

G8 Conclusions on Climate Change, 1975-2011

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Summary

Year	# of Words	% of Total Words	# of Paragraphs	% of Total Paragraphs	# of Documents	% of Total Documents	Dedicated Documents
1975	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0
1979	28	1.3	1	2.6	1	50	0
1980	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0
1985	88	2.9	1	1.9	1	50	0
1986	0	0	0	0	0	0	0
1987	85	1.5	1	1.1	1	14.3	0
1988	140	2.7	1	1.2	1	33.3	0
1989	422	6	7	5	1	9.1	0
1990	491	5.9	5	3.6	1	33.3	0
1991	236	2.4	5	2.8	1	20	0
1992	137	1.8	4	2.5	1	25	0
1993	154	3.1	1	1.2	1	33.3	0
1994	107	2.6	2	2.1	1	50	0
1995	87	0.7	3	1.1	1	25	0
1996	167	0.8	3	1.4	1	14.3	0
1997	305	1.6	5	1.7	1	16.7	0
1998	323	5.3	4	4.1	1	25	0
1999	198	1.3	1	0.3	1	25	0
2000	213	1.6	2	0.5	1	20	0
2001	324	52	4	144	1	10	0
2002	53	0.2	1	0.7	1	14.3	0
2003	62	0.3	3	2.3	1	5.9	0
2004	98	0.3	2	0.5	1	5	0
2005	2667	9.3	68	9.9	3	8.1	2
2006	1533	3.1	26	2.6	3	12	0
2007	4154	12.0	47	9.0	5	41.7	0
2008	2568	17.5	21	14.2	3	60	0
2009	5559	33.3	52	15.8	7	53.8	0
2010	1282	12	7	7.1	1	33.3	0
2011	1086	5.9	12	5.6	1	20	0
Average	609.92	3.8	7.81	2.84	1.16	19.15	0.05

Notes:

Data are drawn from all official English-language documents released by the G8 leaders as a group, excluding charts.

“# of Words” is the number of climate change-related subjects for the year specified, excluding document titles and references. Words are calculated by paragraph because the paragraph is the unit of analysis.

“% of Total Words” refers to the total number of words in all documents for the year specified.

“# of Paragraphs” is the number of paragraphs containing references to climate change for the year specified. Each point is recorded as a separate paragraph.

“% of Total Paragraphs” refers to the total number of paragraphs in all documents for the year specified.

“# of Documents” is the number of documents that contain climate change subjects and excludes dedicated documents.

“% of Total Documents” refers to the total number of documents for the year specified.

“# of Dedicated Documents” is the number of documents for the year that contain a climate change-related subject in the title.

Introduction

Climate change and the environment have long been on the G8 agenda. Most recently, at the 2011 Deauville Summit the leaders stressed the importance of protecting the environment with trade and development in order to achieve sustainable progress. Climate change was a significant theme at the 2010 Muskoka Summit, where the leaders reaffirmed their support for the 2009 L'Aquila Summit agreement on “common but differentiated responsibilities” with regard to the goal of not increasing global temperatures by more than 2°C above pre-industrial levels. At Muskoka, the leaders agreed to work to decrease global emissions by 50% by 2050, with developed countries decreasing their emissions by 80% by 2050 as compared to 1990 levels. Advances were also made on environmental protection, climate adaptation for vulnerable states (especially in Africa), carbon capture and storage (CCS) demonstration plants, fossil fuel subsidy reductions, food security initiatives and the incorporation of environmental security into future economic policy frameworks for green growth.

In 2010 the G8 leaders also reaffirmed their support for the United Nations Framework Convention on Climate Change (UNFCCC) negotiations and the Copenhagen Accord from the 2009 15th Conference of the Parties (COP) meeting in Denmark. The non-legally binding Copenhagen Accord complements the legally binding Kyoto Protocol (agreed to at COP-3 in Japan in 1997 and now ratified by just under 200 countries) that expires in 2012. Under the Copenhagen Accord, 114 countries, including all 17 members of the Major Economies Forum (MEF), agreed for the first time to reduce their emissions and register their national commitments by January 2010. Countries also committed to “delivering ‘prompt start’ funding to assist developing countries in deploying clean energy technologies, reducing forest-related emissions, and adapting to the impacts of global warming.” The most recent UNFCCC COP-16 meeting took place in Cancun, Mexico, in November/December 2010. COP-17 will take place in Durban, South Africa, in November/December 2011.

Search Terms

The following keywords were used for this report.

Inclusions

Biodiversity, carbon, carbon dioxide (CO₂), carbon capture and storage (CCS), carbon sequestration, climate change, climate change mitigation, climate finance, climatic change, Conference of the Parties (COP), Copenhagen Accord, deforestation, ecosystems, emissions, emissions reduction, fossil fuels, Global Environment Facility (GEF), environmental degradation, environmental development, environmental stress, global warming, green development, green economy, greenhouse gases, green growth, green recovery, Intergovernmental Panel on Climate Change (IPCC), Kyoto Protocol, marine protection, reducing emissions from deforestation and forest degradation (REDD), renewables, sinks, sustainable development (when dealing with climate control), United Nations Conference on Environment and Development (UNCED), United Nations Framework Convention on Climate Change (UNFCCC), United Nations Environment Programme (UNEP), UN High-Level Advisory Group on Climate Change Financing

Exclusions

Alternative energy, 'alternative' energies (geothermal, hydro, nuclear, solar), clean energy, energy efficiency, energy technologies, energy security

Coding Rules:

The unit of analysis is the sentence or paragraph.

The unit must contain a direct reference to climate change or a cognate term.

Cognate or extended terms can be used without a direct reference to climate change if they have previously been directly associated in summit document history.

Conclusions on Climate Change in G8 Summit Documents

1975 Rambouillet, France

No references.

1976 San Juan, Puerto Rico, United States

No references.

1977 London, United Kingdom

No references.

1978 Bonn, Germany

No references.

1979 Tokyo, Japan

Communiqué:

We need to expand alternative sources of energy, especially those which will help to prevent further pollution, particularly increases of **carbon dioxide and sulphur oxides** in the atmosphere.

1980 Venice, Italy

No references.

1981 Montebello, Canada

No references.

1982 Versailles, France

No references.

1983 Williamsburg, United States

No references.

1984 London II, United Kingdom

No references.

1985 Bonn, Germany

Communiqué:

Environmental Policies

12. New approaches and strengthened international cooperation are essential to anticipate and prevent damage to the environment, which knows no national frontiers. We shall cooperate in order to solve pressing environmental problems such as acid deposition and air pollution from motor vehicles and all other significant sources. We shall also address other concerns such as **climatic change**, the protection of the ozone layer and the management of toxic chemicals and hazardous wastes. The protection of soils, fresh water and the sea, in particular of regional seas, must be strengthened.

1986 Tokyo II, Japan

No references.

1987 Venice, Italy

Communiqué:

Environment

30. We underline our own responsibility to encourage efforts to tackle effectively environmental problems of worldwide impact such as stratospheric ozone depletion, **climate change**, acid rains, endangered species, hazardous substances, air and water pollution, and destruction of tropical forests. We also intend to examine further **environmental issues** such as stringent **environmental standards** as an incentive for innovation and for the development of clean, cost effective and low resource technology; as well as promotion of international trade in low pollution products, low polluting industrial plants and other environmental protection technologies.

1988 Toronto, Canada

Communiqué:

Environment

33. Further action is needed. **Global climate change**, air, sea and fresh water pollution, acid rain, hazardous substances, deforestation, and endangered species require priority attention. It is, therefore, timely that negotiations on a protocol on **emissions of nitrogen oxides** within the framework of the **Geneva Convention on Long range Transboundary Air Pollution** be pursued energetically. The efforts of the United Nations Environment Programme (UNEP) for an agreement on the transfrontier shipment of hazardous wastes should also be encouraged as well as the establishment of an inter-governmental panel on **global climate change** under the auspices of **UNEP** and the

World Meteorological Organization (WMO). We also recognize the potential **impact of agriculture on the environment**, whether negative through over intensive use of resources or positive in preventing desertification. We welcome the **Conference on the Changing Atmosphere** to be held in Toronto next week.

1989 Paris, France

Communiqué:

Introduction

The urgent need to safeguard the environment for future generations. Scientific studies have revealed the existence of **serious threats to our environment such as the depletion of the stratospheric ozone layer and excessive emissions of carbon dioxide and other greenhouse gases which could lead to future climate changes. Protecting the environment** calls for a determined and concerted international response and for the early adoption, worldwide, of policies based on **sustainable development**.

Environment

33. There is growing awareness throughout the world of the necessity to preserve better the global **ecological balance**. This includes serious threats to the **atmosphere**, which could lead to future **climate changes**. We note with great concern the growing pollution of air, lakes, rivers, oceans and seas; acid rain, dangerous substances; and the rapid desertification and deforestation. Such **environmental degradation** endangers species and undermines the well-being of individuals and societies.

40. We strongly advocate common efforts to **limits emissions of carbon dioxide and other greenhouse gases**, which threaten to induce **climate change**, endangering the environment and ultimately the economy. We strongly support the work undertaken by the **Intergovernmental Panel on Climate change** on this issue.

We need to strengthen the worldwide network of observatories for **greenhouse gases** and support the **World Meteorological Organization** initiative to establish a **global climatological reference network to detect climate changes**.

We are committed to maintaining the highest safety standards for nuclear power plants and to strengthening international cooperation in safe operation of power plants and waste management, and we recognize that **nuclear power also plays an important role in limiting output of greenhouse gases**.

42. **Deforestation** also **damages the atmosphere** and must be reversed. We call for the adoption of sustainable forest management practices, with a view to preserving the scale of world forests. The relevant international organizations will be asked to complete reports on the state of the world's forests by 1990.

45. The increasing complexity of the issues related to the **protection of the atmosphere** calls for innovative solutions. New instruments may be contemplated. We believe that the **conclusion of a framework or umbrella convention on**

climate change to set out general principles or guidelines is urgently required to mobilize and rationalize the efforts made by the international community. We welcome the work under way by the **United Nations Environment Programme, in cooperation with the World Meteorological Organization**, drawing on the work of the **Intergovernmental Panel on Climate change** and the results of other international meetings. Specific protocols containing concrete commitments could be fitted into the framework as scientific evidence requires and permits.

1990 Houston, United States

Communiqué:

The Environment

62. One of our most important responsibilities is to pass on to future generations an environment whose health, beauty, and economic potential are not threatened. **Environmental challenges such as climate change**, ozone depletion, deforestation, marine pollution, and loss of biological diversity require closer and more effective international cooperation and concrete action. We as industrialized countries have an obligation to be leaders in meeting these challenges. We agree that, in the face of threats of **irreversible environmental damage, lack of full scientific certainty is no excuse to postpone actions** which are justified in their own right. We recognize that strong, growing, market-oriented economies provide the best means for successful environmental protection.

63. **Climate change** is of key importance. We are committed to undertake common efforts to **limit emissions of greenhouse gases, such as carbon dioxide**. We strongly support the work of the **Intergovernmental Panel on Climate change (IPCC)** and look forward to the release of its full report in August. The **Second World Climate Conference** provides the opportunity for all countries to consider the adoption of strategies and measures for **limiting or stabilizing greenhouse gas emissions**, and to discuss an effective international response. We reiterate our support for the negotiation of a **framework convention on climate change, under the auspices of the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO)**. The **convention** should be completed by 1992. Work on appropriate implementing protocols should be undertaken as expeditiously as possible and should consider all sources and sinks.

65. We acknowledge that enhanced levels of cooperation will be necessary with regard to the **science and impacts of climate change** and economic implications of possible response strategies. We recognize the importance of working together to develop new technologies and methods over the coming decades to complement **energy conservation** and other measures to **reduce carbon dioxide and other greenhouse emissions**. We support **accelerated scientific and economic research** and analysis on the dynamics and potential impact of **climate change**, and on potential responses of developed and developing countries.

67. We are ready to begin negotiations, in the appropriate fora, as expeditiously as possible on a global forest convention or agreement, which is needed to curb deforestation, protect **biodiversity**, stimulate positive forestry actions, and address threats to the world's forests. The convention or agreement should be completed as soon as possible, but no later than 1992. The work of the **IPCC** and others should be taken into account.

70. To cope with energy-related environmental damage, priority must be given to improvements in energy efficiency and to the development of alternative energy sources. For the countries that make such a choice, nuclear energy will continue to be an important contributor to our energy supply and can play a significant **role in reducing the growth of greenhouse gas emissions**. Countries should continue efforts to ensure highest worldwide performance standards for nuclear and other energy in order to protect health and the environment, and ensure the highest safety.

1991 London, United Kingdom

Communiqué:

Energy

19. In this context, nuclear power generation contributes to diversifying energy sources and **reducing greenhouse gas emissions**. In developing nuclear power, an economic energy source, it is essential to achieve and maintain the highest available standards of safety, including in waste management, and to encourage co-operation to this end throughout the world. The safety situation in Central and Eastern Europe and the Soviet Union deserves particular attention. This is an urgent problem and we call upon the international community to develop an effective means of coordinating its response.

Environment

51. We aim to achieve the following by the time of **UNCED**:

a) an effective framework convention on climate change, containing appropriate commitments and addressing all sources and sinks for greenhouse gases. We will seek to expedite work on implementing protocols to reinforce the convention. All participants should be committed to design and implement concrete strategies to limit net emissions of greenhouse gases, with measures to facilitate adaptation. Significant actions by industrial countries will encourage the participation of developing and East European countries, which is essential to the negotiations;

57. We call for greater efforts in co-operation in environmental science and technology, in particular:

a) scientific research into the global climate, including satellite monitoring and ocean observation. All countries, including developing countries, should be involved in this research effort. We welcome the development of information services for users of earth observation data since the Houston Summit;

1992 Munich, Germany

Communiqué:

United Nations Conference on Environment and Development (UNCED)

13. The Earth Summit has been a landmark in heightening the consciousness of the **global environmental challenges**, and in giving new impetus to the process of creating a worldwide partnership on development and **the environment**. Rapid and concrete action is required to follow through on our **commitments on climate change, to protect forests and oceans, to preserve marine resources, and to maintain biodiversity**. We therefore urge all countries, developed and developing, to direct their policies and resources towards **sustainable development** which safeguards the interests of both present and future generations.

14. To carry forward the momentum of the **Rio Conference**, we urge other countries to join us:

in seeking to ratify the **Climate change Convention** by the end of 1993;

in drawing up and **publishing national action plans, as foreseen at UNCED**, by the end of 1993;

1993 Tokyo, Japan

Communiqué:

Environment

8. Environmental issues remain a high priority on our policy agenda despite difficult economic times. We welcome the successful first meeting of the Commission on Sustainable Development and the progress made towards implementation and ratification of the **Framework Convention on Climate change and the Convention on Biological Diversity** by the end of 1993, and on negotiation of a convention on desertification. We renew our determination to secure environmentally **sustainable development** through an effective follow-up of the fruits of the **UNCED**, including the commitment to publish national action plans by the end of this year. We will work to ensure that the **Global Environmental Facility**, with necessary improvements, functions as the financial mechanism to provide funding for the incremental costs of implementing the global environment conventions signed at Rio. We encourage the multilateral development banks to focus more intensively on **sustainable development**, to incorporate **environmental appraisals** into project preparation and to make them publicly available.

