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The challenges posed by climate change

Report
Committee on the Environment, Agriculture and Local and Regional Affairs
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Summary

The Council of Europe is concerned about the consequences of global climate change and the urgent need to secure a successful agreement at the UN Climate Change Conference in Copenhagen in December 2009. While there is a clear recognition that global action is vital, there is little political consensus on how to share the burden to achieve the necessary 50-85% reduction of greenhouse gas emissions by 2050 and even less consensus on how to set mid-term economy-wide quantitative targets for 2020.

Renegotiating the global agreement represents a challenge to reach a fair balance between the interests of the rich industrialised countries that carry the overwhelming responsibility for the past GHG emissions, the interests of the developing countries with fast growing economies and populations, and the interests of the world's poorest countries that are most affected by climate change.

The Assembly therefore calls for an ambitious binding global agreement with a clear vision for a future low carbon world - based on more social and environmental equity - to be firmly set at the next meeting of the Parties to the United Nations Framework Convention on Climate Change (COP-15) in Copenhagen and recommends to the Council of Europe member states and observer states to negotiate an integrated package of measures.

The Assembly also recommends to the Council of Europe to adopt climate change as one of its core priorities, to explore the linkages between climate change and human rights in Europe and to consider drafting a new Protocol to the European Convention on Human Rights enshrining the right to a healthy and viable environment as a human right.

A. Draft resolution

1. The Council of Europe is concerned about the consequences of global climate change and the urgent need to secure a successful agreement at the UN Climate Change Conference in Copenhagen in December 2009. Recent scientific evidence shows that global warming is occurring faster than predicted. If emissions continue unabated, climate change is likely to accelerate faster than previously considered.

2. According to scientific observations of the Intergovernmental Panel on Climate Change (IPCC), the warming of the climate system is unequivocal. As a result of anthropogenic emissions, atmospheric concentrations of CO2 now far exceed the natural range over the last 650 000 years. Without a serious global commitment to reduce greenhouse gases (GHG), climate change would, in the long term, be likely to exceed the capacity of natural, managed and human systems to adapt.

3. Setting the limit to the global average temperature rise to less than 2°C above the pre-industrial level, is considered by the scientific community as a threshold beyond which climate change would become far more dangerous, with the risk of irreversible and potentially catastrophic environmental changes.

4. According to the scientific reports, the average global temperature has increased by 0.8°C over the past 100 years and is now rising by around 0.2°C per decade. Given the significant time delay between the release of GHG emissions and temperature rise, the window of opportunity to remain below the 2°C temperature ceiling is closing very fast. The Intergovernmental Panel on Climate Change (IPCC) estimates that 50% to 85% reduction of global GHG emissions is necessary by 2050.

5. Today there is a clear recognition that global action is vital. However, there is little political consensus on how to share the burden to achieve the necessary 50-85% reduction by 2050 and even less consensus on how to set mid-term economy-wide quantitative targets for 2020. The consensus is difficult to reach even amongst the economically most developed countries.

6. The Parliamentary Assembly regrets that the current commitments under the Kyoto Protocol amount to only 5% of overall reduction of GHG emissions from developed countries (Annex I countries) over a five year period from 2008 to 2012. Moreover, only few Parties to the Kyoto Protocol are in a position to meet their current GHG reduction targets and some developed countries will considerably exceed those targets. As it currently stands, the Kyoto Protocol can not generate the level of cuts in GHG emissions to maintain a stable climate system.

7. The Assembly therefore calls for an ambitious binding global agreement with a clear vision for a future low carbon world to be firmly set at the next meeting of the Parties to the United Nations Framework Convention on Climate Change (COP-15) in Copenhagen. The World has less than a decade to radically change course. Urgent action is therefore needed right now.

8. Renegotiating the global agreement on climate change for the post-Kyoto period after 2012, represents a challenge to reach a fair balance between the interests of the rich industrialised countries that carry the overwhelming responsibility for the past GHG emissions, the interests of the developing countries with fast growing economies and populations, holding an increasing share of current GHG emissions, and the interests of the world's poorest countries that are most affected by climate change and that have the least capacity and resources to adapt to such life-threatening changes.

9. The Assembly is aware that poor countries and vulnerable citizens will suffer the most even though they have contributed the least to global warming. Their level of poverty is already extremely high and is further increasing due to global growth, the global economic meltdown and global climate change. Taken together, they represent a triple disaster for the poorest countries.

10. The Assembly is deeply concerned that failure to act will consign the poorest 40% of the world's population – 2.6 billion people – to a grim future, further jeopardising their right to life, access to water, access to food, good health, decent housing and security. The Assembly supports the view expressed in the UNDP *Human Development Report*, that climate change demands urgent action in order to address a threat to two most vulnerable constituencies with a weak political voice: the world's poor and the future generations.

11. Climate change raises important questions about social justice, equity and human rights across countries and across generations. The Assembly asserts that the battle against climate change can and must be won with sufficient political will to do so. The world lacks neither the financial resources nor the technological ability to act.

12. The Assembly believes that climate change represents not only a threat, but equally an opportunity to envisage a new form of economic and human development. Given that 19th century was founded on mass production and 20th century on mass consumption, this 21st century should set focus on the quality of life, the respect for nature and sustainable development.

13. With a view to achieving a lasting global agreement, the Assembly considers that the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) should strive to agree on two long-term objectives in the post-Kyoto negotiations: respect for social equity and respect for equity in energy and resource consumption (ecological footprint). Under the assumption that equal GHG emissions per-capita should be set as targets for all countries by 2050 (at a level of 2t CO2 equivalent per capita), the developed countries will have to take a strong lead to initiate deep and early cuts in GHG emissions. They must demonstrate that a low carbon economy is possible and affordable.

14. According to the *Stern Review Report on the Economic of Climate Change*, mitigating climate change is affordable if action is taken quickly to reverse the current trends. Meeting the 2°C target could be achieved with annual global GDP losses of around 1% by 2050 if early action is taken. When taking into account co-benefits in terms of energy saving, air pollution reduction and human health, net costs could be even significantly lower. The costs of early actions to reduce climate change are small compared to the relative costs of impacts due to inaction which are estimated to amount between 5 and 20% of annual global GDP in the long-term.

15. The Assembly welcomes the strong lead taken by the European Union, as it did in the formulation of the Kyoto agreement, in committing to reduce GHG emissions by 20% compared to 1990 levels by 2020, and its readiness to sign up to a 30% reduction target if a sufficiently ambitious and comprehensive international agreement would be reached in Copenhagen that will provide for comparable reductions by other developed countries, and appropriate actions by developing countries.

16. The Assembly urges other leading developed countries to match or exceed the unilateral pledge of the European Union.

17. The Assembly welcomes the conclusions of the *World Business Summit on Climate Change* (26 May 2009).

18. The Assembly believes that international cooperation has a critical role to play at many levels. Cooperation must be boosted to provide the necessary capacity, technology and finance for the developing countries, assisting them to adopt and implement low-carbon development strategies within a set timeframe. These strategies should define a credible pathway to limit the country's emissions through nationally appropriate mitigation actions that cover all key emitting sectors, especially the power sector, transport, major energy-intensive industries, coal and nuclear sectors and, where significant, forests and agriculture. The global effort to reduce GHG emissions would be considerably improved if a post-2012 Kyoto framework incorporated efficient mechanisms for finance and technology transfers.

19. A future agreement will follow the principles of the Kyoto Agreement on Climate Change but will need to be essentially different in that it will have to apply universally and no longer be limited to the richer developed countries. It will have to take into account the necessity of establishing carbon emission targets for each country. The Assembly fully supports a more equitable and differentiated approach that gives due recognition to a country's population, industrial development and poverty. Equality and social justice need to be at the heart of the global climate change agreement.

