

### SUMMARY REPORT OF THE INTERNATIONAL CONFERENCE FOR RENEWABLE ENERGIES - RENEWABLES 2004: 1-4 JUNE 2004

The International Conference for Renewable Energies (*renewables 2004*) took place from 1-4 June 2004, in Bonn, Germany. Approximately 3600 participants from 154 countries attended the Conference, including several Heads of State, 121 Ministers and representatives from governments, intergovernmental organizations (IGOs), non-governmental organizations (NGOs), the scientific community and the private sector.

The *renewables 2004* programme consisted of nine Plenary Sessions, including a Multi-Stakeholder Dialogue and a Ministerial Segment. The Multi-Stakeholder Dialogue addressed: the value of, and opportunities for, renewable energy - policy frameworks and regulatory certainty; and promoting renewable energy - finance and capacity for the future. Other Plenary Sessions addressed best-practice examples and success stories.

The Ministerial Segment included three Ministerial Roundtables that considered policies for renewable energy market development, financing options, and strengthening capacities, research and policy development, and institutions. Two Ministerial Panels addressed energy services and the Millennium Development Goals (MDGs), and the contribution of renewable energy in meeting the climate challenge. In the closing session, delegates adopted three Conference outcomes: Policy Recommendations, an International Action Programme, and a Political Declaration.

This summary of *renewables 2004* begins with a brief history of multilateral processes on renewable energy, followed by a summary of the Conference proceedings and outcomes based on the Conference agenda.



Members of major groups and delegations in the main plenary room.

developing countries, and the mobilization of financial resources for new and renewable sources of energy. However, it was only following the 1992 UN Conference on Environment and Development (UNCED) that renewable energy issues began to feature more prominently on the international environment and development agenda.

**UNCED:** At UNCED, delegates adopted Agenda 21, an action plan for implementing sustainable development. Agenda 21 contains many elements of a sustainable energy strategy. Chapter 9 of Agenda 21, on protecting the atmosphere, notes that much of the world's energy is currently produced and consumed in an unsustainable manner. It recognizes that the need to control atmospheric emissions of greenhouse gases and other substances will increasingly need to be based on efficiency in energy production, transmission, distribution and consumption, and a growing reliance on environmentally sound energy systems, particularly new and renewable sources of energy. The chapter also addresses, *inter alia*, the need for research and development, the transfer and use of technologies, and measures to overcome barriers to the use of renewables.

**UN CONFERENCES AND SUMMITS:** In the years following UNCED, several UN Conferences and Summits addressed renewable energy and sustainable development issues in their outcome documents. These included the Global Conference on Sustainable Development in Small Island Developing States (1994), International Conference on Population and Development (1995), World Summit on Social Development (1995), Fourth World Conference on Women (1995), UN Conference on Human Settlements HABITAT II (1996), and World Food Summit (1996). The World Solar Summit (1996) and the 19th Special Session of the UN General Assembly

### A BRIEF HISTORY OF MULTILATERAL PROCESSES ON RENEWABLE ENERGY

During the fuel crisis of the 1970s, many countries began exploring alternative sources of energy. The international community's first major attempt to develop a strategy for the use of alternative fuels was the 1981 UN General Assembly Resolution A/RES/36/193 on the outcomes of the UN Conference on New and Renewable Sources of Energy. In this Resolution, the UN adopted the "Nairobi Programme of Action for the Development and Utilization of New and Renewable Sources of Energy," which addressed the need for an intergovernmental body, secretariat support, coordination within the UN system, regional and subregional action, cooperation among

(UNGASS-19, 1997) also addressed energy issues, with UNGASS-19 deciding that the issue should be further examined during the ninth session of the Commission on Sustainable Development (CSD-9).

**CSD-9:** In April 2001, CSD-9 adopted Decision 9/1 (E/CN.17/2001/19) on "Energy for sustainable development." The



Jürgen Trittin, Co-Chair of renewables 2004.

Decision included recommendations to encourage the role of the private sector, strengthen research and development, and institutional capacities, develop and use indigenous sources of renewable energy, and strengthen financial support to developing countries. It also addressed issues of energy accessibility and rural energy, noting that access to affordable energy services is a prerequisite

for implementation of the goal accepted by the international community to halve the proportion of people living on less than US\$1 per day by 2015.

**G-8 RENEWABLE ENERGY TASK FORCE:** In July 2000, leaders of the eight major industrialized democracies (G-8) met in Okinawa, Japan for the G-8's 26th Summit. The G-8 established a Renewable Energy Task Force to identify actions to promote a change in the supply, distribution and use of renewable energy in developing countries. In 2001, the Task Force concluded that renewable energy resources can sharply reduce local, regional and global environmental impacts, as well as energy security risks. The Task Force suggested that concerted action by the G-8, other countries, the private sector, and International Financial Institutions (IFIs) to implement the Task Force's recommendations over the next decade could result in various positive outcomes, including electricity access from renewable sources for up to 300 million people in rural areas of developing countries and service for up to 5 million people connected to electricity grids worldwide.

**WSSD:** The World Summit on Sustainable Development (WSSD) convened from 26 August to 4 September 2002, in Johannesburg, South Africa. One of the major outcomes of the WSSD was the adoption of the Johannesburg Plan of Implementation (JPOI), which addresses renewable energy in several of its chapters.

Regarding sustainable consumption and production patterns (JPOI Chapter III), governments agreed to increase the global share of renewable energy sources substantially, with the aim of raising the contribution renewable energy makes to total energy supply "with a sense of urgency." They recognized the role of national and voluntary regional targets and initiatives, and the need to ensure that energy policies support developing countries' efforts to eradicate poverty. They also agreed to, *inter alia*, develop and utilize indigenous energy sources and infrastructures for local use, and promote rural community participation in the development and utilization of renewable energy technologies.

The Plan of Implementation also addressed renewable energy issues in text on poverty eradication (JPOI Chapter II), small island

developing States (Chapter VII) and Africa (Chapter VIII). In addition to the JPOI, over 200 non-negotiated partnerships/initiatives were launched at the WSSD. Of these partnerships, 37 specifically address energy for sustainable development.

**JREC:** During the final WSSD Plenary, Denmark, on behalf of the EU, announced the formation of a like-minded group of countries on renewable energy, now known as the Johannesburg Renewable Energy Coalition (JREC). The EU, with the Alliance of Small Island States, Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Iceland, Latvia, Lithuania, Malta, New Zealand, Norway, Poland, Romania, Slovakia, Slovenia, Switzerland and Turkey, issued a statement entitled "The Way Forward on Renewable Energy." The statement indicates that JREC countries have adopted, or will adopt, targets for the increase of renewable energy, and will encourage others to do likewise. The first international JREC conference was held in June 2003, and focused on the regional status and potential for renewable energy use. By June 2004, JREC had 87 members and was being serviced by a Secretariat hosted by the European Commission (EC). A finance expert group was also created to discuss innovative financing models for renewable energy.

**RENEWABLES 2004 PREPARATORY PROCESS:** At the WSSD, German Chancellor Gerhard Schröder invited the international community to Germany for an international conference on renewable energy - *renewables 2004*. Germany then initiated a preparatory process that included the establishment of an International Steering Committee, several regional preparatory meetings, a National Advisory Committee, and an Organizing Committee and Conference Secretariat.

