adaptation, mitigation, technology and finance. Such proposals are integrated in the appropriate sections. In addition, Parties have made proposals on the cross-cutting issue of capacity-building. Such proposals are reflected in paragraphs 199–201 below.

199. International cooperation {shall} {should} be enhanced to support developing country Parties to implement capacity-building actions, including:

- (a) Creation of enabling environments at the national level for enhanced action on adaptation and mitigation, including the establishment of appropriate policy and legal and regulatory frameworks;
- (b) Institutional strengthening through the establishment of national coordinating bodies and strengthening capacity of national focal points and stakeholders;
- (c) Capacity-building for the preparation, implementation and follow-up of NAPAs, national communications, TNAs for adaptation and mitigation under NAMAs and NAPAs, and the readiness phase for REDD-plus activities;
- (d) Capacity-building for monitoring, reporting and verification of NAMAs, {including} {and} REDD-plus actions;
- (e) Capacity-building needs identified in national adaptation plans, NAMAs, national REDD-plus plans, and national technology road maps;
- (f) Education, training and public awareness, with special focus on youth, women and indigenous peoples;
- (g) Provision of technical assistance for building developing countries' capacity to 'ready' themselves for accessing larger pools of domestic and international financing.

200. The measurement of support for capacity-building actions should be in accordance with indicators and in units to be established as part of the review of the implementation of the capacity-building framework adopted under decision 2/CP.7.

201. The financial resources required to support the implementation of capacity-building actions {shall} {should} be provided {through the capacity-building fund referred to in paragraph 175, option 6, above}. Provision of capacity-building support to developing country Parties, along with delivery of financial support and technology transfer, {shall} {should} be a {legally binding} obligation of developed country Parties, {with consequences for non-compliance}.