1994 Naples, Italy

Communiqué:

Environment

1. We support the work of the **Commission on Sustainable Development** in reviewing progress in the implementation of the Rio process. We look forward to the implementation of the Conventions already concluded, in particular those on biological diversity and **climate change** and in this respect we will work for the success of the forthcoming Conferences of these subjects in Nassau and Berlin.

2. We are determined to speed up the implementation of our national plans called for under the **Rio Climate Treaty** and we will each report what we have achieved at next year's Summit. We also recognize the need to develop steps for the post-2000 period.

1995 Halifax, Canada

Communiqué:

Safeguarding the Environment

32. We underline the importance of meeting the commitments we made at the **1992 Rio Earth Summit** and subsequently, and the need to review and strengthen them, where appropriate. **Climate change** remains of major global importance. We will work with others to:

fulfil our existing obligations under the **Climate Change Convention**, and our commitments to meet the agreed ambitious timetable and objectives to follow up the **Berlin Conference of the Parties**;

implement the medium-term work programme adopted pursuant to the **Convention on Biological Diversity**;

1996 Lyon, France

Chairman's Statement:

5. Environment

Protecting the environment is crucial in promoting **sustainable development**. In view of the threats such as **global warming**, desertification, deforestation, depleting resources and threatened species, and unsustainable urban development, we place top priority on integrating environmental protection more completely into all of our policies. We are exploring the possibility of supplementing our national income accounts to better measure resources, such as forests, minerals and fish, and the economic value of air, water and soil quality. We welcome the great potential of the environment protection industry which can have positive effects on long term economic growth and employment.

1997 will be a pivotal year for **the environment**. We renew our commitment to all agreements reached at Rio, and pledge to work for a successful outcome of the 1997 special session of the United Nations General Assembly which would lead to their better implementation. We commit ourselves to strong action and anticipate in 1997:

-a successful outcome of the **Conference of the Parties to the Climate change Convention**;

1997 Denver, United States

Communiqué:

Climate Change

14. Overwhelming scientific evidence links the build-up of **greenhouse gasses** in the atmosphere to changes in the global climate system. If current trends continue into the next century, unacceptable impacts on human health and the global environment are likely. Reversing these trends will require a sustained global effort over several decades, with the involvement of all our citizens, and changes in our patterns of consumption and production.

15. We are determined to take the lead and show seriousness of purpose in strengthening international **efforts to confront climate change**. Our ultimate goal must be to stabilize **atmospheric concentrations of greenhouse gasses at an acceptable level**. This will require efficient and cost-effective policies and measures sufficient to lead to a significant **reduction in emissions**.

16. International cooperation will be essential. At the **Third Conference of Parties to the UN Framework Convention on Climate change in Kyoto** we must forge a strong agreement that is consistent with the **Berlin Mandate** and that **contains quantified and legally-binding emission targets**. We intend to commit to meaningful, realistic and equitable **targets that will result in reductions of greenhouse gas emissions by 2010**. The agreement must ensure transparency and accountability and allow Participants flexibility in the manner in which they meet their **targets**.

17. Action by developed countries alone will not be sufficient to meet this goal. Developing countries must also take measurable steps, recognizing that their obligations will increase as their economies grow. We agree to work in partnership with them to that effect by implementing technological development and diffusion and supporting **environmental education and capacity building**.

18. We stress the importance of setting up an appropriate mechanism for monitoring and ensuring compliance among Parties. We also agree to work together to enhance international efforts to further develop global systems for monitoring **climate change and other environmental trends**.

1998 Birmingham, United Kingdom

Communiqué:

Promoting Sustainable Growth in the Global Economy

11. The greatest **environmental threat** to our future prosperity remains **climate change**. We confirm our determination to address it, and endorse the results of our Environment Ministers' meeting at Leeds Castle. The adoption at **Kyoto of a Protocol** with legally binding targets was a historic turning point in our efforts to **reduce greenhouse gas emissions**. We welcome the recent signature of the **Protocol** by some of us and confirm the intention of the rest of us to sign it within the next year, and resolve to make an urgent start on the further work that is necessary to ratify and make **Kyoto** a reality. To this end:

- we will each undertake domestically the steps necessary to reduce significantly **greenhouse gas emissions**;
- as the Kyoto protocol says, to supplement domestic actions, we will work further on flexible mechanisms such as international market-based emissions trading, joint implementation and the clean development mechanism, and on sinks. We aim to draw up rules and principles that will ensure an enforceable, accountable, verifiable, open and transparent trading system and an effective compliance regime;

we will work together and with others to prepare for the **Buenos Aires meeting of COP4 this autumn**. We will also look at ways of working with all countries to increase global participation in establishing targets to limit or **reduce greenhouse gas emissions**. We will aim to reach agreement as soon as possible on how the **clean development mechanism** can work, including how it might best draw on the experience and expertise of existing institutions, including the **Global Environment Facility**. We look forward to increasing participation from developing countries, which are likely to be most affected by **climate change** and whose share of **emissions** is growing. We will work together with developing countries to achieve voluntary efforts and commitments, appropriate to their national circumstances and development needs. We shall also enhance our efforts with developing countries to promote technological development and diffusion.

1999 Cologne, Germany

Communiqué:

Redoubling Efforts to Preserve the Environment

33. We reaffirm that we consider **climate change an extremely serious threat to sustainable development**. We will therefore work towards timely progress in implementing the **Buenos Aires Plan of Action** with a view to early entry into force of the **Kyoto Protocol**. In particular, we encourage decisions on the operation of the **Kyoto mechanisms** and on a strong and effective **compliance regime**. We underline the importance of taking action to reduce **greenhouse gas emissions** through

rational and efficient use of energy and through other cost-effective means. To this end, we commit ourselves to develop and implement domestic measures including under the **UN Framework Convention on Climate change**. We also agreed to exchange experience on best practices. We will also promote increasing global participation of developing countries in limiting **greenhouse gas emissions**. We welcome the action already taken by developing countries and stress the need to support their efforts through financial mechanisms, the development and transfer of technology, and capacity-building. We note the important role that the **Clean Development Mechanism (CDM)** can play in these areas. We also welcome the intention announced by some developing countries in Buenos Aires to undertake further commitments to abate their **greenhouse gas emissions**.

2000 Okinawa, Japan

Communiqué:

Environment

60. We will endeavour with all our partners to prepare a future-oriented agenda for Rio+10 in 2002. We are strongly committed to close co-operation among ourselves and with developing countries to resolve as soon as possible all major outstanding issues, with a view to early entry into force of the **Kyoto Protocol**. To that end, we are determined to achieve a successful outcome at the **Sixth Conference of the Parties to the Framework Convention on Climate change (COP6)**, in order to achieve the goals of the **Kyoto Protocol** through undertaking strong domestic actions and supplemental flexibility mechanisms.

61. Working together and with existing institutions to encourage and facilitate investment in the development and use of sustainable energy, underpinned by enabling domestic environments, will assist in mitigating the problems of **climate change** and air pollution. To this end, the increased use of renewable energy sources in particular will improve the quality of life, especially in developing countries. We therefore call on all stakeholders to identify the barriers and solutions to elevating the level of renewable energy supply and distribution in developing countries. We invite stakeholders to join in a Task Force to prepare concrete recommendations for consideration at our next Summit regarding sound ways to better encourage the use of renewables in developing countries.

2001 Genoa, Italy

Communiqué:

Environment

23. We confirm our determination to find global solutions to threats endangering the planet. We recognise that **climate change** is a pressing issue that requires a global solution. We are committed to providing strong leadership. Prompt, effective and sustainable action is needed, consistent with the ultimate objective of the UN

Framework Convention on Climate change of stabilising **greenhouse gas concentrations in the atmosphere**. We are determined to meet our national commitments and our obligations under the **Convention** through a variety of flexible means, drawing on the power of markets and technology. In this context, we agree on the importance of intensifying co-operation on **climate**-related science and research. We shall promote co-operation between our countries and developing countries on technology transfer and capacity building.

24. We all firmly agree on the need to **reduce greenhouse gas emissions**. While there is currently disagreement on the **Kyoto Protocol** and its ratification, we are committed to working intensively together to meet our common objective. To that end, we are participating constructively in the resumed **Sixth Conference of the Parties in Bonn (COP6)** and will continue to do so in all relevant fora. We welcome the recent deepening of discussions among the G8 and with other countries.

26. We welcome Russia's proposal to convene in 2003 a **global conference on climate change** with the participation of governments, business and science as well as representatives of civil society.

27. We recognise the importance of **renewable energy** for **sustainable development**, diversification of energy supply, and preservation of the **environment**. We will ensure that **renewable energy** sources are adequately considered in our national plans and encourage others to do so as well...We urge the **Global Environment Facility (GEF)** to continue supporting **environmental protection** on a global scale and fostering good practices to promote efficient energy use and the development of **renewable energy** sources in the developing world, and stress the need to commit adequate resources to its third replenishment...

2002 Kananaskis, Canada

Chair's Summary

We agreed on the importance of reaffirming the Doha Agenda and the Monterrey Consensus and to work at the upcoming Johannesburg Summit to produce meaningful partnerships for **sustainable development** and measurable results. We recognized that **climate change** is a pressing issue that requires a global solution, and we discussed the problem of deforestation.

2003 Evian, France

Chair's Summary:

2. Enhancing Sustainable Development

Science and technology for **sustainable development**. We adopted an **Action Plan** on how best to use science and technology for **sustainable development** focused on three areas:

- global observation;

- cleaner, more efficient energy and the fight against **air pollution and climate change**;
- agriculture and **biodiversity**.

Those of us who have ratified the **Kyoto Protocol** reaffirm their determination to see it enter into force.

2004 Sea Island, United States

Science and Technology for Sustainable Development: “3r” Action Plan and Progress on Implementation

Last year at Evian we agreed “to support the development of cleaner, sustainable and more efficient technologies.” We reaffirm our conviction that “cooperative scientific research on transformation technologies offers potential to improve public health by **cutting pollution and reduce greenhouse gas emission** to address the challenge of **global climate change**.”

Agriculture and **Biodiversity**

Partnered with the Consultative Group for International Agricultural Research, African Agricultural Technology Forum, and other existing structures at different levels, to improve agricultural technology use and productivity in Africa and other poor regions so as to promote “hardier crops for healthier people” respecting **biodiversity protection**... etc.

2005 Gleneagles, United Kingdom

Chair’s Summary:

Climate change

We were joined for our discussion on **climate change** and the global economy by the leaders of Brazil, China, India, Mexico, and South Africa and by the heads of the International Energy Agency, International Monetary Fund, United Nations, World Bank, and the World Trade Organisation.

We have issued a statement setting out our common purpose in tackling **climate change, promoting clean energy and achieving sustainable development**.

All of us agreed that **climate change** is happening now, that human activity is contributing to it, and that it could affect every part of the globe.

We know that, globally, **emissions must slow, peak and then decline**, moving us towards a low-carbon economy. **This** will require leadership from the developed world.

We resolved to take **urgent action** to meet the challenges we face. The **Gleneagles Plan of Action** which we have agreed demonstrates our commitment. We will take measures to develop markets for clean energy technologies, to increase their availability

in developing countries, and to help vulnerable communities adapt to the impact of **climate change**.

We warmly welcomed the involvement of the leaders of the emerging economy countries in our discussions, and their ideas for new approaches to international co-operation on **clean energy technologies** between the developed and developing world.

Our discussions mark the beginning of a new Dialogue between the G8 nations and other countries with significant energy needs, consistent with the aims and principles of the **UN Framework Convention on Climate change**. This will explore how best to exchange technology, **reduce emissions, and meet our energy needs in a sustainable way**, as we implement and build on the **Plan of Action**.

We will advance the global effort to tackle **climate change** at the **UN Climate change Conference in Montreal** later this year. Those of us who have ratified the **Kyoto Protocol** remain committed to it, and will continue to work to make it a success.

Climate Change, Clean Energy and Sustainable Development:

1. We face serious and linked challenges in tackling **climate change**, promoting clean energy and achieving **sustainable development** globally.

(a) **Climate change** is a serious and long-term challenge that has the potential to affect every part of the globe. We know that increased need and use of energy from fossil fuels, and other human activities, contribute in large part to increases in **greenhouse gases** associated with the **warming** of our Earth's surface. While uncertainties remain in our understanding of **climate science**, we know enough to act now to put ourselves on a path to slow and, as the science justifies, stop and then reverse the growth of **greenhouse gases**.

(b) Global energy demands are expected to grow by 60% over the next 25 years. This has the potential to cause a significant increase in **greenhouse gas emissions** associated with **climate change**.

2. We will act with resolve and urgency now to meet our shared and multiple objectives of reducing **greenhouse gas emissions**, improving the global environment, enhancing energy security and cutting air pollution in conjunction with our vigorous efforts to reduce poverty.

3. It is in our global interests to work together, and in partnership with major emerging economies, to find ways to achieve substantial reductions in **greenhouse gas emissions** and our other key objectives, including the promotion of low-emitting energy systems. The world's developed economies have a responsibility to act.

4. We reaffirm our commitment to the UNFCCC and to its ultimate objective to stabilise **greenhouse gas** concentrations in the atmosphere at a level that prevents dangerous anthropogenic interference with the **climate** system. We reaffirm the importance of the work of the Intergovernmental Panel on **Climate change** and look forward to its 2007 report.

5. We face a moment of opportunity. Over the next 25 years, an estimated \$16 trillion will need to be invested in the world's energy systems. According to the IEA, there are

significant opportunities to invest this capital cost-effectively in cleaner energy technologies and energy efficiency. Because decisions being taken today could lock in investment and increase **emissions** for decades to come, it is important to act wisely now.

6. We will, therefore take further action to:

(a) promote innovation, energy efficiency, conservation, improve policy, regulatory and financing frameworks; and accelerate deployment of cleaner technologies, particularly **lower-emitting** technologies

(c) raise awareness of **climate change** and our other multiple challenges, and the means of dealing with them; and make available the information which business and consumers need to make better use of energy and reduce **emissions**.

7. Adaptation to the effects of **climate change** due to both natural and human factors is a high priority for all nations, particularly in areas that may experience the most significant change, such as the Arctic, the African Sahel and other semi-arid regions, low-lying coastal zones, and small island states also subject to subsidence. As we work on our own adaptation strategies, we will work with developing countries on building capacity to help them improve their resilience and integrate adaptation goals into **sustainable development** strategies.

8. Tackling **climate change** and promoting clean technologies, while pursuing energy security and **sustainable development**, will require a global concerted effort over a sustained period.

9. We therefore agree to take forward a Dialogue on **Climate change**, Clean Energy and **Sustainable Development**, and invite other interested countries with significant energy needs to join us. We will:

(b) monitor implementation of the commitments made in the **Gleneagles Plan of Action** and explore how to build on this progress; and

10. We will ask our Governments to take the **Dialogue** forward. We welcome Japan's offer to receive a report at the G8 Summit in 2008.

11. We will **work with** appropriate partnerships, institutions and initiatives including the International Energy Agency (IEA) and World Bank:

12. Following the success of the Energy and Environment Ministerial Roundtable held in London in March, the UK will hold meetings to take the **Dialogue** forward in the second half of this year, including by identifying specific implementation plans for carrying out each of the commitments under the **Plan of Action**.

14. We acknowledge that the UNFCCC is the appropriate forum for negotiating future action on **climate change**. Those of us who have ratified the Kyoto Protocol welcome its entry into force and will work to make it a success.