20. The credibility of the future global agreement will hinge on strong participation of major GHG emitters in the developing world such as China, India, Brazil and Mexico. To meet the 2°C objective, IPCC reports indicate that developing countries will need to limit the rise in GHG emissions to 15-30% below baseline by 2020. However, developing countries ought to have sufficient flexibility to make the transition to a low-carbon growth at a rate consistent with their capabilities. The great diversity of situations, vulnerabilities and mitigation potentials among developing countries has to be recognised and taken into account in the global agreement.

21. The credibility of such an agreement will also rely on the commitment of all stakeholders. It must be fully inclusive and integrate the decisive role of local and regional authorities in greenhouse gas reduction policies. Indeed, these levels of governance hold responsibilities in several fields which determine the intensity of greenhouse gas emissions. They have already taken many steps to prepare for a "zero carbon" future and to adapt their territories to the new climatic conditions. Their action is crucial if national

greenhouse gas reduction targets are to be met. The Assembly welcomes the efforts undertaken in this field by the Congress of Local and Regional Authorities and by the leading local and regional government associations and networks in Europe and in the world.

22. The Assembly believes that the global challenge of climate change requires international co-operation on a scale which is unprecedented. It requires a global deal. The Assembly therefore urges the Council of Europe member states and observer states to negotiate an integrated package comprised of the following key elements which must be part of the new global climate change agreement:

22.1 Reduce world emissions by at least 50% by 2050 compared to 1990, which should be reflected in targets fixed in Copenhagen and in emission trading;

22.2 Set immediate and binding targets of 20% to 40% by 2020 and commit to a reduction of at least 80% by 2050 for all developed countries, which have to lead by example;

22.3 Reinforce the role of local and regional government in national action plans, setting strong partnership and empowering them with capacities and resources;

22.4 Convincingly demonstrate that low-carbon growth is possible and affordable in developed countries, including sharing technologies and creating trading and other financing mechanisms with developing countries;

22.5 Undertake nationally appropriate mitigation actions (NAMAs) in developing countries and commit to take on targets at the latest by 2020;

22.6 Adopt national emission reductions and carbon trading schemes in developed countries, which are designed to integrate trading mechanisms with other countries, including with developing countries both before and after they adopt targets;

22.7 Devise an effective international carbon trading regime with sufficient incentives;

22.8 Commit to research and development, demonstration and sharing of new technologies and disseminate existing technologies – for example developing and scaling up near-commercial technologies for wind power; solar water heating, biomass and biogas; creating breakthrough technologies, including advanced solar technologies and energy recovery from waste; making a financial commitment to feed-in tariffs for carbon capture and storage (CCS) for coal;

22.9 Combat deforestation and include “avoided deforestation” in carbon trading;

22.10 Conserve natural terrestrial, freshwater and marine ecosystems and restore degraded ecosystems according to the overall goals of the UNFCCC;

22.11 Apply ecosystem-based adaptation, which integrates the use of biodiversity and ecosystem services into an overall adaptation strategy and which can generate social, economic and cultural co-benefits and contribute to the conservation of biodiversity;

22.12 Allocate overseas assistance to support development goals in a more hostile climate as a basic requirement of equity. Those new development goals need to break away from the current development model which is based on the intensive use of hydrocarbons from which the whole world must now depart.

23. In conclusion, the Parliamentary Assembly invites the parties to the UN Climate Change Conference in Copenhagen to reach an agreement on significant global reduction of greenhouse gases. The Assembly urges the developed countries to show leadership and demonstrate the possibility and economic feasibility of substantial reduction of emissions. For this to happen, it is necessary to integrate all the tools of greenhouse gas emission reduction so that they will reinforce each other. The window of opportunity is narrow so the time to act is now. The Assembly recalls that an agreement is needed at Copenhagen for social justice reasons as well, because developing countries and vulnerable least developing countries in particular, will suffer most from impacts of climate change.

B. Draft recommendation

1. The Parliamentary Assembly refers to its Resolution….(2009) on "The challenges posed by climate change" and asks the Committee of Ministers to ensure that it is applied by member states and observer countries.

2. The Assembly recalls other relevant PACE texts which should be taken into consideration when applying Resolution ….. (2009), namely Recommendation 1823 (2008) on global warming and ecological disasters; Resolution 1655(2009) and Recommendation 1862 (2009) on environmentally induced migration and displacement : a 21st century challenge; Recommendation 1879 (2009) on renewable energies and the environment; Resolution 1679 (2009) on nuclear energy and sustainable development; Resolution 1588 (2007) on radioactive waste and protection of the environment; Resolution 1552 (2007) on capture of carbon dioxide as a means of fighting climate change; Recommendation 1653 (2004) on environmental accounting as a sustainable development tool; Resolution 1449 (2005) on the environment and the Millennium Development Goals and Resolution 1596 (2008) on protection of the environment in the Arctic Region.

3. The Assembly also recalls Recommendation No. 135 (2008) "Addressing the impacts of climate change on biodiversity" adopted by the Standing Committee to the Bern Convention and relevant texts of the Congress of Local and Regional Authorities, in particular, Recommendation 243 (2008) and Resolution 262 (2008) on public, local and regional action: for a new energy culture; Resolution 247 and Recommendation 230 (2008) on local and regional authorities committed to sustainable consumption; Resolution 248 and Recommendation 231 (2008) on climate change: building adaptive capacity of local and regional authorities.

4. The Assembly invites the Committee of Ministers to adopt climate change as one of its core priorities and to instruct the relevant bodies of the Council of Europe to consider addressing this vital issue in their respective activities and therefore:

4.1 strengthen co-ordination of existing activities related to climate change across different bodies and through the different managing structures of the Council of Europe intergovernmental programmes, including the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and the Pan-European Biological and Landscape Diversity Strategy (PEBLDS), the European Conference of Ministers responsible for regional/spatial planning (CEMAT), the European and Mediterranean Major Hazards Agreement (EUR-OPA) and other services in the Directorate of Culture, Cultural and Natural Heritage, and invite other relevant sectors to join;

4.2 explore the linkages between climate change and human rights in Europe, including the implications of climate change-related impacts on the effective enjoyment of human rights, and the role that human rights obligations can play in strengthening international policy making in the field of climate change;

4.3 communicate widely current Council of Europe activities related to climate change.

5. In view of the preceding, the Assembly draws attention to its Recommendation…. (2009) on *drafting an additional protocol to the European Convention on Human Rights, concerning the right to a healthy environment* and Recommendation 1862 (2009) on *environmentally induced migration and displacement: a 21st century challenge* and reiterates its request to the Committee of Ministers to instruct the relevant expert committee to draft a new Protocol to the European Convention on Human Rights enshrining the right to a healthy and viable environment as a human right.

6. The Assembly also invites the Congress of Local and Regional Authorities to urge local and regional authorities to take the necessary action to reduce greenhouse gas emissions and to deal with the effects of climate change.

C. Explanatory memorandum by Mr John Prescott, Rapporteur

Contents

I. Introduction

1. The Fourth Assessment Report (FAR) of the International Panel on Climate Change (IPCC) deemed in 2007 that warming of the climate system is unequivocal. FAR also concluded that anthropogenic warming has likely had a discernible influence at a global scale on observed changes in many physical and biological systems. It projected that continued greenhouse gas (GHG) emissions at or above current rates would cause further warming and induce many changes in the global climate system in the 21st century that would very likely be larger than those observed in the 20th century. FAR estimated that to keep warming at less risky level of 2 degrees, GHG emissions would need to be cut 50-85 % by 2050 from their levels in 2000.

2. The IPCC noted in FAR that many options for reducing global GHG emissions do exist. Socolow and Lam (2004) have demonstrated that greenhouse gas (GHG) emission reductions needed to stabilise their concentrations in the atmosphere to what they considered a safe level (500 +/- 50 ppm) could be based on already existing and known technological solutions. There is even significant existing potential for making efficiency gains – saving money by reducing the GHG emissions to the atmosphere. It is estimated that about 30 percent of GHG emissions cuts needed by 2030 would actually create a net economic benefit.

