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President: Mr BERDENNIKOV (Russian Federation)

Later: Ms MACMILLAN (New Zealand)

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¹The composition of delegations attending the session is given in document GC(53)/INF/7/Rev.1.

Abbreviations used in this record:

AFRA	African Regional Cooperative Agreement for Research, Development and Training Related to Nuclear Science and Technology
AIDS	acquired immune deficiency syndrome
ARCAL	Cooperation Agreement for the Promotion of Nuclear Science and Technology in Latin America and the Caribbean
ASEAN	Association of Southeast Asian Nations
CPF	Country Programme Framework
CPPNM	Convention on the Physical Protection of Nuclear Material
CRP	coordinated research project
CTBT	Comprehensive Nuclear-Test-Ban Treaty
DPRK	Democratic People's Republic of Korea
FAO	Food and Agriculture Organization of the United Nations
HIV	human immunodeficiency virus
INSServ	International Nuclear Security Advisory Service
IRRS	Integrated Regulatory Review Service
ISSAS	IAEA SSAC Advisory Service
NAM	Non-Aligned Movement
NPT	Treaty on the Non-Proliferation of Nuclear Weapons
NPT Review and Extension Conference	Review and Extension Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons
NPT Review Conference	Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons
OECD	Organisation for Economic Cooperation and Development
PACT	Programme of Action for Cancer Therapy
Pelindaba Treaty	African Nuclear-Weapon-Free Zone Treaty
PET	positron emission tomography
R&D	research and development

Abbreviations used in this record (continued):

RCA	Regional Cooperative Agreement for Research, Development and Training Related to Nuclear Science and Technology (for Asia and the Pacific)
SIT	sterile insect technique
SQP	small quantities protocol
SSAC	State system of accounting for and control of nuclear material
TCF	Technical Cooperation Fund
Tlatelolco Treaty	Treaty for the Prohibition of Nuclear Weapons in Latin America and the Caribbean
WHO	World Health Organization

8. General debate and Annual Report for 2008 (continued) (GC(53)/7)

1. Ms ZIMBA (Zambia) said that the issue of nuclear proliferation continued to be of great concern. Therefore, her country welcomed the statements by the Presidents of the United States and the Russian Federation affirming their commitment to non-proliferation and to achieving a world free of nuclear weapons. Zambia hoped that concrete action would follow. The proposed fissile material cut-off treaty and the entry into force of the CTBT ought to have already been implemented and Zambia urged those Annex 2 States on which the entry into force of the CTBT depended to meet their international obligations. Her country was in the process of acceding to the African Nuclear-Weapon-Free Zone Treaty, which had entered into force on 15 July 2009. Non-proliferation must be approached in a broad-based and unselfish spirit.

2. She noted with satisfaction the Agency's measures aimed at strengthening technical cooperation, especially with developing countries like Zambia. In particular, she welcomed the efforts to provide assistance to Member States with energy planning and management, which was essential for their development. Since the preceding General Conference, Zambia had developed a new CPF, had developed and applied its legal framework for uranium mining with the support of the Agency, and had strengthened its capacities in cancer treatment, nuclear medicine, livestock productivity, animal nutrition support services, and the monitoring of nutrition intervention programmes, through human resources development as well as provision of equipment. It still faced a number of challenges, including delays in establishing an autonomous radiation protection agency owing to human and financial resource constraints, and a limited capacity for monitoring the mining of uranium and other radioactive minerals or other mining activities.

3. Her Government continued to support AFRA and she congratulated that programme on its twentieth anniversary and on enhancing technical cooperation among Member States in the region. Her country continued to receive AFRA expert missions in various fields and was committed to honouring its outstanding financial contributions to AFRA. Finally, Zambia pledged its full share of the TCF target for 2010.

4. Mr WIN (Myanmar) said that the Agency had made a valuable contribution to socio-economic development by helping Member States to utilize nuclear science and technology in both power and non-power applications. Nuclear technology and radioisotope techniques had been applied in various fields, including electricity production, the diagnosis, treatment and prevention of diseases, food safety and security, sustainable land and water management, insect pest control, environmental protection, and industry.

5. Developing countries had benefited from the activities and support of the Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture in using nuclear and isotopic techniques to increase crop yields, produce disease-resistant crops, and control infectious animal diseases. PACT and the WHO-IAEA Joint Programme on Cancer Control had helped save the lives of cancer patients and should be continued in future years.

6. The Agency's technical cooperation programme was of great importance in transferring nuclear science and technology to Member States and promoting the peaceful uses of atomic energy for sustainable socio-economic development. His country was grateful to the Agency for its role in promoting nuclear technology for peaceful purposes.

7. Myanmar was currently implementing 10 technical cooperation projects, two of which were new in the 2009–2011 cycle. The country had participated in regional and interregional projects and in RCA activities.

8. Since 2000, most of the Agency's assistance to Myanmar under the technical cooperation programme had been concentrated in the fields of radiation medicine and health, food and agriculture, radiation safety and security, atomic energy development, and nuclear engineering and technology. In the preceding year, the Agency had provided Myanmar with significant assistance in improving crops through radiation-induced mutation, using the SIT against the diamond back moth, and enhancing the capacity of the nuclear instrument laboratory at the Department of Atomic Energy. He thanked the Agency for its assistance and expressed the hope that it would be sustained and strengthened as much as possible.

9. Through the Agency's efforts to strengthen international cooperation in nuclear, radiation, and transport and waste safety, Member States had received assistance with improving their national nuclear safety infrastructures by means of international safety instruments, the development and preparation of safety standards and safety guides, nuclear safety knowledge networks, and capacity-building work in various areas of radiation safety.

10. Myanmar was taking steps to develop and strengthen its national infrastructure related to the promotion and application of nuclear science and technology for peaceful purposes. The national programme focused on education and the human resources development for nuclear technology, human health, food security and safety, agriculture and livestock breeding, water resources management and sustainable energy development. His country hoped to benefit from technical cooperation in the fields of capacity building, human resources development and nuclear knowledge management.

11. Turning to nuclear terrorism and the establishment of an effective global nuclear security regime, he said it was important to strengthen the protection of nuclear and other radioactive material, detection of and response to malicious acts, and collection and sharing of relevant information among Member States. His country fully supported the Agency's efforts to improve nuclear security by upgrading the physical protection of nuclear facilities, ensuring quality control of nuclear security equipment, promoting nuclear security education, and facilitating and implementing international nuclear security instruments in Member States.

12. Myanmar was a supporter of global nuclear non-proliferation and a nuclear-weapon-free world. In the interests of peace and security, States should refrain from misusing their peaceful nuclear programmes for weapons-related purposes. The Agency's verification programme would continue to play a vital role in providing assurances to the international community regarding the peaceful nature of nuclear activities.

13. His country had been a party to the NPT since December 1992. Thereafter, it had signed a safeguards agreement, an SQP, the CTBT, and the Treaty on the Southeast Asia Nuclear Weapon-Free Zone. Nuclear-weapon-free zones were effective tools for promoting non-proliferation and disarmament.