**Regional preparatory meetings: Latin America and Caribbean:** The regional preparatory meeting for the Latin America and Caribbean region was held in October 2003, in Brasilia, Brazil. The meeting adopted the "Brasilia Platform on Renewable Energies," which reaffirmed the aim of ensuring that, by 2010, the use of renewable energy in the region as a whole will amount to at least 10% of total energy consumption.

**Africa:** An initial preparatory meeting for the African region was held in November 2003, in Nairobi, Kenya. Participants adopted a "Draft Statement on Renewables in Africa." The Statement includes support for moving forward with the process launched at the WSSD to develop renewable energy globally. Input from the Africa region was also provided in May 2004 by the African Ministerial Meeting on Sustainable Energy Development, which resulted in the "Statement on Renewables in Africa."

**Europe:** The European Conference for Renewable Energy - Intelligent Policy Options, was held in January 2004, in Berlin, Germany. The meeting adopted the "Berlin Conclusions" urging, *inter alia*, EU institutions to start a political process of setting ambitious, time-bound targets for increasing the share of renewable ener-



Heidemarie Wiczorek-Zeul, Co-Chair of renewables 2004.

gy in final energy consumption for the medium (2020) and long term. The Berlin Conclusions note that a 20% renewable energy target for gross inland energy consumption is achievable in the EU by 2020.

**Asia-Pacific:** The Asia-Pacific regional preparatory meeting was held in March 2004, in Bangkok, Thailand. Delegates adopted the "Bangkok Statement on Renewable Energy." The Statement includes a call for government leadership to foster the creation of markets for renewable energy. Delegates also called on *renewables 2004* to promote global cooperation in the field of technological development and increased investment in renewable energy in the Asia-Pacific region.

**Middle East and North Africa:** The Middle East and North Africa Regional Conference on Renewable Energies and Sustainable Development was held in April 2004, in Sana'a, Yemen. The meeting adopted the "Sana'a Statement on Renewable Energy and Sustainable Development," which, *inter alia*, calls on developed countries to support a regional center for renewable energy and sustainable development in Yemen that would specialize in renewable energy technology research.

**Other meetings:** Several other meetings also considered *renewables 2004*. These included the International Renewable Energy Conference-Renewable Energy on the Market in Sonderborg, Denmark (September 2003) and the fourth Global Forum on Sustainable Energy in Vienna, Austria (February 2004).

At a preparatory NGO meeting held in October 2003, in Bad Honnef, Germany, NGOs formed the Citizens United for Renewable Energies and Sustainability (CURES) network to coordinate the international NGO community's contributions to *renewables 2004*. The meeting adopted a declaration, "The Future is Renewable," which calls on all governments to agree to ambitious renewable energy targets to achieve the MDGs and mitigate dangerous climate change.

Nuclear Safety, opened the meeting and called on *renewables 2004* to send a message of global environmental protection and "globally fair" development. He stressed the need to "get down to business" to make the global increase of renewable energy a reality.

Conference Co-Chair Heidemarie Wieczorek-Zeul, Germany's Minister for Economic Cooperation and Development, said the Conference outcomes would provide the strategic framework for a global sustainable energy future, and stressed the importance of North-South energy partnerships.

Ernst Ulrich von Weizsäcker, Chair of Germany's Parliamentary Committee on Environment and Nuclear Safety, underscored the role of renewable energy as a realistic choice for meeting the MDGs, and noted the need to address both renewables and demand-side energy efficiency.

Bärbel Dieckmann, Mayor of Bonn, outlined the important role of local authorities and municipalities in implementing renewable energy programmes and projects. Peer Steinbrück, Minister President of the Federal State of North Rhine-Westphalia, said renewable energy provides a real opportunity to achieve sustainable development. Abigail Gay Zuasula, Greenpeace Solar Generation, called for clear and binding targets, projects with concrete action programmes and timeframes, and a shift of subsidies from fossil fuels and nuclear power to renewable energy. Yongamele Mbapa, Youth Energy Summit, presented the outcome of the Youth Energy Summit, including a call for a 100% renewable energy future.

In a keynote opening address, Rajendra Pachauri, Director General, The Energy and Resources Institute, India, stressed the need to break down barriers to implement renewable energy. He called for collaborative research efforts between North and South to make renewable energy technology more appropriate to the needs of developing countries. Chakib Khelil, Algeria's Minister of Energy and Mining, described changes to national legislation and the introduction of several new projects in Algeria to promote cleaner energy sources.

## MULTI-STAKEHOLDER DIALOGUE

The Multi-Stakeholder Dialogue, co-chaired by Ministers Wieczorek-Zeul and Trittin, took place on Tuesday, and was facilitated by David Hales from the Stakeholder Forum for Our Common Future, UK. The Multi-Stakeholder Dialogue included sessions on "Value and opportunities of renewable energy - Policy frameworks and regulatory certainty" and "Promoting renewable energy - Delivering finance and capacity for the future." Each session included statements from stakeholder groups, followed by an interactive dialogue. Stakeholder groups represented at *renewables 2004* included Women, NGOs, Local and Regional Authorities, Trade Unions, Consumers, Business and Industry including the Financial Sector, Scientific and Technological Community, Farmers, Actors in Development and Poverty Alleviation, and Renewable Energy Manufacturers and Suppliers.

**VALUE AND OPPORTUNITIES OF RENEWABLE ENERGY - POLICY FRAMEWORKS AND REGULATORY CERTAINTY:** This session addressed two issues, "The importance, value and contribution of renewable energy" and "Promoting renewable energy - Policy frameworks and regulatory certainty."

## REPORT OF RENEWABLES 2004

### OPENING SESSION

On Tuesday morning, 1 June, Conference Co-Chair Jürgen Trittin, Germany's Minister for the Environment, Nature Conservation and



Participants of the Multi-Stakeholder Dialogue.

### The importance, value and contribution of renewable energy:

In the discussion on renewable energy's importance and contribution, NGOs called on JREC to establish targets and mandatory policies to promote renewable energy. They stressed the need to ensure that global temperatures do not increase by more than 2°C due to climate change. The Actors in Development and Poverty Alleviation stakeholder group highlighted the energy priorities of the poor, including clean and efficient cooking technologies, and energy for income-generating and social purposes. The Renewable Energy Manufacturers and Suppliers group said anticipated increases in fossil fuel prices will make renewable energy technologies more cost effective, and emphasized the role of renewable energy sources in providing energy to remote areas.



Jürgen Trittin and Heidemarie Wiecek-Zeul pressed their hands into the Greenpeace youth sun to symbolize Germany's commitment to move "full speed ahead for renewable energy".

renewable energy technologies more cost effective, and emphasized the role of renewable energy sources in providing energy to remote areas.

In the ensuing discussion, Morocco said renewable energy could play a major role in rural development. Djibouti stated that, as oil prices had risen to over US\$40 a barrel, renewable energy was now a matter of survival for some countries. Supported by Uganda, he called for an international fund to finance renewable energy projects in developing countries, and for the involvement of the private sector in facilitating technology transfer. The Scientific and Technological Community urged increased research and development in renewable energy technologies and suggested that funding for nuclear fusion be diverted to renewable energy. Nepal described the role of renewable energy technologies in countries with topographical constraints to using grid-based energy technologies. Consumers stressed the need to build trust in renewable energy technologies. Women said the Conference outcomes should recognize women as the main actors in energy management in the domestic sector.

