



**119th ASSEMBLY OF THE INTER-PARLIAMENTARY UNION
AND RELATED MEETINGS**

Geneva, 13-15.10.2008

SUMMARY RECORDS

**OF THE PANEL DISCUSSION HELD DURING THE 119th ASSEMBLY IN GENEVA
(OCTOBER 2008)**

on the subject item

"Climate change, sustainable development models, and renewable energies"

chosen for debate by the Second Standing Committee
(Sustainable Development, Finance and Trade)

during the 120th Assembly in April 2009 in Addis Ababa (Ethiopia):

***Climate change, sustainable development models,
and renewable energies***

Item 3(b) of the agenda

Panel discussion on the subject to be considered by the Second Standing Committee on Sustainable Development, Finance and Trade during the 120th Assembly in April 2009

Sitting of Tuesday, 14 October
(Afternoon)

The meeting was called to order at 2.05 p.m. with the President of the Second Standing Committee, Mr. P. Martin-Lalande (France), in the Chair.

The MODERATOR said that the purpose of the informal discussion that afternoon was to exchange views that could assist the co-Rapporteurs in drawing up a final report and in drafting a resolution that would be discussed during the 120th Assembly.

Mr. H.-J. FUCHTEL (Germany), *co-Rapporteur*, said that industrialized nations still had the highest gas emissions per capita and therefore it was incumbent upon them to play a leading role in tackling the interrelated topics of climate protection and economic growth. The German Parliament had taken the initiative in launching a project to adapt all German embassies using the latest climate change technologies. In the part of Germany which he represented, there were more than 100,000 cars for a population of 170,000 people, a level that was unsustainable. Germany had legislated for, and invested in, major changes to support sustainable energy development, in particular to support small companies.

The panel discussion was expected to lead to the approval of a resolution but it should also result in a heightened awareness of the problem of climate change among parliamentarians which, it was hoped, they would put to good effect when debating the subject in their national parliaments and in other decision-making bodies: climate change had not received sufficient attention in the European Parliament.

Public funding would need to be supplemented by the private sector in order to finance the necessary initiatives. The priorities set out in his draft report included developing energy efficiencies by introducing alternative drive systems for cars; refurbishing existing buildings and installing modern technologies in new ones. New technologies were available on the market and it was the responsibility of parliamentarians to ensure that they were used.

Mr. A. LINS (Brazil), *co-Rapporteur*, said that, like the global financial crisis, the issues of climate change, sustainable development and renewable energy were urgent and unavoidable. Although the credit crisis was not at the root of the problem, with food shortages and commodity price surges, governments and markets were being forced to find alternative paths for economic growth or for subsistence, and the production and consumption of energy would be essential to that process.

With the increasing scarcity of oil reserves and the continuing impact of fossil fuels on the environment, the pressing need for alternative energy sources was at the heart of any discussion on sustainable development. The Fourth Assessment Report (2007) of the Intergovernmental Panel on Climate Change had stated that current policies which promoted sustainable development and the mitigation of climate change would be insufficient to stop the growth of greenhouse gas emissions. On the other hand, a report published in August 2007 by the United Nations Environment Programme (UNEP) had stated that the eventual elimination of global energy subsidies would reduce greenhouse gas emissions by 6 per cent.

Renewable sources of energy had been gaining ground due to the development of new technologies and the expansion of production. Biofuels were a major energy alternative in the short run: they could bring energy security and contribute to agribusiness development, job and income generation and degraded areas recovery. Moreover, they could contribute to a reduction in CO₂ emissions.

Anthropogenic carbon dioxide emissions into the atmosphere were estimated at nine billion tons per year. Oceans and other Earth ecosystems could absorb four billion tons of the gas, leaving an extra five billion tons in the atmosphere. Industrialized countries had a historical responsibility given their intensive and increasing consumption of fossil fuels. Per capita emissions of developing countries were still relatively low and should be allowed to grow in order to guarantee their development.

World energy consumption was forecast to rise by 2.1 per cent while oil and gas production would grow by 1.9 per cent. The deficit between energy demand and supply, coupled with a progressive depletion of fossil fuel reserves, a lack of guaranteed supply and increasing environmental pressures made renewable fuels the optimum energy option. Of the energy options currently under study, ethanol, particularly sugarcane ethanol, appeared to be the best. Unlike corn ethanol, cultivation of sugarcane ethanol did not cause food prices to rise and its yield per acre of land was three times higher. It did not contribute significantly to the greenhouse effect. Sugarcane ethanol was cheaper to produce than corn ethanol and reduced greenhouse gas emissions by 55 per cent while corn ethanol provided only a 12 per cent reduction.

