SOPAC’S PARTICIPATION AT THE INTERNATIONAL CONFERENCE FOR RENEWABLE ENERGIES BONN 2004

1-4 June 2004
Bonn, Germany

SOPAC Trip Report 357

by

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EXECUTIVE SUMMARY

SOPAC as the coordinator of the Pacific Energy and Gender Network (PEG) in the Pacific was invited as delegate of the stakeholder group “Women” to attend the International Conference for Renewable Energies, 1-4 June 2004, Bonn, Germany.

This report summarises the discussions and outcomes from the International Conference on Renewable Energy Bonn 2004. Daily reports of each day (1-4 June), published by the International Institute for Sustainable Development (IISD) has been annexed to this report. In addition, other relevant documents to the conference are also annexed for reference.

SOPAC also participated in the ENERGIA/LIFE Side Event on June 2, 2004 from 17:30 – 19:30 hrs. The theme for the event was Gender and Energy: A Key Variable in Poverty Reduction and Participatory Energy Production. Details of the side event and presentations have been annexed to this report.
INTERNATIONAL CONFERENCE FOR RENEWABLE ENERGIES BONN 2004

From 1 to 4 June 2004, Germany hosted the International Conference for Renewable Energies Bonn 2004, as announced by Chancellor Gerhard Schröder at the World Summit on Sustainable Development in September 2002 in Johannesburg.

The conference – Renewables 2004 – charted the way towards an expansion of renewable energies worldwide, responding to the call of the Johannesburg summit for the global development of renewable energy. It also kept up the momentum generated by the coalition of like-minded countries for the promotion of renewable energies (known as the Johannesburg Renewable Energy Coalition, JREC). More than 3600 participants (Participants List available upon request from SOPAC – not annexed due to its large size) met in Bonn, among them official governmental delegations including 121 energy, environmental and development ministers, representatives of the United Nations and other international and non-governmental organisations, civil society and the private sector. Conference Programme attached as Annex 1.

Renewables 2004 addressed the following central issues: How can the proportion of renewable energies used in industrialised and developing countries be substantially increased, and how can their advantages and potential be better used? The conference concentrated in particular on the following themes:

- Formation of enabling political framework conditions allowing the market development of renewable energies;
- Increasing private and public financing in order to secure reliable demand for renewable energies; and
- Human and institutional capacity building, and coordination and intensification of research and development.

Multi-Stakeholder Dialogue (MSD)

At the International Conference for Renewable Energies, the multi-stakeholder dialogue (MSD) was the principal means of integrated stakeholder participation. It set the stage for a transparent and participatory conference by enabling an interactive dialogue between civil society, business and governments (at top level). The discussions during preparation and implementation of the MSD facilitated a wider understanding of renewable energy issues and helped build consensus among major stakeholder groups. The results had an impact on the outcomes of the conference.
Stakeholder Forum for Our Common Future carried out the overall preparation and coordination of the MSD at Renewables 2004 on behalf of the conference conveners and in close cooperation with the Conference Secretariat; and also to input into the ministerial segment, the MSD contributed to identifying concrete actions and commitments by stakeholders to become part of the international action programme of the conference.

The stakeholder group “Women” actively participated in the MSD process and made useful interventions (refer to attached daily reports in Annex 2 and Annex 3 for MSD process).

Daily reports of each day (1 June – Annex 2, 2 June – Annex 3, 3 June – Annex 4, 4 June – Annex 5) and the summary report (Annex 6), published by the International Institute for Sustainable Development (IISD) are annexed to this report.

**OUTCOMES OF THE INTERNATIONAL CONFERENCE**

On Friday, 4 June 2004, government delegates at Renewables 2004 adopted the following outcomes:

- **A Political Declaration**, containing shared political goals for an increased role of renewable energies and reflecting a joint vision of a sustainable energy future, which provides better and more equitable access to energy as well as increased energy efficiency. (Refer to Annex 7 for full document)

- **Policy Recommendations for Renewable Energies**, give practical advice to governments, international organisations and stakeholders as they develop new approaches and political strategies and address the roles and responsibilities of key actors. (Refer to Annex 8 for full document)

- **An International Action Programme**, including actions and commitments by governments, international organisations and stakeholders. Conference participants were invited to contribute to the action programme with voluntary commitments to goals, targets and actions within their own spheres of responsibility. (This document is also available upon request from the SOPAC Secretariat. Due to its considerable size, it has not been annexed to this report.)

More information on the conference could be downloaded from the following website:

http://www.renewables2004.de/
SOPAC participated in the ENERGIA/LIFE Side Event on June 2, 2004 from 17:30 – 19:30 hrs. The theme for the event was Gender and Energy: A Key Variable in Poverty Reduction and Participatory Energy Production.

SOPAC presented on the Pacific Energy and Gender Network, highlighting its upcoming projects. Details of the side event are attached as Annex 9 and presentations are attached in Annex 10.

The Representative organisation of Women as a major Stakeholder Group at Renewables 2004 submitted actions and commitment – International Action Programme as attached in Annex 11.
## ANNEX 1

### Conference Programme

#### Programme Overview

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In addition: ■ Side Events ■ Conference Exhibition ■ Receptions ■ Excursions ■ Related Events
ANNEX 2

A Daily Report from the International Conference for Renewable Energies

VOLUME 95, NO. 1, TUESDAY, 1 JUNE 2004

Published by the International Institute for Sustainable Development (IISD)
DAILY REPORTS AND WEB COVERAGE AT HTTP://WWW.IISD.CA/SD/REN2004/
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 addresses the need for an intergovernmental body, secretariat support, coordination within the UN system, regional and subregional action, cooperation among 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 calls on governments and other stakeholders to, inter alia, promote the research, development, transfer and use of technologies and practices for environmentally sound energy systems, with particular attention to developing countries; review current energy supply mixes to determine how the contribution of environmentally sound energy systems could be increased in an economically efficient manner; examine and implement measures to overcome barriers; and coordinate energy plans regionally and subregionally.

The Conference will identify key obstacles to the wider use of renewable energy and will focus on practical solutions to overcome these barriers. The Conference is expected to conclude with the adoption of: a Political Declaration containing shared political goals for an increased role of renewable energy; an International Action Programme, including actions and commitments by governments, IGOs and stakeholders; and a set of Policy Recommendations. The Conference outcomes will also include arrangements for a follow-up process and a mechanism to share information on progress in implementing the International Action Programme.

Throughout the four-day meeting, delegates will participate in Plenary sessions, a Multi-Stakeholder Dialogue (MSD), and a Ministerial Segment. The Plenary sessions and Ministerial Roundtables will discuss policies for renewable energy market development, financing options for renewable energy, and the need to strengthen capacities, research and technology development. A Ministerial Panel will address energy services and the Millennium Development Goals (MDGs), as well as the contribution made by renewable energy in meeting the climate change challenge. Over 60 side events will be held during the meeting.

THE WORLD SOLAR SUMMIT: As a follow-up to UNCED, the UN Educational, Scientific and Cultural Organization (UNESCO) organized a High-level Expert Meeting in Paris in 1993, which launched the preparatory process for a world summit on the wider use of renewable energy. The World Solar Summit Process (WSSP) extended over a period of three years and included a series of expert and ministerial-level regional meetings. In 1994, the Executive Board of UNESCO approved the creation of a World Solar Commission with the mandate to provide advice on measures to reinforce global and regional cooperation for the promotion of renewable energy. The WSSP, which convened in Harare, Zimbabwe in September 1996, adopted the “Harare Declaration on Solar Energy and Sustainable Development” and launched the World Solar Programme 1996-2005, a ten-year programme for the promotion of renewable energy.

UNGASS-19: The 19th Special Session of the UN General Assembly (UNGASS-19), held at UN Headquarters in New York in June 1997, adopted Resolution A/RES/S-19/2 on the Programme for the Further Implementation of Agenda 21. The Resolution states that energy is essential for economic and social development and for improved quality of life, and that sustainable patterns of production, distribution and use of energy are crucial. UNGASS-19 also decided that energy issues would be further discussed at the ninth session of the Commission on Sustainable Development (CSD-9) and established an open-ended intergovernmental group of experts on energy and sustainable development to begin preparations for CSD-9.

CSD-9: CSD-9, which took place at UN Headquarters in New York in April 2001, adopted Decision 9/1 (E/CN.17/2001/19) on “Energy for sustainable development.” The Decision identifies challenges and recommendations regarding energy accessibility, efficiency, renewable energy, advanced fossil fuel technologies, nuclear energy technologies, rural energy, and energy and transport. The Decision states that energy is central to achieving sustainable development goals, notes wide disparities in the levels of energy consumption within and between developed and developing countries, and concludes that current patterns of energy production, distribution and utilization are unsustainable.

CSD-9 identified the major challenge for both developed and developing countries as the development, utilization and dissemination of renewable energy technologies on a scale wide enough to contribute significantly to energy for sustainable development. The Commission also recommended, *inter alia:*

* developing and implementing appropriate national, regional and international policies and measures to create an enabling environment for the development, utilization and distribution of renewable energy sources;
* developing domestic programmes to increase the contribution of renewable energy to total energy consumption;
* encouraging the role of the private sector in the development and utilization of renewable energy technologies;
* strengthening research, development, demonstration and institutional capacities in the field of renewable energy utilization;
* promoting the utilization of renewable resources, such as solar, wind, biomass, geothermal, hydro (including mini-hydro), and ocean (wave, tidal, and thermal energy conversion) to meet part of the energy needs for sustainable development;
* developing and using indigenous sources of renewable energy, where appropriate; and
* strengthening financial support to developing countries for the promotion of renewable energy.

REGARDING ENERGY ACCESSIBILITY, the Commission made various recommendations, including: improving access to modern biomass technologies and fuel wood sources and supplies; commercializing biomass operations; developing locally available energy resources for greater energy diversification; and promoting renewable energy, especially in rural areas, through community-based development methods.

On rural energy, the Commission noted 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, the leaders of the eight major industrialized democracies (G-8) and the President of the European Commission (EC) met in Okinawa, Japan for the G-8’s 26th Summit. At the Summit, the G-8 established the G-8 Renewable Energy Task Force to identify actions to promote a change in the supply, distribution and use of renewable energy in developing countries.

The Task Force submitted its report to the G-8’s 27th Summit in Genoa, Italy in 2001, concluding that renewable energy resources can sharply reduce local, regional and global environmental impacts as well as energy security risks. It can also, in some circumstances, reduce energy costs for consumers. The Task Force suggested that concerted action by the G-8, other countries, the private sector,
and international financial institutions 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 500 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 poverty eradication (JPOI Chapter II), governments agreed to improve access to reliable and affordable energy services for sustainable development, so as to facilitate the achievement of the MDGs. These included actions to:

* improve access to reliable, affordable, economically viable, socially acceptable and environmentally sound energy services and resources through various means, such as enhanced rural electrification and decentralized energy systems, and increased use of renewables;
* improve access to modern biomass technologies and fuelwood sources and supplies, and commercialize biomass operations; and
* promote the sustainable use of biomass and other forms of renewable energy through improved patterns of use.

Regarding sustainable consumption and production patterns (JPOI Chapter III), governments agreed to increase substantially the global share of renewable energy sources, with the objective of increasing the contribution of renewable energy 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 disseminate alternative energy technologies with the aim of giving a greater share of the energy mix to renewable energy; combine the increased use of renewable energy resources, more efficient use of energy, and greater reliance on advanced energy technologies; and 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.

In relation to the sustainable development of small island developing States (SIDS) (JPOI Chapter VII), the WSSD identified, *inter alia,* the need to support the availability of adequate, affordable and environmentally sound energy services for SIDS by strengthening and supporting ongoing and new efforts to improve energy supply and services by 2004. Regarding sustainable development in Africa (JPOI Chapter VIII), governments agreed to provide support for the implementation of energy initiatives, including increasing the use of renewable energy.