3. Further economic rationale for the reduction of GHG emissions is provided by the Stern Review[1], which suggests that the cost of inaction is likely to far outweigh the cost of early mitigation efforts. The Stern Review estimates that the cost of stabilising GHG concentrations to a level of 500-550 ppm by 2050 would amount to about 1 percent of the GDP per annum globally. In contrast, the Stern Review (2007, iv) estimated that "the overall costs and risks of climate change will be equivalent to losing at least 5% of global GDP each year, now and forever. If a wider range of risks and impacts is taken into account, the estimates of damage could rise to 20% of GDP or more."

4. International efforts to address climate change started in 1990 with the negotiations for the United Nations Framework Convention for Climate Change (UNFCCC). The convention was adopted later in 1992 in the Rio Conference as the platform for international cooperation on climate change. It established many of the principles and processes to be followed in international negotiations and action on climate change. A subset of Parties to the Convention negotiated GHG emission reduction commitments which were adopted as the Kyoto Protocol in the third Conference of the Parties in Kyoto in 1997. The commitments agreed in the Kyoto Protocol amounted to a 5 percent reduction in GHG emissions from the Parties as a group between 2008-2012, in comparison to their GHG emissions in a base year of 1990. Fulfillment of commitments agreed in Kyoto will be better than "business as usual", but they are insufficient to stabilise atmospheric GHG concentrations to a level posing a low risk of dangerous climate change.

5. Negotiations for replacing the GHG emission reduction commitments agreed in Kyoto in 1997 for the period 2008-2012 started in earnest in 2007. For the new set of commitments to be in place by the end of the Kyoto commitment period, so as to ensure "that there is no gap between the first and the second commitment periods of the Kyoto Protocol", the new agreement on GHG emission reduction commitments will have to be reached in COP15 in Copenhagen in December 2009. This report reviews the progress made to date towards an agreement and maps the negotiation positions of key parties to negotiations.

II. Towards post-Kyoto commitments for climate change mitigation

i. Kyoto commitments

6. The Kyoto Protocol (KP) to the United Nations Framework Convention on Climate Change (UNFCCC) was agreed in the third Conference of the Parties in Kyoto in 1997. The Kyoto Protocol established for the first time binding GHG emission reduction commitments for 37 industrialized countries and the European Community (so called "Annex 1" countries). KP established commitments for reducing the emissions of six main GHGs which include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride.

7. The KP commitments amount to a five per cent overall reduction of GHG emissions from "Annex 1" countries over a five-year period from 2008 to 2012 compared to 1990 levels. The commitments vary from 8 % GHG reductions in European Union and certain other European countries to 8 % and 10 % increases in GHG emissions in Australia and Iceland, respectively. KP provided for Emissions Trading Systems (ETS), Clean Development Mechanism (CDM), and Joint Implementation (JI) as the three key instruments for meeting the commitments. The latter two instruments have been criticised for enabling Parties to use non-domestic actions for meeting their commitments (see PACE Resolution 1823 (2008)).

8. The GHG emission reduction targets agreed in Kyoto are also insufficient to stabilise atmospheric GHG concentrations to a level that does not pose a high risk of dangerous climate change. Estimates of safe levels of GHG concentrations vary between 400 ppm and 500 ppm (see e.g. Mastrandrea and Schneider, 2004) which correspond with a likely global mean temperature increase of 2-3 degrees. To maintain atmospheric GHG concentrations and global warming within these safer limits, the global reduction in GHG emissions would need to be about 50-85 percent by 2050 compared to their level in 2000 (IPCC, 2007).

[1] Stern, N., 2007, *The Economics of Climate Change: The Stern Review*. Cambridge, UK: Cambridge University Press. Sir Nicholas Stern was asked to lead a major review of the economics of climate change by the UK Chancellor on 19 July 2005. The goal of the review was to understand more comprehensively the nature of the economic challenges and how they can be met, in the UK and globally. The Stern Review was published in 30 October 2006 and it has become the authoritative synthesis of climate change economics.

ii. Kyoto implementation experience

9. The European Union adopted the European Emissions Trading Scheme (EU-ETS) as its key instrument for implementing its Kyoto commitments in 2003.The first phase of the EU-ETS started on 1 January 2005 when CO_2 emissions from companies in sectors covered by the scheme were capped across 25 European countries. When it started, the scheme covered about 46 % of emissions from Europe and its target is to reduce GHG emissions from Europe by 8 %. Emission targets of different member states were determined in the European Burden Sharing Agreement and vary from 28 % GHG emission reductions in Luxemburg to 27 % increase of GHG emissions in Portugal (see Appendix 1). Companies involved in the scheme are able to trade on emissions allowances across Europe. The scheme was expanded to 5 other greenhouse gases in its second phase in 2008. While the European Union pioneered in the domestic use of emissions trading for GHG mitigation, it by no means relies only on emissions trading to manage its GHG emissions. The European Union, like all other parties to KP, uses also a wide variety of other policies to improve energy efficiency throughout the economy and to increase the use of renewable sources of energy.

10. Some Parties to KP are in a position to meet their GHG reduction targets. For example, Germany, United Kingdom and Sweden had already reduced their GHG emissions in 2007 by 22.4 %, 18 % and 9.3 %, respectively, in comparison to the Kyoto base year, excluding emissions from land use, land-use change and forestry (see Appendix 1). The greatest reductions in GHG emissions have been experienced in countries of former Soviet Union and in countries with economies in transition. In 2007, the GHG emissions in many of them were 25-60 % below 1990 levels because of the collapse of their economies (see Appendix 1 and 2).

11. On the other hand, GHG emissions of several European countries and other developed countries significantly increased from 1990 to the beginning of the Kyoto commitment period. For example, GHG emissions of Portugal and Spain were up 36.1 % and 52.6 % in 2007 in comparison to the Kyoto base year (see Appendix 1). In 2004, carbon dioxide emissions (not all GHG emissions) of Australia (which only ratified KP in December 2007), Japan and the United States (which has not ratified KP) were already up from the 1990 figures by 17.0 %, 17.4 % and 25 %, respectively (UNDP 2007, 310-315) (see Appendix 2).

12. When the significant reduction of GHG emissions or "hot air" in the Former Soviet Union countries (FSU) and countries undergoing the process of transition to a market economy[2] (EIT) is excluded, the combined emissions from other Annex I countries actually increased by 3 % from 1990 to early 2000s. At the same time, carbon dioxide emissions of large developing countries that are not Parties to KP, such as the BRIC countries of Brazil, India and China, increased by 60-110 % from 1990 to 2004 (UNDP 2007, 310-315).

13. As it currently stands, the KP cannot generate the level of cuts in GHG emissions needed to maintain a stable climate system. This is because of the small number of countries that have emission reduction commitments under the KP, because some countries with large GHG emissions are not Parties to it (see Appendix 3), because of the insufficiency of adopted GHG emission reduction commitments (see Appendix 1 and 2), because of failure to meet the already agreed commitments (see Appendix 3), and because the KP does not cover a comprehensive range of sources of GHGs. A new, more ambitious and comprehensive set of commitments is needed.

iii. Bali Action Plan for Post-Kyoto commitment period

14. The 13th Conference of the Parties to the UNFCCC adopted the *Bali Action Plan*[3] to facilitate the implementation of the Convention after 2012. The Bali Action Plan highlighted a) a shared vision of long-term cooperative action and global goal of emissions reductions; b) enhanced action on mitigation of climate change; 3) enhanced action on adaptation to climate change; d) enhanced action on technology development and transfer, and 5) enhanced action on the provision of financial resources for mitigation and adaptation as the key areas of preparation and negotiations for a new climate change agreement.

15. The Bali Action Plan also established the *Ad-Hoc Working Group on Long Term Cooperative Action under the Convention* (AWG-LCA) to prepare the ground for a new agreement at COP15. Another part of the "dual-track" solution for preparing for a post-Kyoto agreement, the *Ad Hoc Working Group on Further*

[2] The definition of EIT in the UNFCCC, refers to Belarus, Bulgaria, Croatia, Estonia, Latvia, Lithuania, Romania, Russian Federation, Slovenia and Ukraine.