14. One challenge that Myanmar currently faced was that it had no major nuclear facility. A nuclear research reactor with experimental facilities would be an indispensable tool for education and training, research and other peaceful applications in nuclear science and technology. In 2007, the governments of the Russian Federation and Myanmar had signed a cooperation agreement on the construction of a nuclear research centre in Myanmar, including a pool-type research reactor and facilities for radioisotope production, neutron activation analysis and silicon doping. All related nuclear material,

equipment and facilities would be under Agency safeguards for the duration of their existence or application in Myanmar. However, the implementation phase of the centre had not yet begun.

15. Pursuant to the NPT and Myanmar's SQP, a seminar and bilateral consultation meeting had been held in Yangon in November 2008. A team of Agency experts from the Department of Safeguards and officials from the relevant ministries of Myanmar had participated in the seminar, which had focused on the safeguards system and the application of safeguards to the nuclear material and facilities covered by the amended SQP and the additional protocol.

16. Mr ALOBIDI (Libyan Arab Jamahiriya) said it was essential to preserve the credibility of the Agency by ensuring balance between the three pillars of its activities. Libya urged all States without exception, both nuclear-weapon and non-nuclear-weapon States, to accede to the NPT and to comply with the safeguards regime. The Agency was the only body with the mandate to oversee that regime. At the same time, it was the job of the Agency to ensure that all States benefited from scientific progress, including in the field of uranium enrichment, provided that their activities served peaceful aims. In a statement delivered at the NAM Summit in Egypt in July 2009, President Qaddafi had pointed out that, although the Agency had been established to promote both nuclear energy and development, the development dimension had been eclipsed by the nuclear dimension. His country therefore welcomed the statement of the Director General elect that he intended to draw the world's attention to the Agency's role in promoting development. When objections were raised to uranium enrichment activities, access to development assistance was barred and nations were prohibited from taking advantage of contemporary scientific advances.

17. Libya was deeply grateful to the Agency for its recent support for projects in the national priority areas of health and water resources management. It had submitted five proposals for technical cooperation projects for the 2009–2011 cycle in the areas of health, water, environmental protection and energy planning. They had been approved as strategic national projects under Libya's CPF.

18. Libya paid its voluntary contributions to the TCF with a view to strengthening its partnership with the Agency. It had established an Atomic Energy Commission and had drawn up a road map consisting of two components. One focused on existing programmes in the areas of medicine, water, industry and the environment, and the other dealt with the use of nuclear energy for electricity generation and seawater desalination. It had signed agreements and memorandums of understanding with a number of countries and had acceded to relevant international instruments. Libya was currently drafting nuclear legislation and taking the necessary steps to select and evaluate sites for nuclear power plants. It was relying on legal and technical assistance from the Agency under its national project on the introduction of nuclear energy.

19. He urged the Agency to abide by the principle of impartiality and to refrain from imposing political or economic conditions on its assistance to Member States. He also emphasized the responsibility of advanced countries to assist developing countries in using nuclear energy for peaceful purposes by facilitating their access to nuclear material and equipment and by transferring relevant scientific and technical knowledge.

20. Libya supported the Agency's efforts to promote international cooperation in the area of nuclear and radiation safety. It had acceded to the Convention on Nuclear Safety and the Convention on Early Notification of a Nuclear Accident, and had established a national regulatory office that would eventually become an independent regulatory agency applying Agency standards under existing national legislation. Libya participated in meetings, workshops and training courses on nuclear safety and was a party to the Convention on the Physical Protection of Nuclear Material and the International Convention for the Suppression of Acts of Nuclear Terrorism.

21. With regard to the Director General's report on the implementation of the safeguards agreement with the Islamic Republic of Iran, he reiterated his country's view that the carrot-and-stick approach and threatening language would never achieve a satisfactory settlement for all parties involved. Moreover, sanctions had never succeeded in compelling States to abandon their rights and sovereignty, and they invariably hit ordinary people harder than decision-makers. Such approaches merely generated extremism.

22. As President Qaddafi had said at the recent NAM Summit in Egypt, countries should be given assistance in the field of uranium enrichment. Then there were two paths they could follow: the red path and the green path. The red path should be blocked off, because it led to the manufacture of nuclear weapons, whereas the goal was to achieve global nuclear disarmament. However, blocking both paths was unjust and amounted to withholding of knowledge. If Iran was claiming to be enriching uranium in order to produce an atomic bomb, the world would be justified in mounting strong opposition to its plan. However, if it stated that it was enriching uranium for peaceful purposes, it should be encouraged to do so. In any case, it was the business of the Agency and not political leaders.

23. Libya commended Iran on its recent cooperation with the Agency, which it had permitted to inspect its nuclear research reactor and improve surveillance measures at the fuel enrichment plant. His country urged Iran to step up its cooperation in order to dispel any remaining doubts regarding its nuclear programme. Dialogue and negotiations were the most effective way of handling such an important issue.

24. His country condemned Israel's attack on the Syrian Arab Republic, a sovereign independent country, and its destruction of what it alleged to be a nuclear facility in blatant defiance of the international community. Israel had also encroached on the Agency's mandate as the sole authority empowered to inspect nuclear activities. He praised the Agency for carrying out an investigation, despite the difficulty of the task, and he also commended Syria's cooperation, urging the authorities to comply fully with their obligations under the Syrian safeguards agreement.

25. In a historic initiative, Libya had voluntarily abandoned equipment and programmes that might have led to the production of internationally prohibited weapons on 19 December 2003. President Qaddafi had stated at the NAM Summit in Egypt that Libya had closed off the red path, an act that had been confirmed by the Agency and major world powers. They now had a responsibility to assist Libya in following the green path and using the atom for peaceful purposes. Since that historic date, Libya had cooperated fully with the Agency. He took the opportunity to thank the Director General, Mr ElBaradei, for his professionalism and impartiality. His achievements had boosted international confidence in the Agency and had led to the award of the Nobel Peace Prize to the organization and its Director General.

26. Libya was deeply concerned about the ongoing threat to the Middle East from Israel's possession of nuclear weapons and that country's unwillingness to admit the fact. The existence of a nuclear programme that remained outside the Agency's safeguards regime, and Israel's refusal to accede to the NPT posed an immediate threat to international and regional stability, undermined the credibility of the non-proliferation regime and was likely to promote an arms race in the region.

27. More than 14 years had passed since the 1995 NPT Review and Extension Conference had adopted a resolution on the creation of a nuclear-weapon-free zone in the Middle East. That resolution had been one of the main incentives for the accession of the Arab States to the NPT, but it had not been implemented owing to Israel's intransigence. It was only natural to wonder why certain States failed to demand that Israel should accede to the NPT and all other relevant treaties, while calling for sanctions against other States solely on the suspicion that they might have a military nuclear programme.

28. His country called on the nuclear-weapon States to draw up a programme to eliminate their nuclear arsenal and to halt all programmes aimed at developing such weapons, as required by Article VI of the NPT and the Final Document of the 2000 NPT Review Conference.