In addition to the JPOI, over 200 non-negotiated partnerships/initiatives aimed at implementing Agenda 21 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 Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Iceland, Latvia, Lithuania, Malta, New Zealand, Norway, Poland, Romania, Slovakia, Slovenia, the Alliance of Small Island States, Switzerland and Turkey issued a statement titled “The Way Forward on Renewable Energy.” The statement contains a commitment by JREC governments to increase the share of renewable energy in the global total primary energy supply mix. It states that increasing renewable energy use is essential for achieving sustainable development at national and global levels, and that renewable energy can provide important new ways to reduce pollution, diversify and secure energy supply, and improve access to energy in support of poverty eradication. In the statement, JREC governments also commit to work toward substantially increasing the global share of renewable energy sources, with regular review of progress, on the basis of clear and ambitious time-bound targets set at all levels. 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, in Brussels, Belgium and focused on the regional status and potential for renewable energy use. To date, JREC has 87 members and is serviced by a Secretariat hosted by the EC. A finance expert group was also created to discuss innovative financing models for renewable energy.

**PREPARATORY MEETINGS FOR THE INTERNATIONAL CONFERENCE ON RENEWABLE ENERGY**

At the WSSD, German Chancellor Gerhard Schröder invited the international community to Germany for an international conference on renewable energy. Germany’s Federal Government 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 (LAC) region was held in October 2003, in Brasilia, Brazil. The meeting adopted the “Brasilia Platform on Renewable Energies.” The Platform reaffirms the goal set out in the “Latin American and Caribbean Initiative for Sustainable Development” to ensure that, by 2010, the use of renewable energy in the region as a whole will amount to at least 10% of the region’s total energy consumption. This will be achieved through voluntary efforts and take into account national situations. The Brasilia Platform also calls on *renewables 2004* to support the creation of a technical and financial cooperation fund to facilitate cooperation between industrialized countries and the LAC region with the aim of reducing costs and increasing investment in renewable energy in LAC countries.

**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,” that includes support for moving forward with the process launched at the WSSD to develop renewable energy globally, and to secure worldwide consensus on the JREC.

In May 2004, the African Ministerial Meeting on Sustainable Energy Development took place in Nairobi. Ministers adopted the
“Statement on Renewables in Africa.” The statement calls for the promotion of sustainable production and utilization of biomass in all sectors, as well as research to assess and analyze renewable energy resources, appropriate benchmarks to evaluate progress on renewable energy development, and the incorporation of renewable energy in existing and planned energy programmes and associated investment programmes.

**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 energy 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. The meeting also called for concerted global action to remove market barriers to renewable energy development and expand the work of the JREC.

**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. These markets should provide long-term regulatory and price stability, reduce transaction costs associated with project preparation, and encourage cost reduction, reparability and sustainability through increased local manufacturing and local management. They should also allow non-discriminatory grid access for renewable energy, ensure its preferred use in appropriate off-grid applications, and address issues of fuel security for biomass projects. 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, the Republic of Yemen. The meeting adopted the “Sana’a Statement on Renewable and Sustainable Development,” which, *inter alia*, calls on developed countries to establish a regional center for renewable energy and sustainable development in Yemen that would specialize in renewable energy technology research.

**Other meetings:** Several other meetings have also discussed renewables 2004. These included: the International Renewable Energy Conference-Renewable Energy on the Market in Sonderborg, Denmark (September 2003), the fourth Global Forum on Sustainable Energy in Vienna, Austria (February 2004); the Delhi Sustainable Development Summit in Delhi, India (February 2004); and a preparatory conference of the JREC in Copenhagen, Denmark (September 2003).

At a preparatory NGO meeting held in Bad Honnef, Germany in October 2003, 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 in order to achieve the MDGs and to mitigate dangerous climate change.
ANNEX 3

A Daily Report from the International Conference for Renewable Energies

VOLUME 95, NO. 2, WEDNESDAY, 2 JUNE 2004

Published by the International Institute for Sustainable Development (IISD)
DAILY REPORTS AND WEB COVERAGE AT HTTP://WWW.IISD.CA/SD/REN2004/
PLENARY SESSIONS

OPENING SESSION

Jürgen Trittin, Germany’s Minister for the Environment, Nature Conservation and Nuclear Safety, opened the Conference, calling on renewables 2004 to send a signal for 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, underscoring that “the age of renewables has begun.”

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, Germany’s Parliamentary Committee on Environment and Nuclear Safety, underscored the role of renewable energy as a realistic choice for meeting the Millennium Development Goals (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, described changes to national legislation and the introduction of 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, said renewable energy is no longer a fringe interest, and stressed the need to break down barriers to implementation. He called for collaborative research efforts between North and South to make renewable energy technology more appropriate to the needs of developing countries.

Rajendra Pachauri, The Energy and Resources Institute, India, said renewable energy is no longer a fringe interest, and stressed the need to break down barriers to implementation. He called for collaborative research efforts between North and South to make renewable energy technology more appropriate to the needs of developing countries.

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MULTI-STAKEHOLDER DIALOGUE

The MSD was co-chaired by Heidemarie Wieczorek-Zeul and Jürgen Trittin, and facilitated by David Hales from the Stakeholder Forum for Our Common Future, UK. Each session included statements from stakeholder groups, followed by a dialogue.

VALUE AND OPPORTUNITIES OF RENEWABLE ENERGY - POLICY FRAMEWORKS AND REGULATORY CERTAINTY

The importance, value and contribution of renewable energy: NGOs called on the Johannesburg Renewable Energy Coalition 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, as this would put millions of people at risk. ACTORS IN DEVELOPMENT AND POVERTY ALLEVIATION highlighted the energy priorities of the poor, including clean and efficient cooking technologies, and ener-
gy for income-generating and social purposes. The RENEWABLE ENERGY MANUFACTURERS AND SUPPLIERS said increases in fossil fuel prices due to environmental costs and the depletion of resources will make renewable technologies more cost effective. He emphasized the role of renewable energy sources in providing energy to remote areas.

**Discussion:** MOROCCO said renewable energy could play a major role in rural development. TURKEY described its national legislation to promote renewable energy sources. DJIBOUTI argued 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 to facilitate the transfer of renewable energy technologies. The SCIENTIFIC AND TECHNOLOGICAL COMMUNITY said research and development in renewable energy technologies could provide multiple benefits, and suggested that current investments in nuclear fusion be diverted to renewable energy. NEPAL described the role of renewable technologies in countries with topographical constraints in using grid-based energy technologies. CONSUMERS stressed the need to build trust in renewable technologies. WOMEN said the conference should also consider energy efficiency and conservation, and recognize women as the main actors in energy management in the domestic sector.

**Promoting renewable energy - Policy frameworks and regulatory certainty:** 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 standards but said that the business community is committed to ensuring universal access to clean and sustainable energy for all by 2030. LOCAL AND REGIONAL AUTHORITIES called on governments to replace fossil fuel subsidies with targets for increasing access to renewable energy, highlighted the role of local authorities in promoting renewables through procurement, and advocated subsidiarity. RENEWABLE ENERGY MANUFACTURERS AND SUPPLIERS called for legally binding targets, awareness raising, and increased support from IFIs.

**Discussion:** SAUDI ARABIA stressed the need for a balance between different energy sources and, with IRAN, called for clean fossil fuel technologies. BELGIUM said the relatively high cost of renewable energy adversely affects demand. ICELAND urged a focus on the development of renewable energy fuels for transport. WOMEN called for gender mainstreaming in all aspects of renewable energy policies. CONSUMERS called on governments to provide information to consumers and develop technical standards for renewable energy products and services. The SCIENTIFIC AND TECHNOLOGICAL COMMUNITY stressed that current energy markets are distorted and noted the need for increased support along the whole innovation chain for renewable technologies. NIGERIA supported the development of local technologies and ACTORS IN DEVELOPMENT AND POVERTY ALLEVIATION identified benefits from the local manufacturing of renewable technologies. BUSINESS AND INDUSTRY said renewable energies can effectively fuel decentralized electricity generation for rural populations and lead to local empowerment. TRADE UNIONS stressed the need to harness synergies between renewable energies and employment generation. The UN ECONOMIC COMMISSION FOR AFRICA identified biomass as the primary energy source in Africa and urged modernization of the sector. MALI highlighted deforestation resulting from the domestic use of wood fuels. RWANDA stressed the need for energy to fuel development and BURUNDI called for increased cooperation to promote access to renewable energy technologies. The US highlighted the benefits of energy efficiency.

**PROMOTING RENEWABLE ENERGY - DELIVERING FINANCE AND CAPACITY FOR THE FUTURE**

**Promoting renewable energy - Financing the future:** LOCAL AND REGIONAL AUTHORITIES stressed the need to ensure access to credit and competitive interest rates, and to lower the unit cost of renewables. 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 international financial institutions (IFIs). The FINANCE SECTOR, speaking for Business and Industry, underscored the need for a long-term strategy for attracting capital to the renewable energy sector. ACTORS IN DEVELOPMENT AND POVERTY ALLEVIATION urged a focus on the finance of low-cost small-scale and primarily non-electrical renewable technologies.

**Discussion:** DENMARK said target setting was a prerequisite for the successful expansion of renewable energy and GERMANY outlined its renewable energy target. 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. JORDAN called for large-scale renewable energy power plants and increased regional cooperation. 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 to make financial provisions to ease the socioeconomic problems facing workers currently employed in conventional energy sectors.
A representative from BUSINESS AND INDUSTRY highlighted the Clean Energy Alliance between 12 US States to promote renewable energy over the next ten years. ETHIOPIA said hydropower should not be excluded from the list of renewable options. NGOs highlighted the recommendations of the World Commission on Dams, and said a key priority was to ensure a “just transition” to renewable energy.

The SCIENTIFIC AND TECHNOLOGICAL COMMUNITY called on the OECD to increase research spending on renewable energy. The UN FOOD AND AGRICULTURE ORGANIZATION called for the integration of agriculture and energy policies. SOLOMON ISLANDS said renewable energy presented a stepping stone for the future economic prosperity of countries that spend a major share of their national budget on energy. ACTORS IN DEVELOPMENT AND POVERTY ALLEVIATION called for subsidies to aid the maturation of clean technologies. PAKISTAN called for the creation of a renewable energy development bank and promotion agency.

Promoting renewable energy - Capacity building: CONSUMERS underlined the need to provide consumers and professionals with information and advice. TRADE UNIONS said renewable projects should include funds to train workers, involve civil society, and build capacity at the grassroots level.

Discussion: MAURITIUS proposed a protocol or convention on renewable energy. NEW ZEALAND urged the use of carbon charges to internalize the cost of energy systems. GUATEMALA called for capacity building among decision makers. 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. TRADE UNIONS urged the development of advanced technical skills. INDONESIA stressed that, without strong financial support, renewable energy cannot compete with other energy sources. RENEWABLE ENERGY MANUFACTURERS called for a strong signal of support for renewables at the international level. The SCIENTIFIC AND TECHNOLOGICAL COMMUNITY drew attention to the importance of human capacity building for researchers, producers and consumers of renewable energy. WOMEN called for enabling policies to ensure their greater participation in decision making. BUSINESS AND INDUSTRY supported setting targets at the local rather than global level. In order to give renewable energy a “fair” chance, NGOs called for the external costs of all energy sources to be internalized. He called for targets, support systems and “long, loud and legal” frameworks. ACTORS IN DEVELOPMENT AND POVERTY ALLEVIATION favored small-scale renewable energy projects that generate employment and stimulate enterprise at the local level.

CONSUMERS supported the establishment of an international institution to promote the supply and demand of renewable energies. LOCAL AUTHORITIES called for decentralized governance and TRADE UNIONS urged participants to address social concerns. KENYA called for efforts to increase the diffusion of geothermal, solar and wind energy technologies. TUNISIA and NIGER called for enhanced international technical cooperation and capacity building. UN ECONOMIC COMMISSION FOR LATIN AMERICA AND CARIBBEAN stressed the need for electrification as well as job creation.