In Brazil, there was virtually no competition between the use of land for food and for biofuel production. Sugarcane cultivation occupied only 10 per cent of total lands under cultivation, which corresponded to only 1 per cent of the land available for agriculture. Ethanol production could be enhanced by simply recovering degraded areas. The benefits of sugarcane ethanol production for the environment had been recognized by environmental experts; it did little in competing with food production and brought no risks to Amazon rainforest areas. Brazil therefore had a huge potential to launch wide-scale production of clean, renewable biofuel which could be replicated in other countries without major environmental impacts. The expansion of cultivation in Brazil and other countries would add only 30 million hectares to cultivated land and would enable ethanol to replace 10 per cent of all gasoline used in the world.

An effort was required by all governments to search for alternative sources of energy and rich countries should aid poor ones to develop technologies and adopt sustainable growth models. The adoption of clean, renewable energy such as biofuels would assist Brazil and other nations in contributing to a reduction in greenhouse gas emissions. The Brazilian Government had given an undertaking to protect the Amazonian rain forest.

Mr. C. FREI, *Senior Director, Energy Industries and Strategy, World Economic Forum, and Titular Professor, Energy Centre, Swiss Federal Institute of Technology of Lausanne (EPFL), Panellist*, speaking at the invitation of the President, said that it was useful to appreciate the scale of the challenge in tackling climate change: pre-industrial atmospheric concentration of CO₂ had been 280ppm whereas it was currently 380ppm – and 450ppm was the limit beyond which the 2 degree Celsius rise in global temperature would have a runaway effect. In the 1990s, worldwide CO₂ emissions had stood at 20 gigatonnes of CO₂ and they were currently 26 gigatonnes; a figure of 20 gigatonnes would keep the world under the 450ppm limit. Massive changes and solutions would be required to reduce the 26 gigatonnes emissions.

The next question was how individuals could relate to the size of the challenge; there were currently 800 million vehicles in the world and the International Energy Agency (IEA) had estimated that by 2030 that number would rise to 2 billion. Cars would then have to reduce their energy consumption by a factor of 3.3 in order to reach the 20 gigatonnes CO₂ emission target and consumers could demand those reductions when purchasing new cars. Similarly, the global community needed a huge price signal to push through those changes; the suggested increase to US\$ 100 per tonne of CO₂ would equate to a US\$ 40 per barrel hike in oil prices.

The question was whether there was a limit to the scale up of renewables: the electricity grid, for instance, required system stability, with equal demand and supply at all times. Storage capacity would be needed to allow for times when renewables could not fill the gap. Moreover, demand needed to be influenced by intelligent pricing systems to tell the consumer when energy was more expensive: under the name of smart grid, intelligent consumer compliances could switch off automatically when the price rose.

In examining the issue of energy, there had been too strong a focus on industrialized countries, whereas energy poverty was a problem for the 1.6 billion people who were energy poor and had no access to any form of commercial energy. Eighty per cent of those living in energy poverty lived in rural areas and had no access to international financing or the institutional capability needed to bring the electricity grid to their villages. An international financing architecture was needed to deliver local resources.

Finally, climate change had brought with it pressure on water resources and therefore climate-efficient solutions should not be thirsty ones: carbon capture and sequestration technology, clean coal and biofuels potentially used a great deal of water.

Mr. C. NUTTALL, *Director, Hub for Innovative Partnerships, United Nations Development Programme (UNDP), Panellist*, speaking at the invitation of the President, said that, in addition to the serious ecological situation in regard to carbon emissions outlined by Mr. Frei, the food and energy crises had meant that poor countries had experienced difficulty in accessing food and energy. Parliamentarians were a link between national and local levels; they could play a role in encouraging clean development and other ecological initiatives and in acquiring funding for them.

Responding to the difficulties experienced by developing countries in accessing funding to deal with climate change, the UNDP, the UNEP and other international and regional bodies had engaged in initiatives to assist them to build capacities and create tools that would reduce greenhouse gas emissions. Developing countries needed help to adapt to the impact of climate change, including the rise in sea levels, ecological changes to farming and access to water resources. Public policy and regulatory changes included projects on energy efficiency and urban transport. Over 1,000 regions of the world had committed to working with the United Nations on similar projects.