29. He praised all African Member States that had signed and ratified the Pelindaba Treaty, which had entered into force in 2009. While the establishment of a nuclear-weapon-free zone in Africa was a step in the right direction, the security of African, Arab and other countries would remain under threat as long as even one nuclear weapon still existed, not to mention the arsenals possessed by the nuclear-weapon States. If they failed to disarm, there was little point in creating nuclear-weapon-free zones.

30. He expressed the hope that the current session of the General Conference would discuss the agenda item on Israeli nuclear capabilities. His country deplored the opposition at the two preceding sessions to its inclusion in the agenda and even to a discussion of its inclusion. Such conduct afforded clear evidence of the application by some States of double standards to the countries of the Middle East. Policies based on a desire for hegemony and on contempt for other nations and peoples and their sensitivities would simply promote extremism and violence. He therefore strongly urged all peace-loving States with a sense of justice to give the Conference an opportunity to hold an impartial discussion of an agenda item with major implications for international peace and security.

31. Libya welcomed the positive developments announced recently by President Obama of the United States concerning a nuclear disarmament initiative, his undertaking to ratify the CTBT and to begin serious negotiations on an international instrument to ban the production of fissile material, and the convening of a United Nations Security Council meeting on 24 September 2009 at Head of State and Government level to discuss the proliferation of nuclear weapons and nuclear disarmament. Libya hoped that the meeting would issue a strong declaration regarding the risks inherent in the production and possession of nuclear weapons and the need for serious negotiations on their irrevocable reduction to a minimum level as soon as possible, and their eventual elimination. Provision should also be made for an international mechanism to verify compliance.

32. Finally, Libya appreciated the role of the Arab Atomic Energy Agency in assisting the Arab States to consolidate their infrastructure for peaceful uses of nuclear energy. It called for closer technical cooperation between that Agency and the International Atomic Energy Agency to that end.

33. Ms INTERIANO TOBAR (El Salvador) said her country recognized the importance of the Agency's role in promoting international cooperation for the peaceful use of nuclear energy. The international community should continue its efforts to eliminate nuclear weapons and consolidate nuclear-weapon-free zones, which made a significant contribution to international peace and security. El Salvador was a party to the Tlatelolco Treaty, which had established the first nuclear-weapon-free zone. Her country looked forward to the 2010 NPT Review Conference.

34. The CTBT also played an important role in nuclear disarmament and non-proliferation efforts and El Salvador continued to support the adoption of appropriate measures aimed at accelerating its entry into force. Her country supported the conference on facilitating the entry into force of the CTBT to be held in New York later that month pursuant to Article XIV of that Treaty. It called on all States that had not yet done so to sign and ratify the Treaty, and to maintain a moratorium on nuclear testing to demonstrate their good intentions and as a confidence-building measure.

35. With regard to safeguards, El Salvador recognized the importance of the SQP in ensuring effective verification of Member States' compliance with their obligations. As part of the technical cooperation provided by the Agency in that area, El Salvador had benefited from training sessions and advice on proper presentation of its reports, and was making efforts to modify swiftly the standard SQP text.

36. Her country attached great importance to technical cooperation activities and valued the efforts of the Deputy Director General for Technical Cooperation. It particularly appreciated Agency assistance with achieving the Millennium Development Goals and improving national development objectives in areas such as human health, agriculture, water resources management and energy generation. It was important to continue to seek additional funds for technical cooperation projects, and to maintain a balance in the allocation of funds to the three pillars of the Agency's activities. In that regard, she welcomed the consensus that had been reached on the Agency's budget for 2010 and expressed the hope that it would open the way for the regularization of the TCF, thus providing more opportunities for sustainable development.

37. El Salvador was currently implementing its national projects under the 2009–2011 cycle and, thanks to the Agency's assistance, it now made greater use of isotope hydrology for water resources development and management. The Agency had provided assistance with the training of staff for a geothermal energy project and, as a result, El Salvador was now able to offer advice to other countries in the region in that field.

38. In the human health field, the Agency had played a notable role in helping her country improve its capacity to control cancer. El Salvador attached great importance to PACT and it called on donor countries to continue to strengthen that programme, which had a direct impact on the people's lives. She commended the efforts of the Pan American Health Organization in the field of cancer prevention in Central America and the Dominican Republic, and the WHO-IAEA Joint Programme on Cancer Control. El Salvador had also benefited from fellowships awarded to oncologists, physicists, doctors, environmental experts and academics over the period 2006–2008.

39. With regard to the Director General's report on strengthening of the Agency's activities related to nuclear science, technology and applications, her country was disappointed at the lack of activities in the Latin American and the Caribbean region compared with other developing regions. The Secretariat should redouble its efforts to remedy that situation.

40. With regard to regional cooperation, El Salvador was participating in over 20 regional projects in the fields of human and animal health, the environment, food security, energy security and radiation safety. She welcomed the fact that Paraguay, Colombia and Nicaragua had ratified the ARCAL agreement, which provided a unique opportunity for establishing horizontal cooperation programmes.

41. With regard to the report on measures to strengthen international cooperation in nuclear, radiation, transport and waste safety which, among other topics, addressed the issue of support to Member States embarking on nuclear power programmes, the Secretariat should continue to provide the cooperation requested by Member States to increase their capacity for analysis and assessment of the development of their programmes relating to energy generation, energy planning and energy and environmental policy.

42. Mr KAHUURE (Namibia) said that 2009 marked the start of the new technical cooperation programme cycle and his country was pleased that the Board of Governors had approved four national projects for Namibia, bringing the total number of national projects being implemented to seven. Namibia also participated in a number of regional projects covering a wide spectrum of nuclear technology. As a developing country, it looked to nuclear technology to help attain its development goals, including energy security, food security and public health, to mention but a few.

43. Steps had been taken to establish a national committee on cancer control to facilitate a coherent and coordinated approach to cancer management. With the assistance of the Agency and WHO, Namibia hoped to develop a comprehensive national cancer control programme for the effective implementation of preventive, diagnostic, curative and palliative measures. He commended the Agency for the assistance provided to Member States in building their capacity for cancer

management, as well as for its concerted efforts to make a meaningful contribution to the fight against HIV/AIDS, tuberculosis and malaria which, along with cancer, were some of the major diseases that most of the developing countries were grappling with, including his own. His country called on the Agency to continue to strengthen technical cooperation activities in those crucial areas of public health.

44. Nuclear applications also played a key role in diagnosing animal diseases, which was crucial to sustaining and expanding access to international markets for meat and meat products. Nuclear technology also assisted with making crops drought-resistant and improving yields, thus improving food security. Given Namibia's arid climate conditions, cooperation in those areas needed to be enhanced.