[3] Bali Action Plan (UNFCCC Decision 1/CP.13) was adopted in the thirteenth Conference of the Parties to the UNFCCC in Bali, Indonesia. The Bali Action Plan outlined the agreed principles that are to inform preparations and negotiations on GHG reduction commitments for the post-2012 period.

Commitments for Annex I Countries to Kyoto Protocol (AWG-KP) was established in 2005 in Montreal and started its work in 2006. Both Ad Hoc Working Groups are to report their work at COP 15 in Copenhagen.

iv. Progress from Bali to Poznan and beyond

16. AWG-KP has convened for seven sessions since 2006 and it will meet for another session in 2009 before reporting its work to COP15 in Copenhagen. It has acknowledged the need for much deeper GHG emission cuts than were agreed for the first commitment period (2008-2012). Referring to TAR and FAR of the IPCC, AWG-KP saw from the start that GHG reductions to well below half of the levels in 2000 are likely to be needed. In this light, AWG-KP adopted a work programme focusing on 1) mitigation potentials and ranges of emission reduction objectives for Annex 1 Parties; 2) possible means to achieve mitigation objectives; and 3) further commitments by Annex I Parties.

17. There is agreement in AWG-KP that emissions trading and project-based mechanisms (CDM and JI), and measures to limit or reduce GHG emissions and to enhance removals from land use, land-use change and forestry (LULUCF) activities, should continue to be available to Annex I Parties as means to reach their emission reduction objectives in the Post-2012 agreement. On the other hand, AWG-KP considers that that the use of emissions trading and project-based mechanisms should be supplemental to the implementation of domestic actions in Annex I Parties. AWG-KP considers the following issues to be among the key items for its remaining period of work this year:

- Scale of emission reductions to be achieved by Annex I Parties
- Duration of commitment period(s)
- Formulation of emission limitation and reduction objectives, including their base year;
- Factors behind and indicators of mitigation potential of Annex I Parties;
- Improvements to emissions trading and project-based mechanisms;
- The treatment of LULUCF in the second commitment period;
- The coverage of GHGs, sectors and source categories;
- Common metrics to calculate the CO2 equivalence of anthropogenic emissions by sources and removals by sinks;
- Approaches targeting sectoral emissions;
- How approaches to reduce emissions of GHGs from aviation and marine bunker fuels could be used by Annex I Parties as a means to reach their emission reduction targets.

18. AWG LCA started its work more recently in 2008 but has already convened for six sessions, with another session scheduled for 2009 before COP 15. AWG-LCA adopted a work programme based directly on the areas of the Bali Action Plan, deciding to cover each of the elements of BAP in each of its meetings. Its meetings, seminars and calls for submissions have generated a record that supports the preparation of draft negotiation text. For this reason, AWG-LCA moved to a full negotiation mode for the four sessions scheduled for 2009.

III. Recent developments in negotiation stances

19. This section examines recent developments in the negotiation stances of key Parties to negotiations in Copenhagen. The discussion will focus on European Union, United States, China and Australia. The European Union has to date shown most leadership in international negotiations. The United States and Australia have changed their previously reluctant negotiation stances recently. China needs to be attended because it became the largest source of GHG emissions in 2006 and because it epitomises the situation of many other large developing countries.

i. The European Union

20. The European Union has been the leader in promoting international action on climate change over the last decade. The EU's objective is to limit the global average temperature increase to less than 2℃ from the pre-industrial level. In line with this objective, the EU adopted in December 2008 a climate change and energy package aiming to reduce its GHG emissions to 20 percent below 1990 levels by 2020.

21. The EU's view is that an international agreement in Copenhagen should reduce GHG emissions by 20 percent by 2020 compared to 1990. The European Union has indicated its readiness "to go further and sign up to a 30% reduction target in the context of an ambitious and comprehensive international agreement if there are comparable reductions by other developed countries and appropriate contributions by the

economically more advanced developing countries based on their responsibilities and capabilities" (CEC 2009, 4).

22. The EU has proposed that developed countries, as a group, should reduce their emissions consistently with the objective of keeping the global warming below two degrees. FAR of the IPCC indicates that this would require GHG emission reductions of 25-40% by 2020 and of 80-95% by 2050 for the developed countries. The stance of EU is that developed countries should be able to achieve their reduction targets partly through domestic action and partly by using credits from emission reductions in developing countries.

23. The European Union views that, when setting targets for the post-2012, surpluses of earlier emission rights need to be taken into account so that that the new 20-30% GHG reduction target is met through real reductions after 2012. It also views that the rules for land use, land-use change and forestry should not undermine the target. It sees that binding GHG emission reduction commitments should not be limited to the countries that have had targets under the Kyoto Protocol: the Copenhagen agreement should set emission reduction commitments for all countries listed in Annex I to the UNFCCC, all OECD member countries and all current EU Member States, EU candidate countries and potential candidates.

24 The European Union also considers that developing country GHG emissions are increasing rapidly and will outweigh developed country efforts to reduce their GHG emissions if not addressed. It holds that, as a group, developing countries will need to limit the rise in their GHG emissions through "nationally appropriate actions" to 15-30% below baseline by 2020. For the European Union, this excludes GHG emission reductions for the transfer of carbon credits to developed countries. For the EU, appropriate actions should include a reduction of emissions from tropical deforestation so that by 2020, gross tropical deforestation should be reduced by at least 50% compared to current levels and by 2030 global forest cover loss should be halted.

25. The European Union sees that national climate change strategies offer an instrument for developing countries to formulate differentiated actions and levels of ambition towards reduction of GHG emissions. Countries like China, India, South Africa, and Brazil have already earlier formulated national mitigation strategies in the context of development. The European Union sees that these and other economically more advanced developing countries should update their strategies to indicate their overall level of ambition up to 2020.

26. The EU also sees that all developing countries, except least developed countries (LDCs), should commit to adopting low-carbon development strategies by the end of 2011. These strategies should set out a credible pathway to limit the country's emissions through nationally appropriate mitigation actions that cover all key emitting sectors, especially the power sector, transport, major energy-intensive industries and, where significant, forests and agriculture. For the EU, robust and verifiable low-carbon development strategies should be a prerequisite for access to international support for mitigation action.

27. The European Union remains the lead proponent of international action on climate change. It has opened the game by pledging a unilateral 20 % cut to its GHG emissions by 2020 in comparison to their 1990 levels. As will be discussed below, Australia and the United States have made counter-pledges although they remain less ambitious. The EU has expressed support for continuing and expanding the use of the Kyoto instruments whilst signaling that it sees a closer involvement of developing countries a necessary part of the Copenhagen agreement on commitments.

ii. The United States

28. The election of Barack Obama to US Presidency and the change of US administration have changed the negotiation stance of the United States from the reluctance that characterised it in the previous decade. While the new administration's track record is still evolving, something can be said about its agenda. Todd Stern, who has significant experience from climate change and a thought-out policy agenda on it, was nominated the US Climate Change Envoy. The early days of the Obama Administration suggest that Stern's views are likely to shape the further steps of the United States in the area of climate change policy and politics.

29. According to Stern (Stern and Antholis, 2008), the United States should adopt a credible domestic climate change program to restore its international credibility. He also considers that the United States should pursue "layered diplomacy": that is, to actively negotiate on climate change on a number of fronts simultaneously. For Stern, layered diplomacy should include at least 1) negotiations on commitments with a

small group of key emitters; 2) active engagement bilaterally especially with China, and; 3) active engagement in multilateral negotiations under the UN Framework Convention on Climate Change (UNFCCC).