### SIDE EVENTS

#### Global Village Energy Partnership

Presented by the Global Village Energy Partnership (GVEP)

Judy Siegel, GVEP, explained that GVEP was launched at the WSSD and seeks to increase energy access to over 50,000 communities in 30 countries. Noting that 1.7 billion people lack access to energy, she stressed that energy is critical to achieve the MDGs.

Kamal Rajal, UNDP, discussed capacity development initiatives in Asia. He outlined the Asia-Pacific Regional Energy Programme for Poverty Reduction (2004-2006), which aims to enhance equitable access to appropriate, reliable and affordable energy services to reduce poverty and contribute to achieving the MDGs.

Roberto Gonzalez Diaz-Duran, Guatemala’s Minister of Energy and Mines, discussed his country’s National Action Plan and planning process to alleviate energy poverty. He outlined Guatemala’s programme with GVEP, which aims to, inter alia, bridge the gap between investors, entrepreneurs and energy users in the design, installation and operation of replicable energy projects. Minister Diaz-Duran stressed that the ultimate benefit of such programmes is not the provision of energy itself, but the poverty reduction achieved.

George Mpongbo, Zambia’s Minister of Energy and Water Development, noted that 80% of people in Zambia lack access to electricity. Emphasizing that “actions speak louder than words,” he called on developed countries to “unlock” their financial and technical resources to assist African countries in developing and investing in renewables.

Ma Shenghong, Renewable Energy Development Center, China, described the Brightness and Township Electrification Programme in China, which aims to accelerate the decentralized electrification of remote rural areas. Outlining lessons learned and noting that rural populations have difficulty financing renewables, he underscored the importance of government grants.

Links to more information:

http://www.gvep.org

Contact:

Judy Siegel: judy@energyandsecurity.com

#### Science Forum: Research, Development and Education

Organized by the Solar Energy Research Association (ForschungsVerbund Sonnenenergie - FVS)

The Science Forum, which was held at the Wissenschaftzentrum in Bonn, consisted of a series of sessions focused on research, development and education in the context of renewable energies. The Forum was attended by more than 100 experts from governments, UN agencies, international organizations, and academic institutions.

Jürgen Schmid, FVS/Institute for Solar Energy Supply Technology, opened the day-long event, urging participants to use it to launch a process that would encourage North-South cooperation on research and education efforts.

After the opening speeches, participants focused on issues of...
research and development, followed in the afternoon by sessions on education and training networks.

On research and development, Joachim Luther, Fraunhofer Institute for Solar Energy Systems, argued that a worldwide sustainable energy system was achievable through a rapid increase in the use of renewables. However, he suggested that such a transformation would require a global approach involving sustained efforts to reduce the cost of renewable energy, combined with ongoing political, institutional, and financial commitment. He proposed the establishment of an International Science Panel on Renewable Energy, which could operate along the lines of the Intergovernmental Panel on Climate Change.

Other speakers assessed the specific needs of both industrialized and developing countries, as well as the challenges involved in integrating renewables within energy distribution systems.

During the sessions on education networks, several presenters discussed the UN Educational, Scientific and Cultural Organization’s Global Renewable Energy Education and Training (UNESCO-GREET) programme. Noting significant gaps in education, training, and public awareness raising, Osman Benchikh, UNESCO, observed that these elements are often missing from renewable energy projects. He highlighted GREET’s support for collaboration between existing training programmes, the launching of regional and global networks for information exchange, and other activities to promote training and education.

Other speakers tackled a range of education-related issues, including measures to integrate renewable energy into society in the US, European postgraduate courses in renewable energy, the activities of the International Institute for Renewable Energy in Asia, and a proposal for an internet-based information exchange and education system.

As well as the main sessions, a number of side events were also held on issues such as the role of research and academic institutions, the use of renewable energy for heating and cooling, Germany’s renewables activities, and capacity building in developing countries.

The Science Forum concluded with an announcement by Jürgen Schmid of a German initiative to launch an internet-based information exchange and education system.

In parallel breakout sessions, participants discussed risk management and venture capital for the renewable energy sector. The group on risk management identified several investment barriers, including lack of expertise and know-how about sustainable energy in the financial sector, high initial investment costs and a risk/reward ratio not perceived as attractive. Several speakers called for a change of thinking in the financial sector and for new public-private partnerships to share risks related to sustainable energy projects.

The group on venture capital heard presentations on the process to obtain venture capital for start-up companies, an investor’s perspective on a venture capital deal, and impediments to venture capital.

The 5th BASE International Investment Forum for Sustainable Energy convened in the afternoon. Ernst Ulrich von Weizsäcker encouraged business participants to consider strong recommendations for renewables 2004. Entrepreneurs from five continents presented 12 sustainable energy projects that require investments. These include various renewable energy technologies, energy storage, and conversion equipment. These projects, which range in size, require total investments of more than € 600 million.

In a separate session on consumer lending and micro-finance, participants heard presentations and discussed the integration of energy services into existing consumer lending products and micro-finance activities, interest rates for micro-credit, and operational efficiency of different micro-finance models.
ANNEX 4

DAILY REPORTS AND WEB COVERAGE AT HTTP://WWW.IISD.CA/SD/REN2004/

VOLUME 95, NO. 3, THURSDAY, 3 JUNE 2004

Published by the International Institute for Sustainable Development (IISD)
DAILY REPORTS AND WEB COVERAGE AT HTTP://WWW.IISD.CA/SD/REN2004/
In the morning, delegates met in Plenary to consider policies for renewable energy market development. The first part of the session focused on the electricity sector, followed by presentations and discussions on heating and transport.

**Electricity**: Session Co-Chair Carlos Magariños, Director General of the UN Industrial Development Organization (UNIDO), outlined UNIDO’s work to ensure universal energy access for the poor. He expressed confidence that renewables 2004 would provide clear guidance on the development of renewables.

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. While indicating that renewable energy is a least cost option for remote villages, he noted that government grants and support remain essential, as costs are still relatively high.

Aloys Wobben, Enercon GmbH, 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 hydro and solar home systems. Nagendran noted that public-private partnerships and a multi-stakeholder approach have contributed to high quality service. 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 ongoing 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. Responding to a question on local opposition to wind farms, Wobben noted ongoing progress in reducing noise and other causes of complaints.

**Heat and transport**: Freddie Mthathlthedi, Southern African Development Community (SADC), presented the SADC Programme for Biomass Energy Conservation. He highlighted that the Programme raises awareness among biomass energy users, and improves business opportunities for suppliers of more efficient stoves. He recommended that renewables 2004 recognize sustainable biomass energy as a critical component of renewable energy, and that countries integrate traditional biomass energy into all energy policies and strategies.

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, a consumption tax, and a solar power exchange programme. 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, and highlighted a variety of benefits, including reductions in 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.
Emilio la Roviere, 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 significant technological progress since the Programme was launched in the 1970s, adding that the Programme has also created 720,000 direct jobs, reduced reliance on oil imports and vulnerability to oil price fluctuations, and helped mitigate climate change.

**FINANCING OPTIONS FOR RENEWABLE ENERGIES**

In the afternoon, delegates examined financing options for renewable energy. Dipal Barua, Grameen Shakti (a not-for-profit rural power company in Bangladesh) noted that 70% of people in Bangladesh lack access to the electricity grid. He reported on Grameen Shakti’s work to promote affordable solar home systems in rural and remote off-grid areas by providing four different financing models with varying down payments and interest rates. He explained that the organization also provides additional support, 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 national targets 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 (SMEs) 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 scaling-up 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**

On Wednesday afternoon, Alberto Calcagno, UNEP-Dams and Development Project (DDP), and Brian Hollingworth, a consultant on South Africa’s World Commission on Dams (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 Khalifallah, 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, which concentrates solar power in a dish to produce steam or electricity directly.

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, briefed participants on research and development on photovoltaics in Germany, highlighting the positive cooperation between government, industry, and research and development institutes.

Summarizing the presentations, Stephen Karekezi, African Energy Policy Research Network, noted the benefits of an open process that involves as many stakeholders and countries as possible.

**SENIOR OFFICIALS MEETING**

This meeting was chaired by Michael Hofmann (Germany), Co-Chair of the *renewables 2004* International Steering Committee (ISC). Mohamed El-Ashry, Conference Facilitator, briefed delegates on the process of drafting the political declaration. He explained that the first draft had been circulated to governments and stakeholders in April 2004, with a revised draft text circulated on 17 May. Based on comments submitted both orally and in writing during *renewables 2004*, he said he would prepare a third draft to be presented to the Plenary on Thursday, 3 June. He expressed hope that ministers would adopt the declaration on 4 June.

Following his presentation, many delegates provided comments on the draft declaration. Several developing countries expressed concerns regarding the: concept of internalizing the external costs of energy generation; selective use of language from the Johannesburg Programme of Implementation (JPOI); assumptions regarding future discussions to take place during the 14th and 15th sessions of the Commission on Sustainable Development; proposed international review and reporting processes to follow-up *renewables 2004*; and proposals to direct a percentage of financial flows from International Financial Institutions for renewable energy. Noting that the majority of renewable energy technologies are owned by industrialized countries, developing countries expressed concern that this could lead to a dependence on foreign-owned technology. Some developing countries also proposed additional language referencing the principle of common but differentiated responsibilities, and emphasizing the need for industrialized countries to fulfil their existing commitments for financial assistance and technology transfer to developing countries on concessional terms.

Regarding targets, several developed countries expressed disappointment that the draft fails to specify renewable energy targets and that it does not go beyond the language agreed to in the JPOI. These delegations proposed language that the setting of targets is a
prerequisite for successful renewable energy expansion strategies at national, regional and global levels. They also expressed support for retaining language on the internalization of external costs as an important measure in promoting renewable energy. One developed country said it was sufficient that the issue of targets was addressed in the Policy Recommendations document, while several developed and developing countries opposed text on targets. In order to facilitate consensus, a developed country proposed that the declaration recognize the utility of targets, without making them a prerequisite for all countries.

A group of developing countries, announced that they had a detailed proposal based on the outcomes of a regional preparatory meeting for renewables 2004. A developing country said the conference outcomes should not weaken the agreements reached in the JPOI. Another developing country suggested introductory text stating that the declaration was neither prescriptive nor binding. A developed country suggested that in the event of no consensus on the declaration, its endorsement could be made optional. Several delegations raised concerns of a procedural nature, such as the need for sufficient time to comment on the third draft, and the process for taking into account written and oral comments.

Rainer Hinrichs-Rahlwes (Germany), Co-Chair ISC, then introduced the Policy Recommendations document, explaining that it contained a non-prescriptive menu of options. He also introduced the International Action Programme, which currently lists over 123 voluntary actions and commitments announced by governments and other stakeholders.

**SIDE EVENTS**

**Is the World Commission on Dams Report a suitable tool for assessing the sustainability of hydropower?**

Presented by UNEP - DDP

Alberto Calcagno, UNEP-DDP, explained that the UNEP-DDP aims to promote dialogue on how to improve the planning and management of dams and their alternatives, based on the WCD’s core values and strategic priorities.

David Grey, World Bank, said the Bank was opposed to any requirement to “comply” with the WCD Report, but noted that it uses the Report as guidance. He stated that there has been a major decline in World Bank lending for all hydropower infrastructure, including dams and hydropower.

Patrick McCully, International Rivers Network, urged the exclusion of large hydropower from renewables initiatives, stressing that large hydropower fails to provide the poverty reduction benefits of decentralized renewables. He also warned that including large hydropower in such initiatives would divert much-needed funds away from new renewables.

Richard Taylor, International Hydropower Association (IHA), said hydropower issues were inadequately addressed in the renewables 2004 programme. Describing the WCD Report as an “embarrassingly one-sided review,” he highlighted the IHA’s sustainability guidelines, which he said are rigorous and pragmatic.