The world had 100 months to reverse the trends that Mr. Frei had mentioned; it was therefore imperative to put in place innovative partnerships between private enterprise, civil society, national governments, non-governmental organizations and parliamentarians, both in the field and at the political level.

Debate

The delegate of EGYPT said that everyone had a responsibility to tackle the problem of climate change given that it had extremely serious consequences for the environment and for human development. The world's poorest people would be the first to suffer the negative impact of climate change even though they came from the least polluting countries. The pollution had been caused primarily by the wealthiest countries.

The IPU could bolster the efforts of the United Nations by encouraging states to accede to international climate change agreements and contribute to sustainable development initiatives. It could also adopt a system to put an end to environmental degradation, ease the burden of debt for poor countries and develop financial policies to support that process. In regard to the statement by Brazil, he wished to point out that sugarcane was a great deal more costly to produce than maize, principally because it consumed much more water.

Mr. A. CHANONA (Mexico) said that the transition from fossil fuels to alternative energy sources presented a significant challenge that required immediate global, regional and local coordination. Parliamentarians could help to reinforce the commitments made post-Kyoto and to support the elaboration of cross-cutting policies in States, public institutions and civil society. More resources should be invested in analysing the risks and vulnerabilities of countries, in order to produce risk maps and action plans that responded to specific needs in each region. A global fund could be established to support economic cooperation and scientific exchange. Climate change was a global phenomenon requiring a global response from both developed and developing countries. Clean energy and clean technologies would be essential. Energy sustainability, which was at the heart of the debate, would require new economic and industrial consumption models. National plans for energy saving and regulatory frameworks for encouraging the development of alternative energy sources should also be encouraged.

Mr. C. NUTTALL, *Director, Hub for Innovative Partnerships, United Nations Development Programme (UNDP), Panellist*, speaking at the invitation of the President, said that the United Nations was indeed planning to conduct vulnerability mapping in order to assess the vulnerability of particular areas based on a hypothesis of how the climate was likely to change.

Mr. S. AL MARRI (Saudi Arabia) said that he wished to make several amendments to the draft reports. The moral aspects of climate change should be highlighted as it would be unacceptable to cause famine because food crops had been converted into fuel. Moreover, since growing sugar, palm oil and maize was water-intensive, other methods of improving energy capacity and reducing global

pollution should be explored. Regarding paragraphs 26, 27 and 28 of Mr. Lins' report, it should be explained that some subsidies were important and acceptable so as to provide needy people with necessary energy for cooking, lighting and transportation. Biofuels, which were mentioned in paragraph 34, should be considered from a negative, as well as a positive aspect.

Mr. C. FREI, *Senior Director, Energy Industries and Strategy, World Economic Forum, and Titular Professor, Energy Centre, Swiss Federal Institute of Technology of Lausanne (EPFL), Panellist*, speaking at the invitation of the President, said that a roundtable on biofuels had been set up to differentiate a good biofuel from a bad one. Biofuels did not all share the same characteristics and there was geographic differentiation in that a biofuel might be a good crop in one location and a bad one in another.

Ms. H. HEIKKINEN (Finland) commended the report by Mr. Lins, but said that it would have benefited from having been given a broader perspective on biofuels and renewable energy instead of just presenting a comparison between sugarcane and corn. She agreed with the thrust of Mr. Fuchtel's report and his identification of the common challenge climate change presented to all countries and the different policies they could draw up in response. It was true that the richer countries should help the poorer ones. She trusted that the drafting of the present report to be presented in Addis Ababa would set an example of teamwork.

Mr. V. POPOV (Belarus) called on parliamentarians to ratify the Kyoto Protocol. He requested that a proposal be included in the draft resolution of the IPU on climate change to the effect that, as global energy security would be a key factor in economic development and achieving the Millennium Development Goals, special mechanisms should be set up within the United Nations framework to allow developing countries to access energy technologies and efficiencies. In particular, poor countries should be allowed to use alternative energy without fear of breaching intellectual property rights – otherwise, the technologies involved would remain with a limited number of developed countries.

Ms. C. RAZON-ARCEÑO (Philippines) asked that a gender perspective be included in the report as it was clear that women and children were most affected by climate change, especially in poverty-stricken areas. Therefore, the empowerment of women would be vital to the implementation of successful climate change programmes.