**Promoting renewable energy - Policy frameworks and regulatory certainty:** On the question of policy frameworks and the regulatory environment, NGOs called on governments to adopt clear and differentiated targets to give credibility to their commitment to renewables. Stressing the continued significance of the contribution of fossil fuels and nuclear energy to total energy production, Business and Industry opposed global targets for renewable energy. Local and Regional Authorities called on governments to remove fossil fuel subsidies and establish targets for increasing access to renewable energy, and highlighted the role of local authorities in promoting renewables through procurement. Renewable Energy Manufacturers and Suppliers called for legally-binding targets, awareness raising, and increased support from IFIs.

During the discussion, Saudi Arabia stressed the need for a balance between different energy sources and, with Iran, called for clean fossil fuel technologies. Women called for gender mainstreaming in all aspects of renewable energy policies. Consumers urged governments

to provide information to consumers and to develop technical standards for renewable energy products and services. The Scientific and Technological Community said that current energy markets are distorted and noted the need for increased support along the whole "innovation chain" for renewable energy technologies. Business and Industry said renewable energy can provide decentralized electricity generation for rural populations and, with Trade Unions and Actors in Development and Poverty Alleviation, identified local benefits such as job creation and empowerment. The UN Economic Commission for Africa identified biomass as the primary energy source in Africa and urged modernization of the sector and its incorporation into energy planning.

**PROMOTING RENEWABLE ENERGY - DELIVERING FINANCE AND CAPACITY FOR THE FUTURE:** Participants in this part of the Multi-Stakeholder Dialogue considered two issues: "Financing the future" and "Capacity building."

**Financing the future:** In the dialogue on financing, Local and Regional Authorities stressed the need to ensure access to credit and competitive interest rates, and Actors in Development and Poverty Alleviation urged a focus on the financing of low-cost, small-scale and primarily non-electrical renewable energy technologies. NGOs called for a level playing field and clear targets to increase financing for renewable energy in developing countries by development banks, export credit agencies and IFIs. The Finance Sector of Business and Industry underscored the need for a long-term strategy to attract capital to the renewable energy sector.

In the ensuing discussion, Women called for financial mechanisms to improve the social and economic status of women, including credit arrangements, targeted short-term subsidies and programmes to enhance women's entrepreneurial skills. Bangladesh stressed the need to make renewable energy affordable and accessible to the rural poor. Business and Industry said IFIs should harmonize the work of their private and public sector departments. Renewable Energy Manufacturers and Suppliers stressed the importance of removing administrative barriers and harmful subsidies, and supported the call for an international renewable energy agency. Trade Unions underscored the need for financial provisions to ease the socioeconomic problems facing workers currently employed in conventional energy sectors. NGOs highlighted the recommendations of the World Commission on Dams (WCD), and said a key priority was to ensure a "just transition" to renewable energy. The Scientific and Technological Community called on Member States of the Organization for Economic Cooperation and Development (OECD) to increase research spending on renewable energy. Actors in Development and Poverty Alleviation called for subsidies to aid the further development of clean technologies. The Solomon Islands said renewable



Facilitator David Hales, Stakeholder Forum for Our Common Future, leads delegates through the MSD.

energy presented a stepping stone for the future economic prosperity of countries that spend a major share of their national budgets on energy. Pakistan called for the creation of a renewable energy development bank and promotion agency.

**Capacity building:** In the dialogue on capacity building, Consumers underlined the need to provide both consumers and producers with information and advice. Trade Unions said renewable energy projects should include funds to train workers, involve civil society, and build capacity at the grassroots level.

During the discussion, the Scientific and Technological Community drew attention to the importance of human capacity building for researchers, producers and consumers of renewable energy. Trade Unions urged the development of advanced technical skills. Actors in Development and Poverty Alleviation stressed the need to build on existing capacity, and to improve access and increase the purchasing power of people in poverty. Tunisia and Niger called for enhanced international technical cooperation and capacity building. Guatemala urged capacity building among decision makers, and Women called for enabling policies to increase women's participation in decision making. Consumers supported the establishment of an international institution to promote the supply and demand of renewable energy.

#### PLENARY SESSIONS ON BEST PRACTICE EXAMPLES AND SUCCESS STORIES

On Wednesday, 2 June, delegates discussed best practice examples and success stories related to three topics: policies for renewable energy market development; financing options for renewable energy; and strengthening capacities, research and technology development, and institutions.

**POLICIES FOR RENEWABLE ENERGY MARKET DEVELOPMENT:** On Wednesday morning, the session on "Policies for renewable energy market development" focused first on the electricity sector, followed by presentations and discussions on heating and transport.

**Electricity:** The session on electricity was co-chaired by Carlos Magariños, Director General of the UN Industrial Development Organization (UNIDO) and Minister Trittin. Magariños outlined

UNIDO's work to ensure universal energy access for the poor. Ma Shenghong, Beijing Jikedian Renewable Energy Development Center, briefed participants on China's Brightness and Township Electrification Programme, which aims to bring modern energy to thousands of remote rural communities.



Panelists and Presenters gathered at the podium to answer audience questions after Wednesday's afternoon Plenary session on financing options for renewable energies.



Heat and Transport Plenary panel Thomas Johansson, Director, International Institute for Industrial Environmental Economics, Sweden, Renate Künast, and Hans Christian Schmidt.

Aloys Wobben, Enercon, explained that wind farms add value by providing a second income for farmers, as well as a range of employment opportunities. Jayantha Nagendran, DFCC Bank, briefed participants on an energy services delivery project in Sri Lanka that provides both on-grid and off-grid hydropower and solar home systems. Steve Westwell, BP Solar, highlighted that solar energy would become competitive with mainstream grid-supplied electricity on a price per kilowatt hour basis within 15-20 years if cost reduction trends continue. However, he added that government support will be required if the solar energy business is to become self-sustaining. In the ensuing discussion, Business and Industry noted its support for internalizing external costs.

**Heat and transport:** The session on heat and transport was co-chaired by Renate Künast, Germany's Federal Minister for Consumer Protection, Food and Agriculture and Hans Christian Schmidt, Denmark's Minister of Environment.

Freddie Mothlatlhedhi, Southern African Development Community (SADC), presented the SADC Programme for Biomass Energy Conservation, which raises awareness among biomass energy users. He recommended that *renewables 2004* recognize sustainable biomass energy as a critical component of renewable energy.

Jürg Hofer, City of Basel, Switzerland, briefed participants on municipal policies for the promotion of renewable energy and energy efficiency, including a renewable energy and energy efficiency promotion tax for energy providers and a consumption tax.

Felix ter Heegde, Netherlands Development Organization, and Sundar Bajgain, Nepal's Biogas Support Programme, spoke about domestic biogas. Ter Heegde noted that biogas substitutes for firewood, coal, dung cake and kerosene, while reducing air pollution, deforestation and greenhouse gas emissions. Bajgain outlined Nepal's domestic biogas support programme, which resulted in the installation of 115,000 biogas units.

Emílio la Rovere, Federal University of Rio de Janeiro, briefed participants on the Brazilian Ethanol Programme that supports biofuels derived from sugar cane and used for transport. He noted that the Programme has created 720,000 direct jobs, and reduced reliance on oil imports and vulnerability to oil price fluctuations.