45. Namibia was endowed with uranium resources and played a significant role in the uranium mining industry. With uranium mining and milling activities increasing in Namibia and Africa as a whole, his country was pleased that the Agency had started initiatives to help Member States respond to the challenges associated with uranium mining and processing, especially with regard to the policy and regulatory framework. His Government's objective was for the country's natural resources to be exploited for the economic benefit of all without undue health and environmental risks for current and future generations.

46. His country aspired to draw economic benefit from its uranium resources and to generate nuclear electricity using its own natural resources. It was an ambitious but not impossible ideal. In that connection, the efforts of the Agency in assisting Member States to develop their national nuclear power programmes were commendable. His country would continue to engage the Agency to initiate a nuclear power programme and undertook to develop the core human resources capacity, in line with Agency recommendations, in preparation for a potential nuclear power capability.

47. The ingredients for a successful technical cooperation programme were well defined projects supported by the necessary coordination and technical skills to implement the programme. The availability of qualified and skilled personnel was central to optimal performance of technical cooperation projects. In that regard, he called on the Agency to assist Namibia and other developing countries by reviewing its policy on requirements for qualification for Agency fellowships.

48. Mindful as it was of the risks associated with the use of nuclear technology, Namibia was committed to play its role to promote safety and security in both the national and international context. That demanded a responsive regulatory framework that was effective and efficient to guarantee that full use was made of nuclear technology without unduly causing harmful consequences. In that connection, Namibia had inaugurated its first Atomic Energy Board and approved the regulatory authority to develop and implement a regulatory infrastructure commensurate with the extent of its nuclear applications. The legislative foundation had been laid for an effective and efficient regulatory regime that would ensure controlled and monitored use of nuclear-related technologies, safety and security of radioactive and nuclear material, safety of patients exposed to radiation, safety of workers involved in radiation-related activities, safety and secure management of radioactive waste, and capability to respond to nuclear or radiological emergencies. The Atomic Energy Board would work closely with the Agency to ensure that the Namibian regulatory system was appropriate and operated within internationally approved standards.

49. With regard to the 2010 NPT Review Conference, he said that the work of the Agency had direct bearing on the NPT and Namibia would work with other State parties for an outcome which would further enhance and strengthen implementation of all the three pillars of the NPT regime. All countries cherished a world of peace where nations and peoples could live together in harmony and peace, a world free from the threat of nuclear weapons. Namibia therefore welcomed the entry into

force on 15 July 2009 of the African Nuclear-Weapon-Free Zone Treaty, which was an important step for regional peace and security. Namibia had signed the Treaty and would soon ratify it.

50. The slogan 'Atoms for Peace' was not empty words. It served as a constant reminder to humanity of the ongoing human suffering in Hiroshima and Nagasaki. It also was a call to apply nuclear technology to create a world of prosperity and free from want. No country should be denied its inalienable right to develop its nuclear technology for peaceful purposes. At the same time, comprehensive safeguards should not be optional; non-proliferation and nuclear disarmament were an obligation for all. Only adherence to universal standards would guarantee the safety and security of the planet from the dire consequences of nuclear weapons.

51. Ms MUTANDIRO (Zimbabwe) said that the Agency had provided valuable assistance to her country in the peaceful application of nuclear techniques. Under Zimbabwe's CPF for the period 2005–2009, collaboration had focused on human and livestock health, agriculture, industrial applications, radiation safety and hydrology, and the projects undertaken had impacted positively on her country's socio-economic development. Her Government sincerely appreciated the technical cooperation programme and the support received from the Secretariat. In the light of the emerging nuclear renaissance, Zimbabwe hoped to move into new strategic sectors in its next CPF, and to develop the capacity required by strengthening further its bilateral cooperation with the Agency.

52. The Agency's technical cooperation programme had played a critical role in facilitating the use of nuclear energy for peaceful purposes, especially in developing countries. In Africa, the impact of programmes on cancer therapy, tsetse fly eradication using the SIT, food security through improved water management and crop production, industrial applications and energy production was better appreciated when viewed within the context of efforts to attain the Millennium Development Goals. The Agency continued to place greater value on projects which enhanced human health, agricultural productivity and environmental protection.

53. Her country, with many others, called for sufficient, assured and predictable funding for technical cooperation through the Agency's Regular Budget, particularly in view of the increasing demand from developing countries. Over the preceding decade, developing countries had expressed their concern about the voluntary nature of the TCF. Technical cooperation and assistance must be given the same priority as safeguards and nuclear safety and security. It was time for a paradigm shift in technical cooperation funding policy. The technical cooperation programme had been the main conduit for the transfer of nuclear applications to the developing world. The collective endeavour to attain sustainable global peace and security could not be realized in a world full of abject poverty and deprivation.

54. Her country had been privileged to chair the third session of the Preparatory Committee for the 2010 NPT Review Conference. She urged Member States to take realistic and achievable measures to advance the three pillars of the NPT in a balanced manner.

55. The need to strengthen capacity for nuclear security and safety in Member States had become more compelling than ever as a result of the increase in nuclear applications. She commended the Agency's efforts to help Member States prevent illicit trafficking in nuclear and other radioactive material. In her own country, the Agency had helped establish a regulatory framework and had provided the training and equipment required for the creation of the radiation protection authority of Zimbabwe. She appealed to the Agency and Member States to support those efforts and expressed gratitude for the ongoing support to enhance the efficiency and effectiveness of Zimbabwe's national regulatory body in line with international best practices for nuclear safety and security.

56. Nuclear security was the responsibility of national governments but, owing to the lack of human and material resources in developing countries, international collaboration was needed to strengthen

nuclear safety, radiation protection and waste management. Her country was thus pleased to have been included in the IAEA/EU Joint Action IV strategy against the proliferation of weapons of mass destruction, which would help strengthen its regulatory infrastructure and nuclear security.

57. Zimbabwe recognized that the NPT was the cornerstone of the global nuclear non-proliferation regime and that the Agency was the only institution with a mandate to verify States' compliance with their obligations. She commended the Agency's objectivity, professionalism and impartiality in verification and safeguards implementation. Under Article IV of the NPT, all State Parties had the inalienable right to develop research, production and use of nuclear energy for peaceful purposes, including the nuclear fuel cycle. However, it was also incumbent upon them to honour their obligations under the NPT and their safeguards agreements. She urged Member States to collaborate closely with the Agency and stressed that durable international peace and stability could only be based on resolution of disputes and not use of force.

58. With regard to the several proposals on the table concerning assurance of nuclear fuel supplies, she noted that the issue was of great concern to all Member States and should be decided on the basis of consensus.

59. Her country welcomed the creation of the Forum of Nuclear Regulatory Bodies in Africa, providing a valuable platform for an exchange of views on cooperation, know-how and best practices. It deserved the support of Member States.

60. Her country had been following closely the deliberations of the open-ended working group on the future of the Agency. It supported efforts to strengthen the role of the Agency in line with its Statute. The discussion should be comprehensive and transparent and all decisions should be taken by consensus.