Mr. M.O. COJUANGCO (Philippines) said that greater prominence should be given to the role of nuclear power, as it appeared to be the only viable and affordable solution in the short term when compared with solar and wind power and biofuels.

Mr. C. FREI, *Senior Director, Energy Industries and Strategy, World Economic Forum, and Titular Professor, Energy Center, Swiss Federal Institute of Technology of Lausanne (EPFL), Panellist*, said that some countries had developed renewable energy capacity, including wind power, of between 30 and 60 per cent.

Mr. A. CHERRAR (Algeria) said that Africa had not contributed to global warming but it appeared to be suffering the consequences, in particular food shortages. There were insufficient policies to deal with climate change in both the short- and long-term and, given that it would be unlikely that the world could produce sufficient biofuels, consideration should be given to solar power. He appealed to all countries that had not yet ratified the Kyoto Protocol to do so.

Mr. R.M. AL SHERAIQI (United Arab Emirates) said that climate change had already had a negative effect on peace and security. His country had tried to participate in national and international efforts to combat climate change. He agreed with the pluralist approach advocated by the Member for Saudi Arabia. Agricultural land should not be converted to produce biofuels. There should be sanctions against those countries that did not fulfil their international obligations and all countries should participate to find a global solution.

Mr. F. ROSSI (Chile) said that parliaments should adopt measures to control the greenhouse gas emissions that were causing global warming. Given the complexity of the problem, countries should adopt serious policies and take concrete measures to combat CO₂ emissions and replace fossil fuels. State subsidies were required to develop alternative forms of energy.

Mr. M. ELFORJANI (Libyan Arab Jamahiriya) said that, while he agreed with the draft reports' assessment that greenhouse gas emissions had led to global warming, the effects of satellites and nuclear testing, which had damaged the earth's atmosphere, should also be taken into account. The world community needed to look at the problem objectively, examining the causes in detail in order to find appropriate solutions. Major polluting countries should make and keep commitments to reduce pollution; the Libyan Arab Jamahiriya had passed laws to protect the environment, set up climate research centres and limit pollution.

Sustainable development could only take place if global insecurity and the manufacture of weapons of mass destruction were brought to an end and if the poorest countries were assisted to improve their level of development, including access to water. His country had taken steps to ensure its food security. Regarding renewable energy, the trend towards producing biofuels would use up the world's resources and put further pressure on food prices, increasing the threat of famine. Alternative sources of energy, such as wind and solar power, which were not harmful to the environment, should be considered.

Mr. E. EKHTIYARI (Islamic Republic of Iran) said that the failure of some industrialized countries to tackle the causes of climate change had adversely impacted people's lives and the environment and represented a global threat to present and future generations. The situation called for integrated action from the global community and the developed countries, which had been a major source of greenhouse emissions, should abide by their obligations under the Kyoto Protocol. The Islamic Republic of Iran had taken steps to reduce pollution through the use of renewable energies. Developed countries should provide developing countries with technological and financial assistance to help them to reduce emissions and adapt to climate change. He looked forward to a day when governments and people would respect the environment.

Mr. N. EVANS (United Kingdom) said that all countries, including the emerging economies, should work together to solve the world's environmental problems. He agreed that the developed world should work hard to provide technology to developing countries. Reliance on fossil fuels should be reduced but first-generation biofuels would not provide an answer as they had too big an impact on the environment and therefore second and third generation biofuels should be considered. Renewable forms of energy, including wind and solar power, should be explored and pollution-combating measures, such as congestion charging and improving public transport, introduced. Investment should be made in environment-friendly practices for airports and air travel, and energy conservation should be a priority. Nuclear power stations should also be built.

Mrs. WU QIDI (China) said that China had been afflicted by many natural disasters and Chinese people had experienced at first hand the devastating effects of climate change. The Chinese Government attached great importance to tackling the issue and had outlawed certain coal-fired power stations, coal mines, cement and steel factories; it had also made great strides in energy conservation. Countries should take responsibility for their share of pollution and accept the Kyoto Protocol's role as the main channel for addressing climate change. China welcomed the *Bali Road Map* and hoped that developed countries would continue to take the lead in emission reductions and financial and technological transfers to developing countries. China had formulated a national climate change plan and had set a target of reducing its energy intensity by 20 per cent by the year 2020; its share of renewable energy was set to reach 10 per cent. China hoped that all countries would join in promoting conservation and protecting the environment.