30. The Obama administration started its layered diplomacy by engaging in bilateral exchanges on climate change with Mexico, China and Australia. It also established the *Major Economies Forum on Energy and Climate*. The Forum has 17 members which include Australia, Brazil, Canada, China, the European Union, France, Germany, India, Indonesia, Italy, Japan, Korea, Mexico, Russia, South Africa, Britain, and the United States. The Forum held its first, preparatory meeting in Washington on 28-29 April 2009. United Nations officials and representatives of Denmark who will host COP15 were also invited to the meet. In the first preparatory meeting of the Forum, France pledged to organise the second one in May, Mexico organized the third one in June, and the leaders' meeting has been organized in Italy in July 2009.

31. The leaders' meeting organized in L'Aquila, Italy issued a Declaration of the Leaders of the Forum in July 9, 2009. The Declaration recognizes the imperative of aiming for less than 2 C warming, affirms the responsibility of developed countries to undertake rapid and substantial reduction of their GHG emissions, as well as affirms that developing country members will make prompt efforts to significantly diverge their emissions from business as usual trajectory. The Declaration recognizes the need for substantial adaptation and the necessity for making substantial additional funds available to support it in the developing world. The Declaration assigned the responsibilities for spearheading the development of key climate change technologies and highlighted the urgency of developing the financial architecture of climate change mitigation and adaptation. The Leaders' meeting also committed the members to continued work on the agenda.

32. The United States has also started domestic actions aimed at restoring its credibility in international political arenas. In her address to the Forum in April 2009, Secretary of State Hilary Clinton stated that "we are … back in the game. We don't doubt the urgency or the magnitude of the problem. This forum is not intended to divert attention from working towards solutions, but to assist us in creating those solutions. And we are moving quickly." She indicated that President Obama has also made a move towards establishing domestic climate change programme by proposing a mandatory national target through the year 2050 which would involve cutting GHG emissions by 80 percent. Emissions trading under the cap are expected to encourage private investments in clean energy and improvements in efficiency, streamline the US regulatory process, stimulate new jobs and growth, and lead to a low-carbon economy. She also indicated that the earlier economic stimulus package will make significant, direct investments in clean energy technology and energy efficiency.

33. President Obama's economic stimulus package announced in the *American Recovery and Reinvestment Act* of 2009 includes $ 60 billion for energy efficiency measures for a smart electricity distribution network, energy conservation measures in federal buildings, grant in aid programme for energy efficiency measures in low income homes, as well as other energy efficiency and renewable energy measures. The United States has also adopted new fuel consumption standards for cars for model year 2011. The new fuel efficiency standard of at least 35 miles per gallon by 2020 will increase fuel efficiency of US cars and trucks by 40 percent.

34. The cornerstone of new US climate change legislation, the *American Clean Energy and Security Act of 2009* (HR 2454), has passed the House of Representative but its companion bill is still in the Senate. HR 2454 encompasses 1) a "clean energy" title that promotes renewable sources of energy and carbon capture and sequestration technologies, low-carbon transportation fuels, clean electric vehicles, and the smart grid and electricity transmission; 2) an "energy efficiency" title that increases energy efficiency across all sectors of the economy, including buildings, appliances, transportation, and industry; 3) a "global warming" title that places limits on the emissions of heat-trapping pollutants; 4) a "transitioning" title that protects U.S. consumers and industry and promotes green jobs during the transition to a clean energy economy, and; 5) a title specifying the provisions for agricultural and forestry related offsets.

35. The goal of the American Clean Energy and Security Act of 2009, specified in Section 702, is to ensure that aggregate emissions are reduced 3% below 2005 levels in 2012, 20% below 2005 levels in 2020, 42% below 2005 levels in 2030, and 83% below 2005 levels in 2050. The Act establishes the *Global Warming Pollution Reduction Program* for reducing greenhouse gas emissions from electric utilities, oil companies, large industrial sources, and other entities that collectively are responsible for 85% of U.S. global warming emissions. The program will require these GHG emitters to hold tradable federal permits, called "allowances," for each ton of GHGs emitted into the atmosphere. The emissions trading program would reduce the number of available allowances issued each year to ensure that trading scheme contributes to the attainment of the Act's goals.

36. To conclude, The United States has made substantial change in its attitude towards climate change, following the broad strategy outlined by Todd Stern which includes decisive domestic action and several simultaneous diplomatic initiatives. These initiatives are not considered as alternatives to the UNFCCC process but rather as stepping stones towards a possible agreement in Copenhagen. The unfolding of US initiatives over the year will shed light on what momentum the Obama administration is able to create within the United States for an agreement in Copenhagen. The outcomes of its diplomatic initiatives will in turn point at possible substantive aspects of that agreement. Its domestic initiatives are preparing it to fully take part of any opportunities for e.g. international emissions trading that could be established as part of the next agreement.

iii. China

37. China's position as one of the leading members of G77+China has been that climate change is caused primarily by developed countries' historical emissions and their current high per capita emissions, and that developing countries are the main victims of climate change. From this viewpoint, it has argued that developed countries should take the lead in GHG emission reduction after 2012. China sees that developed countries should reduce their emissions by a large margin and with quantitative commitments informed by the principle of common but differentiated responsibilities.

38. China has specified its expectations in a recent position paper on climate change negotiations in Copenhagen (NRDC, 2009), indicating that developed countries should commit themselves in Copenhagen to reduce their GHG emissions 40 % by 2020. At the same time, it suggests developing countries could undertake Nationally Appropriate Mitigation Actions (NAMAs) in the context of sustainable development and their priority needs of development and poverty reduction. Developed countries should support NAMAs by providing technology, finance and capacity building, without expecting to offset their own GHG emissions with reductions achieved through NAMAs.

39. China has also suggested that consumer countries should take responsibility for the carbon emissions generated in the manufacture of goods, and not the producer countries of goods such as China that export them. An estimated 33 % of China's CO_2 emissions were generated by the manufacturing of export goods (Weber et al. 2008). On the other hand, China avoided even larger amount of CO_2 emissions than its exports generated by importing resources and goods from developed and other developing countries. There have also been other proposals to account for carbon footprints of countries but they have received mixed responses to date.

40. China's position paper on climate change negotiations in Copenhagen (NRDC, 2009) also places significant emphasis on making progress on adaptation in the negotiations. China proposes the establishment of a comprehensive institutional framework for adaptation, including a Subsidiary Body for Adaptation under the UNFCCC and the creation of several new Funds to finance adaptation related activities. China also sees that developed countries should commit to pledge funds amounting to 0.5 to 1.0 percent of their GDP to replenish adaptation funds.

41. China has already adopted in 2008 a short-term objective to reduce the energy intensity of its GDP unit by 20 % from 2005 to 2010, and to increase the role of renewable sources of energy to 10 % by 2010. In June 2009, China announced its commitment to increase the role of renewable energy, particularly of wind and solar energy, in its energy portfolio to 20 % by 2020. China has also set up targets for the reduction of N_20 emissions and for substantial increase in reforestation of land.

42. Recently China has positively commended the change in US position and its willingness to accept historical responsibility and deeper GHG emission cuts. While China has not formally changed its negotiation stance, developed country negotiators have reported China's greater willingness to engage in negotiations. It also signed in the end of July 2009 a Memorandum of Understanding with the United States to Enhance Cooperation on Climate Change, Energy and the Environment. In the MoU, both countries agreed "to respond vigorously to the challenges of energy security, climate change and environmental protection through ambitious domestic action and international cooperation." At the moment the debates centre on the extension of its carbon intensity goals and perhaps China's adoption of a longer-term carbon intensity target. Target like this would not entail immediate GHG reduction commitments to China, but it would entail making most growth out of as few GHG emissions as possible.