61. Mr PETERSEN (Norway) said that the present time was one of challenges and historic opportunities. The recent commitment made by the President of the United States and other world leaders to a safer world without nuclear weapons was highly encouraging. The growing interest in nuclear energy had also reinvigorated the Agency's work to promote safe, secure and peaceful nuclear technologies. The recent entry into force of the Pelindaba Treaty was a landmark that should give new momentum to the common goal of a nuclear-weapon-free zone in the Middle East.

62. The outgoing Director General had led the Agency through great challenges, preventing nuclear material and technology from being used for military purposes and ensuring that nuclear energy for peaceful purposes was used in the safest possible way, which had earned him and the Agency the Nobel Peace Prize in 2005. He thanked him for his work and congratulated him on his efforts and, congratulating the incoming Director General, he assured him of his country's support.

63. The Agency had been established to increase the contribution of nuclear energy to peace, health and prosperity, and to ensure that no assistance provided in that regard could be used to further military purposes. With the conclusion of the NPT, its mandate had been broadened. For more than half a century, the world had witnessed the importance of Agency safeguards, and Agency safety and security services, for the international non-proliferation and safety regimes. That was no less true now in the face of the persistent threat of nuclear weapons proliferation and terrorism, and the ever-present risk of a nuclear accident. Effectiveness in handling those challenges needed to be further enhanced.

64. Key priorities included the peaceful resolution of the Iranian and DPRK nuclear issues. Iran must comply with its international obligations and cooperate fully with the Agency with a view to resolving all outstanding issues regarding its past or present nuclear activities. The DPRK must refrain from any further provocations, such as nuclear testing, and return to the six-party talks immediately and without preconditions. Nobody was calling into question any country's right to the peaceful use of

nuclear energy, but full compliance with relevant United Nations Security Council resolutions was expected. He urged Iran, the DPRK and other countries concerned to cooperate fully with the Agency.

65. All Member States must collaborate to create a stronger, more viable nuclear non-proliferation regime. Additional protocols were crucial to the Agency's verification activities and he called on all countries that had not done so, including Iran and the Syrian Arab Republic, to sign, ratify and implement an additional protocol at the earliest opportunity. Comprehensive safeguards agreements together with an additional protocol constituted the verification standard.

66. All Member States should support the establishment of a nuclear fuel bank under the auspices of the Agency as a first step towards an equitable and safe multilateral nuclear fuel assurance regime. Such an arrangement would be voluntary and financed with extrabudgetary contributions from Member States. Its objective was to facilitate implementation of Article IV of the NPT.

67. The prevention of nuclear accidents, sabotage or terrorism must remain a key priority. Norway had ratified all relevant international conventions and agreements, including the CPPNM, and urged all other Member States to do the same, and to make use of and support the Agency's assistance programmes for their implementation.

68. Nuclear risks must be addressed in a comprehensive manner, instead of waiting for disaster to strike. The capacity to secure swiftly any vulnerable nuclear material or radioactive sources must be increased. Nuclear disarmament was also part of that agenda and his country welcomed the initiative of the United States of America to address that challenge at the highest political level.

69. Securing the safety of workers, citizens and the environment was a continuing challenge. Although the Agency's safety standards were an indispensable reference, the organization's statutory work suffered from unpredictable and insufficient funding and had done so far too long. Norway would like to see regular, predictable funding of the Agency's safety work in future.

70. Promoting the peaceful uses of nuclear energy and technology was at the heart of the Agency's mandate. The Agency was increasingly being viewed as a development organization, as illustrated by the recent decisions of the OECD Development Assistance Committee. It could contribute positively to meeting the Millennium Development Goals, in close partnership with other United Nations bodies, and his country welcomed new reports on achievements in that field.

71. Norway fully supported Article IV of the NPT and respected every country's sovereign right to choose its own energy mix. However, nuclear energy must not come at the expense of non-proliferation, human safety or the environment, and it was not necessarily the best way to meet a country's energy needs, as his country expected the 2009 Scientific Forum would confirm. The Agency must be ready to assist in the overall assessment of the options before Member States requesting assistance with energy planning.

72. Finally, the Agency was one of the most important international organizations for security and sustainable development. It should seize the historic opportunity to strengthen the nuclear non-proliferation and disarmament regime by ensuring that the 2009 General Conference regained consensus on important decisions.

73. Mr QUIMBAYA MORALES (Colombia) said that disarmament and non-proliferation were basic principles of his country's foreign policy. Addressing those issues in multilateral forums, with full respect for the rights and obligations of States, was crucial to global peace and security.

74. Colombia remained committed to the NPT and to the Tlatelolco Treaty, instruments that had enabled it to be part of the world's first nuclear-weapon-free zone. It supported multilateral initiatives aimed at ridding the world of the nuclear threat. His country welcomed the Agency's activities in the

field of the peaceful uses of atomic energy, research, technology transfer, and prevention of the diversion of material, equipment and knowledge to military purposes.

75. With Agency assistance, Colombia continued to develop its capacities and knowledge in a number of important areas, including health, agriculture and the environment. He drew attention to the XXII Congress of the Latin American Association of Societies of Nuclear Medicine and Biology to be held in Colombia in November 2009, which would provide an opportunity for sharing of knowledge and expertise concerning the application of nuclear techniques in human health.

76. Colombia welcomed the Agency's continued cooperation with the FAO, which had brought considerable benefits to the least developed countries. It also noted with concern that the technical cooperation programme lacked assured, predictable and sufficient funding and thought that the Agency's technical cooperation function should be strengthened, particularly in view of its contribution to sustainable development.

77. At the regional level, ARCAL had contributed to promoting and strengthening cooperation among developing countries during the 24 years it had been in existence. He was pleased to report that Colombia had ratified the Agreement in June 2009.

78. With respect to the Agency's verification activities, Colombia had ratified its additional protocol in March 2009.

79. The threat of proliferation and terrorism required a joint effort at all levels. Colombia supported the development of a collective security system and the implementation of mechanisms that promoted transparency and confidence.

80. Lastly, his country was confident that, under the leadership of the new Director General, the Agency would continue to meet the expectations of the international community with respect to promotion of the use of clean energy, transfer of knowledge and technology, and promotion of nuclear safety.

81. Mr TAN (Singapore) said that, for the first time in the 21st century, there was renewed impetus in working towards a world free of nuclear weapons, thus raising hopes for progress in the global nuclear disarmament agenda. The success of the 2010 NPT Review Conference could impart a greater shared sense of purpose to deliberations on the future of the Agency. Indeed, the collective efforts and resources of all Member States would be needed to enable the Agency to face the challenges and seize the opportunities that lay ahead.

82. The three pillars of the Agency's work, namely safety and security, safeguards and verification, and science and technology, were complementary and of equal importance. As nuclear energy became an option for many countries, and with the increase in nuclear installations around the world, nuclear safety and security were crucial to avoid any catastrophic incident. Singapore endorsed the Agency's work in support of States' efforts to ensure the highest standards of nuclear safety and security through the setting of benchmarks and through various Agency instruments, peer reviews, assistance and review missions. As the world entered a nuclear renaissance, a corresponding culture of nuclear safety must emerge. Regional and national efforts needed to be redoubled to bolster confidence in the use of nuclear power. In that connection, he noted the adoption by the European Union, on 25 June 2009, of a nuclear safety directive as a major step towards a common legal framework and a strong safety culture in Europe.