**FINANCING OPTIONS FOR RENEWABLE ENERGY:** On Wednesday afternoon, Minister Wieczorek-Zeul and Leonard Good, Global Environment Facility, co-chaired the session on financing options for renewable energy.

Noting that 70% of people in Bangladesh lack access to the electricity grid, Dipal Barua, Grameen Shakti (a not-for-profit rural power company in Bangladesh), reported on his organization's contribution to promoting affordable solar home systems in off-grid



Panelists of Wednesday's Plenary session on Financing Options for Renewable Energies, from left-right: eminent expert Jamal Saghir; Stephan Schmitz; Co-chairs Heidemarie Wiczorek-Zeul and Leonard Good.

areas. Explaining that the organization offers four different financing models with varying down payments and interest rates, he highlighted additional support provided, including a warranty system and the training of local engineers. Andrea Kuhlhava, Czech Energy Agency, briefed delegates on the Czech Republic's energy efficiency and renewable energy activities, including its Joint Implementation (JI) projects. She observed that JI projects increase energy efficiency and facilitate achievement of its national target to source 8% of total energy consumption from renewables by 2010.

Christine Eibs-Singer, E+Co, and Abeeku Brew-Hammond, Kumasi Institute of Technology and Environment, explained that their organizations provide services and capital to small- and medium-sized enterprises working on renewable energy. Cayetano Hernández, Spain's Institute for Energy Diversification and Energy Efficiency, reported on the benefits of third party financing. He suggested that this financing approach overcomes barriers for potential investors, including high initial capital outlays, problems securing external financing, and difficulties in evaluating a project's technical feasibility.

Reflecting on the session, Jamal Saghir, World Bank, highlighted the critical importance of financing for the scaling-up of renewables. While stressing the importance of subsidies and support, he suggested that it was necessary to start moving towards a market-based approach.

**STRENGTHENING CAPACITIES, RESEARCH AND TECHNOLOGY DEVELOPMENT, AND INSTITUTIONS:** Best practice examples and success stories in relation to strengthening capacities, research and technology development, and institutions were discussed in a Plenary Session on Wednesday afternoon. The session was chaired by Ernst Ulrich von Weizsäcker and Arcadio Ntagazwa, Tanzania's Minister of State for Environment.

Alberto Calcagno, UNEP-Dams and Development Project, and Brian Hollingworth, a consultant on South Africa's WCD follow-up process, spoke about stakeholder dialogues on dams. Calcagno presented several dialogue initiatives in relation to the WCD, while Hollingworth focused on South Africa's multi-stakeholder initiative, which he said sets out a clear process for addressing a sensitive issue.

Jean-Louis Bal, Application of Solar Thermal Energy in the Mediterranean Basin, and Mohamed Ezzedine Khalfallah, Tunisia's National Agency for Renewable Energy, briefed participants on a project to provide solar water heating installations in several Mediterranean countries.

Frederick Morse, US Solar Energy Industry Association, introduced the Concentrating Solar Power Global Market Initiative, while Ingvar Fridleifsson, UN University Reykjavik, described a geothermal energy training programme in Iceland for professionals from developing countries.

Joachim Luther, Fraunhofer Institute for Solar Energy Systems, highlighted the positive cooperation between government, industry, and research and development institutes in developing photovoltaics in Germany.

### MINISTERIAL SEGMENT

**OPENING:** The High-Level Ministerial Segment of *renewables 2004* opened on Thursday, 3 June. Co-Chair Wiczorek-Zeul opened the Ministerial Segment and stressed that the vision of renewable energy as the energy of the future must now be turned into reality. Co-Chair Trittin noted that reducing the cost of renewables is the best way to ensure their uptake in developing countries.

Klaus Töpfer, UNEP Executive Director, suggested creating an "ecological stability pact" setting out clear obligations for countries to achieve renewables targets and report on their plans to achieve them. Hama Amadou, Prime Minister of Niger, highlighted the economic burden that importing fossil fuels places on least developed countries, and called for further international cooperation to foster renewable energy.

In a video address, Tony Blair, Prime Minister of the UK, said renewable energy development is critical for mitigating climate change, which he referred to as the "single most important issue in the long term." Peter Woicke, World Bank Managing Director, announced the Bank's intention to maintain 20% annual growth in funding for energy efficiency and renewable energy over the next five years. Margot Wallström, European Commissioner for the Environment, highlighted progress made in achieving the EU target of 20% electricity generation from renewables by 2010, and said targets for the period 2010-2020 were being prepared.

German Chancellor Gerhard Schröder highlighted the appropriate timing of the conference, noting the current high oil prices. He stressed the need to implement the Kyoto Protocol to the UN Framework Convention on Climate Change (UNFCCC) and urged the Russian Federation to ratify it. He said a diverse energy supply is important not only on economic grounds but also as a matter of security.

Dilma Rousseff, Brazil's Minister for Energy, outlined the central principles of the Brasilia Platform adopted in preparation for *renewables 2004*, including synergies between renewable energy and job creation, and natural resource use appropriate to national circumstances. Abdulrahman Tarmoom, Yemen's Minister of Electricity,



Presenters of Wednesday's final Plenary Session on Strengthening Capacities, Research and Technology Development, Institutions.



Heidemarie Wieczorek-Zeul and Jürgen Trittin welcome German Chancellor Gerhard Schröder to *renewables 2004*.

outlined the results of the *renewables 2004* preparatory meeting for the Middle East and North African region.

Prommin Lertsuridej, Thailand's Minister for Energy, reported on the preparatory meeting for the Asia-Pacific region, which called for an increase in renewable energy and more environmentally friendly technologies. Syda Namirembe Bbumba,

Uganda's Minister of Energy and Mineral Development, reported on the outcomes of the preparatory meeting for Africa, stressing the need for technology transfer.

Dermot Ahern, Ireland's Minister for Communications, Marine and Natural Resources, stressed the need to reduce administrative barriers to the distribution of electricity from renewables in the EU. Zhang Guobao, Vice President, National Development and Reform Commission, China, identified renewable energy as essential for achieving a national goal to provide electricity to more than 30 million people currently without access by 2020. Sheila Dikshit, Chief Minister of New Delhi, India, highlighted the successful reduction of air pollution in Delhi resulting from a shift to compressed natural gas for public transport.

Delegates then heard a statement from José Antonio Ocampo, UN Under-Secretary General, Department of Economic and Social Affairs, who supported the internalization of environmental externalities and subsidies for renewable energy.

David Hales, Stakeholder Forum for Our Common Future, reported from the previous day's Multi-Stakeholder Dialogues, noting that civil society supported energy prices that reflect all related costs, while not all government delegates could agree on this.

Hermann Scheer, Chair of the International Parliamentary Forum, reported that over 300 members of parliament from eight countries had agreed that renewable energy needs to be developed without delay, and that it brings various macroeconomic benefits.

**MINISTERIAL ROUNDTABLES:** The Ministerial Roundtables were held on Thursday afternoon. Delegates divided into three parallel sessions, which focused on "Policies for renewable energy market development," "Financing options for renewable energy" and "Strengthening capacities, research and technology development, and institutions." In each Roundtable, delegates heard presentations from a keynote speaker before engaging in discussions on the topic in question.