43. In summary, China has incentives to be involved in mitigation efforts. It is currently actively involved in the Clean Development Mechanism and hosts the largest portfolio of CDM projects of any country. It benefits from continued existence of, and involvement in, the scheme, and the more the steeper emission

cuts are adopted internationally. China is also a major producer of wind turbines and solar energy products. Demand driven by the expanding domestic market is likely to create economies of scale that enable Chinese firms to tap into international markets, the growth of which is directly related to the stringency of adopted emission reduction targets. China would also stand to benefit from involvement in international emissions trading if this was to be a part of the post-Kyoto solution for achieving GHG emission reductions. Some level of involvement by China in the post-2012 agreement may well be fully compensated by benefits from CDM projects and renewable and other energy technology exports.

iv. Australia

44. Australia adopted a new, more pro-active stance towards climate change both domestically and internationally already before the United States. The first official act of the new Australian government lead by Kenneth Rudd in 2007 was to ratify the Kyoto Protocol and Australia was also actively engaged in the adoption of the Bali Action Plan in 2007. Penny Wong was appointed a Minister for Climate Change and Water in the new Australian government and a new Department of Climate Change was established.

45. In its 2008 white paper *Carbon Pollution Reduction Scheme: Australia's Low Pollution Future*, the Australian Government adopted a target of reducing its GHG emissions by 5-15 per cent below the 2000 levels by 2020, including:

- an unconditional commitment to reduce GHG emissions 5 per cent below the 2000 level by 2020 (projected to be a 27 per cent reduction in per capita terms);
- a commitment to reduce GHG emissions by 15 per cent below the 2000 levels by 2020 (projected to be a 34 per cent reduction in per capita terms) in the context of global agreement under which all major economies commit to substantially restrain emissions and advanced economies take on reductions comparable to Australia.

46. In 2009, the Government of Australia revised its GHG emission reduction target to 25 per cent below the 2000 level by 2020, in the context of a comprehensive global agreement fulfilling a set of conditions. The longer-term target of the Australian Government is to reduce its greenhouse gas emissions by 60 per cent on 2000 levels by 2050.

47. Australian Government is in the process of establishing *Carbon Pollution Reduction Scheme* as its key instrument for reducing GHG emissions domestically. The scheme establishes a trading system that involves larger sources of all major GHGs. The scheme recognises Carbon Capture and Storage (CCS) as a way to reduce gross emissions before they come under the requirements of the scheme. The original target for an operational scheme in Australia was 2010 but this has been recently revised to 2011 due to economic downturn.

48. The Australian Government has also just reformed its *Mandatory Renewable Energy Target* programme which was an important part of the earlier climate change policy framework. The Australian Government extended the original scheme fivefold under the new *Renewable Energy Target* in April 2009 in order to achieve its new target of generating 20 percent of electricity from renewable sources. In May 2009, the Government of Australia announced that it will establish the *Australian Carbon Trust* to fund household energy efficiency measures in order to help the households' transition to higher price of carbon.

49. In the international front, the Australian Government launched the *Global Carbon Capture and Storage Initiative* in September 2008 and pledged A$100 million funding for the establishment of a global institute to speed up the development of carbon capture and storage technology. Australia has a strong interest in CCS because of the important role of energy exports in the Australian economy – coal is Australia's most important export product and globally it is the fifth largest energy exporter. The *Global Carbon Capture and Storage Institute* was launched in April 2009 in Australia and its founding members included Canada, Norway, European Commission and several EU member states, Indonesia, Japan, the United States, and a large number of energy sector businesses. The establishment if the Institute has added visibility to efforts to promote research in and demonstration projects on Carbon Capture and Storage globally. It will first assess CCS projects underway and will include a mechanism for sharing knowledge on CCS internationally.

50. The change of Australia's stance toward international agreement on GHG emission reduction is more significant than the country's political weight in negotiations. As a major energy exporter with a fast growing economy, it is now actively seeking involvement to make sure it can make its interests to count, for example through promotion of CCS and recognition of its role in any agreement. This may offer a model for many other energy export dependent countries such as oil producing countries that have been reluctant to cooperate on climate change until now. Australia is also establishing its domestic emissions trading system

which would enable it to participate in international emissions trading if that would become part of the agreement.

IV. Conclusions

51. Preparations for a new agreement on the reduction of GHG emissions in the post-2012 period have been underway since 2007. Under the UNFCCC, these preparations have been spearheaded by the AWG-LCA and AWG-FC. To date, their efforts have focused on the extension and expansion of solutions that were already used in the Kyoto Protocol, such as the use of emissions trading and other market mechanisms, but they have also integrated new elements to the toolbox of GHG reduction such as reduction of deforestation in developed countries and carbon capture and storage. There is some agreement on the key design principles of the architecture of climate change governance for post-2012 period, but other questions such as the level of actually adopted commitments and the distribution of burden of meeting them have not really been addressed yet.

52. There are signs about greater willingness to negotiate seriously on a global agreement to reduce GHG emissions to the atmosphere. Several non-trivial unilateral pledges of GHG emission reductions have been presented and the United States and Australia have taken a more active stance towards international climate change negotiations. They have also signaled their readiness to agree on serious commitments through more decisive domestic actions to reduce their GHG emissions.

53. The grouping of parties involved in international climate change negotiations is also becoming more fragmented. This is happening particularly through the organization of members of the Group of 77 and China into several new, internally more homogeneous groupings that will play different roles both in the international negotiations and in climate change mitigation efforts. Intimate involvement of large developing countries such as Brazil, India, China, South Africa and Mexico in mitigation efforts is not anymore as foreign notion as it was some years ago. Greater attention to solutions such as CCS may also alter the position of oil producing and energy exporting countries as a group towards climate change mitigation.

54. Several concurrent initiatives and processes are underway that seek to facilitate the reaching of an agreement in Copenhagen in December 2009. These include the remaining meetings of the AWG-LCA and AWG-FC as well as various other formal and informal bilateral and multi-lateral meetings. Therefore, areas of agreement and issues of contention will be discussed and clarified over the months preceding the Copenhagen negotiations. However, it is likely that the agreements and disagreements will surround the following key issues:

- *The scale of collectively agreed GHG emission reductions by 2020 and 2050*. Ambitious targets are obviously needed to mitigate climate change. If international emissions trading will be a key policy instrument for the next commitment period, the level of agreed GHG emission reductions will influence the potential benefit of large developing countries from the agreement – more ambitious targets will translate to more CDM projects and larger export volumes for green energy investments. Thus, ambitious commitments may increase the willingness or large developing countries to accept a mitigation role or commitments for themselves.

- *Burden sharing of mitigation*. Developed countries will need to adopt the main burden of mitigating climate change and agree on burden sharing amongst them. The stronger the agreement on GHG emission cuts, the more likely it is that some of the developing countries will agree on sharing the burden of mitigation. How the responsibilities of developing countries will be formulated will be one of the most contentious issues for negotiations that relates to social justice. For example, will the commitments of developing countries imply per capita entitlements to GHG emissions comparable to those enjoyed by developed countries now or after their emission cuts? Convergence with current global per capita emissions of about 4.5 tons of carbon would allow growth of CO_2 emissions only for developing countries, and imply 50-65 % emission reductions in Europe and North America. But that would not be enough – maintaining the global warming within 2 C, the global per capita CO_2 emissions should be cut to about 2 tons. Convergence with this figure would imply greater emission reductions to developed countries and significant emission reductions to most developing countries, too, except the LDCs.

- *Comprehensiveness and instrument choice*. Deep cuts in GHG emissions demand broad coverage of GHG sources and moving to bunker fuels, international aviation, land use and land use change. However, these new issues will demand new management strategies that will be difficult to agree on.

Instrument choices will be important across issues, for example choices over explicit targets and trading vs. regulatory, tax or softer approaches.

- *The length of agreed-upon commitment periods*. Shorter periods may be politically easier to agree on but they do not create a basis for credible longer-term expectations. These would in turn be needed to stimulate technological change and investment in decarbonisation of economies, as well as to make carbon trading systems work appropriately.

- *Agreement on adaptation to climate change* is likely to be a key issue for an agreement on mitigation as well. All developing countries are going to be in the receiving end of climate change impacts and they, particularly the least developed countries, are both vulnerable to climate change impacts and have limited capacity to adapt. They are likely to tie their participation in mitigation efforts and indeed possibly their agreement to any mitigation proposals to an agreement on governance and financing of adaptation. This is already highlighted by China's new position paper on negotiations in Copenhagen.