83. In South-East Asia, several countries had either indicated an interest in, or were pursuing nuclear energy programmes to meet increasing energy needs. Singapore fully supported greater regional cooperation to complement and strengthen international and national efforts in the area of nuclear safety and security. In March 2009, the Singapore Energy Studies Institute had organized a

one-day regional round table on achieving a safe and sustainable nuclear future, which had brought together ASEAN policy-makers and regulators and international nuclear experts to engage in a wide-ranging dialogue on the pursuit of civilian nuclear energy and attendant policy implications, including management of public concerns about nuclear safety. Beyond its endeavours in the ASEAN context, Singapore supported the efforts of the Asian Nuclear Safety Network to ensure a high standard of nuclear safety in the region. It had joined the network in December 2008 and had participated in the nuclear safety strategy dialogue meeting in April 2009. It would be hosting the tenth steering committee meeting in October.

84. The right of States to use nuclear material for peaceful purposes must be exercised in compliance with their non-proliferation obligations. Singapore firmly believed that the Agency safeguards and verification regime must remain capable of responding credibly and effectively to new challenges within the Agency's mandate in order to continue to provide safeguards assurances. Every State must also play its part at national level. In recent years, Singapore had improved its legislative framework to ensure compliance with the additional protocol and the modified SQP it had ratified and concluded with the Agency in March 2008. Just three weeks earlier, it had hosted a visit of Agency safeguards inspectors under the mechanism outlined in Article 8 of the additional protocol.

85. The Agency had had several verification cases before it for a number of years. Singapore commended the Agency team, which often worked under difficult conditions when investigating those cases. It deeply regretted the path taken by the DPRK and urged it and all other parties concerned to return to meaningful dialogue soon. Singapore also hoped to see meaningful dialogue between Iran and the United States of America. It looked forward to an early clarification of the remaining issues of concern for the Agency, in the hope that the latter would then be in a position to exclude the possibility of a military dimension to Iran's nuclear programme and bring the issue to a proper conclusion.

86. The Agency's quiet work in promoting peaceful applications of nuclear science and technology was the area that no doubt had the greatest impact on the lives of people in developing countries, and it made a tangible contribution towards achieving the Millennium Development Goals. Yet the international news media had grossly under-reported that aspect of the Agency's work. The benefits of nuclear applications were to be seen in human health in medical diagnoses and treatment, in pest control and applications in the petrochemical and mining sectors, in animal husbandry and the agro-industries, in food processing and elsewhere.

87. Singapore was pleased that the Agency's technical cooperation programme had expanded considerably in recent years, both in its scope and in the number of activities, but there was still room for the organization to enhance its work further in that regard. The Agency was to be commended for establishing partnerships with international and regional development organizations to promote synergies. Singapore remained firmly committed to supporting the Agency's technical cooperation programme, and it looked forward to cooperating with it further, through its Memorandum of Understanding with the organization, in outreach efforts to assist other developing countries.

88. His country was keenly aware that a comprehensive and effective technical cooperation programme required adequate, steady and sustainable funding, and it would thus once again be pledging its full share of the TCF for 2010. It also continued to support regional activities undertaken under the RCA. In 2009 Singapore had hosted a number of scientific visits, fellowships and regional training events under the technical cooperation and RCA frameworks.

89. The Agency, which was the only global platform for discussing a whole range of nuclear issues, could only be strong and effective if its Member States afforded it the support and resources it needed to carry out its mandate. Although some issues might seem divisive, Member States must strive to

work constructively and guard against an increased politicization, which could generate mistrust and distract them from their common objective of supporting and strengthening the Agency.

Ms MacMillan (New Zealand), President, took the chair.

90. Mr MAZUMDER (Bangladesh) said that many developing countries in Asia and Africa had been most exposed to the shocks of the global financial and economic crisis through no fault of their own. There was a clear need to enhance the capacity of those countries to find sustainable solutions to the challenges they faced. Bangladesh, for its part, was striving hard to escape the vicious circle of poverty through various innovative and home-grown development initiatives. His Government had launched the Bangladesh Vision 2021, which sought to transform Bangladesh into a modern, technologically advanced and prosperous country by 2021, the fiftieth anniversary of its independence. To achieve its goals of poverty alleviation and sustainable development, the country needed to build a strong science and technology infrastructure, underpinned by an adequate and affordable energy supply.

91. Bangladesh had limited energy resources of its own and its per capita consumption of energy and electricity was among the lowest in the world. His Government had identified specific targets and strategies for increasing power generation, and nuclear energy was being seriously considered as part of the overall energy mix. His Government was committed to implementation of the Rooppur nuclear power plant project and had requested the Agency to provide technical support in that connection. The Agency had conducted a mission in November 2008 to review the existing nuclear infrastructure based on the results of an integrated infrastructure evaluation conducted by Bangladesh, and had made recommendations based on the Agency's Nuclear Energy Series document NG-T-3.2. His country was grateful for the assistance it had received and appreciated the approval of a technical cooperation project on nuclear power for the 2009–2011 cycle. He also called upon the Agency to provide regular regional training courses to help ensure the availability of qualified human resources, which was a key factor in implementing a nuclear power programme.

92. Financing remained a critical challenge for developing countries hoping to set up nuclear power plants. The Agency should make every effort to eliminate barriers to the construction of nuclear power plants in developing countries, and it should work with international financial institutions to assist those countries in building their civilian nuclear power facilities.

93. The growing threat of non-communicable diseases like cancer, particularly in the developing world, was becoming a serious public health concern. Bangladesh was actively considering strengthening nuclear medicine and diagnostic techniques for cancer treatment, and was seeking the Agency's assistance in establishing a cyclotron and PET centre. The number of people suffering from diabetes in Bangladesh was expected to increase from 3.8 million in 2007 to 7.4 million by 2025, and he noted with satisfaction that the Agency had started projects in several countries to strengthen nuclear medicine capabilities to detect complications related to diabetes. His country was seeking the assistance of the Agency in that regard.

94. The recent increase in global food prices was putting enormous pressure on the poor around the world, and the rising global population and climate change were likely to compound the growing shortages of food. Food security was one of his Government's key development priorities and the Bangladesh Atomic Energy Commission was working on plant breeding and genetics programmes employing nuclear technology to produce better crop varieties.

95. His country appreciated the Agency's work in the area of water resources management and was benefiting from technical assistance in the use of isotope techniques to improve freshwater and coastal water management. His Government was committed to ensuring safe drinking water for all by 2021, and it looked forward to the Agency's continued cooperation in achieving that goal.