**Policies for renewable energy market development:** This session was co-chaired by Simone Probst, Germany's Federal Ministry of the Environment, and Serge Lepeltier, France's Minister of the Environment and Sustainable Development. Noting that current carbon prices do not reflect the true costs of fossil fuels, keynote speaker Svend Sigaard, Vestas Wind Systems A/S, stressed the need to internalize the external costs of energy in order to create a level playing field.

Ministers and other senior officials then presented their perspectives on policies for renewable energy market development. Tunisia supported appropriate legal frameworks that provide incentives for renewables, while Morocco expressed its interest in green certificates. Albania noted efforts to establish regional grid sharing and declared its support for the Kyoto Protocol. Iceland discussed its geothermal energy policies and efforts towards capacity building in developing countries.

Pakistan supported the proposal for an international renewable energy agency and called for the establishment of a world renewable energy bank located in a developing country. Costa Rica highlighted national policies in support of the Kyoto Protocol's Clean Development Mechanism (CDM) as a key element in its efforts to ensure technology transfer and greenhouse gas reductions.

Saudi Arabia disputed the suggestion that oil is a problem in electricity generation, as oil's share of the market is small compared with nuclear and coal. He also called for an end to coal and nuclear power subsidies, drawing attention to Germany's subsidies for its coal industry.

Summarizing the discussions, Christopher Flavin, WorldWatch Institute, said he sensed a "political momentum we would not have found five years ago."

**Financing options for renewable energy:** The Roundtable on "Financing options for renewable energy" was co-chaired by Janez Kopac, Slovenia's Minister of Environment, Spatial Planning and Energy, and Alan Ganoo, Mauritius' Minister of Public Utilities. Jamal Saghir, World Bank, presented a report on the Plenary Session on financing options held on Wednesday. This was followed by a keynote address by Enrique Iglesias, Inter-American Development Bank, who highlighted uncertainties over capital and lack of institutional capacity as barriers to renewable energy. He called for, *inter alia*: support from bilateral and multilateral sources for capacity building in the area of renewable energy; an increased role for the state in reducing uncertainties and risks; and partnerships between multilateral institutions, the private sector, and stakeholders.

In the discussion that followed, Benin suggested a levy on oil and electricity to finance renewables. Sweden identified fossil fuel subsidies and trade barriers as obstacles to the expansion of renewable energy. Kenya highlighted the challenge of fulfilling donor's policies that require private sector involvement. Indonesia suggested that the political declaration should include a 20% target for funding institutions' total energy portfolios. He said high priority should be given to local development and the production of locally appropriate renewable energy technologies in developing countries. Mali and Nigeria



Panelists in the Ministerial Roundtable on "Policies for renewable energy market development," from left to right: Christopher Flavin; Serge Lepeltier; Simone Probst; Svend Sigaard.

called for affordable renewable energy technologies for developing countries through market creation and cost reduction. The EC noted that the European Bank of Reconstruction and Development is committed to increasing its financial support for renewable energy and energy efficiency, but stressed the need to put clear national legal frameworks in place.



Nemat Shafik of the World Bank Group gave the keynote speech of Friday's first ministerial panel.

Brazil noted the decline in external finance for hydroelectric projects and urged multilateral financial institutions to increase their funding. Iglesias highlighted Latin America's hydropower potential, but stressed that multilateral institutions have become increasingly reluctant to finance dams due to public resistance aroused by potentially harmful environmental and social impacts. Peter Woicke, World Bank, emphasized that dams will be built in developing countries even without the assistance of multilateral institutions. However, he added that if multilateral institutions are not involved, it is likely the dams built would cause even more severe social and environmental impacts than might otherwise have been the case.

**Strengthening capacities, research and technology development, and institutions:** This Roundtable was co-chaired by Mohammed Boutaleb, Morocco's Minister for Energy and Mines, and Moritz Leuenberger, Switzerland's Head of the Federal Department of Environment, Transport, Energy and Communications. Noting that the world has finite fossil fuel resources and a limited capacity to cope with the emissions resulting from their use, keynote speaker David Garman, US Department of Energy, said we must look to emissions-free energy sources, including renewable energy.

Iran recommended the establishment of an international renewable energy agency under the supervision of the UN, to assist technology transfer to developing countries. Sweden emphasized the need for institutional capacity building as a prerequisite for effective renewables investment and called for gender impact assessments. Egypt urged greater consideration of small, decentralized energy systems, in addition to large-scale renewables. Morocco stated that renewables can only be made competitive by establishing appropriate financing mechanisms. Calling for "less talk and more action," Jamaica urged ministers to integrate renewable energy policies into their national plans.

Singapore underscored its commitment to cooperate with other nations in pursuing innovative renewable and clean energy solutions. Indonesia noted the need for additional funds to maintain and develop technical and human capacities for renewable energy. Italy identified bilateral and multilateral arrangements as the most suitable frameworks for capacity building for renewable energy, while Garman stressed the importance of research and development to bring down the costs of renewable energy technologies, arguing that this will facilitate implementation of policies to foster renewables. The International Sustainable Energy Organization called for the certification and standardization of renewables, especially in the biomass sector.

Ogunlade Davidson, University of Sierra Leone, summarized the interventions, noting comments on the need to create innovative financing mechanisms and a stable business environment, and highlighting positive results from technical standard setting. He recommended collaborative measures for research and development and advocated the broad dissemination of results to facilitate capacity development.

**MINISTERIAL PANELS:** On Friday morning, delegates convened in Plenary to participate in two Ministerial Panels examining specific renewable energy issues. The first Panel focused on energy services and the MDGs, while the second addressed the contribution of renewable energy in meeting the climate challenge.

**Energy services and the MDGs - The role of renewable energy and energy efficiency:** This panel was co-chaired by Lulama Xingwana, South Africa's Deputy Minister for Minerals and Energy, and Minister Wieczorek-Zeul. Co-Chair Wieczorek-Zeul observed that, even though the MDGs do not include a specific target on energy, renewables are vital for the achievement of all the MDGs. Xingwana expressed hope that *renewables 2004* would conclude with a strong political declaration, representing a first step into the "age of renewables."

Delegates then heard a keynote speech from Nemat Shafik, World Bank. Confirming that energy "fuels all the MDGs," she highlighted renewables as critical for development, the environment and future energy security. She pointed out that 92% of the population of sub-Saharan Africa does not have access to electricity, and urged efforts to improve energy access in developing countries. She also underscored the need to make biomass use in developing countries safer, more efficient and less costly. She concluded by noting the need to increase donor support and other funding sevenfold, establish effective policy and regulatory frameworks, and level the playing field for renewables by tackling fossil fuel subsidies.

In the panel discussion that followed, Phillip Paulwell, Jamaica's Minister of Commerce, Science and Technology, highlighted the Caribbean region's reliance on fossil fuels and its vulnerability to global price shifts. He drew attention to initiatives to promote renewables, noting a target in Jamaica of producing 8% of electricity from renewables by 2010, a Jamaican initiative to produce ethanol from sugar cane, and a growing interest in geothermal power in several Caribbean countries.

Hassan Ahmed Younes, Egypt's Minister of Electricity and Energy, stated that Africa's energy needs could be supplied sustainably through the exploitation and efficient management of the continent's immense renewable energy potential. He identified the need to maximize both supply- and demand-side energy efficiency.