George Mpombo, Zambia’s Minister of Energy and Water Development, expressed support for dam construction in Africa, and said application of the WCD’s recommendations would present a severe setback to economic advancement in his country.

**Day of Geothermal Power**

Organized by UNEP Energy, the Federal Institute for Geosciences and Natural Resources, Rödl & Partner, German Geothermal Union, Center of Geo-Research Potsdam, International Geothermal Association and KfW Bankgroup

This side event included four sessions, during which participants reviewed the latest advances in geothermal power technology, considered the potential for market development, outlined project implementation, and identified actions for moving forward.

The meeting opened with a keynote speech by John Lund, Oregon Institute of Technology, who noted that geothermal energy is currently produced by 23 countries, serving 60 million people and supplying 1% of world energy needs. During the first session, participants heard presentations reviewing available technologies for harnessing geothermal power and outlining their distribution and applicability.

Presentations on market development covered a range of issues, including what determines insurance costs, how to develop legal frameworks that support geothermal energy projects, and how to minimize risk for investors. Participants were briefed about Germany’s Renewable Energy Act, which sets tariffs, provides priority access and secures distribution for renewable electricity, including geothermal. A World Bank representative introduced the Bank’s GEO-Fund, which seeks to guarantee the geological risks associated with geothermal development projects.

The afternoon session opened with briefings on lessons learned from the implementation of geothermal projects in Iceland, Kenya, Guatemala, Nicaragua, the Russian Federation and Hungary. Participants identified several drivers for geothermal energy including: local availability, inexhaustibility of supply, energy source diversification, fluctuating oil prices, and reduced environmental impacts compared with conventional energy sources. Barriers identified included high exploration and initial investment costs, and a lack of private finance and institutional will.

On moving forward, speakers presented national and regional plans for the development of geothermal projects. One presenter described the intention of the Philippines to become the world’s largest consumer of geothermal energy. Participants heard of a project in the eastern Caribbean that aims to foster local legal, technical and financial expertise and generate comprehensive data-sets as a basis for attracting commercial investment. One speaker described the Federal Institute for Geosciences and Natural Resources’ GEOTHERM-Programme, which aims to remove the barriers to the
development of geothermal energy in developing countries. Highlighting the “vast untapped potential” of geothermal energy in Eastern Africa, the final speaker described the African Rift Geothermal Energy Development Facility that seeks to provide a risk-sharing tool for partial risk guarantee to reduce uncertainty.

At the end of the event Klaus Töpfer, UNEP Executive Director and Heidemarie Wieczorek-Zeul, Germany’s Federal Minister for Economic Cooperation and Development, signed a collaborative agreement for financial and technical support of the African Rift Geothermal Energy Development Facility.

In parallel breakout sessions, participants discussed how carbon finance and export credit finance can foster investments in renewable energy. Several speakers underscored that levels of carbon finance are insufficient to catalyze renewable energy projects at current carbon prices, while it creates a hard-currency revenue stream that can leverage private funding. Veronique Bishop, World Bank, suggested that projects co-funded by ODA be allowed to generate carbon credits. Participants called for improved clarity on various issues relating to the Clean Development Mechanism, including the use of ODA, the linkage to the EU Emissions Trading Scheme, host country approval processes, and rules for methodologies. The group on export credit finance called on export credit agencies to address risk-sharing tool for partial risk guarantee to reduce uncertainty.

Participants also discussed public-private partnerships (PPPs), SME finance, and infrastructure finance. Youba Sokona, ENDA, underscored the need for PPPs for energy projects in rural regions in the South. Participants agreed that SMEs are critical for delivering clean energy in developing countries, while noting that the services and capital needed to increase the number of SMEs is lacking. Meanwhile, participants of the infrastructure finance group heard presentations on project finance for renewable energy, renewable energy funds under development, and innovative financing structures. Tom Murley, Hg Capital, underscored that renewable energy can be an attractive alternative for institutional investors, even though they seldom fit traditional private equity return targets.

In the evening, UNEP Executive Director Klaus Töpfer opened the executive panel discussion. Jürgen Trittin, Germany’s Federal Minister for the Environment, Nature Conservation and Nuclear Safety, stressed the need to bring down production costs of renewable energy technologies, create a stable legal framework, define national targets, and identify additional funding for renewable energy. Lucien Bronicki, Omat, said renewable energy could provide a hedge against oil price fluctuation. Leonard Good, GEF CEO/Chairman, addressed the challenges related to off-grid renewable energy in developing countries, outlining several risk mitigation measures. Peter Woicke, World Bank Managing Director, emphasized the importance of grants for training on implementation and operation of renewable energy technologies.

**Sustainable Energy Finance**

**Presented by UNEP and the Basel Agency for Sustainable Energy**

On the second day of the Sustainable Energy Finance event, Andrew Dlugolecki, Andlug Consulting, presented the CEO Briefing on Renewable Energy, which calls for the development of clear policies to help build confidence in the long-term future.

In parallel breakout sessions, participants discussed how carbon finance and export credit finance can foster investments in renewable energy. Several speakers underscored that levels of carbon finance are insufficient to catalyze renewable energy projects at current carbon prices, while it creates a hard-currency revenue stream that can leverage private funding. Veronique Bishop, World Bank, suggested that projects co-funded by ODA be allowed to generate carbon credits. Participants called for improved clarity on various issues relating to the Clean Development Mechanism, including the use of ODA, the linkage to the EU Emissions Trading Scheme, host country approval processes, and rules for methodologies. The group on export credit finance called on export credit agencies to address barriers to renewable energy projects.

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**THINGS TO LOOK FOR TODAY**

**PLENARY:** The opening of the Ministerial Segment will take place from 9:00 am-12:00 pm. Gerhard Schröder, Chancellor of the Federal Republic of Germany, will make the opening address, followed by keynote speeches from UNEP Executive Director Klaus Töpfer and other dignitaries. Further statements will be heard from Margot Wallström, European Commissioner for the Environment, Peter Woicke, Managing Director of the World Bank, and several ministers. Participants will also hear reports from the Multi-Stakeholder Dialogue and the International Parliamentary Forum.

Plenary will reconvene from 5:00-8:00 pm to discuss the outcomes, including the reports from the Ministerial Roundtables, as well as the draft Policy Recommendations, International Action Programme, and political declaration.

**MINISTERIAL ROUNDTABLES:** Three Ministerial Roundtables will convene from 2:30-4:30 pm. The Roundtable on Policies for Renewable Market Development will take place in the Plenary Hall. The Roundtable on Financing Options for Renewable Energy will meet in the Bundesrat. The Roundtable on Strengthening Capacities, Research and Technology Development, and Institutions will convene in the Wasserwerk.
ANNEX 5

(DAILY REPORTS AND WEB COVERAGE AT HTTP://WWW.IISD.CA/SD/REN2004/)

VOLUME 95, NO. 4, FRIDAY, 4 JUNE 2004

Published by the International Institute for Sustainable Development (IISD)
DAILY REPORTS AND WEB COVERAGE AT HTTP://WWW.IISD.CA/SD/REN2004/
Following a performance of music and dance, Co-Chair Heidemarie Wieczorek-Zeul, Germany’s Federal Minister for Economic Cooperation and Development, opened the Ministerial Segment. She stressed that the vision of renewable energy as the energy of the future must now be turned into reality.

Co-Chair Jürgen Trittin, Germany’s Federal Minister for the Environment, Nature Conservation and Nuclear Safety, underscored the importance of the renewables 2004 draft International Action Programme, which includes country programmes to increase the use of renewable energies. He noted that reducing the cost of renewables is the best way to ensure their uptake in developing countries.

Klaus Töpfer, UNEP Executive Director, recommended improving energy access in rural areas to avoid increasing urbanization. He 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 of imported fossil fuels 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 that renewable energy development is critical for mitigating climate change, which is the “single most important issue in the long term.” Noting a shift toward supporting solutions at the local level, 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 toward achieving the EU target of 20% electricity generation from renewables by 2010, and said targets for the period 2010-2020 were being prepared.

Gerhard Schröder, Chancellor of the Federal Republic of Germany, highlighted the appropriate timing of the conference, noting the current high oil prices. He said a diverse energy supply is important not only on economic grounds but also as a matter of security. He stressed the need for implementation of the Kyoto Protocol and urged the Russian Federation to ratify.

Dilma Rousseff, Brazil’s Minister for Energy outlined the central principles of the Brasilia Platform, including: synergies between renewable energy and job creation; natural resource use appropriate to specific national circumstances; sovereignty over natural resources; and cost effectiveness. Abdurahaman Tarmoom, Yemen’s Minister of Electricity stated that Yemen’s biggest challenges are rural electrification and freshwater supply. He outlined the results of the renewables 2004 preparatory meeting for the Middle East and North African region, noting that investment in renewable energy should go together with energy efficiency.

Prommin Lertsuridej, Thailand’s Minister for Energy, recalled the preparatory meeting for the Asia-Pacific region, which called for an increase in renewable energy and more environmentally friendly technologies. He noted that the challenge is to implement national policy frameworks to encourage the mainstreaming of renewable energy. Syda Namirembe Bumba, Uganda’s Minister of Energy and Mineral Development, reported on the outcomes of the preparatory meeting for Africa, stressing the need for technology transfer, using the continent’s rich energy resources, and promoting the sustainable use of biomass.

Dermot Ahern, Ireland’s Minister for Communications, Marine and Natural Resources, stressed the need to apply the polluter pays prin-
ciple to energy and to reduce administrative barriers to the distribution of electricity from renewables in the EU. Zhang Guogoa, 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 arising from a compulsory shift to single fuel compressed natural gas for all public transport, and said citizens should be “placed at the helm of decision making.”

Delegates then heard a statement from José Antonio Ocampo, UN Under-Secretary General, Department of Economic and Social Affairs. He identified an urgent need to increase the scale of energy production from renewables, and supported the internalization of environmental externalities and the provision of subsidies for renewable energy.

David Hales, Stakeholder Forum for Our Common Future, reported from the Multi-Stakeholder Dialogue. He noted general agreement that the poor in developing countries have the greatest needs, and women are suffering most. He said civil society supports 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, *inter alia*, needs to be developed without delay, is a “common good” of mankind, and brings various macroeconomic benefits. He also called for the establishment of an international renewable energy agency.

**DISCUSSION OF CONFERENCE OUTCOMES**

In the evening, delegates met to discuss the Conference outcomes in a session co-chaired by Jürgen Trittin and Heidemarie Wieczorek-Zeul. Conference Facilitator Mohammed El-Ashry presented the draft Policy Recommendations for Renewable Energies. He underlined that the recommendations contained a non-prescriptive menu of options. Micheal Hofmann and Rainer Hinrichs-Rahlwes, Co-Chairs of the International Steering Committee (Germany), presented the draft International Action Programme, which includes 150 voluntary programmes and actions. Several countries also presented additional projects and programmes.

Conference Facilitator El-Ashry then presented the latest draft of the political declaration. Responding to the draft, Uganda called for a clarification on the definition of renewable energy and, with South Africa, Ethiopia, Brazil, China and Senegal, recommended that medium and large hydropower be included in the definition. South Africa, Sweden and Denmark called for references to gender mainstreaming and women’s participation. Iran, supported by India and Saudi Arabia, called for the deletion of text on the internalization of external costs and the removal of barriers. Supported by Denmark and Brazil, India called for the inclusion of the principle of common but differentiated responsibilities and respective capabilities. Saudi Arabia said all references to follow-up work by the Commission on Sustainable Development should be removed. Mexico said the need to promote local research and development capacities should be recognized. The US opposed prescriptive text on ODA, offering an alternative formulation which notes that financial incentives and a higher share of ODA as catalytic funding should be considered. Denmark expressed concern that language in the document had been weakened, particularly regarding renewable energy targets. Supported by the EC, he proposed re-inserting text on the need for a level playing field, and maintaining text on the internalization of external costs and the removal of barriers. The EC said the declaration should recognize targets set by countries and regions. NGOs called for the inclusion of the Extractive Industries Review target of increasing financing from International Financial Institutions. In closing, Co-Chair Wieczorek-Zeul called on participants to commit themselves to the goals of eradicating poverty and promoting peace and sustainable development.