55. There are several possible obstacles for an agreement on climate change in Copenhagen. Firstly, the global economic downturn may juxtapose efforts to mitigate climate change and to secure employment and economic stability. There is no necessary conflict between the two, as arguments and already made public spending decisions on green economic stimulus demonstrate: promotion of renewable energy and energy efficiency, as well as more sustainable energy and transport infrastructure, are examples of carbon-friendly forms of public spending that can bolster economic activity. Furthermore, the economic downturn itself will reduce global GHG emissions, improve energy efficiency and to give an initial boost for mitigation efforts.

56. There are also other factors that can prove to be obstacles for an agreement in Copenhagen. For example, domestic opposition to a more active stance to climate change in the United States could compromise the current Administration's ability to adopt effective domestic policies and to adopt international commitments. The willingness of energy exporters such as Australia and OPEC countries to accept GHG reduction targets will in turn depend partly on technological progress with Carbon Capture and Storage and on their ability to get CCS included into the part of measures to be accounted in an agreement.

57. Finally, the climate change negotiations in Copenhagen do not cover the whole relevant domain that has implications for climate change and efforts to mitigate GHG emissions. For example, significant variations in the level of mitigation commitments will create incentives to relocate carbon intensive production to countries that have low mitigation commitments. Carbon intensive industries in these countries would also grow on their own without relocation because of altered relative costs. As highlighted by China's comments on carbon footprints and responsibility for GHG emissions, this already is an issue for export-oriented manufacturing economies. These and many other issues related to climate change will require attention in negotiations on world trade, so that arrangements governing trade and investment will support efforts to mitigate climate change, not undermine them.

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Resolution 1667 (2009): Growing food or fuel?
Resolution 1655(2009): Environmentally induced migration and displacement: a 21st century challenge
Recommendation 1823 (2008): Global warming and ecological disasters
Recommendation 1837 (2008): The fight against harm to the environment in the Black Sea
Resolution 1596 (2008): Protection of the environment in the Arctic Region
Resolution 1588 (2007): Radioactive waste and protection of the environment
Resolution 1552 (2007): Capture of carbon dioxide as a means of fighting climate change
Recommendation 1786 (2007): Towards responsible food consumption
Resolution 1531 (2007): Peril of using energy supply as an instrument of political pressure
Recommendation 1752 (2007): Conservation and use of the landscape potential of Europe
Resolution 1488 (2006): Regrouping land in central and eastern Europe
Recommendation 1731 (2006): Europe's contribution to improving water management
Resolution 1461 (2005): The Curonian Spit, oil and the environment
Resolution 1449 (2005): The environment and the Millennium Development Goals
Resolution 1406 (2004): Global warming: beyond Kyoto
Recommendation 1653 (2004): Environmental accounting as a sustainable development tool
Resolution 1317 (2003): Marine pollution
Resolution 1318 (2003): Globalisation and sustainable development
Resolution 1243 (2001): Kyoto Protocol on climate change: need for committed international solidarity

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List of relevant reports currently prepared in the Committee on the Environment, Agriculture and Local and Regional Affairs:

Drafting an additional Protocol to the Convention on Human Rights, concerning the right to a healthy environment (*Mr Mendes Bota, Portugal, EPP/CD*)
Biodiversity and climate change *(Rapporteur, Mrs Cortajarena Iturrioz, Spain, ALDE)*
Forests: the future of our planet *(Rapporteur: Mr Timchenko, Russia, EDG)*
For a new ocean governance *(Rapporteur: Mrs Melo, Portugal, SOC)*
The fight against harm to the environment in the Mediterranean *(Rapporteur: Mr Falzon, Malta, EPP/CD)*

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List of relevant reports adopted by the Congress of Local and Regional Authorities:

Resolution 262 (2008): Public, local and regional action: for a new energy culture
Resolution 247 and Recommendation 230 (2008): Local and regional authorities committed to sustainable consumption
Resolution 248 and Recommendation 231 (2008): Climate change: building adaptive capacity of local and regional authorities

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List of relevant reports adopted by the Standing Committee of the Bern Convention:

Recommendation No. 135 (2008) on addressing the impacts of climate change on biodiversity

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List of Acronyms

AWG-KP	Ad-hoc working group for further commitments under Kyoto Protocol to the United Nations Framework Convention on Climate Change
AWG-LCA	Ad hoc working group on long-term cooperation under the United Nations Framework Convention on Climate Change
BAP	Bali Action Plan
BRIC	BRIC countries include Brazil, India and China
CCS	Carbon capture and storage, a technology to separate CO2 from combustion exhausts and to store it geologically.
CDM	Clean Development Mechanism is one of the flexibility mechanisms established by the Kyoto Protocol. It enables Annex I countries to meet part of their greenhouse gas reduction commitments by projects implemented in non-Annex I (developing) countries.
COP	Conference of the Parties to the United Nations Framework Convention on Climate Change (or other international environmental conventions)
EIT	Former socialist countries with economies in transition
ETS	Emissions trading system.
EU ETS	European Union's emission trading system
FAR	Fourth assessment report of the Intergovernmental Panel on Climate Change (2007)
FSU	Former Soviet Union countries
G-77	A group composed of and representing developing countries

GHG	Greenhouse gas
GDP	Gross domestic product
IPCC	Intergovernmental Panel on Climate Change, a body designated to assess latest scientific research on climate change.
JI	Joint Implementation involves Annex I country meeting its greenhouse gas emission reduction commitments by a project implemented in another Annex I country.
KP	Kyoto Protocol, the first amendment to the United Nations Framework Convention on Climate Change agreed in Kyoto in 1997. It established the first commitments to reduce greenhouse gas emissions.
LDC	Least Developed Country
LULUCF	Land Use, Land-Use Change and Forestry related activities
OECD	Organisation for Economic Cooperation and Development
OPEC	Oil producing countries' group
TAR	Third assessment report of the Intergovernmental Panel on Climate Change (2007)
UNFCCC	United Nations Framework Convention on Climate Change

Appendix 1

Greenhouse gas emission (GHG) reduction targets and change of total emissions

(excluding LULUCF) **in the European Union in 1990-2007**

Country	Kyoto target	1990	Changes 1990-2007
	%	*Million tonnes*	*%*
Austria	-13.0	79.0	11.3
Belgium	-7.5	143.2	-8.3
Denmark	-21.0	69.1	-3.5
Finland	0.0	70.9	10.6
France	0.0	562.6	-5.6
Germany	-21.0	1 215.2	-21.3
Greece	-25.0	105.6	24.9
Ireland	-13.0	55.4	25.0
Italy	-6.5	516.3	7.1
Luxembourg	-28.0	13.1	-1.6
Netherlands	-6.0	212.0	-2.1
Portugal	-27.0	59.3	38.1
Spain	-15.0	288.1	53.5
Sweden	-4.0	71.9	-9.1
United Kingdom	-12.5	771.1	-17.4
EU-15	**-8.0**	**4 323.9**	**-4.3**
Bulgaria	-8.0	117.7	-35.8
Cyprus	Not applicable	5.5	85.3
Czech Republic	-8.0	194.7	-22.5
Estonia	-8.0	41.9	-47.5
Hungary	-6.0	99.2	-23.5
Latvia	-8.0	26.7	-54.7
Lithuania	-8.0	49.1	-49.6
Malta	Not applicable	2.0	45.7
Poland	-6.0	459.5	-13.2
Romania	-8.0	243.0	-37.3
Slovakia	-8.0	73.3	-35.9
Slovenia	-8.0	18.6	11.6
EU-27	**-7.6**	**5 564.0**	**-9.3**