Eduardo Mañalac, Philippines' Department of Energy, drew attention to the "war" against extreme poverty and climate change, and the urgent need to "take arms." He announced a new wind investment package in the Philippines, and highlighted his coun-



Panelist Eduardo Mañalac, Undersecretary, Department of Energy, Philippines.

try's success in electrifying rural villages and its target for 100% electrification by 2006. He urged countries to join the Philippines in doubling renewable energy capacity over the next decade.

Shoij Nishimoto, UNDP, recommended addressing energy within each of the MDGs and stressed the importance of partnerships.

In the subsequent discussion, Japan highlighted that energy efficiency is an important strategy for reducing carbon emissions. Norway pledged to increase its efforts to support the development of renewables in developing countries. Underscoring that small island developing States (SIDS) contribute the least to climate change but suffer the most from adverse impacts, Mauritius called for an energy paradigm shift. He identified obstacles to the development of renewables in SIDS, including limited internal markets, lack of economies of scale, high transportation costs, vulnerability to natural disasters, and a limited ability to attract investors.

Nicaragua drew attention to its goal of generating 40% of electricity from renewables within 10 years. However, he noted the need to overcome concerns among private investors regarding the perceived risks of injecting funds into renewable energy projects. The Czech Republic highlighted its energy efficiency programmes, a reduction in coal use, and the development of a major biomass programme. Greece noted its commitment to implementing EU renewable energy targets, extending the grid, raising public awareness, and reducing barriers to renewables.

Bulgaria drew attention to benefits of using renewable energy in the transport sector. Algeria underscored the linkages between energy use, poverty and health, while Djibouti welcomed Germany's increased funding commitment to renewables in developing countries.

Mañalac said renewables must be cost-competitive and encouraged industrialized countries to continue their research and development. He urged IFIs to provide financing on "liberal terms," and said host countries need to put fiscal and legal incentives in place, as well as raise awareness and understanding among local stakeholders.

**The Contribution of Renewable Energy in Meeting the Climate Challenge:** This Ministerial Panel on "The contribution of renewable energies in meeting the climate challenge" was co-chaired by

Minister Trittin, and Hilmi Güler, Turkey's Minister of Energy and Natural Resources. Güler opened the session, highlighting the global threat posed by climate change.

In a keynote address, UNFCCC Executive Secretary Joke Waller-Hunter said measurements in March 2004 showed carbon dioxide concentrations in the atmosphere had increased to 379 parts per million (ppm), recording an annual growth of 3 ppm, compared to an average annual growth of 1.8 ppm over the last

decade. She said that, while the use of renewable energy had grown, it was important not to be overly optimistic as absolute figures compared to other energy sources remain low.

In the discussion that followed, Margaret Beckett, Secretary of

State, Environment, Food and Rural Affairs, UK, described policies to promote renewable energy in the UK, aimed at achieving the national target of 10% renewables by 2010 and 20% by 2020.

Patrik Devedjian, France's Minister of Industry, said France is preparing a bill on energy that includes a renewable energy target of around 10% of national energy consumption by 2010. Peter Sedgwick, European Investment Bank, reported that the Bank has committed €500 million for climate change related projects, of which €100 million are earmarked for projects under JI and CDM projects. He stressed the Bank's objective to contribute to research and development projects for renewable energy.

Claude Mandil, International Energy Agency (IEA), noted that research on renewable energy has declined over the last 15 years and the market share of renewable energy has also decreased. He suggested increasing research and development funding, improving strategies for market deployment, and accounting for externalities. José Ma Lorenzo Tan, WWF Philippines, stated that addressing climate change is not only an issue of economic development, but also of survival.

Denmark noted that renewable energy can be a catalyst for development in the South and can help decouple growth from energy use in the North. He also called for concrete renewable energy targets and a follow-up mechanism after the Conference. The Marshall Islands called on donor communities to respond to JREC, noting that citizens of the Marshall Islands will be among the first climate change refugees if climate change is not abated. Oman highlighted the need to consider the economic and social impact of shifting toward renewable energy on countries that are dependent on fossil fuel exports to finance development.

Turkey reported on changes to its national law that will foster renewable energy technologies, while Canada highlighted the potential of further cost reductions of renewable energy technologies.

## DISCUSSION OF CONFERENCE OUTCOMES

*Renewables 2004* produced three outcome documents: a Political Declaration, Policy Recommendations, and an International Action Programme. The Political Declaration was considered in the Senior Officials Meeting held on Wednesday, 2 June, and all three documents were considered in Plenary on Thursday, 3 June. The three documents were adopted by acclamation in the final Plenary on Friday, 4 June.

**POLITICAL DECLARATION:** The Political Declaration was considered in a Senior Officials Meeting held on Wednesday. Mohamed El-Ashry, Conference Facilitator, briefed delegates on the process for drafting the political declaration. He explained that the first draft had been circulated to governments and stakeholders in April 2004, with a revised second draft text being circulated in May.

During discussions in the Senior Officials Meeting, many developing countries expressed concerns regarding text on internalizing the external costs of energy generation and the selective use of language from the JPOI. They cautioned against prejudging the outcomes of the discussions on energy at CSD-14 and 15. These countries also addressed concerns regarding language proposing an international review and reporting processes and the direction of a percentage of



Joke Waller-Hunter, Executive Secretary, UNFCCC.

financial flows from IFIs to renewable energy. Developing countries also emphasized the need for industrialized countries to fulfill their existing commitments for financial assistance and technology transfer to developing countries on concessional terms. Regarding targets, several developed countries proposed language on the need to recognize that the setting of targets is a prerequisite for successful renewable energy expansion strategies at national, regional and global levels. One developed country proposed that the declaration recognize the usefulness of targets without making them a prerequisite for all countries. Another suggested that, in the event of no consensus on the declaration, its endorsement could be made optional.

In the Plenary on Thursday, delegates continued the discussion on the revised draft political declaration. Uganda, with South Africa, Ethiopia, Brazil, China and Senegal, recommended that medium and large hydropower be included in the definition of renewable energy. South Africa, Sweden and Denmark proposed that gender mainstreaming and women's participation be included. Iran, supported by India and Saudi Arabia, called for the deletion of text on the internalization of external costs and the removal of barriers to renewable energy. India, supported by Denmark and Brazil, urged the inclusion of the principle of common but differentiated responsibilities and respective capabilities. The US opposed prescriptive text on ODA, offering an alternative formulation that notes that financial incentives and a higher share of ODA as catalytic funding should be considered. Denmark expressed concern that language regarding renewable energy targets was insufficient and, supported by the EC, proposed reinserting text on the need for a level playing field. NGOs called for the inclusion of the Extractive Industries Review target of increasing financing from IFIs.

In the final Plenary on Friday, delegates agreed to a proposal by Brazil to insert an additional paragraph thanking the German Government for organizing *renewables 2004* and creating the opportunity to advance the WSSD renewable energy commitment.

**POLICY RECOMMENDATIONS FOR RENEWABLE ENERGIES:** On Thursday, 3 June, the draft policy recommendations were presented to Plenary by Michael Hofmann and Rainer Hinrichs-Rahlwes (Germany), Co-Chairs of the *renewables 2004* International Steering Committee (ISC).

The document was prepared by a drafting team coordinated by the Conference Secretariat and guided by the conference conveners. It had been elaborated taking into account numerous comments on earlier drafts from the ISC, governments, international institutions, UN agencies and programmes, NGOs, industry and finance sector representatives, and comments submitted by the stakeholder representatives involved in the preparation of the multi-stakeholder dialogue. The document was not discussed further by participants in Plenary.