**MINISTERIAL ROUNDTABLES**

**POLICIES FOR RENEWABLE ENERGY MARKET DEVELOPMENT**

Co-Chair Simone Probst, Germany’s Federal Ministry of the Environment, introduced the Roundtable on policies for renewables by outlining Germany’s Renewable Energy Act, which establishes tariffs and guarantees framework conditions for renewable energy. Noting that increased oil prices have encouraged a departure from oil resource dependency, Co-Chair Serge Lepeltier, France’s Minister of the Environment and Sustainable Development, described national policies that oblige grid operators to purchase electricity from renewable energy sources and guarantee distribution. He noted that a White Paper currently under discussion in the French Parliament proposes the imposition of energy saving standards on suppliers, and the establishment of certifications for energy saving.

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 to create a level playing field.

Ministers and other senior officials then presented their perspectives on policies for renewable energy market development. Tunesia supported an appropriate legal framework that provides incentives for renewables, while Morocco expressed its interest in green certificates. Albania noted efforts to establish regional grid sharing and 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 proposed the establishment of a world renewable energy bank located in a developing country. Costa Rica highlighted national policies in support of the Clean Development
Mechanisms as a key element in its efforts to ensure technology transfer and greenhouse gas reductions.

SAUDI ARABIA stressed that OPEC is not responsible for high oil prices and disputed the suggestion that oil is a problem in electricity generation, as its share of the market is small compared with nuclear and coal. He also called for an end to coal and nuclear power subsidies.

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 the 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 listed barriers to renewable energy, including uncertainties over capital, and lack of institutional capacity. 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 in limiting and sharing 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 drew attention to various obstacles, such as fossil fuel subsidies and trade barriers for renewable technologies. 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 production of renewable energy technologies in developing countries that are appropriate to their particular needs. KENYA highlighted the challenge of fulfilling donors’ policies that require private sector involvement in renewable energy projects.

MALI and NIGERIA called for affordable renewable energy technologies for developing countries through market creation and cost reduction. ANGOLA noted that its recent war had destroyed forests and reserves that had provided the country’s energy sources, and stressed the need to rebuild the country. He emphasized the potential for hydropower. FINLAND emphasized the need to reinforce existing policies and measures to promote renewable energy and energy efficiency. The EUROPEAN COMMISSION (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 in place clear national legal frameworks.

BRAZIL reported that 91% of its renewable energy comes from hydroelectric power and, noting the decline in external finance for this energy source, 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 because of public resistance due to 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 that 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, David Garman, Acting Under-Secretary, 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 and the establishment of good governance as a prerequisite for effective renewables investment. She also 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.

SIERRA LEONE provided an overview of programmes being implemented in cooperation with multilateral institutions. INDONESIA highlighted its technical and human capabilities for renewable energy, but noted the need for additional funds to maintain and develop them. ITALY identified bilateral and multilateral arrangements as the most suitable frameworks for capacity building for renewable energy, and suggested the establishment of an energy center for the Mediterranean region. The US 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
financial mechanisms and a stable business environment, and positive results from technical standard setting. He recommended collaborative measures for research and development and the broad distribution of results in order to facilitate capacity development.

**SIDE EVENTS**

### Renewables, Energy Policy and Climate Targets

Organized by the European Renewable Energy Council, Greenpeace and WWF

Bill Hare, Greenpeace International, stressed the urgent need to keep the global temperature increase below 2°C to avoid dangerous and abrupt climate change. He said this was an essential motivation for a switch from fossil fuels to renewables and the adoption of energy efficiency technologies.

Gulio Volpi, WWF, called for the EU to adopt a target for 25% renewable energy by 2020. He said WWF’s vision for the power sector was to make it carbon neutral in industrialized countries by 2050, and to develop an efficient and renewable-based power sector in developing countries.

Arthouros Zervos, European Wind Energy Association, addressed the options for providing half of the global energy supply from renewables by 2040, outlining the need for ambitious growth rates, additional support measures, regional actions, increased electrification for the poor, and implementation of the Kyoto Protocol.

Joaquin Nieto, Trade Union Confederation of CCOO, outlined the role of trade unions in supporting renewable energy in Spain. He said that trade unions can play an important role by facilitating the transition from the conventional energy sector to a new energy model, increasing awareness among workers and promoting skills development in the sector.

**Link to more information:**

http://www.reeep.org

Contact:

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### Increasing the global uptake of renewable and energy efficient technologies

Presented by the Renewable Energy and Energy Efficiency Partnership (REEEP)

This side event focused on REEEP, the partnership launched by the UK at the WSSD. Jeremy Eppel, UK Department for Environment, Food and Rural Affairs, outlined progress made in developing REEEP, including the recent establishment of a Secretariat based in Vienna, Austria, and the drafting of a work programme for 2004-2008.

Stephen Timms, UK Minister of State for Energy, expressed satisfaction at the momentum generated by REEEP, including the growing international support from the US and other countries.

Participants also heard from the newly-appointed Director of REEEP’s International Secretariat, Marianne Moscoso-Osterkorn, who said the Secretariat would act as an information hub, providing contacts and examples of best practice. She said REEEP welcomes new members, and seeks new funding for its members.

Regarding REEEP’s work in increasing renewable energy use and energy efficiency, other speakers highlighted the promotion of good practice and capacity building, and the importance of securing project funding from various sources, including the European Bank for Reconstruction and Development and other financial institutions.

**Link to more information:**

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### THINGS TO LOOK FOR TODAY

**PLENARY:** A Ministerial Panel will take place from 9:00-10:30 am to address Energy Services and the Millennium Development Goals - The role of renewable energy and energy efficiency. A second Panel will take place from 10:30 am-12:00 pm to discuss the contribution of renewable energy to meeting the climate challenge. From 12:00-1:00 pm the conference outcomes will be presented for adoption, and Ministers Trittin and Wieczorek-Zeul will close renewables 2004.

**RENEWABLES 2004 BULLETIN:** A final summary of the renewables 2004 conference will be available online on 7 June 2004 at http://www.iisd.ca/sd/ren2004
ANNEX 6


VOLUME 95, NO. 5, MONDAY, 7 JUNE 2004

Published by the International Institute for Sustainable Development (IISD)
DAILY REPORTS AND WEB COVERAGE AT HTTP://WWW.IISD.CA/SD/REN2004/
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.

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 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.

(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 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-
renewable energy. Delegates also called on a call for government leadership to foster the creation of markets for "Bangkok Statement on Renewable Energy." The Statement includes held in March 2004, in Bangkok, Thailand. Delegates adopted the for gross inland energy consumption is achievable in the EU by term. The Berlin Conclusions note that a 20% renewable energy target in final energy consumption for the medium (2020) and long

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 Sustainable Development (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.

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 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 Ziusula, 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 Manufactures 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."
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.

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.

FINANCING THE FUTURE: Participants in this part of the Multi-Stakeholder Dialogue considered two issues: "Financing the future" and "Capacity building."

In the ensuing discussion, 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 programmes 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 energy management in the domestic sector. PR...
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.

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 Mothlatlheidi, 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.

Emilio 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
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 Wieczorek-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,
Gerhard Schöder to Heidemarie Wieczorek-Zeul and Jürgen itemizing field. internalize the external costs of energy in order to create a level play-

Svend Sigaard, Vestas Wind Systems A/S, stressed the need to Environment and Sustainable Development. Noting that current car-

was co-chaired by Simone Probst, Germany’s Federal Ministry of the question.

“Strengthening capacities, research and technology development, and parallel sessions, which focused on "Policies for renewable energy market development:" from left to right: Christopher Flavin; Serge Lepeltier; Simone Probst; Svend Sigaard.

Ministers and other senior officials then presented their perspec-
tives on policies for renewable energy market development. Tunisia supported appropriate legal frameworks that provide incentives for renewables, while Morocco expressed its interest in green certifi-
cates. 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.

Saud 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 renew-

able energy technologies in developing countries. Mali and Nigeri outlined the results of the renewables 2004 preparatory meeting for the Middle East and North African region.

Promin 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 Bumba, 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 externali-

ties 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.
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.

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 Boutilab, 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-
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.

Shoiji 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
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 re-inserting 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 “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.
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 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.

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.


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; 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; Internet: http://www.photovoltaic-conference.com

FIRST GLOBAL CARBON MARKET FAIR - CARBON EXPO 2004: This combined conference and exhibition 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; 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; Internet: http://www.ics.trieste.it/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; 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; 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; 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; 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; 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; 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; 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; Internet: http://www.un.org/esa/sustdev/
ANNEX 7

Political Declaration
POLITICAL DECLARATION

1. Ministers and Government Representatives from 154 countries gathered in Bonn, Germany, June 1-4, 2004, for the International Conference for Renewable Energies\(^1\), acknowledge that renewable energies combined with enhanced energy efficiency, can significantly contribute to sustainable development, to providing access to energy, especially for the poor, to mitigating greenhouse gas emissions, reducing harmful air pollutants, thereby creating new economic opportunities, and enhancing energy security through cooperation and collaboration.

2. Ministers and Government Representatives agree to build upon the results and agreements reached at the Earth Summit in Rio de Janeiro (1992), the Millennium Declaration and the Millennium Development Goals (2000), and the World Summit for Sustainable Development (2002). They reaffirm their commitment to substantially increase with a sense of urgency the global share of renewable energy in the total energy supply. They share the vision that renewable energies, combined with increased energy efficiency, will become a most important and widely available source of energy and will offer new opportunities for cooperation among all countries.

3. Ministers and government representatives also reaffirm their commitment to achieving the United Nations’ Millennium Development Goals, in particular the goals to halve the proportion of people living in extreme poverty and to achieve environmental sustainability by 2015. Reaching these goals will require significantly expanded access to energy in developing countries. It is estimated that up to 1 billion people can be given access to energy services from renewable sources, provided that market development and financing arrangements can be enhanced as intended through the Conference’s “International Action Programme”.

4. Recognizing the diversity of circumstances among regions and countries as well as their common but differentiated responsibilities and respective capabilities, Ministers and Government Representatives underline the need for coherent regulatory and policy frameworks that support the development of thriving markets for renewable energy technologies and recognize the important role of the private sector. This includes removing barriers and allowing for fair competition in energy markets and taking into account the concept of internalizing external costs for all energy sources. Such frameworks are essential to realizing the potentials for renewable energy technologies in an effective and efficient manner, to creating favourable conditions for public and private investments in renewable energies, and to extend modern energy services to populations currently without access. Ministers and Government Representatives take note of countries who have adopted, and others who will adopt, targets for enhancing the share of renewables in their national energy mix and also take note with appreciation of the “Policy Recommendations for Renewable Energies” which provide a menu of options to decision-makers.

\(^1\)In the context of Renewables 2004, renewable energy sources and technologies include: solar energy, wind energy, hydropower, biomass energy including biofuels, and geothermal energy.
5. Ministers and Government Representatives view enhanced international cooperation for capacity building and technology transfer, effective institutional arrangements at all levels, corporate responsibility, microfinance, public-private partnerships, and advanced policies by Export Credit Agencies as crucial to expanding finance for renewable energies. Financial incentives and higher shares of ODA as catalytic funding should also be considered. International Financial Institutions, including the World Bank and the Regional Development Banks should significantly expand their investments in renewables and energy efficiency and should establish clear objectives for renewable energies in their portfolios.