96. Bangladesh was fully committed to the principles of nuclear safety and radiation protection and had intensified its activities in that regard. A draft nuclear law, which would be sent to the Agency for review prior to final approval, had been prepared to facilitate implementation of the country's nuclear power programme. His Government looked forward to the Agency's assistance in the establishment of an effective and independent regulatory body

97. His country was fully committed to the peaceful use of nuclear energy. Its nuclear energy programme was transparent and it had signed all relevant international non-proliferation and verification instruments.

98. He expressed appreciation for the assistance provided by the Agency through its R&D programmes on peaceful uses of nuclear energy. His country was making efforts to utilize the results of successful R&D programmes and hoped that Agency support for strengthening its own R&D capacity would continue to expand.

99. Bangladesh was actively involved in various RCA projects, including CRPs. RCA programmes gave countries the opportunity to share experiences within a region and should be expanded. Programmes on the application of nuclear technology in industry, medicine, agriculture and other sectors would help the RCA countries to face the challenges of the 21st century.

– **Restoration of voting rights** (GC(53)/INF/10)

100. The PRESIDENT noted that the General Committee, which had met earlier in the day, had had before it a request for the restoration of voting rights from the Gabonese Republic contained in document GC(53)/INF/10. The Committee had recommended that Gabon's right to vote be restored during the current session of the Conference and until the end of the payment plan it had entered into in 2008, on the understanding that it continued to meet the requirements of the payment plan and that the Secretariat would report annually on the status of the payment plan. She took it that the Conference accepted that recommendation of the General Committee.

101. It was so decided.

102. The Committee had also discussed the issue of time limitations on statements in the general debate and efforts to ensure respect for the decision of the General Conference of 1998 (GC(42)/DEC/13). Accordingly, as of the 2010 session, the red light indicating that the allotted 15 minutes had elapsed would be made visible to the Plenary.

27. Examination of delegates' credentials (GC(53)/31)

103. The PRESIDENT said that the General Committee had met earlier in the day to examine the credentials of all delegates, as provided for in Rule 28 of the Rules of Procedure. Since that meeting the Secretariat had received credentials in due form for Burkina Faso, Qatar and the Philippines. After discussion, the Committee had recommended the adoption by the Conference of the draft resolution contained in paragraph 7 of its report contained in document GC(53)/31, with the reservations and positions expressed therein.

104. Mr ALIABADI (Islamic Republic of Iran) said that Iran's acceptance of the General Committee's report in no way implied its recognition of the Israeli regime.

105. Mr GAMIL (Egypt) said that Egypt's acceptance of the General Committee's report did not imply recognition that the borders of Israel included the Arab territories occupied by that country after 4 June 1967, including Arab Jerusalem, the Golan Heights and the Shebaa Farms.

106. Ms HATTAR (Jordan) said that Jordan's acceptance of the credentials submitted by the Israeli delegation should on no account be understood as including the territories occupied since 1967, in particular Jerusalem and the Golan Heights. For Jordan, Israel did not extend beyond the borders of 4 June 1967, as well as the borders stipulated in the agreement which Israel had concluded with Jordan and Egypt.

107. The PRESIDENT took it that the General Conference was prepared to adopt the draft resolution contained in paragraph 7 of document GC(53)/31.

108. It was so decided.

– Report of the Scientific Forum

109. The PRESIDENT recalled that the theme of the Scientific Forum for 2009 had been "Energy for Development". She invited Dr Srikumar Banerjee, the Chairman of the Scientific Forum, to present his report.

110. Mr BANERJEE (Chairman of the Scientific Forum) presented the report, which is reproduced in the Annex.

111. The PRESIDENT thanked Mr Banerjee for his most interesting report on the work and outcome of the Scientific Forum, and the Secretariat for its excellent preparation of the Scientific Forum.

12. Appointment of the External Auditor (GC(53)/27)

112. The PRESIDENT said that the tenure of the Agency's current External Auditor would end with the completion of the audit of the Agency's accounts for the financial year 2009. It would therefore be necessary to appoint an External Auditor to audit the Agency's accounts for the financial years 2010 and 2011. The matter had been considered by the Board in June, but it had not been in a position to make a recommendation to the Conference.

113. Mr MALHOTRA (India) said that his country had proposed the Comptroller and Auditor General of India as a candidate for the post of External Auditor of the Agency for the period 2010–2011, as indicated in document GC(53)/27. However, the German Government had requested a fourth term for the German Supreme Audit Institution. The practice in the Agency had been three terms, and occasionally four, for each External Auditor. In keeping with the 'spirit of Vienna', India had decided not to press its candidature at the current General Conference in order to avoid an election. It trusted that its patience would be rewarded at the 55th regular session of the General Conference in 2011.

114. The PRESIDENT took it that the Conference wished to appoint the Vice-President of the German Supreme Audit Institution as the External Auditor to audit the Agency's accounts for the financial years 2010 and 2011.

115. It was so decided.

116. Mr LUEDEKING (Germany) thanked the Indian delegation for withdrawing its candidature and expressed appreciation to the General Conference for the confidence it had placed in the German Supreme Audit Institution. It was important at the current juncture for the Institution to continue its planned audit in 2010 and 2011. Germany had already made it clear that it would not be putting forward a candidate thereafter.

8. General debate and Annual Report for 2008 (resumed) (GC(53)/7)

117. Ms MOUSSA (Niger) said that her country, as a uranium producer, was totally committed to the Agency's objectives, strove to prevent the use of nuclear energy for military purposes and ensure that nuclear energy for peaceful purposes was used in the safest possible way, and actively promoted the peaceful use of nuclear techniques and strengthening of the related international legal framework. It was committed to working closely with the Secretariat and all Member States in the interests of peace, security and prosperity.

118. Recognizing the importance of non-proliferation, nuclear safety and security, and radiation protection, Niger cooperated closely with the Agency and had received ISSAS, IRRS and INSServ missions. It hoped that the implementation of the recommendations from those missions would help the country achieve national and international non-proliferation and radiation protection objectives, and refine its regulatory framework for nuclear safety and security.

119. Niger commended the Agency's activities in the field of human health, in particular cancer control, and in the field of agriculture, stockbreeding, water resources management, environment and energy. Her country was pleased at the results achieved in the various technical cooperation programmes it was developing with the Agency.

120. As part of its policy of improving the national health system, Niger was working with the Agency and other development partners on a programme to combat cancer, the prevalence of which was growing. The Government was investing a lot of effort in the construction of a radiotherapy centre and in the provision of technical resources for treating cancer patients.

121. Niger was currently experiencing a resurgence in activities related to mining. With the establishment of two new uranium mining companies, Niger was set to become the second largest uranium producer in the world by 2012. The country was committed to developing its mining sector with respect for human health and the environment. Thus, it attached particular importance to the Agency's activities on radiation safety, management of radioactive mining waste, and dosimetry, particularly internal exposure monitoring.

122. Her Government planned to end the country's energy dependence by introducing a nuclear power programme to produce enough electricity to meet the increased demand in Niger and the subregion.