Mohammed El-Ashry, Conference Facilitator, presented the Conference outcomes: the Policy Recommendations, the International Action Programme and the Political Declaration.

**INTERNATIONAL ACTION PROGRAMME:** On Thursday, 3 June, the draft "International Action Programme" was presented by ICS Co-Chairs Hofmann and Hinrichs-Rahlwes. Following the presentation, several countries and international organizations reported on their actions and initiatives in this area. Speakers included China, the Philippines, UK, Uganda, the GEF, WWF, the UN Economic Commission for Latin America and the Caribbean, and the European Bank for Reconstruction and Development.

### CLOSING SESSION

The closing session took place on Friday afternoon, 4 June, and was co-chaired by Ministers Jürgen Trittin and Heidemarie Wieczorek-Zeul. Mohamed El-Ashry presented the three Conference outcome documents: the Policy Recommendations, International Action Programme, and Political Declaration. Participants adopted the three documents by acclamation.

The meeting concluded with closing addresses by the Co-Chairs. Minister Wieczorek-Zeul said *renewables 2004* had delivered a strong message of hope and political will to the world to fulfill the tasks ahead and ensure a sustainable future through renewable energy. Recalling the achievements of the Conference, she noted that renewable energy is now clearly perceived as the energy of the future, that market development is crucial, and that energy issues have become pivotal, rather than just an issue for the experts. She stressed the role of renewable energy in alleviating poverty and contributing to peace, asserting that "there will never be a war on access to the sun." Wieczorek-Zeul also highlighted activities to follow-up on *renewables 2004*, including: the International Action Programme with its 165 endorsed voluntary commitments, whose progress will be monitored through the CSD process; a possible follow-up conference in three years to be held in a developing country; and the establishment of a global policy network supported by the German Government. She thanked participants for their active involvement in achieving the Conference outcomes, and expressed her hope that this Conference had marked

"an important step towards a more humane world."

Minister Trittin noted the long road traveled from Johannesburg to Bonn, adding that *renewables 2004* has ensured that "renewable energy has come to the attention of the whole world." He emphasized the role of the International Action Programme agreed at this Conference, particularly because of its review mechanisms through the CSD process, and noted the financial commitments for renewable energy projects from the IFIs. He concluded that "the age of renewables has begun."

Uganda thanked the German Government and all organizers on behalf of all participants. Minister Wieczorek-Zeul declared the Conference closed at 1:20 pm.



At the closing, Uganda thanked the German government and all organizers.

## CONFERENCE OUTCOMES

**POLITICAL DECLARATION:** In the final text of the Political Declaration, Ministers and government representatives acknowledge that renewable energy, combined with enhanced energy efficiency, can contribute significantly to sustainable development and to providing access to energy. They also recognize the important role of renewables in mitigating greenhouse gas emissions, reducing harmful air pollutants and creating new economic opportunities. In the context of *renewables 2004*, the Political Declaration defines renewable energy sources and technologies as including solar energy, wind



Co-chairs Heidemarie Wieczorek-Zeul and Jürgen Trittin congratulate each other at the closing of *renewables 2004*.

energy, hydropower, biomass energy including biofuels, and geothermal energy.

In the Declaration, Ministers and government representatives reaffirm their commitment to increase substantially

the global share of renewable energy in the total energy supply, and to do so with a sense of urgency. They underlined the need for coherent regulatory and policy frameworks that support the development of markets for renewable energy technologies, including removing barriers, and taking into account the concept of internalizing external costs for all energy sources. They also call on IFIs to expand their investments in renewables and energy efficiency significantly, and establish clear objectives for renewable energy in their portfolios.

The Declaration also emphasizes the need for targeted research and development, with a focus on affordability and cost reduction, innovative business and financing models, and cost-effective, consumer-friendly cost-recovery models.

Regarding reporting on implementation and follow-up steps, Ministers and government representatives agree in the Declaration that the implementation of the International Action Programme should be reported to the CSD and that an appropriate arrangement for follow-up should be identified in preparation for CSD-14/15 in its multi-year programme of work for 2006-2007. They also agreed to work together with various stakeholder representatives within the framework of a "global policy network" to promote a comprehensive and open exchange of diverse perspectives, lessons learned, and experiences in the development and application of renewable energy.

**POLICY RECOMMENDATIONS FOR RENEWABLE ENERGIES:** The "Policy Recommendations for Renewable Energy" document addresses a wide range of issues concerning the uptake of renewable energy, including: policy priorities for renewable energy; the establishment of policies for renewable energy markets; financing options for renewable energy; capacity building for the increased use of renewable energy; and the role of national governments, IGOs, local authorities, the private sector, civil society and other stakeholders.

Regarding the role of national governments, the document recommends the need to: develop an overall energy policy that emphasizes

renewable energy and fulfills sustainability objectives; formulate clear goals and targets for renewables; establish transparent market conditions that encourage investment; establish a level playing field; address the high cost of new renewable energy technologies; and create temporary incentives. It also recommends that governments integrate renewable energy issues into non-energy sector policies and cross sector issues, increase public awareness of the potential costs and benefits of renewables, promote the development of human capacity, and develop enabling institutions.

The policy options and recommendations for industrialized countries and economies in transition identify the need to:

- increase funding for renewable energy research and development;
- focus bilateral and multilateral development assistance on catalytic funding for renewable energy programmes;
- promote renewables through export credit agencies; and
- utilize the power of public procurement.

Regarding policy options and recommendations for developing countries, the document underscores the need to provide access to both cleaner cooking fuels and electricity, and to make use of new financing tools.

Regarding the role of international organizations, the recommendations highlight the need to: ensure the UN system defines clear responsibilities for work on renewables; ensure that World Trade Organization rules promote renewables; include funding for renewables projects in development cooperation programmes; promote IFI investment in renewables; strengthen the Global Environment Facility's portfolio; emphasize leadership of regional organizations; and strengthen institutional arrangements at the international level.

Regarding the role of local authorities, the document recommends: establishing local building codes; increasing awareness and capacities; utilizing the power of public procurement; establishing public-private investment funds; and addressing energy issues in other areas of local action.

On the role of the business and private sector, the document recommends that these bodies incorporate corporate social responsibility into their businesses and facilitate intra-firm technology transfer in renewable energy solutions. Regarding the specific recommendation for energy producers/traders and manufacturers, the document highlights the need to pursue the development of renewables, commit publicly to green energy, join forces to help create incentives for renewables, and invest in renewable energy.

With regard to the finance and insurance sector, the recommendations urge this sector to: treat renewable energy investment fairly; provide finance for renewable energy investments; offer risk-hedging financing tools for investments in renewables; and pay increased attention to special conditions in developing countries.

On the role of civil society, the recommendations underscore the need to use the power of consumers to develop and expand markets, strengthen civil society's role in decision making on sustainable energy solutions, make use of the potential of NGOs, and increase awareness through the mass media. Finally, in terms of the role of research and education, the recommendations highlight the need to focus curricula on new challenges and strengthen renewable energy research.