6. Ministers and Government Representatives support the strengthening of human and institutional capacities for renewable energies. This includes: (a) building capacity for policy analysis and technology assessment and strengthening educational efforts, gender mainstreaming and the role of women; (b) raising awareness of government decision-makers and financiers of the benefits of renewable energies; (c) promoting consumer demand for renewable energy technologies; (d) supporting development of marketing, maintenance, and other service capacities; and (e) strengthening regional and international collaboration and stakeholder participation, including women’s groups, to facilitate access to, and sharing of, relevant information and good practice.

7. Ministers and Government Representatives emphasize the need for additional targeted research and development, especially by developed countries, including indigenous research and technology development in developing countries and economies in transition. Emphasis should be on affordability and cost reduction, on innovative business and financing models and on cost-effective, consumer-friendly cost-recovery models, recognizing that different renewable technologies offer different opportunities and face different constraints.

8. Ministers and Government Representatives commit to work toward these objectives, individually and jointly, by undertaking the actions they have submitted for inclusion in the “International Action Programme” and through other voluntary measures. They agree that these measurable steps should be reported to the UN Commission on Sustainable Development (CSD) and that progress should be reviewed as foreseen in the Johannesburg Plan of Implementation. An appropriate arrangement for follow-up should be identified in a future meeting in preparation for CSD 14/15.

9. Ministers and Government Representatives agree to work within a “global policy network” together with representatives from parliaments, local and regional authorities, academia, the private sector, international institutions, international industry associations, consumers, civil society, women’s groups, and relevant partnerships worldwide. This informal network should take into account the work already being undertaken by existing partnerships and should promote a comprehensive and open exchange of diverse perspectives, lessons, and experiences in the development and application of renewable energies.

10. Finally, Ministers and Government Representatives are committed to achieving tangible progress, as well as substantive follow-up, at CSD 14/15 and therefore resolve to continue the high-level political dialogue begun in Bonn.

11. The Ministers expressed their compliments to the Government of Germany and the German people for organizing the Conference and for the opportunity it represented to stress the importance for advancing in the implementation of the commitments of Johannesburg on renewable energies to reach sustainable development worldwide.
ANNEX 8

Policy Recommendations
The document “Policy Recommendations for Renewable Energies” is one of the key outcomes of the International Conference for Renewable Energies, held 1 – 4 June, 2004, in Bonn, Germany. The document is based on the current understandings on policies and decision-making designed to promote renewable energies. It is based on experiences and lessons learnt from policies, programmes, projects and other initiatives in the public and private sectors worldwide.

The diversity of challenges, resource opportunities, as well as financing and market conditions among and within regions and countries implies that different approaches are required. Thus, these non-binding recommendations provide decision-makers with a menu of policy options based on available experience and knowledge.
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<tbody>
<tr>
<td>APEC</td>
<td>Asia Pacific Economic Cooperation</td>
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<tr>
<td>ASEAN</td>
<td>Association of Southeast Asian Nations</td>
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<tr>
<td>CDM</td>
<td>Clean Development Mechanism</td>
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<td>CER</td>
<td>Certified Emission Reduction</td>
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<td>CSD</td>
<td>Commission on Sustainable Development</td>
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<td>CSR</td>
<td>Corporate Social Responsibility</td>
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<td>ECA</td>
<td>Export Credit Agencies</td>
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<td>EU</td>
<td>European Union</td>
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<td>FAO</td>
<td>Food and Agriculture Organization of the United Nations</td>
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<td>GEF</td>
<td>Global Environment Facility</td>
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<tr>
<td>GTZ</td>
<td>Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH</td>
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<tr>
<td>IAEA</td>
<td>International Atomic Energy Agency</td>
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<td>IEA</td>
<td>International Energy Agency</td>
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<td>IFI</td>
<td>International Finance Institutions</td>
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<td>IIIEE</td>
<td>International Institute of Industrial Environmental Economics</td>
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<tr>
<td>IPP</td>
<td>Independent Power Producer</td>
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<td>JI</td>
<td>Joint Implementation</td>
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<td>MERCOSUR</td>
<td>Mercado Común del Sur</td>
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<td>NAFTA</td>
<td>North American Free Trade Agreement</td>
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<td>NGO</td>
<td>Non-governmental organisation</td>
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<tr>
<td>ODA</td>
<td>Official Development Assistance</td>
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<td>OECD</td>
<td>Organization for Economic Co-operation and Development</td>
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<tr>
<td>PoI</td>
<td>(Johannesburg) Plan of Implementation</td>
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<tr>
<td>PPP</td>
<td>Public Private Partnership</td>
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<tr>
<td>R&amp;D</td>
<td>research and development</td>
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<tr>
<td>UN</td>
<td>United Nations</td>
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<tr>
<td>UNCED</td>
<td>United Nations Conference on Environment and Development</td>
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<tr>
<td>UNDESA</td>
<td>United Nations Department of Economic and Social Affairs</td>
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<tr>
<td>UNDP</td>
<td>United Nations Development Programme</td>
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<td>UNEP</td>
<td>United Nations Environment Programme</td>
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<td>UNESCO</td>
<td>United Nations Educational, Scientific and Cultural Organisation</td>
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<tr>
<td>UNFCCC</td>
<td>United Nations Framework Convention on Climate Change</td>
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<td>UNIDO</td>
<td>United Nations Industrial Development Organization</td>
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<tr>
<td>WEHAB</td>
<td>water, energy, health, agriculture, biodiversity</td>
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<tr>
<td>WHO</td>
<td>World Health Organization</td>
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<td>WMO</td>
<td>World Meteorological Organization</td>
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<td>WSSD</td>
<td>World Summit on Sustainable Development</td>
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<td>WTO</td>
<td>World Trade Organization</td>
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This document has been prepared by a drafting team that included Thomas B. Johansson (International Institute of Industrial Environmental Economics (IIIEE), Lund University, Sweden), Uwe R. Fritsche (Öko-Institut, Germany), Christopher Flavin and Janet Sawin (Worldwatch Institute, USA), and Dirk Aßmann and Tilman C. Herberg (Deutsche Gesellschaft für Technische Zusammenarbeit, GTZ, Germany) under the guidance of the Convenors of the Conference.

The drafting team has benefited from numerous comments on draft versions from the International Steering Committee, governments, international institutions, agencies and programmes of the United Nations, international non-governmental organisations as well as industry and finance sector representatives and other stakeholder representatives involved in the preparation of the multi-stakeholder dialogue. Finally, the recommendations reflect the contributions from the delegates to the conference, including the discussions in the Ministerial segment, the Parliamentary Forum and the multi-stakeholder dialogue.
I. Policy Background

The development and diffusion of renewable energy resources and technologies will help realize important economic, environmental and social objectives in the early decades of the 21st century. Renewable energies are a critical element for achieving sustainable development.

The World Summit on Sustainable Development (WSSD) 2002 agreed on a comprehensive agenda on energy for sustainable development. Guided by the overarching objectives of sustainable development and poverty alleviation, governments agreed to improve access to “reliable, affordable, economically viable, socially acceptable and environmentally sound energy services and resources”, to increase the use of renewable energies, to enhance energy efficiency, and to provide cleaner liquid and gaseous fuels.

The renewables 2004 conference is part of the international response to these challenges. It is in the context of a broad and comprehensive agenda that policy recommendations are being offered to address the crucial element of renewable energies.

The benefits provided by renewables will differ among and within countries, depending on the local situation, options, and concerns. Among the benefits that can flow from increased use of renewable energy are: enhanced security of energy supply, reduced threat of climate change, stimulation of economic growth, jobs creation (often in rural areas), higher incomes, poverty reduction, improved social equity, and protection of the environment at all levels. Renewables can also improve access to energy services by providing reliable and affordable energy supply for people in rural and urban areas. Increased utilisation of renewable energy should be seen as a means to such ends, not as an objective per se.

With these benefits in mind, Member States of the United Nations agreed at the WSSD: “With a sense of urgency, substantially increase the global share of renewable energy sources with the objective of increasing its contribution to total energy supply”.

Renewable energy flows are very large in comparison with commercial energy demand. Renewable energy can be increasingly important for providing many key energy services such as lighting, heating, cooling, safer and healthier cooking, mechanical power, transport, and communication. Technologies exist to tap the renewable energy flows at costs that are often competitive with conventional energy sources if the evaluation includes external costs and benefits, and subsidies to conventional energies are eliminated.

As developing countries work to expand and modernise their energy systems, and industrialised countries work to replace their ageing systems and meet rising demand, societies face a unique opportunity over the next few decades to increase investments in renewable energies. Over the next 30 years, global investments in energy-supply infrastructure are projected to be $16 trillion. The opportunity is to orient a large and increasing share of these investments towards renewable energy, in order to advance the transition to a global energy system for sustainable development. On the other hand, if these investments continue as business as usual, mostly in conventional energy, societies will be further locked into an energy system that is incompatible with sustainable development and that further increases the risks of climate change.

Due to effective renewables policies enacted in a few countries, global growth rates for some renewable energy technologies have exceeded 20 percent per year over the past decade. Such strong growth has rapidly driven down costs through learning, economies of scale, and technology improvements. These advances will be sustained and expanded only if the policies that underpin those growth rates are continued and adopted in many more countries. In fact, increasing the use of renewable energies is largely an issue of policy.
II. Policy Priorities for Renewable Energy

To adopt the policy changes and mobilise the capital that is required to achieve the full potential of renewable energies, decision makers—in government, as well as the private sector, and civil society as a whole—must undertake the necessary actions to incorporate the goals of sustainable development into their policies. Three main priority areas for renewable energy policies are discussed below:

i. establishing policies for renewable energy markets;
ii. expanding financing options; and
iii. developing the capacity required.

These priority areas reflect the discussions at the International Conference for Renewable Energies. The challenges in these areas are described in Sections II.1 through II.3, and the actor-oriented policy options are provided in Sections III through V.

II.1 Establishing Policies for Renewable Energy Markets

A sustainable future can be achieved only if markets function effectively and efficiently. Thus, sound economic principles and policies are important. In the long term, it is essential to establish a level playing field in the energy market, free of subsidies, and to internalize external costs.

There are two major conditions that bias current markets against renewables:

i. subsidies to conventional energies and
ii. lack of accounting for external costs in market conditions, especially prices.

Globally, subsidies for conventional energies—estimated to exceed $200 billion annually—make it significantly more difficult for renewable energy to achieve higher market shares and attain the necessary economies of scale. External costs—including health, safety, security, and environmental—are typically much larger for conventional energies than for renewable energies, and the limited accounting of these costs in the market place works strongly against renewables. At the same time, renewables provide benefits that are not reflected in energy policies and market conditions, including increased employment, reduced import dependence, and reduced burdens on foreign exchange. The market place should be corrected to reflect the full costs and benefits or all energy options, a process often referred to as “levelling the playing field”.

In addition to levelling the playing field, a favourable climate for renewables is needed to overcome high initial costs and additional market distortions (such as lack of information, higher risk perception) and to mainstream renewables in the market place. While a few nations have started to address this, most countries still lack the enabling policy framework required to advance renewable energies. Clear overall goals and targets for advancing the use of renewable energy help to create an environment that is conducive for long-term investments and to provide planning certainty for industrial stakeholders and consumers. Clear rules, roles and responsibilities must be defined at every stage in the supply chain that affects renewable energy to ensure that individual and institutional consumers receive the full benefit and improved level of services that renewable energy can provide. No single policy instrument is appropriate for every application, energy carrier, branch or sub-sector, or socio-political situation. Therefore, an appropriate and effective mix of policy instruments becomes essential. This is particularly crucial for new market entrants—such as many renewable energy technologies—to achieve the anticipated technology improvements and cost reductions that are possible via mass production and learning.

Institutional obstacles and existing policies can severely limit opportunities for investment in both grid-connected and off-grid renewable energy technologies. For example, in many
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Countries' renewable energy development is subject to an institutional and legal patchwork, with many different and often contradictory laws, regulations, policies, and administrative procedures.

Recent experience suggests that the need for effective and comprehensive regulations increases with restructuring, liberalisation, and privatisation in the energy sector. Such regulations are particularly important to cushion economically vulnerable populations and to safeguard the environment from the negative impacts of market transformations.