15. We will work together to advance the goals and objectives we have agreed today to inform the work of the UN **Climate change** Conference in Montreal 2005. We are committed to move forward in that forum the global discussion on long-term co-operative action to address **climate change**.

Gleneagles Plan of Action: Climate change, Clean Energy and Sustainable Development:

1. We will take forward actions in the following key areas:

- Transforming the way we use energy
- Powering a cleaner future
- Promoting research and development
- Financing the transition to cleaner energy
- Managing the impact of climate change
- Tackling illegal logging

Transforming the Way We Use Energy

2. Improvements to energy efficiency have benefits for economic growth and the environment, as well as co-benefits such as reducing **greenhouse gas emissions**, preventing pollution, alleviating poverty, improving security of energy supply, competitiveness and improving health and employment.

Surface Transport

7. We will encourage the development of cleaner, more efficient and **lower-emitting** vehicles, and promote their deployment, by:

- (a) adopting ambitious policies to encourage sales of such vehicles in our countries, including making use of public procurement as appropriate to accelerate market development;
- (b) asking the IEA to review existing standards and codes for vehicle efficiency and identify best practice;
- (c) encouraging co-operation on technology research, development and, where relevant, deployment in areas including cleaner gasoline and diesel technologies, biofuels, synthetic fuels, hybrid technology, battery performance and hydrogen-powered fuel cell vehicles;
- (d) continuing our discussions on these issues at the United Kingdom's international conference in November on cleaner, more efficient vehicles; and
- (e) raising consumer awareness of the environmental impact of their vehicle choices, including through clear and consistent labelling for relevant energy consumption, efficiency and exhaust **emissions** data, and encouraging the provision of clearer information on the result of driving behaviour and choices for mode of transport.

Aviation

8. We will:

- (a) undertake a programme of collaborative work to explore and accelerate the potential for operational advances (including air traffic control and ground operations) that will continue to enhance safety, improve fuel efficiency and reduce **emissions** in air transport;

(b) work with the IPCC to provide, as part of its forthcoming Fourth Assessment Report, an up-to-date assessment of the latest evidence on aviation's impacts on the **climate**;

(c) support **climate** science research, aimed at improving our understanding of specific issues such as contrails and cirrus cloud effects, to inform technological and operational responses;

(d) encourage co-ordination among our existing national research programmes on long-term technology developments with the potential to significantly **reduce emissions**.

Industry

9. We will:

(c) develop partnerships, including sectoral and cross-border partnerships, with industry to **reduce the greenhouse gas emissions** intensity of the major industrial sectors of our economies; and

(d) continue to support the work of the **UNFCCC** clearing house on technology transfer TT: Clear in disseminating information on available technologies, and cooperate further on sharing information on best practices and national policies to encourage the deployment of energy efficiency technologies.

Powering a Cleaner Future

11. To respond to the scale of the challenges we face, we need to diversify our energy supply mix, including increased use of renewables. Fossil fuels will continue to be an important part of the global energy mix, and we will need to find ways to manage the associated air pollution and **greenhouse gas emissions**. We need to capitalise on all the opportunities available to improve the efficiency along the entire process chain, from extraction, to energy generation and transmission, and to maximise the large and untapped potential of lower-emitting alternative sources of energy.

Cleaner Fossil Fuels

13. We will support efforts to make electricity generation from coal and other **fossil fuels** cleaner and more efficient by:

(b) inviting the IEA to carry out a global study of recently constructed plants, building on the work of its Clean Coal Centre, to assess which are the most cost effective and have the highest efficiencies and **lowest emissions**, and to disseminate this information widely; and

14. We will work to accelerate the development and commercialization of **Carbon Capture and Storage** technology by:

(a) endorsing the objectives and activities of the **Carbon Sequestration Leadership Forum** (CSLF), and encouraging the Forum to work with broader civil society and to address the barriers to the public acceptability of CCS technology;

(b) inviting the IEA to work with the CSLF to hold a workshop on short-term opportunities for CCS in the fossil fuel sector, including from Enhanced Oil Recovery and CO₂ removal from natural gas production;

- (c) inviting the IEA to work with the CSLF to study definitions, costs, and scope for ‘capture ready’ plant and consider economic incentives;
 - (d) collaborating with key developing countries to research options for geological CO2 storage; and
 - (e) working with industry and with national and international research programmes and partnerships to explore the potential of CCS technologies, including with developing countries.
15. We will encourage the capture of methane, a powerful greenhouse gas, by:

Financing the Transition to Cleaner Energy

21. Positive investment climates and effective market models are critical to the uptake of new technologies and increased access to energy for economic growth. We recognise that there are a range of tools to support a market-led approach to cleaner technology and energy resources and that each country will select those appropriate to its national circumstances.

22. We will:

(a) support a market-led approach to encouraging energy efficiency and accelerating investment and the deployment of cleaner technologies which will help transition to a low-emission future;

(b) adopt, where appropriate market-based policy frameworks which:

- support re-investment in capital stock turnover;
- remove barriers to direct investment;
- leverage private capital for clean development;
- use standards, or use pricing and regulatory signals

to provide confidence in the near- and long-term value of investments, so as to reduce **emissions of greenhouse gases** and / or pollutants.

(c) We will promote dialogue on the role, suitability, potential synergies and timing of various policy approaches within the context of each country’s national circumstances, including:

- developing long-term sectoral, national or international policy frameworks including goals;
- market-based instruments including fiscal or other incentives for the development and deployment of technologies, tradable certificates and trading of credits for reductions of emissions of greenhouse gases or pollutants; and
- project-based and voluntary offset mechanisms.

23. Those of us who have ratified the **Kyoto Protocol** will

(a) work to strengthen and develop the implementation of the market mechanisms (including Joint Implementation, international **emissions** trading and the Clean Development Mechanism); and

(b) use our best endeavours to ensure that the CDM Executive Board and related institutions to support **emissions** trading are adequately funded by the end of 2005.

24. We acknowledge the valuable role of the **Global Environment Facility** in facilitating co-operation with developing countries on cleaner, more efficient energy systems, including renewable energy, and look forward to a successful replenishment this year, along with the successful conclusion of all outstanding reform commitments from the third replenishment.

25. We will invite the World Bank and other multilateral development banks (MDBs) to increase dialogue with borrowers on energy issues and put forward specific proposals at their annual meetings to:

(c) work with interested borrower countries with significant energy requirements to identify less **greenhouse gas** intensive growth options which meet their priorities; and ensure that such options are integrated into Country Assistance Strategies.

(d) develop local commercial capacity to develop and finance cost-effective projects that promote energy efficiency and low-**carbon** energy sources.

28. We will build on the work in other fora, including the **UNFCCC** Experts Group on Technology Transfer, to support necessary capacity building, enabling environments and information dissemination.

Managing the impact of climate change

30. We reaffirm the importance of the Intergovernmental Panel on **Climate change** and welcome the extensive analysis of research being undertaken to complete its Fourth Assessment Report by 2007.

31. All countries need further access to information and to develop the scientific capacity that will allow their governments to integrate **climate**, environmental, health, economic and social factors into development planning and resilience strategies. We note that Africa's data deficiencies are greatest and warrant immediate attention.

32. We note the work of the **UNFCCC** in supporting developing countries to improve their capacity for adaptation and mitigation, including through the adaptation priority of the Global Environment Facility.

33. We look forward to further discussions on how development and energy strategies can be strengthened to build resilience to **climate** impacts, including at the Millennium Review Summit in September 2005.

Monitoring and Data Interpretation

34. The G8 made a commitment at Evian to strengthen international cooperation on global Earth observations. We will continue to exercise leadership in this area, and welcome the adoption of the 10-year implementation plan for development of the **Global Earth Observation System of Systems (GEOSS)** at the Third Earth Observations Summit which took place in Brussels in February this year. We will:

(a) move forward in the national implementation of **GEOSS** in our member states;

(b) support efforts to help developing countries and regions obtain full benefit from GEOSS, including from the Global **Climate** Observing System (GCOS) such as placement of observational systems to fill data gaps, developing of in-country and regional capacity for analysing and interpreting observational data, and development of decision-support systems and tools relevant to local needs;

(c) in particular, work to strengthen the existing **climate** institutions in Africa, through GCOS, with a view to developing fully operational regional **climate** centres in Africa.

Tackling Illegal Logging

36. We recognise the impacts that illegal logging has on the livelihoods of many in the poorest countries in Africa and elsewhere, on environmental degradation, **biodiversity** loss and deforestation and hence global **sustainable development**. We particularly recognise the importance of global **carbon sinks**, including the Congo Basin and the Amazon.

2006 St. Petersburg, Russia

Chair's Summary:

Global Energy Security

We adopted the St.Petersburg Plan of Action to enhance global energy security through efforts to increase transparency, predictability and stability of the global energy markets, improve the investment **climate** in the energy sector, promote energy efficiency and energy saving, diversify energy mix, ensure physical safety of critical energy infrastructure, reduce energy poverty and address **climate change** and **sustainable development**.

We reaffirmed our commitments to meet the objectives of **reducing greenhouse gas emissions and dealing with climate change**, including through promoting an inclusive dialogue on further action in the future.

Global Energy Security

2. To tackle this overarching goal we have to deal with serious and linked challenges such as:

- the need to protect the environment and to tackle climate change;

5. We will pursue energy security through a comprehensive and concerted approach consistent with our common environmental goals. Last year in Gleneagles, we agreed to enhance our work under the **Plan of Action for Climate change, Clean Energy and Sustainable Development** and resolved to take forward the dialogue on these issues whose results will be reported at the 2008 G8 Summit in Japan. We reaffirm this commitment.

We also reaffirm our commitment to the **United Nations Framework Convention on Climate change (UNFCCC)** and to meet our shared multiple objectives of **reducing greenhouse gas emissions**, improving the **global environment**,

enhancing energy security, and **cutting air pollution** in conjunction with our vigorous efforts to reduce energy poverty. We also agree to work to improve access to energy in developing countries.

6. Recognizing the shared interest of energy producing and consuming countries in promoting global energy security, we, the Leaders of the G8, commit to:

- environmentally sound development and use of energy, and deployment and transfer of clean energy technologies which help to tackle climate change;

St. Petersburg Plan of Action: Global Energy Security

1. We reaffirm our commitment to implement and build upon the agreements related to energy reached at previous G8 summits. We will enhance global energy security through actions in the following key areas:

- increasing transparency, predictability and stability of global energy markets;
- improving the investment climate in the energy sector;
- enhancing energy efficiency and energy saving;
- diversifying energy mix;
- ensuring physical security of critical energy infrastructure;
- reducing energy poverty;
- **addressing climate change and sustainable development.**

15. Energy saved is energy produced and is often a more affordable and **environmentally responsible** option to meet the growing energy demand. Efforts to improve energy efficiency and energy saving contribute greatly to lowering the energy intensity of economic development thus strengthening global energy security. Increased energy efficiency and conservation reduce stress on infrastructure and contribute to a **healthier environment through decreased emission of greenhouse gases and pollutants.**

16. We will move forward with timely implementation of the **Gleneagles Plan of Action**. We have instructed our relevant ministers to continue the **Dialogue on Climate change, Clean Energy and Sustainable Development** and report its outcomes to the G8 Summit in 2008. We call upon other states, especially fast-growing developing economies, to join the corresponding G8 initiatives. These outcomes can also be relevant to the dialogue on long-term cooperation to **address climate change under the UNFCCC**. Those of us who have ratified the **Kyoto Protocol** recognize the role of its flexibility mechanisms in promoting energy efficiency. It is important to engage the private sector and other stakeholders in achieving these ends.

21. Since 2/3 of world oil is consumed by the transportation sector and its fuel consumption is outpacing general energy consumption we will pay special attention to this sector of energy demand. For making transportation more energy efficient and environmentally advanced we shall:

continue to consider the impact of the air transport sector on energy consumption and **greenhouse gas emissions** noting international cooperation on these issues.

29. Those of us who have or are considering plans relating to the use and/or development of safe and secure nuclear energy believe that its development will contribute to global energy security, **while simultaneously reducing harmful air pollution and addressing the climate change** challenge:

27. We recognize that G8 members pursue different ways to achieve energy security and **climate protection** goals.

29. Those of us who have or are considering plans relating to the use and/or development of safe and secure nuclear energy believe that its development will contribute to global energy security, while simultaneously reducing harmful air pollution and addressing the **climate change challenge**:

33. A large-scale use of renewable energy will make a significant contribution to long-term energy supply without adverse impact on **climate**. The renewable solar, wind, hydro, biomass, and geothermal energy resources are becoming increasingly cost competitive with conventional fuels, and a wide variety of current applications are already cost-effective. Therefore, we reaffirm our commitment to implement measures set out in the **Gleneagles Plan of Action**.

36. We shall promote international cooperation in the area of forest management, primarily in addressing deforestation and forest degradation, the trade in illegally harvested timber and forest fires. We note that deforestation has a significant impact on **climate change** (resulting, according to the Food and Agriculture Organization of the United Nations (FAO), in an actual 25% increase in yearly **greenhouse gas emissions**). We reaffirm the importance of tackling illegal logging and agree to take further action, with each country taking steps where it can contribute most effectively. This should include the promotion of sustainable forest management and the incorporation of appropriate measures to address illegal logging in relevant national policies of both timber-producing and consuming countries. We welcome recent international forest-related policy initiatives including the St. Petersburg Ministerial Conference Declaration on Forest Law Enforcement and Governance in Europe and North Asia, and initiatives of the United Nation Forum on Forests (UNFF), UNFCCC, the International Tropical Timber Organization (ITTO) and Asia Forest Partnership (AFP).

38. Despite the increased role of alternative sources in the energy mix, hydrocarbons are expected to continue to play a leading role in total energy consumption well into this century. Therefore we will work with the private sector to accelerate utilization of innovative technologies that advance more efficient hydrocarbon production and reduce the environmental impact of its production and use. These include technologies for deep-sea oil and gas production, oil production from bitumen sands, clean coal technologies, including **carbon capture and storage**, extraction of gas from gas-hydrates and production of synthetic fuel.

53. We reaffirm our intention to deliver on commitments made in Gleneagles in order to meet our shared and multiple objectives of reducing **greenhouse gas emissions**,

improving the global environment, enhancing energy security and cutting air pollution in conjunction with our vigorous efforts to reduce poverty. We also affirm our commitment to the UNFCCC's ultimate objective of stabilizing **greenhouse gas** concentrations in the atmosphere at a level that prevents dangerous anthropogenic interference with the **climate** system.

We will continue to work to **reduce greenhouse gas** and deal effectively with the **challenge of climate change**.

We are undertaking a number of approaches to deal with the interrelated challenges of energy security, air pollution control, and **reducing greenhouse gas associated** with long-term global **climate change**. With respect to **climate change**, we reaffirm our shared commitment under the UNFCCC and its related mechanisms.

Those of us committed to making the **Kyoto Protocol** a success underline the importance we attach to it, view Clean Development Mechanism and the Joint Implementation Mechanism as central elements of this, and look forward to the process to develop it further.

Some or all of us are participating in the following other initiatives to address these challenges: Asia-Pacific Partnership on Clean Development and **Climate**, the Methane to Markets Partnership, the International Partnership for the Hydrogen Economy, the **Carbon Sequestration Leadership Forum**, the Renewable Energy and Energy Efficiency Partnership and the Global Bio-Energy Partnership.