The Policy Recommendations for Renewable Energies are available online at: [http://www.renewables2004.de/en/2004/outcome\\_recommendations.asp](http://www.renewables2004.de/en/2004/outcome_recommendations.asp)

**INTERNATIONAL ACTION PROGRAMME:** Following a call from the Conference Secretariat, governments, international organizations and stakeholders, including civil society and the private sector, submitted detailed actions to implement renewable energy projects at the local, national, regional and global levels. The International Action Programme contains over 156 concrete actions and commitments for developing renewable energy.

Projects range from those dealing with financing renewables to capacity building, public education and awareness, national renewable energy policies and targets, and measures to ensure universal energy access.

The International Action Programme is available online at: [http://www.renewables2004.de/en/2004/outcome\\_actionprogramme.asp](http://www.renewables2004.de/en/2004/outcome_actionprogramme.asp)



Mohamed El-Ashry gives Heidemarie Wiczorek-Zeul a congratulatory hug at the close of the conference.

**TWENTIETH SESSIONS OF THE SUBSIDIARY BODIES TO THE UNFCCC:** These bodies will meet from 16-25 June 2004, in Bonn, Germany. The twentieth sessions of the subsidiary bodies to the UNFCCC will resume negotiations relating to the Convention and the Kyoto Protocol. For more information, contact: UNFCCC Secretariat; tel: +49-228-815-1000; fax: +49-228-815-1999; e-mail: [secretariat@unfccc.int](mailto:secretariat@unfccc.int); Internet: <http://unfccc.int/sessions/sb20/index.html>

**SEVENTH INTERNATIONAL CONFERENCE ON GREENHOUSE GAS CONTROL TECHNOLOGIES:** This conference will convene from 5-9 September 2004, in Vancouver, Canada. It will examine the latest advances in the field of greenhouse gas control technologies, including capture, storage and utilization of carbon dioxide. For more information, contact: Ted Morris; tel: +1-306-337-2290; fax: +1-306-337-2301; e-mail: [ted.morris@uregina.ca](mailto:ted.morris@uregina.ca); Internet: <http://www.ghgt7.ca/main.html>

**19TH WORLD ENERGY CONGRESS:** This congress will be held from 5-9 September 2004, in Sydney, Australia. For more information, contact: 19th World Energy Congress Managers; tel: +61-2-9248-0800; fax: +61-2-9248-0894; e-mail: [energy2004@tourhosts.com.au](mailto:energy2004@tourhosts.com.au); Internet: <http://www.tourhosts.com.au/energy2004/>

**EMISSIONS MARKETING ASSOCIATION EIGHTH ANNUAL FALL MEETING AND CONFERENCE:** This meeting will be held from 19-22 September 2004, in Toronto, Canada. It will consider a range of topics, including new initiatives on renewable energy, the EU's emissions trading scheme and other regional initiatives, and the prospects for trading in a non-Kyoto world. For more information, contact: David Feldner; tel: +1-414-276-3819; fax: +1-414-276-3349; e-mail: [dfeldner@emissions.org](mailto:dfeldner@emissions.org); Internet: <http://www.emissions.org/conferences/fallconference04/>

**THIRD WORLD WIND ENERGY CONFERENCE AND EXHIBITION 2004:** This combined conference and exhibition will take place from 31 October to 4 November 2004, in Beijing, China. It is being organized by the World Wind Energy Association. For more information, contact: Zhen Yingjun; tel: +86-10-6218-0145; fax: +86-10-6218-0142; e-mail: [registrar@wwec2004.cn](mailto:registrar@wwec2004.cn); Internet: <http://www.wwec2004.cn>

**CLIMATE CHANGE AND BUSINESS CONFERENCE AND EXPO 2004:** This conference will convene from 3-5 November 2004, in Auckland, New Zealand to consider the linkages between business and climate change. For more information, contact: The Conference Company Limited; tel: +64-9-360-1240; fax: +64-9-360-1242; e-mail: [secretariat@climateandbusiness.com](mailto:secretariat@climateandbusiness.com); Internet: <http://www.climateandbusiness.com>

**TENTH CONFERENCE OF THE PARTIES TO THE UNFCCC:** This conference will meet from 6-17 December 2004, in Buenos Aires, Argentina. The tenth Conference of the Parties (COP) to the UNFCCC will continue negotiations related to the Convention and the Kyoto Protocol. For more information, contact: UNFCCC Secretariat; tel: +49-228-815-1000; fax: +49-228-815-1999; e-mail: [secretariat@unfccc.int](mailto:secretariat@unfccc.int); Internet: <http://www.unfccc.int>

**CSD-14 AND -15:** Based on its multi-year programme of work, the Commission on Sustainable Development (CSD) is expected to consider energy as a thematic issue in 2006-2007 during its 14th and 15th sessions. The review year (CSD-14) is expected to convene in April 2006 and the policy year (CSD-15) is expected to convene in April 2007, preceded by an intersessional preparatory meeting in February/March 2007. For more information, contact: Federica Pietracci, Major Groups Programme Coordinator, UN DSD; tel: +1-212-963-2803; fax: +1-212-963-4260; e-mail: [pietracci@un.org](mailto:pietracci@un.org); Internet: <http://www.un.org/esa/sustdev/>

## THINGS TO LOOK FOR

**CONFERENCE ON CLIMATE PROTECTION AS DEVELOPMENT OPPORTUNITY:** This conference will convene from 7-8 June 2004, in Hamburg, Germany. It will consider the use of the Kyoto Protocol's CDM as a tool to reach development targets. For more information, contact: Axel Michaelowa, Hamburg Institute's Climate Policy Programme; tel: +49-40-4283-4309 or 49-40-4283-4451; e-mail: [a-michaelowa@hwwa.de](mailto:a-michaelowa@hwwa.de); Internet: <http://www.goldcdm.net>

**19TH EUROPEAN PHOTOVOLTAIC SOLAR ENERGY CONFERENCE AND EXHIBITION:** This conference will convene from 7-11 June 2004, in Paris, France. It will include presentations of more than 1000 scientific papers and posters on solar photovoltaic energy. For more information, contact: ETA Renewable Energies; tel: +39-55-5002-174; fax: +39-55-573-425; e-mail: [pv.conference@wip-munich.de](mailto:pv.conference@wip-munich.de); Internet: <http://www.photovoltaic-conference.com>

**FIRST GLOBAL CARBON MARKET FAIR - CARBON EXPO 2004:** This combined trade fair and conference will take place from 9-11 June 2004, in Cologne, Germany. The Expo will address measures for reducing greenhouse gas emissions, including renewable energy projects. It is being organized by the World Bank, International Emissions Trading Association and Kölnmesse (Cologne Trade Fair). For more information, contact: Robert Dornau; tel: +41-22-839-3154; fax: +41-22-839-3181; e-mail: [dornau@ieta.org](mailto:dornau@ieta.org); Internet: <http://www.carbonexpo.com>

**INTERNATIONAL CONFERENCE ON RENEWABLE RESOURCES AND RENEWABLE ENERGY: A GLOBAL CHALLENGE:** This conference will meet from 10-12 June 2004, in Trieste, Italy. ICS-UNIDO is organizing this international conference, which will address industrial biotechnology, biofuels, hydrogen energy, fuel cells, photovoltaics, and other renewable energy resources and applications. For more information, contact: Stanislav Miertus; tel: +39-040-9228-111; fax: +39-040-9228-101; e-mail: [stanislav.miertus@ics.trieste.it](mailto:stanislav.miertus@ics.trieste.it); Internet: <http://www.ics.trieste.it/conference/>