The way in which energy is produced and used affects almost every sector of the economy and should be considered in all policy areas. New and coherent policies should be adopted in the relevant sectors. For example, building codes and standards could be designed to promote the integration of renewable energy in building designs and planning processes. Modern production and use of bioenergy would benefit from being incorporated into policies relating to land-use planning, agriculture, forestry, and waste treatment. The type and amount of fuels used for transportation—the fastest growing energy demand sector—can be strongly influenced by fuel policies, technology standards, and urban planning. Policies that promote renewables also encourage industrial development and innovation, which in turn can accelerate renewable energy technology development and transfer.

Policies and regulations that support equal access for women to energy services, education, technology, and financial instruments are important for enabling them to make informed choices about energy.

Governance issues, including respect for property rights and contract enforcement, are also critical, in parallel with transparent and enforced national and international anti-corruption policies and regulations.

II.2 Expanding Financing Options for Renewable Energy

All renewable energies, with the exception of biomass, have zero fuel costs and low operating costs. At the same time, they do have relatively high up-front capital needs, so finance-related risks and barriers hinder renewable energy investments.

In level markets, the financial sector and private investments would be expected to provide the necessary finance for renewables. Special policies are needed to overcome the initial costs in the early stage of a technology. In addition, government policies are also required to ensure that many other factors are taken into account in competitive markets, such as the projected costs of climate change, the costs of fuel imports and fuel price volatility, and other environmental, social, economic, and security impacts of various technology options. Full cost accounting for projects would incorporate such factors on a life-cycle basis, which would improve the attractiveness of investing in renewable energy projects.

In general, new technologies tend to be more expensive than mature technologies that have benefited from many years of learning, technology advancements, and economies of scale. Thus, it is important to enact policies to reduce the costs of renewable energy through increasing cumulative investments in renewable energy technologies as well as investments in research and development (R&D).

The cost of generation and distribution (if needed) of renewable energy varies widely. Some mature technologies can already compete with fossil-fuel options; however, they all face problems such as high transaction costs and restricted access to capital. Innovative financing and contracting schemes can be instrumental in overcoming these barriers.

Various mechanisms exist to significantly reduce investor uncertainties and enable investors to recover higher incremental costs through (slightly) higher customer prices. The additional costs associated with renewable energy may be distributed among all or parts of the customer base. Such mechanisms include feed-in tariffs (pricing systems) and renewable portfolio standards (quota systems), which have already been enacted in many industrial1 and

1 For example Denmark, Germany, Spain, Sweden, and the United Kingdom.
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some developing countries.

In developing countries, in addition to domestic capital and some foreign direct investments, specialized funds—such as the Global Environment Facility (GEF)—encourage further investments in renewable technologies by covering the incremental costs of such projects. Certified Emission Reductions (CERs), which have derived from the Clean Development Mechanism (CDM), are another option for attracting international capital flows to developing countries.

Implementation of small-scale renewable energy projects—whether electricity, biogas or heat—requires specialized financial tools, vehicles and measures targeted to the specific project conditions. Several options, including dedicated funds, bundling of investments with services, and customer-based investments, have proved effective and deserve further promotion.

Emerging evidence in developing countries suggests that micro-credit linked to micro-enterprises, particularly those owned and operated by women, can have considerable success in both promoting renewable energy use and meeting poverty reduction goals. Consumer financing mechanisms to enhance consumers’ ability to pay for renewable-generated energy services have been instrumental in many situations.

This calls for a more inclusive strategy that moves beyond the financing of stand-alone energy supply and towards integrated supply- and demand-side financing. Similar strategies to include renewables in non-energy sectors—such as water supply, sanitation, health, education and communication—can significantly enhance energy access. Overall, financing strategies for renewables should address the financing needs of both suppliers/vendors and different categories of end-user consumers in a balanced manner.

The introduction of modern renewable energies in rural areas—where people rely largely on the traditional use of biomass and have limited purchasing power—should be linked to policies that promote rural development. Renewable energy can play an important role in rural income-generation activities that require process heat (e.g., low temperature water-heating for clothes-dying) and cooling (e.g., refrigerators for food preservation and storage of medicines/vaccines in health facilities). Here, national and international efforts are needed to create renewable energy markets where individual households, small businesses, and communities can play a role in local financing.

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2 For example Argentina, Brazil, China, Costa Rica, and Thailand.

3 Particularly biomass converted to modern energy carriers such as biogas, other fuels or electricity.
II.3 Developing Capacities for Increased Use of Renewable Energies

In order to increase the use of renewables, strengthened capacity is particularly important in three main areas:

1. development of a well-trained workforce to manufacture, install, operate and maintain technology, business, and regulatory systems,

2. design of a coherent and functioning institutional framework, and

3. provision of available, appropriate, and affordable technologies.

Capacity development in all three areas is essential for the creation of viable renewable energy markets, and should be viewed in a broad sense.

Indigenous know-how and experiences, mainly in the case of dispersed rural populations in developing countries, should be carefully evaluated and incorporated into educational efforts, R&D, and technology transfer.

It is essential to increase public awareness of the benefits and applicability of renewables as a means to achieve sustainable development goals, including social and economic betterment through improved access to energy services.

Research and development (R&D) for advancing the renewable energy technologies, business models, and policies are necessary for determining the optimal applications for renewables in market environments and need to be significantly strengthened. Past development of demonstration projects through private and public cooperation has proved an effective means to move forward from R&D. The efficient cooperation of public and private research institutions and private businesses for both R&D and technology transfer is essential and can lead to significant progress.

R&D is also needed to address the social dimension of renewable energy. For instance, numerous cases of innovation and successful renewable energy projects involving women, entrepreneurs and end-users are available across the developing world. An important part of capacity development for renewable energy market transformations is to identify and disseminate specific “best practices,” while furthering R&D to replicate and scale-up such experiences.

Given the necessity to advance energy for sustainable development in order to reach the Millennium Development Goals, an increasing share of Official Development Assistance should be allocated to development of capacity to address issues related to energy for sustainable development.
III. The Role of National Governments

National governments and parliaments are responsible for the formulation of policies that support effective and efficient markets in general.

The objectives and principles for the development of renewables discussed above present a number of challenges. These challenges differ among and within countries depending on local conditions, options and concerns. Similarly, the approaches preferred will vary. In most situations in industrialised countries, in economies in transition, and in developing countries, the elements below are important in order to increase the role of renewables:

- Develop an overall energy policy that emphasizes renewable energy and fulfils sustainability objectives: Promotion of renewable energy and the need to meet sustainable development objectives should be incorporated into each country’s general energy framework, based on national renewable energy resource evaluations. The desire to advance renewable energies also needs to be reflected in the policies of many other sectors, including transportation, healthcare, agriculture, construction, and education. This needs to be done in broad co-operation and stakeholder participation.

- Formulate clear goals and targets for renewables: Governments should formulate clear targets (incl. target dates), strategies, and implementation plans based on national renewable energy resource evaluations in all relevant sectors, and based on analysis of how increased use of renewables could help fulfill national sustainable development objectives.

- Establish transparent market conditions that encourage investment: Market transparency is essential to ensure participation of the private sector and for successful markets in general. National markets, which are always framed by government policies, need transparent and clear price and/or tariff structures that reflect full costs through the entire costs of production. Further, because a high degree of stability and predictability is prerequisite for any business involvement, it is important to assess and, if necessary, modify the existing market framework to ensure maximum stability and certainty. All subsidies relevant to energy should be continually monitored and publicised.

  - Establish a level playing field: The market place is biased against renewables as a result of long-standing subsidies to conventional energies and a lack of signals in the market place to incorporate external costs. These biases should be overcome through economic or regulatory means.

  Governments agreed at WSSD to review the situation and take appropriate corrective action through subsidy reductions or the provision of balancing subsidies to renewable energy. In addition, governments should examine and revise licensing procedures and import regulations to ensure that they are not biased against renewables, and should address the current lack of adequate technology standards. Such policies generally reflect the needs of the conventional energy system based on large-scale power plants, and monopolised grids, and thus often act as barriers to the greater development and use of renewable energy.

  - Address the high cost of new renewable energy technologies: Temporary and gradually declining subsidies for renewables are essential to develop markets for these new technologies. Policy options include tax credits, grants or rebates, and long-term low-interest loans, combined with renewable electricity pricing or quota systems. In general, performance-based subsidies are preferable as they reward the desired outcome—production of energy from renewables to enhance sustainable development. However, investment-based subsidies can be more appropriate where technologies are still maturing and costs are high, and should be tied to technology standards. Subsidies should follow pre-established rules that are clear and transparent to all
promote the development of human capacity for renewable energy development: Governments should revise educational agendas and redirect professional training to incorporate renewables. In both the production and consumption of energy, a shift towards a sustainable system requires targeted action directed at professionals and consumers. Educators in a wide range of disciplines in schools and colleges need enhanced knowledge of the cross-linkages between renewables and their particular subjects, ranging from healthcare, poverty alleviation and education, to architecture and construction. Higher academic and professional training institutions have key roles to play in bringing renewables into the mainstream by supplying appropriately-skilled professionals through re-tailored, or new, teaching programmes. Dedicated staff and professionals are needed to develop policies and programmes, plan projects, finance, regulate, manage, install and maintain future renewable energy systems. Equally important, knowledgeable operators, including women, are needed to acquire, operate and maintain decentralised systems at the household and community levels. Chambers of Crafts and Commerce, and local renewable energy promotion agencies should become strongly involved in training people in related businesses.

Develop enabling institutions: Strong public institutions at the national level are essential to set priorities, plan, and establish policy and regulatory agendas to encourage renewable energy markets. Joint policy-making and priority setting between energy ministries and rural development, health, education, water, environmental, and other ministries helps to advance the case for renewables. National agencies, including centres of excellence and research institutions, are needed to carry out country-specific research, data collection and analysis (including gender-disaggregation), training, education, and to provide technical support to respective ministries.

Additional Policy Options

Use government’s power to set the agenda and guide the work of international organisations: The United Nations system, development banks, and regional organisations should all become strong actors in advancing the use of
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renewable energy for sustainable development. Efforts and instruments to foster the use of renewable energies should include safeguards against market distortions, especially export subsidies and import duties.

Utilize the Kyoto Protocol mechanisms: The Protocol’s mechanisms offer significant opportunities for advancing renewables. In the case of Joint implementation (JI) and the Clean Development Mechanism (CDM), renewable energy projects would also support the development objectives of participating countries.

Strengthen global cooperation on renewable energies: The WSSD agreements need to be monitored in the broader context of advancement towards sustainable development and fulfillment of the Millennium Development Goals. The CSD-process should place clear emphasis on the promotion of renewable energies. A regular exchange of information regarding programming experience, target setting and evaluations between different countries would support rapid progress and reduce the risk of mistakes.

Strengthen regional cooperation in the field of renewable energy: Experience proves that regional institutions and organisations (e.g. EU, the United Nations Regional Commissions, ASEAN, MERCOSUR) can provide important political leadership. They can show a common way forward and create economies of scope and scale by integrating markets for renewable energy technologies and related services, and facilitating technology transfer. National governments need to act as the main drivers of such developments.

Secure grid access for renewables: Power system regulations should guarantee grid access for renewable electricity under transparent conditions. Governments have the role of providing favourable conditions through the use of policies like pricing laws with feed-in tariffs or quota/green certificate markets. The cost of these systems may be distributed over electricity customers rather than taxpayers. Where politically feasible, higher rates paid by electricity consumers can also help to generate a revenue stream to support investment subsidies for the poor who lack access to energy services altogether. Governments need to enact transparent and efficient procedures for obtaining the permits necessary for grid-access, as such procedures are important for investors.