We welcome the progress made at the **XI Conference of the Parties to the UNFCCC** (Montreal, December 2005) where we committed to engage in a dialogue on long-term cooperative action to address **climate change** by enhancing implementation of the convention; and the progress made at the **UN Climate change** meeting last May in Bonn.

We reaffirm the importance of the work of the **Intergovernmental Panel on Climate change (IPCC)** and look forward to its 2007 report.

All these undertakings are the foundation of our current efforts to address **climate change**, and will form the basis of an inclusive dialogue on further action in the future, including the period beyond 2012.

54. We welcome the progress made by the World Bank and the IEA on developing a framework for clean energy and **sustainable development** and on identifying alternative energy scenarios and strategies to support and implement elements of the **Gleneagles Plan of Action**.

55. We welcome the progress made at the first meeting of the **Gleneagles Dialogue on Climate change, Clean Energy and Sustainable Development**, held on 1 November last year. We look forward to the next Ministerial meeting in Mexico in October 2006, where we will continue to identify opportunities for greater collaboration to tackle **climate change**, while pursuing energy security and **sustainable development** through deployment of cleaner, more efficient and low-**carbon** energy technologies, finance and market mechanisms, including, as appropriate, Clean Development Mechanism, Joint Implementation, **emissions** trade, and adaptation.

2007 Heiligendamm, Germany

Chair's Summary

1. We met at Heiligendamm to address key challenges of the world economy, **climate change** and Africa. Under the core theme of the German G8 Presidency “Growth and Responsibility” we addressed economic, social and environmental aspects of the political shaping of globalization. In particular, we addressed the role of major emerging economies in the world today. We agreed on the benefits of a closer cooperation.

7. **Climate change, Energy Efficiency and Energy Security:** Combating **climate change** is one of the major challenges for mankind and it has the potential to seriously damage our natural environment and the global economy. We noted with concern the recent IPCC report and its findings. We are convinced that urgent and concerted action is needed and accept our responsibility to show leadership in tackling **climate change**. In setting a global goal for **emissions** reductions in the process we have agreed in Heiligendamm involving all major **emitters**, we will consider seriously the decisions made by the European Union, Canada and Japan which include at least a halving of global **emissions** by 2050. We have agreed that the UN climate process is the appropriate forum for negotiating future global action on **climate change**. We are committed to moving forward in that forum and call on all parties to actively and constructively participate in the UN **Climate change** Conference in Indonesia in December 2007 with a view to achieving a comprehensive post 2012-agreement (post Kyoto-agreement) that should include all major **emitters**. To address the urgent challenge of **climate change**, it is vital that the major emitting countries agree on a detailed contribution for a new global framework by the end of 2008 which would contribute to a global agreement under the UNFCCC by 2009. We reiterate the need to engage major emitting economies on how best to address the challenge of **climate change**. We stress that further action should be based on the UNFCCC principle of common but differentiated responsibilities and capabilities. Technology, energy efficiency and market mechanisms, including emission trading systems or tax incentives, are key to mastering **climate change** as well as enhancing energy security. We reaffirmed the energy security principles we agreed at St. Petersburg. In our discussion with the emerging economies we agreed that energy efficiency and technology cooperation will be crucial elements of our follow-up dialogue.

Growth and Responsibility in World Economy

Climate change, Energy Efficiency and Energy Security — Challenge and Opportunity for World Economic Growth

40. Humanity today faces the key interlinked challenges of avoiding dangerous climate change and ensuring secure and stable supplies of energy. Since we met in Gleneagles, science has more clearly demonstrated that climate change is a long-term challenge that has the potential to seriously damage our natural environment and the global economy. We firmly agree that resolute and concerted international action is urgently needed in order to reduce global greenhouse gas emissions and increase energy security. Tackling climate change is a shared responsibility of all, and can and must be undertaken in a way

that supports growth in developing, emerging and industrialised economies, while avoiding economic distortions.

41. We recognise the important opportunities offered by effective action addressing **climate change**, in particular for innovation, technological development as well as poverty reduction. Strong economies together with a wide range of policy instruments such as market-based mechanisms, including **emissions**-trading, tax incentives, and regulatory measures as well as technology cooperation and a shared long-term vision, are key to guide investment decisions, to generate technology commercialisation, to enhance energy security, to promote **sustainable development** and to slow, stabilize and then significantly cut global **emissions** of **greenhouse gases**.

42. We are committed to take strong leadership in combating **climate change**. We confirm our determination to work among ourselves and with the global community on global solutions that address **climate change** while supporting growth and economic development. We commit ourselves to implement approaches which optimally combine effective climate protection with energy security. To this end, we are committed to the further development of the international regime to combat **climate change**, especially in the run-up to the UN **Climate change** Conference in Indonesia at the end of this year. Addressing **climate change** is a long-term issue that will require global participation and a diversity of approaches to take into account differing circumstances.

44. Energy has been a major field of action for the G8, not least in recent years. We recall that after focusing on resource efficiency in a broader sense (in particular the 3R Initiative) following the Evian and Sea Island Summits, the **Gleneagles G8-Action Plan** dealt intensively with clean energy. At the St. Petersburg Summit we adopted ground-breaking decisions on energy security and committed ourselves to a set of agreed areas of cooperation, inter alia to increase transparency, predictability and stability of global energy markets, improving investment climate in the energy sector, enhance energy efficiency, diversify the energy mix, ensure the security of critical energy infrastructure, reduce energy poverty and address **climate change**. To maintain the momentum of those achievements we herewith strongly reaffirm our commitment to Global Energy Security Principles, including our commitment to enhance dialogue on relevant share holders' perspectives on growing interdependence, security of supply and demand issues, facilitate diversification of different types of contracts, including market-based long-term and spot contracts, promote investment in upstream and downstream assets internationally, support the principles of the Energy Charter and the efforts of the participating countries to improve international energy co-operation.

46. This year we have focussed our discussions on energy efficiency in order to make an effective contribution towards meeting global climate and energy security challenges. Improving energy efficiency worldwide is the fastest, the most sustainable and the cheapest way to reduce greenhouse gas **emissions** and enhance energy security.

47. We welcome the progress made so far at the meetings of the **Gleneagles Dialogue on Climate change**, Clean Energy and **Sustainable Development**, held in the United Kingdom in 2005 and Mexico in 2006. We also welcome the intentions of Germany and Japan to host the Dialogue meetings during their G8 Presidencies. We look

forward to receiving a report of the *Dialogue at the G8 Summit next year under the Japanese G8 Presidency*.

Climate Change

48. We take note of and are concerned about the recent UN Intergovernmental Panel on **Climate change** (IPCC) reports. The most recent report concluded both, that global temperatures are rising, that this is caused largely by human activities and, in addition, that for increases in global average temperature, there are projected to be major changes in ecosystem structure and function with predominantly negative consequences for **biodiversity** and ecosystems, e.g. water and food supply.

Fighting Climate Change

49. We are therefore committed to taking strong and early action to tackle **climate change** in order to stabilize greenhouse gas concentrations at a level that would prevent dangerous anthropogenic interference with the climate system. Taking into account the scientific knowledge as represented in the recent IPCC reports, global greenhouse gas **emissions** must stop rising, followed by substantial global emission reductions. In setting a global goal for **emissions** reductions in the process we have agreed today involving all major **emitters**, we will consider seriously the decisions made by the European Union, Canada and Japan which include at least a halving of global **emissions** by 2050.

We commit to achieving these goals and invite the major emerging economies to join us in **this endeavour**.

50. As **climate change** is a global problem, the response to it needs to be international. We welcome the wide range of existing activities both in industrialised and developing countries. We share a long-term vision and agree on the need for frameworks that will accelerate action over the next decade. Complementary national, regional and global policy frameworks that co-ordinate rather than compete with each other will strengthen the effectiveness of the measures. Such frameworks must address not only **climate change** but also energy security, economic growth, and **sustainable development** objectives in an integrated approach. They will provide important orientation for the necessary future investment decisions.

51. We stress that further action should be based on the UNFCCC principle of common but differentiated responsibilities and respective capabilities. We reaffirm, as G8 leaders, our responsibility to act. We acknowledge the continuing leadership role that developed economies have to play in any future **climate change** efforts to reduce global **emissions**, so that all countries undertake effective climate commitments tailored to their particular situations. We recognise however, that the efforts of developed economies will not be sufficient and that new approaches for contributions by other countries are needed. Against this background, we invite notably the emerging economies to address the increase in their **emissions** by reducing the **carbon** intensity of their economic development. Action of emerging economies could take several forms, such as **sustainable development** policies and measures, an improved and strengthened clean development mechanism, the setting up of plans for the sectors that generate most

pollution so as to reduce their greenhouse gas **emissions** compared with a business as usual scenario.

52. We acknowledge that the UN climate process is the appropriate forum for negotiating future global action on **climate change**. We are committed to moving forward in that forum and call on all parties to actively and constructively participate in the UN **Climate change** Conference in Indonesia in December 2007 with a view to achieving a comprehensive post 2012-agreement (post Kyoto-agreement) that should include all major **emitters**.

53. To address the urgent challenge of **climate change**, it is vital that major economies that use the most energy and generate the majority of greenhouse gas **emissions** agree on a detailed contribution for a new global framework by the end of 2008 which would contribute to a global agreement under the UNFCCC by 2009. We therefore reiterate the need to engage major emitting economies on how best to address the challenge of **climate change**. We embrace efforts to work with these countries on long-term strategies. To this end, our representatives have already met with the representatives of Brazil, China, India, Mexico and South Africa in Berlin on 4 May 2007. We will continue to meet with high representatives of these and other major energy consuming and greenhouse gas emitting countries to consider the necessary components for successfully combating **climate change**. We welcome the offer of the United States to host such a meeting later this year. This major **emitters'** process should include, inter alia, national, regional and international policies, targets and plans, in line with national circumstances, an ambitious work program within the UNFCCC, and the development and deployment of climate-friendly technology. This dialogue will support the UN climate process and report back to the UNFCCC.

Technology

54. Technology is a key to mastering **climate change** as well as enhancing energy security. We have urgently to develop, deploy and foster the use of sustainable, less **carbon** intensive, clean energy and climate-friendly technologies in all areas of energy production and use. We have to develop and create supportive market conditions for accelerating commercialisation of new less **carbon** intensive, clean-energy and climate-friendly technologies. Furthermore, to ensure sustainable investment decisions worldwide, we need an expanded approach to collaboratively accelerate the widespread adoption of clean-energy and climate-friendly technologies in emerging and developing economies. Therefore, we will

- undertake strategic planning and develop technology roadmaps to strengthen the role of advanced technology in addressing **climate change**.

Market Mechanisms

55. Private sector investment is and will remain the primary means of technology deployment and diffusion. Strong economies and a wide range of policy instruments are required to develop, deploy and foster climate-friendly technologies. Market mechanisms, such as **emissions**-trading within and between countries, tax incentives, performance-based regulation, fees or taxes, and consumer labelling can provide pricing signals and have the potential to deliver economic incentives to the private sector.

Fostering the use of clean technologies, setting up **emissions**-trading systems and, as many of us are doing, linking them are complementary and mutually reinforcing approaches. Therefore, we will share experience on the effectiveness of the different policy instruments in order to...

Reducing Emissions by Curbing Deforestation

56. We are determined to assist in reducing **emissions** from deforestation, especially in developing countries. Reducing, and in the long term halting deforestation provides a significant and cost-effective contribution toward mitigating greenhouse gas **emissions** and toward conserving biological diversity, promoting sustainable forest management and enhancing security of livelihoods. To this end, we will

encourage the establishment of a pilot project dedicated to building capacity, creating and testing performance-based instruments to reduce **emissions** from deforestation in developing countries, in support of and without prejudice to on going UN **climate change** discussions. We therefore encourage the World Bank, in close cooperation with the G8, developing countries, the private sector, NGOs and other partners, to develop and implement such a forest **carbon** partnership as soon as possible.

Adapting to Climate Change

58. We acknowledge that even implementing the ambitious mitigation steps described above will not avoid further climate impacts, especially in those developing countries and regions which are most vulnerable to **climate change**. We are committed to enhancing resiliency to climate variability and **climate change** in a way that fully supports our common goal of **sustainable development**. We welcome the adoption of the Nairobi work programme on impacts, vulnerability, and adaptation to **climate change**. We also note the importance of the UN adaptation funds in helping developing countries mainstream adaptation into policies and programming. We emphasise our willingness to continue and enhance cooperation with and support for developing countries in adapting to **climate change** and enhancing their resilience to climate variability, in particular those most vulnerable to the negative impacts of **climate change**. We also emphasise our willingness to work with developing countries on the costs and benefits of **climate change** adaptation measures to help integrating them in national development planning. We reaffirm our commitment to assist with climate research and risk assessments including through helping developing countries benefit from satellite observation systems.

59. We will also endeavour under the Montreal Protocol to ensure the recovery of the ozone layer by accelerating the phase-out of HCFCs in a way that supports energy efficiency and **climate change** objectives. In working together toward our shared goal of speeding ozone recovery, we recognize that the Clean Development Mechanism impacts **emissions** of ozone-depleting substances. We will continue to exercise leadership in the development of the Global Earth Observation System of Systems (GEOSS).

60. We will report on the progress achieved in **the areas mentioned** above at the G8 Summit in 2008.

Energy Efficiency

62. The global potential for saving energy is huge. According to the International Energy Agency, successfully implemented energy efficiency policies could contribute to 80% of avoided **greenhouse gases** while substantially increasing security of supply.

63. We recognise that enhanced international cooperation offers enormous opportunities. Against this background we are committed to further strengthening and increasing our efforts of co-operation, both at inter-state level as well as within the framework of the respective international fora and organisations.

To this end, we will

- move forward with implementing the **Gleneagles and St. Petersburg Action Plans**, thereby retaining and supporting the IEA's close involvement;
- note the EU's proposal for an international agreement on energy efficiency and ask the **Gleneagles Dialogue on Climate change**, Clean Energy and **Sustainable Development** and the IEA to explore the most effective means to promote energy efficiency internationally, including through the exchange of best practices, sharing methodologies and further cooperation and by inviting other countries with significant energy needs to join;
- promote international research, encourage investment and development co operation aimed at energy efficient technologies and other **greenhouse gas** mitigation options;

Sustainable Buildings

67. The opportunities for making buildings more efficient are enormous. Following the EU/G8 conference on energy efficiency, held in Berlin in April 2007, we will

- set up a "Sustainable Buildings Network", involving the G8 and open for participation of the major emerging economies. The network will develop practical instruments for assessing and advising on the implementation of energy efficiency in buildings and the use of renewable energies, especially for cooling and heating, taking into due consideration the different situations of new and existing buildings, and development and deployment of low and zero-**carbon** buildings,

Transportation

68. Today there are 600 million motor vehicles around the globe, a figure which is projected to double by 2020. With this in mind, we will

- work to increase energy efficiency in the transport sector. To this end we will ask our governments to foster a large number of possible measures and various instruments that can clearly reduce energy demand and **CO2 emissions** in the transport sector, including inter alia innovative engine concepts, alternative fuels, city planning measures, public transport, best possible inter-linkage of transport methods, increase the share of alternative fuels and energy carriers (biofuels, hydrogen, LPG/CNG, electricity, hybrid, etc.) in total fuel consumption; fuel diversification, for example synthetic and cellulosic biofuels and **CO2-free** hydrogen, particularly in combination with the fuel cell, will be decisive in reducing transport **CO2 emissions**, provided that second generation biofuel technologies become commercially available,

- step up coordination on development of international biofuel quality standards from various feedstocks to achieve optimal interoperability and **emission profiles**,
- monitor the implementation of the necessary measures and discuss progress at two-year intervals during the **Environmentally Friendly Vehicles** Conference the results of which shall be reported to G8-leaders,

Power Generation

69. Over the next 25 years, fossil fuels will remain the world's dominant source of energy. Making power generation more efficient, **climate friendly** and sustainable is therefore crucial.