Source: European Environmental Agency, climate change data viewer

Appendix 2

Carbon dioxide emissions of Annex 1 countries[4] and other major emitters in 2004					
Country (2004)	**Mt CO2**	**Pop. Million**	**CO2/capita**	**Emission %**	**Population %**
Australia	326.6	20.2	16.2	1.1	0.3
Austria	69.8	8.1	8.6	0.2	0.1
Belarus	64.9	9.8	6.6	0.2	0.2
Belgium	100.7	10.4	9.7	0.3	0.2
Bulgaria	42.5	7.7	5.5	0.1	0.1
Canada	639	32.0	20	2.2	0.5
Croatia	23.5	4.4	5.3	0.1	0.1
Czech Republic	116.9	10.3	11.4	0.4	0.2
Denmark	52.9	5.4	9.8	0.2	0.1
Estonia	18.9	1.4	14	0.1	0.0
Finland	65.8	5.2	12.6	0.2	0.1
France	373.5	62.3	6	1.3	1.0
Germany	808.3	82.5	9.8	2.8	1.3
Greece	96.6	11.0	8.8	0.3	0.2
Hungary	57.1	10.2	5.6	0.2	0.2
Iceland	2.2	0.3	7.6	0.0	0.0
Ireland	42.3	4.0	10.5	0.1	0.1
Italy	449.7	57.7	7.8	1.6	0.9
Japan	1257.2	127.0	9.9	4.3	2.0
Latvia	7.1	2.4	3	0.0	0.0
Lithuania	13.3	3.5	3.8	0.0	0.1
Luxemburg	11.3	0.5	25	0.0	0.0
Netherlands	142	16.3	8.7	0.5	0.3
New Zealand	31.6	4.1	7.7	0.1	0.1
Norway	87.5	4.6	19.1	0.3	0.1
Poland	307.1	38.4	8	1.1	0.6
Portugal	58.9	10.5	5.6	0.2	0.2
Romania	90.4	21.5	4.2	0.3	0.3
Russian Federation	1524.1	143.8	10.6	5.3	2.2
Slovakia	36.3	5.4	6.7	0.1	0.1
Slovenia	16.2	2.0	8.1	0.1	0.0
Spain	330.3	43.5	7.6	1.1	0.7
Sweden	53	9.0	5.9	0.2	0.1
Switzerland	40.4	7.5	5.4	0.1	0.1
Turkey	226	70.6	3.2	0.8	1.1
Ukraine	329.8	47.1	7	1.1	0.7
United Kingdom	586.9	59.9	9.8	2.0	0.9
United States	6045.8	293.5	20.6	20.9	4.6
Annex 1 Total	**14546.4**	**1253.7**	**11.6**	**50.2**	**19.5**

[4] Annex 1 countries to the Kyoto Protocol

Country (2004)	Mt CO2	Pop. Million	CO2/capita	Emission %	Population %
Brazil	331.6	184.2	1.8	1.1	2.9
China	5007.1	1317.7	3.8	17.3	20.5
India	1342.1	1118.4	1.2	4.6	17.4
Indonesia	378	222.4	1.7	1.3	3.5
Mexico	437.8	104.2	4.2	1.5	1.6
South Africa	436.8	44.6	9.8	1.5	0.7
Other major emitters	**7933.4**	**2991.5**	**2.7**	**27.4**	**46.5**

Source: Human Development Report 2007/2008

Appendix 3

Status of Kyoto Protocol in Different countries

1. List of the countries which signed and ratified, with targets

Australia, Austria, Belgium, Bulgaria, Canada, Croatia, Czech Republic, Denmark, Estonia, EU-15 countries, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Latvia, Liechtenstein, Lithuania, Luxembourg, Monaco, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Russian Federation, Slovakia, Slovenia, Spain, Switzerland, Sweden, Ukraine, United Kingdom

2. List of the countries which signed and ratified, with no targets

Antigua, Argentina, Bolivia, Brazil, Chile, China, Cook Islands, Costa Rica, Cuba, Ecuador, Egypt, El Salvador, Fiji, Guatemala, Honduras, Indonesia, Israel, Kazakhstan, Malaysia, Maldives, Mali, Malta, Marshall Islands, Mexico, Micronesia, Nicaragua, Niger, Niue, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Republic of Korea, Saint Lucia, Saint Vincent & Grenadines, Samoa, Seychelles, Solomon Islands, Thailand, Trinidad & Tobago, Turkmenistan, Tuvalu, Uruguay, Uzbekistan, Vietnam, Zambia,

3. List of the countries which signed but do not ratified

Kazakhstan
United States of America

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Reporting committee: Committee on the Environment, Agriculture and Local and Regional Affairs

Reference to committee: Doc. 11581, Reference No. 3447 of 29 May 2008

Draft resolution and draft recommendation adopted unanimously by the committee on 4 September 2009

Members of the Committee: Mr Alan **Meale** (Chairman), Mrs Maria Manuela de **Melo** (1st Vice-Chairperson), Mr Juha Korkeaoja (2nd Vice-Chairman), Mr Cezar Florin Preda (3rd Vice-Chairman), Mr Remigijus Ačas, Mr Ruhi **Açikgöz**, Mr Artsruni **Aghajanyan**, Mr Miloš Aligrudić, Mr Alejandro Alonso Nùñez (alternate: Mr Gabino **Puche Rodriguez Acosta**), Mr Gerolf **Annemans**, Mr Miguel Arias Cañete, Mr Alexander Babakov, Mr Ivan Brajović, Mrs Elvira **Cortajarena Iturrioz**, Mr Veleriu Cosarciuc, Mr Vladimiro Crisafulli, Mr Taulant Dedja, Mr Hubert **Deittert**, Mr Karl Donabauer, Mr Miljenko **Dorić**, Mr Gianpaolo Dozzo, Mr Tomasz **Dudziński**, Mr József Ékes, Mr Savo Erić, Mr Bill **Etherington**, Mr Nigel **Evans**, Mr Joseph **Falzon**, Mr Relu Fenechiu, Mr Zahari Georgiev, Mr Peter Götz, Mr Rafael **Huseynov**, Mr Jean Huss, Mr Fazail Ibrahimli, Mr Ivan Ivanov, Mr Igor **Ivanovski**, Mr Bjørn Jacobsen, Mrs Danuta Jazłowiecka, Mr Birkir Jon Jonsson, Mr Stanisław Kalemba, Mr Guiorgui Kandelaki, Mr Haluk **Koç**, Mr Bojan Kostres, Mr Pavol Kubovic, Mr Paul Lempens, Mr Anastosios Liaskos, Mr François Loncle, Mr Aleksei Lotman, Mrs Kerstin Lundgren (alternate: Mr Kent **Olsson**), Mr Theo Maissen, Mrs Christine **Marin**, Mr Yevhen **Marmazov**, Mr Bernard **Marquet**, Mr José **Mendes Bota**, Mr Peter Mitterrer, Mr Pier Marino Mularoni, Mr Adrian Năstase, Mr Pasquale Nessa, Mr Tomislav Nikolić, Mrs Carina Ohlsson, Mr Joe **O'Reilly**, Mr Germinal Peiro (alternate: Mr Alain **Cousin**), Mr Ivan Popescu, Mr René **Rouquet**, Mrs Anta Rugāte, Mr Giacento Russo, Mr Fidias Sarikas, Mr Leander Schädler, Mr Herman Scheer, Mr Mykola Shershun, Mr Hans Kristian Skibby, Mr Ladislav Skopal, Mr Rainder **Steenblock**, Mr Valerij **Sudarenkov**, Mr Laszlo Szakacs, Mr Vyacheslav Timchenko, Mr Bruno Tobback (alternate: Mr Daniel **Ducarme**), Mr Dragan Todorovic, Mr Nikolay Tulaev, Mr Tomas **Ulehla**, Mr Mustafa Ünal, Mr Peter Verlič, Mr Rudolf **Vis**, Mr Harm Evert Waalkens, Mr Hansjörg Walter, Mrs Roudoula Zissi

N.B. The names of those members present at the meeting are printed in bold.

Secretariat to the Committee: Mrs Agnès Nollinger, Mr Bogdan Torcătoriu and Mrs Dana Karanjac