Mr. R. LARA (Colombia) said that Colombia was very concerned about the effects of climate change; Colombian coffee growers had suffered water shortages as a result of melting snow in the Andes. It was also worrying that the world financial crisis might have a negative impact on investment in alternative energy sources. The report should take into account the development of clean technologies

and carbon capture as they should have a positive impact on energy security around the world. Colombia supported the production of ethanol as it provided an answer in the short term; sugarcane production had been expanded in his country as it did not affect the amount of agricultural land available.

Mr. M. NOUHOU (Niger) said that, given the negative effects of climate change on all countries, it was imperative to develop sustainable development models. In a Sahel country such as Niger, climate change had had a devastating impact on agricultural production with uneven distribution of rainfall contributing to food shortages. In the context of its poverty reduction strategies, Niger was working with its partners to improve sustainable development, building dams, stopping desertification, promoting renewable energies including solar power and ensuring the protection of women and children. He called on developed countries to reduce the greenhouse gases which caused climate change and to assist developing countries in combating its consequences. Through the United Nations, the IPU should lobby all countries to sign the Kyoto Protocol.

Mr. J. EIGEMAN (Netherlands) said that he had learned a lot from the draft reports and from the speakers that afternoon. Citizens in developed countries, far more than those in developing ones, would be asked to modify their behaviour regarding the use of public transport, house building and managing critical energy use in the household. Learning about combating climate change could take place through school education programmes and also by governments encouraging the exchange of experiences. Rich countries should research how to make more use of microfinance to help small businesses and poor farmers in developing countries, in order to stimulate the use of alternative energy supplies and new economic possibilities for poor people. The subjects of climate change and sustainable development should be linked to food and water; water was both a threat and an opportunity in that context.

Ms. Y. REGUEIFEROS (Cuba) said that the international scientific community had sounded the alarm on climate change, warning that there remained only 100 months in which to put measures in place to save humanity. Cuba was developing a national energy policy that included using wind and solar power. Many countries seemed to forget that they had a shared responsibility to help others; Cuba was helping many other countries in Central America and the Caribbean. Global warming had been caused by unsustainable consumption in many countries and it was the duty of all to promote sustainable development.

Mrs. P. FOUTY-SOUNGOU (Congo) said that all were aware of the responsibility to deal with climate change and that, for the most part, global warming had its origins in the industrialized nations. The Kyoto Protocol should be implemented by all, particularly by the countries that were primarily responsible for causing climate change. Reports had shown that there was greater demand than supply and therefore alternative sources of energy, such as wind, solar and biomass should be assessed to make sure that they would be sustainable in the future. Additionally, demographic policies should be examined given the exponential increase in the world's population and the relationship between energy growth and pollution.

Mrs. S. PAHADI (Nepal) said there was growing consensus among the scientific community on distinct patterns of climate change and its impacts of which the melting Himalayan glaciers, rising sea levels, catastrophic flooding, variation in weather patterns and increasing desertification were alarming symptoms. Climate change would have an unprecedented effect on lives and livelihoods, displacing millions of people and threatening biodiversity.

Countries like Nepal had contributed the least to climate change but suffered a disproportionate share of the negative impacts: rapid melting of glacial ice in the Himalayas had led to flooding and landslides in the summer, insufficient water in the winter and to rainfall shortages. In order to right that imbalance there should be a fair compensation mechanism that provided incentives to those countries discharging less greenhouse gases. The unprecedented challenges of climate change, rising food prices and the financial crisis undermined the fight against poverty and attainment of the Millennium Development Goals. Collective will and determination would be required to address the problem of climate change.

Mr. T. HADJIGEORGIOU (Cyprus) said that all were agreed on the devastating effects of climate change and it was the duty of parliamentarians to make sure that governments remained committed to the goals set to counter them. He wished to learn whether there had been studies to determine the energy efficiency of producing bioenergy from sugarcane. The huge challenge represented by climate change was an excellent opportunity for innovation, economic growth and sustainable development, as long as the world followed through on its decisions.