72. In recognition of the increasingly urgent needs to achieve longer term greenhouse gas abatement, we will work on accelerating development and deployment of **carbon capture and storage (CCS)**, including by

- prioritising national and international research and development efforts and encouraging international research and technology cooperation, to minimise efficiency losses of the different **carbon capture** technologies and to clarify geotechnical conditions for secure **CO2 storage**,
- supporting national and international geoscientific and political efforts in the field of **CCS** on ensuring security of storage and the provision of necessary legal frameworks to create a stable investment climate, thereby working in co operation with industry as well as national and international research programmes,
- reinforcing our commitment made under the **Gleneagles and St. Petersburg Plans of Action** to support the initiatives taken by IEA and **Carbon Sequestration Leadership Forum (CSLF)**,

Energy Diversification

75. Diversification of energy sources, markets, transportation routes and means of transport and types of energy is essential to energy security and to a low-**carbon** energy path. Increasing and varying our sources of energy helps to defuse the risks of disruption from any one source. Increasing the use of alternative sources of energy can over time greatly relieve pressure on markets for conventional fossil fuels and reduce the adverse environmental impacts of energy use.

76. Underlining the importance of energy diversification, and recognising that G8 members will choose different ways to achieve their energy diversity goals, we

- reaffirm our pledge at former summits regarding the peaceful use of nuclear energy. Those of us who have or are considering plans relating to the use and/or development of safe and secure nuclear energy believe that its development will contribute to global energy security, while simultaneously reducing harmful air pollution and addressing the **climate change** challenge.
- reaffirm our commitment to work towards the reduction or, where appropriate, the elimination of tariff and non-tariff barriers to environmental goods and services through

the WTO Doha negotiations, which will also help us to address our shared energy security and **climate** goals,

The “Heiligendamm Process” with Major Emerging Economies — High Level Dialogue Between G8 Member Countries and Brazil, China, India, Mexico and South Africa

96. We will initiate a new form of a topic-driven **Dialogue** in a structured manner based on this new partnership. We agreed to address four issues:

- Sharing knowledge for improving energy efficiency and technology cooperation with the aim to contribute to reducing **CO2 emissions**, consistent with the **Gleneagles Dialogue on Climate change**, Clean Energy and **Sustainable Development**, and the St. Petersburg Plan of Action on Global Energy Security.

97. We ask the OECD to provide a platform for this new dialogue process, with the IEA being the relevant organisation in the field of energy efficiency. The **dialogue process** will begin in the second half of 2007. The G8 Summit in Japan in 2008 will receive an interim report on the progress made and at the G8 Summit in Italy in 2009 a final report on the outcomes of the **Dialogue Process** will be presented.

Growth and Responsibility in Africa

A Continent on the Move

4. We have agreed on a further set of measures to promote **sustainable development** in Africa. We will focus on promoting growth and investments in order to combat poverty and hunger, to foster peace and security, good governance and the strengthening of health systems, and to assist the fight against infectious diseases. We also recognize that the impacts of **climate change** in combination with other stresses present increased risks to **sustainable development** in Africa. To tackle these challenges, we are firmly determined to support a vibrant Africa through further strengthening our concerted efforts, as well as respective ones that are partly demonstrated by the African Partnership Forum, 24th Conference of African and French Heads of States in February, the EU-Africa Summit to be held this December, and the 4th Tokyo International Conference on African Development (TICAD) of next spring. All these efforts, involving relevant stakeholders as appropriate, will contribute to a seamless process leading to the G8 Summit of 2008 in Japan.

Ensuring Sustainable Investment

34. The G8 welcome the progress made on the elaboration of the Clean Energy Development and Investment Framework (CEDIF) and will work with the World Bank, the African Development Bank and other donors with a view to implementing the Energy Access Action Plan for Africa. We reaffirm our commitment made in Gleneagles to helping Africa strengthen its adaptive capacity on **climate change** and work with African countries in the context of their national development strategies.

Annex: Summary of G8 Africa Personal Representatives' Joint Progress Report on the G8 Africa Partnership

Management of Natural Resources

The G8 stressed the importance of working with developing countries on **climate change** issues and the implementation of adaptation strategies. The G8 will support facilitating the access to water and sanitation as well as energy. The G8 also need to assist in the transition to clean energy through support for the African components of the Clean Energy Investment Framework, and explore options to increase African participation in clean energy investment flows. The G8 support Africa in promoting sustainable, affordable and secure energy supply and energy use as well as cooperation towards sustainable management and **biodiversity** conservation.

Conclusions

We regard ourselves as strong partners for Africa and will continue to work at fulfilling our commitment towards Africa. African reforms will only be successful if backed by solid African ownership, at Pan-African, regional and national level. We want to develop this partnership further. We need to continue to work on mechanisms of cooperation, institutionally and instrumentally, in line with African ownership and the Paris Agenda approach. The APF should be established and further strengthened as the overarching high-level political dialogue forum to identify areas for joint action and act as a platform for mutual accountability. At the 8th APF in Berlin, we have jointly with our African partners discussed important recommendations regarding **climate change**, investment, peace and security as well as gender equality. We as APRs need to strengthen our collective action to fulfil the potential of the G8-Africa dialogue.

Joint Statement by the German G8 Presidency and the Heads of State and/or Government of Brazil, China, India, Mexico and South Africa on the Occasion of the G8 Summit in Heiligendamm

Fighting Climate Change:

We face serious challenges in tackling **climate change** and achieving **sustainable development** globally. We reaffirm our commitment to the United Nations Framework Convention on **Climate change** (UNFCCC) and to its objective through both mitigation and adaptation in accordance with our common but differentiated responsibilities and respective capabilities. On this basis and taking into account the scientific knowledge as represented in the recent IPCC reports, we remain committed to contribute our fair share to tackle **climate change** in order to stabilize green house gas concentrations at a level that would prevent dangerous anthropogenic interference with the climate system. To this end we need a flexible, fair and effective global framework and concerted international action. We underline the crucial role of economic incentives, in particular by **carbon** markets, for the necessary investments in climate friendly technologies at large scale. The adaptation to **climate change** will be a major challenge for all countries, in particular for developing countries, and means for adaptation need to be included in a future agreement along with enhanced technology cooperation and

financing. We call on all parties to actively and constructively participate in the negotiations on a comprehensive agreement at the UNFCCC Conference in Indonesia in December 2007.

2008 Hokkaido, Japan

Chair's Statement

Environment and Climate Change

We seek to share with all Parties to the UNFCCC the vision of, and together with them to consider and adopt in the UNFCCC negotiations, the goal of achieving at least 50% **reduction of global emissions** by 2050, recognizing that this global challenge can only be met by a global response, in particular, by the contributions from all major economies, consistent with the principle of common but differentiated responsibilities and respective capabilities. Substantial progress toward such a long-term goal requires the acceleration of the deployment of existing technologies and will depend on the development and deployment of low-carbon technologies.

We recognize that what the major developed economies do will differ from what major developing economies do. In this respect, we acknowledge our leadership role and each of us will implement ambitious economy-wide mid-term goals in order to achieve absolute **emissions reductions** and, where applicable, first stop the growth of **emissions** as soon as possible, reflecting comparable efforts among all developed economies, taking into account differences in their national circumstances. We will also help support the mitigation plans of major developing economies by technology, financing and capacity-building. At the same time, in order to ensure an effective and ambitious global post-2012 **climate** regime, all major economies will need to commit to meaningful mitigation actions to be bound in the international agreement to be negotiated by the end of 2009. Sectoral approaches are useful tools among others for achieving national **emission reduction** objectives.

We also discussed various issues such as improvement of energy efficiency, greater use of clean energy, adaptation, technology, finance, market-based mechanisms and tariff reduction. On energy efficiency, we welcomed the recent decision to establish the International Partnership for Energy Efficiency Cooperation (IPEEC). On renewables, we underscored the importance of sustainable biofuel production and use including science-based benchmarks and indicators and are committed to continuing research and development of second generation biofuel technologies. On nuclear, we witnessed that a growing number of countries have expressed their interests in nuclear power programs as a means to addressing **climate change** and energy security concerns. Japan proposed to launch an international initiative on 3S-based nuclear energy infrastructure. On adaptation, we agreed to continue and enhance cooperation with developing countries including by scaled up assistance in their efforts to adapt to **climate change**. On technology, we agreed to establish an international initiative to develop roadmaps for innovative technologies. We stressed the importance of research and development (R&D) and committed to increase investment in R&D. G8 members have so far pledged over the next several years over US\$ 10 billion annually. On finance, we welcomed and supported

the establishment of the Climate Investment Funds including the Clean Technology Fund (CTF) and the Strategic Climate Fund (SCF). G8 members have thus far pledged approximately US\$ 6 billion as an ODA contribution to the funds and welcome commitments from other donors. On market mechanisms, such as **emissions**-trading within and between countries, tax incentives, performance-based regulation, fees or taxes and consumer labeling, we recognized that they help to achieve **emission** reductions in a cost effective manner. We stressed that efforts in the WTO negotiations to eliminate tariffs and non-tariff barriers to environmental goods and services should be enhanced and consideration should be given to the reduction or elimination of trade barriers on a voluntary basis on these goods and services. We noted the significant progress made by the multilateral development banks on the Clean Energy Investment Framework (CEIF) and welcomed their joint level of ambition to mobilize public and private investments of over US\$ 100 billion.

We met with leaders of other major economies and endorsed the positive contribution of the Major Economies Leaders Meeting to the UNFCCC.

G8 Hokkaido Toyako Summit Leaders Declaration

22. We reconfirm the significance of the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (**IPCC**) as providing the most comprehensive assessment of the science and encourage the continuation of the science-based approach that should guide our **climate** protection efforts. We reaffirm our commitment to take strong leadership in combating **climate change** and in this respect, welcome decisions taken in Bali as the foundation for reaching a global agreement in the United Nations Framework Convention on Climate Change (**UNFCCC**) process by 2009. We are committed to its successful conclusion. Enhanced commitments or actions by all major economies are essential for tackling climate change. Therefore, we endorse the positive contribution of the Major Economies Leaders Meeting to the UNFCCC.

23. We are committed to avoiding the most serious consequences of **climate change** and determined to achieve the stabilization of atmospheric concentrations of global **greenhouse gases** consistent with the ultimate objective of Article 2 of the Convention and within a time frame that should be compatible with economic growth and energy security. Achieving this objective will only be possible through common determination of all major economies, over an appropriate time frame, to slow, stop and reverse global growth of **emissions** and move towards a low-**carbon** society. We seek to share with all Parties to the UNFCCC the vision of, and together with them to consider and adopt in the UNFCCC negotiations, the goal of achieving at least 50% reduction of global emissions by 2050, recognizing that this global challenge can only be met by a global response, in particular, by the contributions from all major economies, consistent with the principle of common but differentiated responsibilities and respective capabilities. Substantial progress toward such a long-term goal requires, inter alia, in the near-term, the acceleration of the deployment of existing technologies, and in the medium- and long-term, will depend on the development and deployment of low-**carbon** technologies in ways that will enable us to meet our sustainable economic development and energy security objectives. In this regard, we emphasize the importance and urgency of adopting

appropriate measures to stimulate development and deployment of innovative technologies and practices.

24. Making progress towards the shared vision, and a long-term global goal will require mid-term goals and national plans to achieve them. These plans may reflect a diversity of mitigation and adaptation approaches. Sectoral approaches are useful tools among others for achieving national **emission** reduction objectives. We look forward to discussing this issue with leaders of other major economies tomorrow and to continuing the discussions among the major economies and in the UNFCCC negotiations over the coming months. We recognize that what the major developed economies do will differ from what major developing economies do, consistent with the principle of common but differentiated responsibilities and respective capabilities. In this respect, we acknowledge our leadership role and each of us will implement ambitious economy-wide mid-term goals in order to achieve absolute **emissions** reductions and, where applicable, first stop the growth of emissions as soon as possible, reflecting comparable efforts among all developed economies, taking into account differences in their national circumstances. We will also help support the mitigation plans of major developing economies by technology, financing and capacity-building. At the same time, in order to ensure an effective and ambitious global post-2012 **climate** regime, all major economies will need to commit to meaningful mitigation actions to be bound in the international agreement to be negotiated by the end of 2009.

We emphasize the importance of expeditious discussions in the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO) for limiting or reducing GHG emissions in the international aviation and maritime sectors, bearing in mind the distinct processes under the UNFCCC toward an agreed outcome for the post-2012 period.

27. We promote clean energy, given its importance in tackling **climate change** and for the enhancement of energy security, by setting national goals and formulating action plans followed by appropriate monitoring. We believe that there are significant and growing economic and employment opportunities in this sector.

We recognize the important role of renewable energy in tackling **climate change** and in the long term reducing our dependency on fossil fuels.

28. We witness that a growing number of countries have expressed their interests in nuclear power programs as a means to addressing **climate change** and energy security concerns. These countries regard nuclear power as an essential instrument in reducing dependence on fossil fuels and hence **greenhouse gas emissions**. We reiterate that safeguards (nuclear nonproliferation), nuclear safety and nuclear security (3S) are fundamental principles for the peaceful use of nuclear energy. Against this background, an international initiative proposed by Japan on 3S-based nuclear energy infrastructure will be launched. We affirm the role of the International Atomic Energy Agency (IAEA) in this process.

29. Recognizing the linkage between the potential impacts of **climate change** and development, mitigation and adaptation strategies should be pursued as part of development and poverty eradication efforts. A successful global response to **climate change** requires a partnership between developing and developed countries. Developing

countries' efforts to put in place appropriate national mitigation and adaptation plans to build low **carbon, climate** resilient economies, should be supported by scaled up assistance from developed countries.

30. Recognizing that poorer countries are among the most vulnerable to the adverse impacts of **climate change**, we will continue and enhance cooperation with developing countries, in particular least developed countries (LDCs) and small island developing states, in their efforts to adapt to **climate change** including disaster risk reduction. To address this issue, we commit to support urgent actions to mainstream adaptation into broader development strategies and encourage developing countries themselves to integrate adaptation into their development policies. The early start of activities under the **UNFCCC** Adaptation Fund should make an important contribution in this respect. We call on the multilateral development banks and other development agencies to support countries in this endeavor.

31. We will establish an international initiative with the support of the IEA to develop roadmaps for innovative technologies and cooperate upon existing and new partnerships, including **carbon capture and storage (CCS)** and advanced energy technologies. Reaffirming our Heiligendamm commitment to urgently develop, deploy and foster clean energy technologies, we recognize and encourage a wide range of policy instruments such as transparent regulatory frameworks, economic and fiscal incentives, and public/private partnerships to foster private sector investments in new technologies. We strongly support the launching of 20 large-scale **CCS** demonstration projects globally by 2010, taking into account various national circumstances, with a view to beginning broad deployment of **CCS** by 2020.