123. Niger needed to revitalize its agricultural and stockbreeding sectors, which employed more than 80% of the working population, and thus it highly valued the Agency's technical cooperation programmes aimed at increasing agricultural and animal production. The use of nuclear techniques in those fields could contribute significantly to addressing the development challenges of food security, combating poverty and environmental management, in particular pesticide use. Niger was also hoping to apply isotopic techniques to study the silting up of the River Niger.

124. The country also welcomed Agency assistance through regional and subregional programmes and intended to participate actively in the AFRA programme.

125. Lastly, she expressed the hope that the CPF that was currently being finalized would be appropriately implemented, leading to beneficial technical cooperation projects.

The meeting rose at 12.55 p.m.

**Report to the 53rd Regular Session of the IAEA General Conference
from the 12th Scientific Forum**
17 September 2009

Forum Chair: Dr Srikumar Banerjee
Director of the Bhabha Atomic Research Centre, India

Madam President, Director General, Distinguished Delegates

Without energy there is no development. For every aspect of development we need energy, be it nutrition, health care, education or the production of goods and services.

However, 1.6 billion people or one fourth of world population have no access to modern energy services provided by electricity. Although energy is not explicitly included among the Millennium Development Goals, there was general agreement that eradicating energy poverty is an essential prerequisite for achieving them. This will require working towards bold targets for access to modern energy services for all by 2030.

The Forum first identified key factors that hamper efforts to effectively tackle energy poverty. At the international level, work on energy is fragmented. The Director General proposes that this should be alleviated by establishing a global energy organization to focus on, among other possibilities: energy planning, technology transfer, R&D on technologies serving the energy needs of the poor and energy supplies in crisis situations. These international arrangements should be complemented by support to local energy initiatives based on local skills, technologies and material.

An important issue for framing the energy predicament is climate change. The responsibility of reducing greenhouse gas emissions has to be shared by everybody. Developing countries are most vulnerable and their best defence against the impacts of climate change will be development. Their contribution to greenhouse gas reductions is important for a successful global climate policy, but the financial burden should be carried by developed countries. This will require at least three internationally coordinated tasks: mobilizing contributions from developed countries, arranging distribution among developing countries and then channelling the resources and monitoring accountability. The estimated requirement would be on the order of 1% of GDP of developed countries.

After identifying the energy-related impediments to development, the forum addressed the drivers shaping future energy demand, recognizing that it is energy services not energy or fuel per se that societies need for development. Demographic change - growth or decline, ageing population, shifting household sizes – and migration are key factors affecting the quantity and mix of energy services. While international development has traditionally focussed on energy poverty in rural areas, ongoing urbanization and access to urban amenities in rural areas are expected to broaden the challenge of providing energy access for all.

Another important driver of energy demand is infrastructure. Many developing countries are in the process of establishing or expanding their basic infrastructure (from settlement patterns and transportation infrastructure to buildings and industrial production facilities). Establishing infrastructures is an energy-intensive process in itself, and because of its longevity, its operation will considerably affect energy demand for decades to come. Hence, there is a chance and need for public policy to build the “right” infrastructure for development. Energy efficiency, especially at the level of energy end use, is a crucial factor for effective development. Pursuing energy efficiency has many benefits, ranging from the possibility to improve access to energy, enhance energy security and reduce reliance on imports to economic gains (like improving returns on rural investments) and health and education benefits.

The steadily growing demand for energy, as projected by the International Energy Agency, for example, will require huge investments, but enticing private capital will require institutional improvements, like reforms in the power sector. If done well, such reforms can improve the performance, service quality and thus the affordability of electricity for the poor, but in addition to the energy sector reforms, complementary measures are often needed, for example incentive schemes, subsidies or regulatory mandates to warrant equity. Energy production and use involve many negative environmental and social impacts called externalities. The external costs need to be assessed so that they can be incorporated in prices by adequate regulation, for example through pollution taxes or tradable permits. Despite pervasive uncertainties, the scientific basis for assessing energy-related externalities is well-established but social aspects, especially ethical considerations, remain controversial.

Even with an accelerated implementation of energy efficiency, low energy-intensive infrastructures and life style changes, global energy demand is set to rise, especially when the currently 1.6 billion unconnected people begin to enjoy modern energy services.

After demand, the deliberations turned to energy supply. Though in the next few decades the world will not be running out of any of the energy resources, time has come to plan for an optimized use of energy resources to achieve a long-term sustainability. With fossil fuel reserve being depleted and with the pressing need to reduce greenhouse gas emissions, we must increase the share of nuclear and renewable energy in the world's energy mix. Fossil and fissile energy resources in the earth's crust are sufficient for providing energy for a few centuries. But utilization of these resources for providing energy services to all requires timely investments in exploration, mining and energy production capacities.

Despite several advantages of renewable energy, namely, energy security and reduced price volatility, for example, only a small portion of their technical potential is now used due to intermittency, large space requirements and other challenges. Funding is needed for research and development (R&D) to improve the technologies for harnessing renewable energy sources and innovative financing arrangements are required to increase their contribution to the energy mix.

Fossil fuels will continue to provide the largest share of global energy needs in the next few decades. The main benefits of cleaner fossil technologies, especially complemented with carbon capture and storage (CCS) include stretching the available energy reserves, keeping fossil fuels in the energy mix and thereby increasing energy security and reducing local air pollution and greenhouse gas emission. Nuclear energy has a good prospect for playing a larger role in the global energy supply due to progress being made on safety, economics, waste management and proliferation resistance in the current and future reactor technologies and fuel cycles. Biofuels might also become an increasingly important element of energy supply but thorough assessments and policies will be required to avoid conflicts with food security targets due to increasing competition for land and the associated higher agricultural prices.

Key areas for technology development and innovation on the supply side include, but are not limited to

1. The adoption of closed nuclear fuel cycles and thorium utilization for full utilization of fissile and fertile nuclear materials;
2. The development of suitable technologies for managing CO₂ from fossil fuel and for nuclear waste; and
3. Further development of renewable technologies.

The Scientific Forum closed with several variations on the DG's opening proposal for a new global energy organization. UNIDO Director General Kandeh Yumkella suggested several immediate fora to advance the idea and to discuss specific mechanisms, including an expanded role of UN-Energy, the use of the Vienna based international energy organizations as an international hub, and building on the 2009 Vienna International Energy Conference.

André Mernier, Secretary General of the Energy Charter Treaty (ECT), reported on prospective new Charter members from the Middle East and suggested further extension to Africa to help aggregate small markets and establish norms attractive to investors. A proposal for a global energy agency focussed on oil and gas to contain oil market price volatility within negotiated band widths was also discussed.

In summary, there was a general consensus that crafting robust national energy strategies is a prerequisite for reducing energy poverty and charting sustainable energy development. The planning tools and capacity building provided by IAEA are an important contribution towards this objective but much more is needed. The session concluded that there was indeed a need for an International Energy Organization that would address development-energy challenges by searching for technology solutions, elaborating policy frameworks and monitoring implementation. An important task would be fostering relevant international treaties that bring together resource rich and resource poor, developing and developed countries.