Mr. J. TENORIO (Brazil) said that the debate on bioenergy had been harmed by the lack of information concerning the real impact of new fuels on the economy and on the environment. There seemed to be little doubt that bioenergy was an economically and environmentally recommended alternative to oil. Mr. Lins' report had highlighted that the expansion of sugarcane ethanol production did not threaten the Amazon as sugarcane could not be grown there due to the region's permanent precipitation. The report also invalidated the argument that bioenergy was responsible for global food price rises. Ten million hectares were used globally for biofuel production while 1.2 billion hectares were used for food production. Moreover, there was abundant land in Brazil, some South American countries, Africa and Asia which could be used for biofuels production without adversely impacting on food crops.

Mr. H.-J. FUCHTEL (Germany), *co-Rapporteur*, summarizing the debate thus far, said there appeared to be strong support for the draft reports' focus on renewable energy. Alternative and renewable energy sources offered much better opportunities for decentralized systems. He agreed that mention should be made in the report of the need to explore microfinance. It was true that solar energy was still expensive to produce, but prices would go down as manufacturing output increased: the Porsche car manufacturer in Germany was due to build electric cars in 2009. He was convinced that solar energy would be developed much further. He would also stress the importance of an energy mix in the report. Mention had been made of nuclear energy and the question could be further explored, although Germany was reticent to develop it due to the problems of final storage of nuclear waste. Energy efficiency was certainly an important area which could also be further developed in the revised report.

Mrs. N. SCHIMMING-CHASE (Namibia) said that Namibia had contributed very little to global warming, yet it suffered from desertification, floods and drought, all of which had a negative effect on biodiversity. Severe bush encroachment on the savannah would affect livestock production and put pressure on subsistence farming and over one-quarter of the population would eventually have to find new livelihoods. Due to climate change, diseases such as malaria were returning and there had been an increase in diarrhoeal diseases, malnutrition and acute respiratory infections. Parliamentarians, in their oversight function, could remind the executive that it needed to implement international agreements; they could also work with civil society and academia to find solutions to climate change.

Mr. B. BAL APTE (India) said that India had established a separate ministry and a strategy to deal with climate change; it had significantly lower carbon emissions than many other countries of the world. The real challenge was to change the habits of civil society, as laws alone would not protect the environment. It was the tradition in India to protect nature and that was what the government was encouraging its citizens to do. The key was to go from exploitation to purposeful use of energy that would enrich nature and society, both of which were interdependent. That attitudinal change could be developed by parliamentarians.

Mr. F.-X. de DONNEA (Belgium) said that he had been relieved to learn that the production of ethanol would not affect the Amazon rainforest as that region was essential to fighting the greenhouse effect. Production of ethanol and other biofuels should not be to the detriment of forests or agricultural goods prices that penalized the poorest. As to the major research currently being conducted on thermo-nuclear fusion, he wished that reference would be made to it in the report and resolution.

Mr. A.N. LO (Senegal) said that he agreed with the Member for the United Kingdom on the need for a multilateral approach to solving climate change problems. The United Nations Environment Programme (UNEP) was in the process of putting together a sustainable development model that would compensate countries that were less polluting and sanction higher polluting ones.

Mr. A. LEVENTIS (Greece) said that climate change was a complex concept that had not been fully understood and therefore only half measures had been proposed to remedy it. The global economy was based on fossil fuel addiction and people were either unable to conceive of an alternative solution or were making too much profit to care. The world was on the path to self-destruction and a cure was urgently required. However, the nuclear option was not viable because the cost of dealing with nuclear waste and the attendant hazards were prohibitive. Renewable energy sources, especially geothermal, solar and wind would be expensive in the short term, but would pay for themselves with the hundreds of thousands of jobs they would create. Greater funding should be found and governments should be pressurized to switch the bulk of energy consumption to renewables.

Mr. R. ARREGUI (Uruguay) said that the effects of climate change were becoming increasingly serious, threatening biodiversity and food production. Reversing the effects of pollution was often blocked by economic interests, however, the very survival of the human species was at stake. The problem affected all countries, even those with very low greenhouse gas emissions. It was imperative to develop renewable energies including wind, solar and hydroelectric. Countries that were merely profit-seeking should be asked to reconsider their actions and to take responsibility for the pollution they were causing.