We note the opportunity to promote research on complementary technological approaches which may contribute towards maintaining a stable **climate**.

To respond to the growing demand for Earth observation data, we will accelerate efforts within the Global Earth Observation System of Systems (GEOSS), which builds on the work of UN specialized agencies and programs, in priority areas, inter alia, **climate change** and water resources management, by strengthening observation, prediction and data sharing. We also support capacity building for developing countries in earth observations and promote interoperability and linkage with other partners.

32. Substantial finance and investments will be needed to meet the urgent challenges of mitigation, adaptation and access to clean energy in developing countries. While the main sources of finance will be the private sector, public resources are essential to help the poorest and to leverage private resources, notably by financing incremental costs and can be very effective in inducing emissions reduction when national policies provide incentives for low **carbon** investment. In this regard, we welcome and support the establishment of the Climate Investment Funds (CIF) including the Clean Technology Fund (CTF) and the Strategic Climate Fund (SCF), administered by the World Bank. G8 members have thus far pledged approximately US\$ 6 billion as an ODA contribution to the funds and welcome commitments from other donors. The CIF will scale up public and private finance. They will have broad-based and inclusive governance mechanisms and, as an interim measure, fill an immediate financial gap for urgent actions until a new financial architecture under the post-2012 regime is effective. The CTF will aim to

promote low-**carbon** economies by helping to finance deployment in developing countries of commercially available cleaner energy technologies through investments in support of credible national mitigation plans that include low-**carbon** objectives. The SCF will help more vulnerable countries develop climate-resilient economies and take actions to prevent deforestation, and could provide helpful lessons in the context of discussions on post-2012 financing arrangements. These funds will complement existing multilateral efforts, including the **Global Environmental Facility (GEF)**, which plays the key role as the main financial instrument of the **UNFCCC** and which we are committed to reinforcing. We also welcome various bilateral financial initiatives taken by G8 members, including public/private partnerships capable of generating additional investment. We expect such financial assistance to be delivered in a coordinated manner and encourage active engagement by developing countries in an effective post-2012 framework.

33. Market mechanisms, such as **emissions**-trading within and between countries, tax incentives, performance-based regulation, fees or taxes and consumer labeling can provide pricing signals and have the potential to deliver economic incentives to the private sector. We also recognize that they help to achieve emission reductions in a cost effective manner and to stimulate long-term innovation. We intend to promote such instruments in accordance with our national circumstances and share experience on the effectiveness of the different instruments. In this regard, we welcome the Action Plan for **Climate Change** to Enhance the Engagement of Private and Public Financial Institutions adopted by our Finance Ministers.

34. Efforts in the WTO negotiations to eliminate tariffs and non-tariff barriers to environmental goods and services should be enhanced with a view to disseminating clean technology and skills. Additionally, consideration should be given to the reduction or elimination of trade barriers on a voluntary basis on goods and services directly linked to addressing **climate change**. We also agree to encourage initiatives contributing to **climate change** mitigation including purchasing and investment policies and practices that promote and support the cleaner and more efficient products and services that can contribute to lower **carbon emissions**.

35. We welcome the final report of the **Gleneagles Dialogue on Climate Change, Clean Energy and Sustainable Development**. We also welcome the reports submitted by the IEA and the World Bank on their work related to the **Gleneagles Plan of Action** and continue to cooperate with those organizations. We value the useful exchange of views both between member countries and also business and civil society participants and acknowledge the role that further exchanges of this nature can play in supporting action on climate change and the **UNFCCC** process.

36. We encourage actions for **Reducing Emissions** from Deforestation and Forest Degradation in Developing Countries (REDD) including the development of an international forest monitoring network building on existing initiatives. Recognizing the urgent need to curb illegal logging and its associated trade, we welcome the G8 Forest Experts' Report on Illegal Logging. We will follow up, as appropriate, its preliminary list of options. We will make all possible efforts by ensuring close coordination among various fora and initiatives with a view to promoting effective forest law enforcement and

governance and sustainable forest management worldwide. We will also consider ways to enhance our cooperation to combat forest fires.

39. We promote Education for **Sustainable Development** (ESD) by supporting the UNESCO and other organizations in the field of ESD and through knowledge networks among relevant institutions including universities to encourage actions by the public leading to a more sustainable and low **carbon** society.

G8 Leaders Statement on Global Food Security

(h) support country-led development strategies in adapting to the impact of **climate** change, combating desertification, and promoting conservation and sustainable use of biological diversity, while intensifying our efforts to address **climate** change;...

2009 L'Aquila, Italy

G8 Leaders Declaration: Responsible Leadership for a Sustainable Future

2. We are determined to ensure sustainable growth and to tackle the interlinked challenges of the economic crisis, poverty and **climate change**. These challenges require immediate action and long term vision.

5. We intend to secure our present and future prosperity by taking the lead in the fight against **climate change**. We are committed to reaching a global, ambitious and comprehensive agreement in Copenhagen. In this respect, we call upon other industrialised countries and emerging economies to actively engage, consistently with the principle of common but differentiated responsibilities and respective capabilities.

9. We have taken stock of progress made to date to restore confidence, stabilise the financial sector and provide stimulus to boost growth and create jobs. Despite the current difficult conditions, we will continue to address global challenges, including fighting poverty and **climate change**, with the aim of establishing a more balanced and sustainable growth path, underpinned by sound fundamentals and social inclusion.

Sustainable Use of Natural Resources: Climate Change, Clean Energy and Technology:

60. The interlinked challenges of **climate change**, energy security and the sustainable and efficient use of natural resources are amongst the most important issues to be tackled in the strategic perspective of ensuring global sustainability. A shift towards green growth will provide an important contribution to the economic and financial crisis recovery. We must seize the opportunity to build on synergies between actions to combat climate change and economic recovery initiatives, and encourage growth and **sustainable development** worldwide.

61. Science clearly shows that anthropogenic **greenhouse gas emissions** — mainly produced by the use of fossil fuels — are provoking dangerous climate change, putting at risk not only the environment and ecosystem services but the very basis of our present and future prosperity. The costs of inaction far outweigh the costs of moving towards low-carbon societies. At the same time, stable and secure energy availability is indispensable for social and economic development; it is essential to ensure global energy security and energy access in developing countries, particularly the most vulnerable.

Immediate and resolute action is needed by all countries to build on existing and new technologies and to design and deliver innovative economic, environmental and energy policies.

Climate Change and Environment: Fighting Climate Change

63. This is a crucial year for taking rapid and effective global action to combat **climate change**. We welcome the decision taken within the UN Framework Convention on Climate Change (UNFCCC) in Poznan to enter full negotiating mode, in order to shape a global and comprehensive post-2012 agreement by the end of 2009 in Copenhagen, as mandated by the Bali Conference in 2007. We must seize this decisive opportunity to achieve a truly ambitious global consensus.

64. We reconfirm our strong commitment to the **UNFCCC** negotiations and to the successful conclusion of a global, wide-ranging and ambitious post-2012 agreement in Copenhagen, involving all countries, consistent with the principle of common but differentiated responsibilities and respective capabilities. In this context we also welcome the constructive contribution of the Major Economies Forum on Energy and Climate to support a successful outcome in Copenhagen. We call upon all Parties to the UNFCCC and to its Kyoto Protocol to ensure that the negotiations under both the Convention and the Protocol result in a coherent and environmentally effective global agreement.

65. We reaffirm the importance of the work of the **Intergovernmental Panel on Climate Change** (IPCC) and notably of its Fourth Assessment Report, which constitutes the most comprehensive assessment of the science. We recognise the broad scientific view that the increase in global average temperature above pre-industrial levels ought not to exceed 2°C. Because this global challenge can only be met by a global response, we reiterate our willingness to share with all countries the goal of achieving at least a 50% reduction of global emissions by 2050, recognising that this implies that global emissions need to peak as soon as possible and decline thereafter. As part of this, we also support a goal of developed countries reducing emissions of greenhouse gases in aggregate by 80% or more by 2050 compared to 1990 or more recent years. Consistent with this ambitious long-term objective, we will undertake robust aggregate and individual mid-term reductions, taking into account that baselines may vary and that efforts need to be comparable. Similarly, major emerging economies need to undertake quantifiable actions to collectively reduce emissions significantly below business-as-usual by a specified year.

66. We recognize that the accelerated phase-out of HCFCs mandated under the Montreal Protocol is leading to a rapid increase in the use of HFCs, many of which are very potent GHGs. Therefore we will work with our partners to ensure that HFC emissions reductions are achieved under the appropriate framework. We are also committed to taking rapid action to address other significant climate forcing agents, such as black carbon. These efforts, however, must not draw away attention from ambitious and urgent cuts in emissions from other, more long-lasting, **greenhouse gases**, which should remain the priority.

Promoting the Role of Markets to Reduce Emissions

67. We support flexible, economically sound market-based approaches to **emission reductions**. In particular, cap & trade schemes, where implemented, have proved largely successful and improved understanding of the potential advantages, critical issues and indicators. The use of market mechanisms, including those under the Kyoto Protocol, provides opportunities to reduce emissions cost-effectively, while facilitating technology diffusion, low-carbon development and the involvement of emerging and developing countries. With a view to building on these experiences and to facilitate action under the global post 2012 agreement, we commit to:

- a. further explore, taking into account national circumstances, the potential of carbon trading systems and their possible linkages;
- b. cooperate among us and with other countries to expand carbon markets to the extent possible and reduce costs and align emission allowance trading schemes, with a view to developing transparent carbon markets which would expand to involve emerging and developing countries, including on a sectoral basis;
- c. support the development, reform and enhancement of project, programmatic and policy-based offset mechanisms, including the Kyoto Protocol's Clean Development Mechanism (CDM), in order to encourage their use, enhance their effectiveness and environmental integrity, and facilitate actions from developing countries under the global, post-2012 agreement;
- d. work with others to further develop market mechanisms under the Copenhagen agreement to possibly include sectoral trading and sectoral crediting mechanisms, to enhance the participation of emerging economies and developing countries in the market ensuring environmental integrity.

68. The private sector will continue to be an essential player in the efforts to address **climate change**. To trigger a change in direction and mobilise investments we will engage the private sector more actively, in order to bring its expertise into the international framework and enhance information exchange and partnerships between Governments and businesses.

69. Sectoral approaches can be useful tools to facilitate progressive involvement by emerging economies and reinforce economy-wide mitigation policies of developed countries. Analysis has highlighted the potential to **curtail emissions** by focusing on specific sectors and we welcome the ongoing work of the International Energy Agency (IEA) and others in this respect.

70. Attention should also be devoted to sectors, such as international aviation and maritime transport, that represent a significant and growing source of **emissions** and are characterised by a predominantly international dimension. We will use our participation in ICAO, IMO and UNFCCC processes to reach an agreed outcome for the post-2012 period to rapidly advance towards accelerated emission reductions for the international aviation and maritime sectors.

Technology Development and Research

73. The development and deployment of technologies and know-how in developed and developing countries will play a crucial role both in mitigation and adaptation to **climate**

change and in moving towards low-carbon growth models. It is essential to substantially improve energy and resource efficiency in key sectors, as well as to develop and disseminate low-carbon technologies, in particular renewable energy. In this context, we stress the critical role of an efficient system of intellectual property rights (IPR) to foster innovation. Capitalizing on new technologies will require a major scientific effort and policy initiatives. Building on our existing commitments to urgently advance the development and deployment of clean energy technologies, consistent with existing international obligations, we will:...

74. Recognising the importance of research and development, we committed in Toyako to increase investment in basic and applied clean technology research and development. We will intensify such efforts and explore options to enhance global technology cooperation. We ask our experts to assess progress in meeting these commitments, and report back by our meeting in Canada in 2010. We will promote further national and international fundamental research on the earth's climate. We believe that provisions on financing technology research, development, deployment and diffusion should form an integral part of the **post-2012 agreement**.

Financing

75. Financing is central to achieving an **agreement at Copenhagen** and requires mobilisation of significant financial resources, both public and private. Given its capacity to innovate, the private sector should play a pivotal role in financing investments in new technologies. Public resources should therefore seek to leverage private-sector financing, to support research, development and demonstration of low carbon technologies in order to accelerate the development and deployment of early stage technologies, and to aid implementation of adaptation and mitigation strategies in developing countries. To promote concerted efforts on technology and financing, we:

- a. strive for greater predictability of international support and affirm our intention to contribute our fair share, in the context of an ambitious deal in Copenhagen;
- b. affirm that all countries, except Least Developed Countries (LDCs), should participate in the financial effort to tackle climate change, according to criteria to be agreed, and we support consideration of the proposal by Mexico;
- c. call for the elaboration and implementation of an effective financial arrangement to support the **post-2012 regime**. We underline that mobilizing financing for developing countries, through a broad range of financial sources, including financial assistance, is required for adaptation and mitigation, and to facilitate the transition to low-carbon economies. Financial support needs to be efficient, effective and equitable and therefore linked to results in terms of emission reductions and adaptation actions;
- d. will work to ensure that the governance of mechanisms disbursing funds is transparent, fair, effective, efficient, and of balanced representation among developed and developing countries. We stress the importance of building on existing instruments and institutions, such as the Global Environment Facility (GEF), multilateral development banks, adaptation funds and bilateral assistance agencies and the Climate Investment Funds (Strategic Climate Fund and Clean Technology Fund);

e. promote public-private partnerships, in order to facilitate targeted and efficient investments in research, development, deployment and diffusion of clean technologies, while mobilising additional resources from the private sector.

Adaptation

76. Recognising that even implementing ambitious mitigation steps will not avoid further **climate impacts**, we will define and implement effective adaptation and capacity building policies. We are deeply concerned about the consequences of **climate change** on development, ecosystem services, water and food security, agricultural output, forests, health and sanitation, particularly for LDCs and SIDS, but also for the poor and most vulnerable in all countries. We underline the possible security implications of the adverse impact of climate change and the potential for increased conflicts over scarcer resources. We will address these issues in a spirit of partnership between developed and developing countries and confirm our commitment to effectively address adaptation in the Copenhagen agreement. We will, in addition:

- a. mainstream effective adaptation strategies and risk assessments into international cooperation programmes and assist developing States in integrating adaptation efforts into national development plans and policies;
- b. significantly increase consideration of the role of ecosystems in adaptation measures, with a view to improving resilience of ecosystems, reducing vulnerability and underpinning new and sustainable growth models;
- c. strengthen knowledge networks for adaptation and support for research and capacity building related to vulnerability and impact assessments as well as planning and implementation of adaptation measures;
- d. address the need for financing for adaptation through appropriate bilateral and multilateral mechanisms.

Natural Disasters

77. To address the increased threats of natural disasters and extreme weather phenomena caused by **climate change**, such as increased flooding, storm surges, droughts and forest fires, we will act to improve risk preparedness, prevention, monitoring and response times, particularly in developing countries, by: ...

- a. defining common guidelines for disaster prevention and management to be used in developing national plans, in collaboration with the UN International Strategy for Disaster Reduction (UNISDR) and the World Meteorological Organisation (WMO), building on the Hyogo Framework for Action and on national experiences, as well as improving management of risks, awareness raising and training of the population and civil protection real-time response, such as logistical support for emergency situations;
- b. supporting the ongoing work on the development of the Global Earth Observation System of Systems (GEOSS).

Forests and Land Degradation

78. Aware that deforestation accounts for approximately 20% of annual **CO₂ emissions**, and that forests are an essential repository of biological diversity and key to the livelihoods and rights of many people, we remain engaged in seeking the **reduction of emissions** from deforestation and forest degradation and in further promoting sustainable forest management globally. We will:

a. support the development of positive incentives in particular for developing countries to promote **emission reductions** through actions to reduce deforestation and forest degradation. Considering that these measures will provide tangible results only in the medium term, it is also crucial to undertake early action initiatives to urgently tackle drivers of deforestation, and we will cooperate to identify innovative instruments in this respect, including through initiatives such as UN programme on Reducing Emissions from Deforestation and Forest Degradation, Forest Carbon Partnership Facility (FCPF) and the Informal Working Group on Interim Finance for Reducing Emissions from Deforestation and Forest Degradation (IWG-IFR);

b. continue to support efforts to reduce emissions from deforestation and forest degradation, including the role of conservation, sustainable management of forests and enhancement of forest carbon stocks, as set out in the **Bali Action Plan**. We continue to support REDD and will consider the inclusion of financial mechanisms within the future global agreement on climate change;

c. encourage cooperation and the use of synergies between the **UNFCCC** and other international forest-related processes, and promote national strategies developed in collaboration with relevant players, including governments, indigenous peoples and local communities, civil society groups and the private sector;

78. We are deeply concerned about desertification and land degradation in drylands, as both causes and consequences of climate change. Acknowledging the substantial impacts of these phenomena on human well-being, poverty, food security and the environment, we recognise the efforts of the UN Convention to Combat Desertification (UNCCD) and call upon the Parties and existing funding mechanisms to strengthen synergies among the Rio Conventions in the implementation of selected projects. Furthermore, we will work with developing country partners to integrate effective Sustainable Land Management (SLM) into relevant cooperation programmes and assist them in integrating SLM into national development plans policies and national climate change mitigation and adaptation strategies.

80. We also acknowledge that, despite international efforts to date, including within the framework of the Convention on Biological Diversity (CBD), the rate of **biodiversity** loss is increasing, exacerbated by **climate change** and impacts of human activities. In order to reduce the negative effects related to ecosystem degradation, including water and food scarcity and on carbon sinks and to strengthen the conservation and sustainable use of biological diversity, we will:...

81. Recognising the need for robust scientific assessment, and in order to improve the science-policy interface for **biodiversity** and ecosystem services, we encourage the ongoing intergovernmental process under the **United Nations Environment Programme** (UNEP) on the **Intergovernmental Platform on Biodiversity and**

Ecosystem Services (IPBES), striving to complete this process at the earliest possible time.

Clean and Accessible Energy:

84. Together with **climate change**, long term **sustainable development** models for all countries must also address the fundamental issues of energy availability — particularly through clean energy — and energy poverty. Fostering investments in energy infrastructures, energy efficiency, diversification of the energy mix and technological innovation is key to ensuring secure, clean and affordable energy to long term world needs, while substantially curbing carbon emissions.

85. We witness that a growing number of countries have expressed interest in nuclear power programmes as a means to address **climate change** and energy security concerns. In the opinion of these countries, nuclear energy can play an essential role, as it meets the dual challenge of reducing greenhouse gas emissions and lowering fossil-fuel consumption. We reaffirm that the fundamental prerequisite for the peaceful use of nuclear energy is the international commitment to safeguards/non proliferation, safety and security (3S). In close collaboration with the International Atomic Energy Agency (IAEA), we will continue to promote the development and implementation of robust international treaties, standards, recommendations, and monitoring procedures both at international and national levels. In this context, we promote international collaboration at all levels, including cost-benefit analysis, research, infrastructure and human resources development, plant construction, operation, decommissioning and waste management, in order to ensure the highest technically available safety and security standards and accelerate further development and deployment of innovative technologies. We stress the key role played by the IAEA in promoting the highest standards of non proliferation, safety and security. We call on all countries interested in the civil use of nuclear energy to engage in constructive international cooperation.

Promoting Global Food Security

111. Agriculture and food security should be placed at the core of the international agenda. We welcome the Final Declaration of the G8 Ministers of Agriculture who recently met in Treviso, and commit to continue working with partner countries and international and regional organizations to foster the conditions for ensuring sustainable access to sufficient, affordable and safe food to everyone. The economic crisis dramatically changed the scenario we faced when we last convened in Toyako. Although global commodity and food prices significantly decreased in many regions, they remain high compared with historical levels. As a consequence of spikes in food prices, the number of people suffering from hunger increased by 100 million up to 1 billion and could significantly worsen as the global economic crisis unfolds. Lower incomes and higher unemployment reduce the purchasing power of the poor, worsening their access to food. The **climate change** impact on agriculture and decreasing availability of water could aggravate the already critical situation of food security, requiring broader adaptation and mitigation efforts.

113. With a view to ensuring a more food secure world, we commit to:

1. stimulate sustainable growth of world food production, by promoting increased investment in agriculture, including through development assistance, and with particular attention to small-hold farmers; promote well-functioning and transparent international, national and local markets as a means to reduce the volatility of prices and combat speculation; work with governments and regional organizations to strengthen national agricultural research systems; increase investment and access to scientific knowledge and technology, also by strengthening the role of the Consultative Group for International Agricultural Research (CGIAR); encourage appropriate land and natural resource management, the protection of **biodiversity** and the **adaptation to climate change**.

Promoting Sustainable Access to Water and Sanitation

116. Many developing countries, particularly in Africa and Asia-Pacific, are still far from achieving sustainable access to water and sanitation and integrated water resource management, indispensable for **sustainable development**. We are determined to generate political momentum at international, regional and national levels for the internationally agreed goals, including the MDGs and their targets on safe water and basic sanitation. **Climate change** will have significant impacts on water resources management and service provision. We will accordingly strengthen our efforts to support improved water management to build resilience and drive adaptation, and against desertification, support disaster risk reduction and enhance science-based information provision, data collection and analysis.

G8 and G5 Joint Statement: Promoting the Global Recovery

Discussing a Global Recovery Agenda for Balanced, Inclusive and Sustainable Growth:

4.

- We will encourage and facilitate the development, dissemination and mutually agreed transfer of clean, low-carbon technologies, reducing carbon emissions and increasing energy efficiency from production to consumption, thereby improving energy security and access. We reconfirm our political will for reaching a comprehensive, fair, effective, agreed outcome, following the principle of common but differentiated responsibilities and respective capabilities at the UN Framework Convention on **Climate Change Conference in Copenhagen** in December.

Responsible Policies for an Inclusive and Sustainable Development:

10. We are alarmed about the serious implications of the global crisis for growth and for poverty eradication in developing countries. We reaffirm our shared commitment to contribute to achieving the MDGs through economic growth and support to peace and security, especially in Africa. We received with great concern the estimates of the World Bank and other development institutions regarding the number of people, in particular children, who may perish or fall into poverty as a result. We underscore that **climate change** severely affects developing countries and is becoming a major threat to their ability to achieve internationally agreed development goals including the MDGs. We are committed to mobilising all resources for development, as we keep engaged to ensure the proper follow-up and implementation of the Monterrey Consensus and the Doha

Declaration on Financing for Development. We recognize that mobilising financial resources for development and the effective use of all those resources are central to the global partnership for **sustainable development**. As part of these overall efforts, the G8 countries are committed to meet their ODA commitments, especially to sub-Saharan Africa, including those on Aid for Trade and debt relief.

G8 and G5 Concluding Report of the Heiligendamm Process

III. Innovation:

22. Partners have engaged in this Dialogue because of a shared acknowledgement that innovation is important for economic, social and **sustainable development**. Innovation plays a central role in addressing key global challenges of our times, ranging from **climate change**, poverty eradication and public health, to the recovery from the current economic slowdown through employment generation. Partners underscored the importance of providing adequate protection to all forms of innovation and creativity.

IV. Energy:

22. Energy is crucial for global prosperity and **sustainable development**. Dialogue Partners acknowledge the close relationship between security of energy supply and demand, energy efficiency, renewables and access to energy. The Dialogue has provided an opportunity to discuss and develop common understanding on these key aspects of energy policies, with a focus on energy efficiency, all of which are also crucial for mitigating **climate change** and achieving the Millennium Development Goals. Partner countries have discussed relevant aspects of energy security as contained in the Summit Declaration of St. Petersburg as well as proposed by the G5 countries. They recognise that energy markets are increasingly global and interdependent, and call for concerted efforts for enhanced international, including multilateral, cooperation to address common challenges.

40. There is value in increased international co-operation to exchange experiences and best practices in order to increase deployment of renewable energy technologies that support sustainable economic growth and development as well as **climate change** mitigation.

Declaration of the Leaders: The Major Economies Forum on Energy and Climate

Climate change is one of the greatest challenges of our time. As leaders of the world's major economies, both developed and developing, we intend to respond vigorously to this challenge, being convinced that climate change poses a clear danger requiring an extraordinary global response, that the response should respect the priority of economic and social development of developing countries, that moving to a low-carbon economy is an opportunity to promote continued economic growth and **sustainable development**, that the need for and deployment of transformational clean energy technologies at lowest possible cost are urgent, and that the response must involve balanced attention to mitigation and adaptation.

We reaffirm the objective, provisions and principles of the **UN Framework Convention on Climate Change**. Recalling the Major Economies Declaration adopted in Toyako, Japan, in July 2008, and taking full account of decisions taken in Bali, Indonesia, in December 2007, we resolve to spare no effort to reach agreement in Copenhagen, with each other and with the other Parties, to further implementation of the Convention.

Our vision for future cooperation on **climate change**, consistent with equity and our common but differentiated responsibilities and respective capabilities, includes the following:

1. Consistent with the Convention's objective and science:

Our countries will undertake transparent nationally appropriate mitigation actions, subject to applicable measurement, reporting, and verification, and prepare low-carbon growth plans. Developed countries among us will take the lead by promptly undertaking robust aggregate and individual reductions in the midterm consistent with our respective ambitious long-term objectives and will work together before **Copenhagen** to achieve a strong result in this regard. Developing countries among us will promptly undertake actions whose projected effects on emissions represent a meaningful deviation from business as usual in the midterm, in the context of **sustainable development**, supported by financing, technology, and capacity-building. The peaking of global and national emissions should take place as soon as possible, recognizing that the timeframe for peaking will be longer in developing countries, bearing in mind that social and economic development and poverty eradication are the first and overriding priorities in developing countries and that low-carbon development is indispensable to **sustainable development**. We recognize the scientific view that the increase in global average temperature above pre-industrial levels ought not to exceed 2 degrees C. In this regard and in the context of the ultimate objective of the Convention and the **Bali Action Plan**, we will work between now and Copenhagen, with each other and under the Convention, to identify a global goal for substantially **reducing global emissions** by 2050. Progress toward the global goal would be regularly reviewed, noting the importance of frequent, comprehensive, and accurate inventories.

We will take steps nationally and internationally, including under the Convention, to **reduce emissions** from deforestation and forest degradation and to enhance removals of greenhouse gas emissions by forests, including providing enhanced support to developing countries for such purposes.

2. Adaptation to the adverse effects of **climate change** is essential. Such effects are already taking place. Further, while increased mitigation efforts will reduce climate impacts, even the most aggressive mitigation efforts will not eliminate the need for substantial adaptation, particularly in developing countries which will be disproportionately affected. There is a particular and immediate need to assist the poorest and most vulnerable to adapt to such effects. Not only are they most affected but they have contributed the least to the build up of greenhouse gases in the atmosphere. Further support will need to be mobilized, should be based on need, and will include resources additional to existing financial assistance. We will work together to develop, disseminate, and transfer, as appropriate, technologies that advance adaptation efforts.

3. We are establishing a Global Partnership to drive transformational low-carbon, climate-friendly technologies. We will dramatically increase and coordinate public sector investments in research, development, and demonstration of these technologies, with a view to doubling such investments by 2015, while recognizing the importance of private investment, public-private partnerships and international cooperation, including regional innovation centers. Drawing on global best practice policies, we undertake to remove barriers, establish incentives, enhance capacity-building, and implement appropriate measures to aggressively accelerate deployment and transfer of key existing and new low-carbon technologies, in accordance with national circumstances. We welcome the leadership of individual countries to spearhead efforts among interested countries to advance actions on technologies such as energy efficiency; solar energy; smart grids; carbon capture, use, and storage; advanced vehicles; high-efficiency and lower-emissions coal technologies; bio-energy; and other clean technologies. Lead countries will report by November 15, 2009, on action plans and roadmaps, and make recommendations for further progress. We will consider ideas for appropriate approaches and arrangements to promote technology development, deployment, and transfer.

4. Financial resources for mitigation and adaptation will need to be scaled up urgently and substantially and should involve mobilizing resources to support developing countries. **Financing to address climate change** will derive from multiple sources, including both public and private funds and carbon markets. Additional investment in developing countries should be mobilized, including by creating incentives for and removing barriers to funding flows. Greater predictability of international support should be promoted. Financing of supported actions should be measurable, reportable, and verifiable. The expertise of existing institutions should be drawn upon, and such institutions should work in an inclusive way and should be made more responsive to developing country needs. Climate financing should complement efforts to promote development in accordance with national priorities and may include both program-based and project-based approaches. The governance of mechanisms disbursing funds should be transparent, fair, effective, efficient, and reflect balanced representation. Accountability in the use of resources should be ensured. An arrangement to match diverse funding needs and resources should be created, and utilize where appropriate, public and private expertise. We agreed to further consider proposals for the establishment of international funding arrangements, including the proposal by Mexico for a Green Fund.

5. Our countries will continue to work together constructively to strengthen the world's ability to combat climate change, including through the Major Economies Forum on Energy and Climate. In particular, our countries will continue meeting throughout the balance of this year in order to facilitate agreement in **Copenhagen**.

Chair's Summary of the G8-Africa Session at the G8 L'Aquila Summit

3. The G8 and African partners agreed on the importance of continuing to reinforce their partnership, based on mutual accountability and respect, for the common good. In this spirit, they examined the issues on the agenda of their meeting, which are of particular relevance to Africa because of the current international context. Leaders:

- ... Discussed the impact of **climate change** on Africa and agreed on the need to ensure that the specific concerns of developing countries are adequately addressed in the agreement to be reached at the UN Conference in Copenhagen. They recalled the importance of preserving forest cover especially in the Congo Basin region, and addressing access to energy.

L'Aquila Joint Statement on Global Food Security: L'Aquila Food Security Initiative

2. There is an urgent need for decisive action to free humankind from hunger and poverty. Food security, nutrition and sustainable agriculture must remain a priority issue on the political agenda, to be addressed through a cross-cutting and inclusive approach, involving all relevant stakeholders, at global, regional and national level. Effective food security actions must be coupled with adaptation and mitigation measures in relation to climate change, sustainable management of water, land, soil and other natural resources, including the protection of **biodiversity**.

Chair's Summary

G8 Leaders discussed the interlinked challenges of the economic crisis, poverty, **climate change** and international political issues. They shared a vision of a world economy that is open, innovative, sustainable and fair...