Ms. TRUONG THI MAI (Viet Nam) urged all countries, especially rich economies, to undertake strong and concrete measures to implement the Kyoto Protocol. Viet Nam had ratified the Protocol in 1998 and had initiated research and development projects to reduce greenhouse gases, particularly through the establishment of a sound development mechanism to promote clean renewable energy production, energy saving, forestation and reforestation. In addition to protecting the environment, those projects created jobs and therefore contributed to poverty reduction. Global warming was nevertheless an international issue which could not be combated at the country or regional level alone.

Ms. O.N. CHUNG (Republic of Korea) said that the Republic of Korea had embraced a "Low Carbon, Green Growth" strategy and supported the global vision of reducing greenhouse gas emissions by 50 per cent by 2050. Her country would also launch an "East Asia Climate Partnership" which would initiate programmes over a five-year period to support countries in making their economic growth compatible with climate change. The keys to the successful design of a post-2012 global climate regime were the provision of clear, mid-term reduction goals by developed countries and the introduction of incentive schemes for developing country participation. To that end, a World Summit for Sustainable Development in 2012 would ensure the take off of a new regime. She strongly recommended that the issue of nuclear energy be included in the report.

Ms. S. FUZIAH (Malaysia) said that progress on sustainable development at the international level had been regrettably slow and there had yet to be satisfactory integration of environment and development issues. The environment nevertheless continued to deteriorate. Developed and industrialized countries should act as role models by meeting their commitments under the Kyoto Protocol and helping countries such as Malaysia with their climate protection efforts. She urged all countries to adopt sustainable development models, in which the gender perspective should not be ignored.

The delegate of INDONESIA said there was no panacea to solve the problems of climate change, but real global cooperation would be required in the fields of research and development and technology transfer. He wished to remind all signatories to the Kyoto Protocol of the importance of the *Bali Road Map*, which included the *Bali Action Plan* and charted the course for a new negotiating process designed to tackle climate change.

Mr. E. QUENUM (Benin) said that the economies of countries in sub-Saharan Africa had been severely affected by climate change; it was limiting their development and their efforts to alleviate poverty. Those countries suffered the dual burden of food and energy crises. It was clear that all types of renewables should be considered, particularly solar energy: a recent study had suggested that solar energy from the Sahara could produce as much electricity as the whole of the United States of America.

Mr. C. REUTEMANN (Argentina) said that global warming had caused serious problems in South America, especially with regard to food production. He called on the scientific communities of developed countries to assist with the response of developing countries to climate change. More international cooperation was required to alleviate the negative consequences including desertification and deforestation.

Mr. S. HADDAD (Syrian Arab Republic) said that problems had arisen because governments had not followed through on the commitments of the Kyoto Protocol. The Syrian Arab Republic promoted the development of renewable energy sources. There was a need for developed countries to share their experiences and help developing countries in tackling climate change.

Ms. G. BENT (Nigeria) said that the African continent remained the most vulnerable to climate change, not only due to its fragile ecosystem but also because it lacked the capability to respond when disasters struck. Adapting to the impact of climate change had been made difficult by lack of funding yet the region had demonstrated interest in mitigation activities. Therefore, capacity needed to be enhanced and project development supported. Nigeria was proposing to establish a climate change commission to tackle the problems in her country.

Mr. A. PONLABOOT (Thailand) said that climate change, sustainable development models and renewable energies were interlinked, global issues. Thailand was pursuing a sufficiency economy as a sustainable development model so as to contain greenhouse gas effects and provide social safety nets for people facing the negative effects of globalization. A sufficiency economy was people-centred and focused on self-reliance, poverty reduction, environmental conservation and sustainable consumption of natural resources. Parliamentarians should promote attainment of the environment-related Millennium Development Goal 7, promote technology transfers and share best practices to combat climate change.

Mr. A.H. SHAH JILANI (Pakistan) said that the challenge of climate change should be examined not only in the context of greenhouse gas emissions, but also in terms of the relationship between trade, finance, technology and sustainable development. Countries needed to move quickly to put in place sustainable development models that comprised mutually reinforcing policies and actions at the global level, including: alternate and affordable technology, finance for developing countries, strengthening of national institutions, and effective and efficient coordination between international institutions.

Mr. A. LINS (Brazil), *co-Rapporteur*, said that he had listened with great interest to the parliamentarians from more than thirty countries who had contributed to the debate. A great deal had been said about renewable sources of energy, not only ethanol, but also wind and solar power as well as nuclear power. He would endeavour to include all of the views expressed in the final report.

The meeting rose at 5.10 p.m.