On 8 July G8 Leaders met to discuss the world economy, development, **climate change** and international political issues. From July 9th they were joined by Brazil, China, India, Mexico and South Africa, establishing a structured and continued dialogue on a broad range of global issues. Egypt was also invited to participate in the meeting. Discussions progressed with the participation of Heads of International Organizations; all other members of the Major Economies Forum joined them to address trade and climate change. African Leaders and G8 partners discussed the implications of the crisis for Africa. Finally, in a broader format, Leaders tackled the issue of food security.

Climate Change:

Leaders agreed that effectively addressing **climate change** is urgent and sent a strong political message in view of the UNFCCC Conference in Copenhagen in December.

Climate change was discussed both in the G8 and in the MEF format.

In the G8 session, Leaders recognised the scientific view on the need to keep global temperature rise below two degrees Celsius above pre-industrial levels, and agreed on a global long-term goal of **reducing global emissions** by at least 50% by 2050 and, as part of this, on an 80% or more reduction goal for developed countries by 2050. They also agreed on the need for significant mid-term targets consistent with the long term goals and for global emissions to reach their peak as soon as possible. The active engagement of all major emitting countries through quantifiable mitigation actions was highlighted, as an indispensable condition to successfully tackle **climate change**.

Leaders discussed the role of innovative technologies and climate financing, with a view to sustain mitigation efforts also in developing countries. They highlighted adaptation needs of developing countries in terms of resources, capacity building and policy support, particularly for the poor and most vulnerable.

The G8 adopted a comprehensive declaration, which set the groundwork for a constructive discussion with the emerging economies the following day.

In the broader session, the 16 Leaders of the Major Economies Forum on Energy and Climate, the European Commission, Sweden, Denmark and the UN Secretary General, found an agreement on key pillars of the **Copenhagen climate deal**.

Leaders of all major emitting countries reiterated the importance of keeping the increase in average global temperature below 2 degrees Celsius, as recognised by the G8, and decided to work together between now and Copenhagen to identify a long-term global goal for substantially **reducing global emissions by 2050**. Leaders agreed on the need for nationally appropriate mitigation actions by all countries: developed countries will promptly undertake robust mid-term emissions reductions, while developing countries will undertake actions to ensure meaningful deviation of emission levels from business as usual....

...Participants adopted the Major Economies Forum on Energy and **Climate Declaration**, paving the way for a comprehensive global agreement in **Copenhagen** and agreed to continue to work together in the coming months.

2010 Muskoka, Canada

Muskoka Declaration: Recovery and New Beginnings

2. What binds the G8 together is a shared vision that major global challenges must and can be addressed effectively through focus, commitment and transparency, and in partnership with other concerned members of the global community. The G8 has demonstrated the capacity to design credible approaches to meet the challenges of our times. For over thirty years, it has shown that its collective will can be a powerful catalyst for sustainable change and progress. At Muskoka in 2010, we are focussing on an effective agenda to address key challenges in development, international peace and security, and **environmental protection**.

3. This economic crisis exposed and exacerbated vulnerabilities already embedded in integrated global economies, development efforts, and collective security. Progress is being made, through the work of the G20, towards the sustainable recovery of our global economic and financial system. For development, a decade of policy commitments and joint efforts with our partners has brought significant progress towards the Millennium Development Goals (MDGs), but both developed and developing countries must do more; meanwhile, the crisis has jeopardized advancement toward meeting some of the 2015 targets. Renewed mutual commitments are required. We must also ensure that the proliferation of weapons of mass destruction, terrorism and organized crime, as well as many other challenges faced by states to address their security vulnerabilities, including **climate change**, remain at the forefront of public policy. We, the G8, are determined to exercise leadership and meet our obligations.

Development

16. **Food security** remains an urgent global development challenge, exacerbated by **climate change**, increasing global food demand, past underinvestment in the agricultural sector, and extreme price volatility which has strong damaging impacts on the most vulnerable. In 2009 in L'Aquila, we together with other countries and organizations adopted fundamental principles to enhance food security: use a comprehensive approach; invest in country-led plans; strengthen strategic coordination; leverage benefits of multilateral institutions; and deliver on sustained and accountable commitments. We launched the L'Aquila Food Security Initiative (AFSI) based on these principles and ultimately mobilized with US\$22 billion for sustainable agriculture development over three years, while maintaining a strong commitment to ensure adequate emergency food aid. The initiative helped achieve a wide consensus and enabled progress to be made in reforming the Committee on World Food Security and advancing the Global Partnership for Agricultural and Food Security. As of April 30, 2010, we have disbursed/allocated USD \$6.5 billion and remain committed to disburse/allocate the full amount of our individual commitments by 2012. We are working actively to ensure a coordinated approach nationally, regionally and globally, while maintaining our focus on country-led initiatives. We are pleased with the launch of the Global Agriculture and Food Security Program hosted at the World Bank, which has \$880 million in commitments, and other mutually complementary initiatives or mechanisms, such as the African Agriculture Fund. We underline the critical importance of accountability for ensuring that these collective commitments are met. We underline the key contribution of research to fight hunger and poverty, notably by increasing sustainable agricultural productivity and reiterate our support to the ongoing reform of the global research networks. Reduced malnutrition is a primary outcome of our Food Security Initiative and will contribute to improved maternal and child health.

Environmental Sustainability and Green Recovery

21. Among environmental issues, **climate change** remains top of mind. As we agreed in L'Aquila, we recognize the scientific view that the increase in **global temperature should not exceed 2 degrees Celsius compared to pre-industrial levels**. Achieving this goal requires deep cuts in **global emissions**. Because this global challenge can only be met by a global response, we reiterate our willingness to share with all countries the goal of achieving at least a **50% reduction of global emissions by 2050**, recognizing that this implies that **global emissions** need to peak as soon as possible and decline thereafter. We will cooperate to that end. As part of this effort, we also support a goal of **developed countries reducing emissions of greenhouse gases in aggregate by 80% or more by 2050, compared to 1990 or more recent years**. Consistent with this ambitious long-term objective, we will undertake robust aggregate and individual mid-term reductions, taking into account that baselines may vary and that efforts need to be comparable. Similarly, major emerging economies need to undertake quantifiable actions to **reduce emissions** significantly below business-as-usual by a specified year.

22. We strongly support the negotiations underway within the **UN Framework Convention on Climate Change (UNFCCC)**. We reiterate our support for the

Copenhagen Accord and the important contribution it makes to the **UNFCCC** negotiations. We urge those countries that have not already done so to associate themselves with the Accord and list their mitigation commitments and actions. Recognizing the scientific view that the increase in global temperature should not exceed **2 degrees Celsius**, we also call for the full and effective implementation of all the provisions of the **Accord**, including those related to measurement, reporting and verification thereby promoting transparency and trust. In this context, we are putting in place our respective **fast-start finance** contributions to help address the most urgent and immediate needs of the most vulnerable developing countries and to help developing countries lay the ground work for long-term, **low-emission development**. We express our commitment to cooperate actively and constructively with Mexico as the President of the sixteenth meeting of the **UNFCCC Conference of the Parties** on November 29 — December 10, 2010. We support related initiatives, including the UN Secretary-General's High-Level Advisory Group on identifying long-term public and private financing, and the Paris-Oslo Process on **REDD+**. We want a comprehensive, ambitious, fair, effective, binding, post-2012 agreement involving all countries, and including the respective responsibilities of all major economies to reduce greenhouse gas emissions.

23. While remaining committed to fighting **climate change**, we discussed the importance of ensuring that economies are **climate resilient**. We agreed that more research was needed to identify impacts at the global, regional, national and sub-national levels, and the options for adaptation, including through infrastructural and technological innovation. We particularly recognize the situation of the poorest and most vulnerable countries. We will share our national experiences and plans for adaptation, including through a conference on **climate change** adaptation in Russia in 2011.

24. To address **climate change** and increase energy security, we are committed to building **low carbon and climate resilient economies**, characterized by **green growth** and improved resource efficiency. We recognize the opportunities provided by a transition to **low carbon** and renewable energies, in particular for job creation. We encourage the IEA to develop work on an International Platform for **low-carbon technologies**, in order to accelerate their development and deployment. The elimination or reduction of tariff and non-tariff barriers to trade in environmental goods and services is essential to promote the dissemination of **cleaner low-carbon energy technologies** and associated services worldwide. **Carbon capture and storage (CCS)** can play an important role in transitioning to a low-carbon emitting economy. We welcome the progress already made on our Toyako commitments to launch the 20 large-scale **CCS** demonstration projects globally by 2010 and to achieve the broad deployment of **CCS** by 2020, in cooperation with developing countries. Several of us commit to accelerate the **CCS** demonstration projects and set a goal to achieve their full implementation by 2015. We also recognize the role nuclear energy can play in addressing **climate change** and energy security concerns, acknowledging the international commitment to safety, security and safeguards for non-proliferation as prerequisites for its peaceful use. We also recognise the potential of **bioenergy** for **sustainable development, climate change mitigation** and energy security. We welcome the work of the **Global Bioenergy Partnership (GBEP)** and commit to

facilitating swift adoption of voluntary sustainability criteria and indicators, as well as on capacity building activities.

25. In 2010, the UN International **Year of Biodiversity**, we regret that the international community is not on track to meeting its 2010 target to significantly reduce the rate of loss of **biodiversity** globally. We recognize that the current rate of loss is a serious threat, since **biologically diverse and resilient ecosystems** are critical to human well being, **sustainable development** and poverty eradication. We underline our support for Japan as it prepares to host the tenth meeting of the **Conference of the Parties to the Convention on Biological Diversity** this October and in particular we underline the importance of adopting an ambitious and achievable post-2010 framework. We recognize the need to strengthen the science-policy interface in this area, and in this regard we welcome the agreement to establish an **Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES)**.

2011 Deauville, France

G8 Declaration: Renewed Commitment for Freedom and Democracy

Preamble

New growth drivers are required. We committed to prioritizing growth-enhancing policies such as research, education and innovation, which are crucial to our knowledge economies. We will foster **green growth** as it is essential to fight **global warming**, represents a promising source of jobs for our societies, and reflects a shared aspiration for more **sustainable development**.

Innovation and Knowledge Economy

Innovation is crucial for growth, prosperity and jobs in the knowledge economy and plays a central role in addressing many of the key global challenges of our times, ranging from **climate change**, poverty eradication and public health, to demographic changes and recovery from the recent global economic and financial crisis through employment-generation...etc.

Green Growth

We firmly believe that **green growth** is an essential element to ensuring **sustainable global growth**, notably to promote resource efficiency and sound water management, fight **climate change** and conserve **biodiversity**, and that it contributes to **sustainable development**. **Green growth** represents a promising source of job creation for our societies and offers significant prospects for innovators and exporters of all economies. **Green growth** dynamic needs to be shared: **sustainable development** is a reachable objective if efforts are made by all economies. We are committed to continuing to play a major role in this field. We will work within all relevant fora and agencies to promote **green growth**.

We strongly support international cooperation on **green growth** and will intensify our efforts to contribute to progress for the next steps, notably looking toward the **June 2012 UN Conference in Rio on sustainable development** and various

international events planned, including the Bonn Conference on Water, Energy and Food Security in November, the Durban Conference on Climate Change in December, the Marseille World Water Forum in March 2012 and the **Conference on Biological Diversity** in October 2012 in New Delhi. In this regard, we encourage **UNEP** and **OECD** efforts, and welcome complementary messages by these two organisations for the **Rio+20 Conference**.

We believe that it is also crucial to employ a range of measures to encourage efficient and sustainable resource use, including **renewable energy**, by national and other actors. We will keep on supporting international initiatives launched by the G8, notably the International Partnership for Energy Efficiency Cooperation (IPEEC), which has successfully been extended to other stakeholders, the IEA International **Low Carbon Energy Technology** Platform, the **Global Bio Energy Partnership (GBEP)**, The **Economics of Ecosystems and Biodiversity (TEEB)** study, the **Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES)**, and the **International Renewable Energy Agency (IRENA)**. We reaffirm our support to the Kobe 3R (“Reduce, Reuse, Recycle”) Action Plan and welcome the OECD report on its implementation on resource productivity, and invite the OECD to continue to work on this issue.

Climate Change and Biodiversity

Tackling **climate change** is a global priority. We, members of the G8, have undertaken ambitious measures, and are committed to long-term efforts, with a view to doing our part to limit effectively the increase in global temperatures below 2 degrees Celsius above pre-industrial levels, consistent with science. We express our determination to act as part of a larger global effort to address this threat as well as our solidarity with developing countries, particularly the poorest and most vulnerable.

We reaffirm our willingness to share with all countries the goal of achieving at least a **50% reduction of global emissions** by 2050, recognising that this implies that **global emissions** need to peak as soon as possible and decline thereafter. We are cooperating to that end. As part of this effort, we also support a goal of developed countries **reducing emissions of greenhouse gases** in aggregate by 80% or more by 2050, compared to 1990 or more recent years. Consistent with this ambitious long-term objective, we will undertake robust aggregate and individual mid-term reductions, taking into account that baselines may vary and that efforts need to be comparable. Similarly, major emerging economies need to undertake quantifiable actions to **reduce emissions** significantly below business-as-usual by a specified year.

We are determined to do our part to reach those objectives and move rapidly towards a **low-carbon economy** that will generate significant benefits for the protection of the environment and health, for energy savings and energy security, while also delivering job opportunities and growth.

We welcome the outcome of the **Cancun Conference**, which marked a successful

effort of the international community building on the **Copenhagen Accord**. We welcome the positive spirit in which the **Cancun Conference** took place and progress made under the **UN Framework Convention on Climate Change (UNFCCC)**. We support the provisions adopted including those related to transparency, mitigation, finance (in particular the creation of the **Green Climate Fund**), adaptation, technology and the **fight against deforestation and forest degradation — REDD+**.

The **Durban Conference** at the end of the year (**COP 17**) will be another important step forward, for working towards a comprehensive, ambitious, fair, effective and binding agreement involving all countries, and including the respective responsibilities of all major economies to reduce **greenhouse gas emissions**. We need to operationalise the Cancun Agreements and deal with unresolved issues. We are determined to deliver on our commitments as listed in **Copenhagen**, and confirmed in **Cancun**, and call on all countries, including all major economies, to deliver on their listed commitments as well. We strongly support South Africa as the incoming Presidency of the **Durban Conference** and offer our cooperation to make this **Conference** the success that the world needs in order to successfully combat **global climate change**.

As with climate change, we recognize that the current rate of loss of **biological diversity** is unacceptable, since **biologically diverse** and resilient **ecosystems** are critical to human wellbeing, **sustainable development** and poverty eradication as well as food security. We are therefore committed to intensifying our efforts to slow the loss of **biodiversity**. We also recognise that **ecosystems** play a key role in the **global carbon cycle**, through **carbon storage** and adaptation to **climate change**.

In this context, the outcomes of the tenth meeting of the Conference of the Parties to the **Convention on Biological Diversity in Nagoya** are a significant step forward, in particular the adoption of the **Strategic Plan for Biodiversity 2011-2020**, the decision on the Strategy for Resource Mobilisation and the Nagoya Protocol on Access and Benefit Sharing (ABS). We welcome the study on **The Economics of Ecosystems and Biodiversity (TEEB)**, which was initiated by the G8 in 2007, the operationalisation of the **Intergovernmental Platform for Biodiversity and Ecosystem Services (IPBES)** and look forward to timely decisions regarding the Nagoya Protocol on ABS as soon as possible.