Support renewable energy technologies for heating and cooling purposes: Heating and cooling are often neglected in energy policies, but they represent a large share of energy consumption in most countries. Increased use of renewable energies in buildings offers significant economic potential. Appropriate regulations such as building codes and energy-related standards can re-enforce financial support measures to accelerate the integration of renewable energy technologies in the construction sector.

There is also a need for comprehensive policies and measures that address heating and cooling services in existing buildings—in private houses (e.g. passive solar space heating and solar water heating), in the government and service sectors, and in industry as well. Renewable energy can play an equally important role in rural income-generation activities that require process heating (e.g., low temperature water-heating for clothes-drying) and cooling (e.g., refrigerators for food preservation and storage of medicines/vaccines in health facilities).

Policy Options Related Primarily to Industrialised Countries and Economies in Transition

Increase funding for renewable energy R&D: IEA member governments allocate only 8 percent of their energy research and development funding to renewable energies. Here governments have an opportunity to strengthen renewable energies by reversing the ratio of funds allocated for renewables versus those provided for conventional energy R&D. Demonstration projects in cooperation with the private sector should be encouraged as well.

Focus bilateral and multilateral development assistance (ODA) on catalytic funding of renewable energy programmes: Capacity building and catalytic financial leverage to extend energy services from renewable energy sources are key priorities. They should be provided in parallel with the creation and extension of micro-finance schemes that target consumers and small-scale businesses. Governments must take care to encourage, rather than undermine, the development of markets through the use of such subsidies,
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particularly with regard to renewable energy technology exports to developing countries. Public-private partnerships are a successful means for developing such markets and should be further expanded.

Promote renewables through Export Credit Agencies (ECA): The public promotion of exports through the provision of credits or guarantees by ECAs can help mobilise private financing for renewables. ECAs should become more active in building industry awareness about renewable energy investment opportunities. Specifically, it is essential to establish standardised and simplified procedures for small-scale projects so as to reduce transaction costs. It is also essential to encourage long-term contract durations for renewables (e.g. at least 15 years) and more flexible modalities (e.g., flexibility in repayment terms; liberal treatment of local costs—for example, a higher share than currently allowed under the OECD-Arrangement) to adjust to the variety of renewable energy projects.

Utilise the power of public procurement: In most countries, the national government is the largest single energy consumer and should use its position to advance renewables by creating guaranteed demand for renewable energy and technologies over a given period of time. Large-scale and long-term government purchases of renewable energy and technologies would help provide stability and certainty in the marketplace, attract investors, set an example, and increase awareness about renewable energy, while also reducing perceived risks for investors.

Policy options related primarily to developing countries

Provide access to cleaner cooking fuels: Biomass resources can be used through modern conversion technologies to provide cleaner and higher value-added fuels to support both cooking and industrial processes. The impact of implementing improved biomass technologies and biofuels is particularly important for women. Such technologies and fuels can reduce the negative social and health impacts of cooking, and can expand the economic opportunities in women's heat-intensive micro-enterprises.

Provide access to electricity: The electrification of rural areas in industrialised countries was made possible through government support and cross-subsidies among electricity customers. Similar approaches deserve consideration in developing countries, where rural electrification remains a major challenge. Some recent models for grid extension and for installation of decentralised renewable power projects are based on public-private partnership approaches. Promising approaches are emerging that support rural entrepreneurs with a range of services—including training, marketing, feasibility studies, business planning, management, financing, and linkages to banks and community organisations—as means to expand access to energy services with renewable energy.

Make use of new financing tools: To attract private sector capital to renewable projects, governments should extend public-private partnerships, and develop and use micro-credit schemes. They should also encourage the creation of financial tools targeted to third-party and customer financing for off-grid renewables, and support insurance schemes for all renewable energy investments. In addition, access to and use of funds for renewable energies through carbon financing should be strengthened. Micro-credit lending can also be an effective tool for supporting investors in establishing renewable energy and service delivery systems, and can expand consumer access to both grid and non-grid connected renewable electricity.
IV. The Role of Intergovernmental Organisations

Intergovernmental organisations can recommend policies to national governments and can provide support for renewables on a regional and global scale. In general, their functions should be to focus multilateral policies and activities to significantly strengthen the role of renewable energy and to enhance cooperation among all players, including the private sector. Such a focus must promote those renewable energy options that best fulfil the needs of the end-users in a cost-effective, socio-economically equitable, and environmentally sustainable manner.

The United Nations system should define clear responsibilities for work on renewables: Various United Nations bodies, including FAO, IAEA, UNDP, UNDESA, UNEP, UNESCO, UNFCCC, UNIDO, WHO, and WMO, deal with renewables by offering advice and developing capacity. Here, the pooling of information and financial support must be better coordinated. Further, the UN Resident Coordinator system should specifically address the role of renewable energy in meeting development objectives in all sectors that receive UN system support at the country level.

The WTO rules should promote renewables: This refers to international trade in renewable energy as instruments for sustainable development—for example, bioenergy/biofuels, renewable energy technologies, and trade in green certificates among those electricity markets where significant targets have been set to expand the use of renewables. Governments, the WTO, and regional organisations like NAFTA, EU, and ASEAN should proceed rapidly to reduce trade barriers for renewable energy technologies as well as electricity and fuels from renewable sources. However, recognising that a key motivation for developing and industrialised countries to expand the use of renewable energy technologies is to reduce their import dependence (primarily fossil fuels), the removal of barriers to renewable energy should be accompanied by concrete measures for rapid technology transfer so as to reduce dependence on foreign technology. Negotiations on a multilateral energy subsidisation agreement could also help to level the playing field.

Include funding to renewables projects in development cooperation programmes: Renewables should receive funding through programmes that address poverty alleviation, rural development, education, healthcare, agriculture, water supply, sanitation, transport, and construction (passive solar heating and cooling, etc.).

Increase leverage for renewables investment through International Finance Institutions (IFI) lending: IFIs like the World Bank and the regional developing banks should encourage renewable energy investments in developing countries and in economies in transition. IFIs should strengthen their expertise and continue expanding their investments in renewables.

➢ Establish clear objectives for renewable energy: Given the huge investment needs and the leverage of IFI policies, IFIs should establish clear objectives and assign renewables a more prominent role in their strategies and portfolios, thereby sending strong signals to the private sector. Grants and loans for renewables leveraged through IFI investments would attract private sector financing, for example in PPP schemes. IFIs should also include renewables in existing programmes to alleviate poverty, targeting the rural poor in particular. In addition, IFIs should give more attention to the potential role and scope of micro-credits needs.

➢ Provide dedicated funds to increase investment in renewable energy: Funds with stable and adequate allocations should be established in the World Bank and Regional Development Banks to support renewable energy investments in developing countries and in economies in transition, and also to foster technological development, thereby contributing to the reduction of costs associated with renewables in these countries.

➢ Apply full cost accounting for IFI lending: The evaluation of energy projects to be financed by IFIs should incorporate factors
Policy Recommendations for Renewable Energies, renewables 2004

such as the projected costs of climate change and other environmental, social, economic and security impacts of various technology options, on a life-cycle basis.

*Increase transparency of and reporting on renewable energy activities:* IFIs and ECAs should fully disclose information regarding their financing, lending, insurance, and other relevant policies and contributions for renewable energy, as well as the role of PPP schemes. This would provide strong incentives for others to follow.

*Strengthen the Global Environment Facility’s portfolio:* The GEF has a strong portfolio of renewable energy projects that should be further strengthened and expanded to include the modernisation of biomass, cooking in rural areas, grid access, and off-grid renewables for rural electrification.

*Emphasise leadership role of regional organisations:* The European Union, ASEAN, APEC, the United Nations Regional Commissions, MERCOSUR, IEA, and others should continue and expand their efforts to implement renewables projects, and to create supportive schemes among countries. Regional development funds should favour projects that promote and develop infrastructure for renewables, and that produce and use renewable energies—including a small number of large-scale demonstration projects—in order to provide strategic leverage for the transformation of energy systems.

*Strengthen and enhance the cooperation for renewable energy development:* International bodies and regional organisations should strengthen and enhance cooperation through, *inter alia,* policy and technology research and development (e.g. on rural electrification and modern biomass); technology transfer (North-South, South-South etc.), including public procurement of key technologies; and education, awareness raising, and professional training, including Masters and Ph.D. programmes on energy for sustainable development.

*Strengthen institutional arrangements at the international level:* Institutional capacity is needed to address key functions for promoting renewable energies, including:

- advocacy for renewables in general, as an instrument for sustainable development,
- coordination of monitoring and reporting on renewable energy developments by country, region, resource/technology, and policy experiences,
- provision of services such as advising, capacity building, pooling of information, analysis and coordination,
- establishment of common standards; and networking in coordination with other stakeholders, especially the private sector and women’s networks.
V. The Role of Local Authorities, Private Sector, Civil Society and Other Stakeholders

V.1 Local Authorities

Although national governments will determine national legal frameworks, the implementation of renewable energies takes place at the local level. In light of the options and possibilities of local efforts, governments participating in Rio 1992 put special emphasis on the Local Agenda 21.

Establish local building codes: The formulation of appropriate building regulations and codes can help to accelerate the uptake of renewable energy in buildings. Those codes can be used for the promotion of various types of renewable energies based on local conditions (e.g., passive heating/cooling, solar thermal energy on the roofs of buildings, or district heating systems in which at least a portion of the fuel is biogas). Local authorities should develop their own strategies, taking into account full life-cycle costs (including externalities), and communicate their experiences to others.

Strengthen stakeholder involvement in licensing, and prioritise siting: Local planning and licensing authorities should foster stakeholder and community involvement in renewable energy projects, thereby reducing conflicts and difficulties concerning permission procedures, and reducing licensing duration. Developers of renewable energy projects should engage in active consultation and discussion with local communities at an early stage in the planning process. Local renewable energy zoning and siting plans should be developed as they would provide greater certainty for potential investors, and guide developers to areas where projects are more likely to be permitted.

Increase awareness and capacities: In the field of awareness and capacity building, local authorities play a crucial role as they are very close to the general public, institutions and enterprises. Public campaigns can support the enabling environment for investments in renewable energies and can clarify renewables’ societal, environmental and economic benefits, as well as their benefits for local business. Joint efforts like public-private partnerships help to create markets for renewable energy and to build the necessary capacities. Furthermore, the creation of local centres of competence and independent advisory institutions can often provide the seeds for broader market development. There are several other opportunities to achieve similar goals that depend largely on local conditions—therefore, each local authority needs to formulate and implement its own approach.

Utilise the power of public procurement: Local authorities often have the power to create market demand for renewable energy through various local policies and measures. One option is to procure renewable energies through comprehensive purchases of, for example, renewable electricity and thermal collectors.

Establish public-private investment funds: On the local level, governments should establish public and private investment funds for renewables that directly benefit local people and businesses. A combination of such funds for PPP-schemes should be considered as well.

Address energy issues in other areas of local action: Although situations can vary significantly from one community to the next, there are always possibilities for influencing local energy developments, e.g., through local utilities, transport enterprises, waste policies, water and sanitation, or agriculture and forestry. Development plans should adopt policies that are designed to promote and encourage, rather than restrict, the use of renewable energy resources. The energy nexus should be seen in a broader sense.
V.2 Business and Private Sector

As governments recognize and address the challenges of developing effective policies that create and support market development for renewables, the private sector—from small local entrepreneurs to multinational corporations—will have to respond, in turn, by participating in schemes to increase renewable energy investments, and by increasing market demand for renewable energies. Business leaders have a responsibility to the local, national and global communities, and an increasing number of corporations and firms are acting pro-actively to meet that challenge.

Two elements are important for the whole sector:

Incorporate corporate social responsibility (CSR) into business: The business community should help accelerate market introduction of renewable energy under the broader principle of CSR. For the private sector in general, CSR should become a core principle of business, with special emphasis on transparent reporting mechanisms with regard to social and environmental issues. The share of renewables in energy generation and/or consumption should be included in such reporting, as proposed by the Global Reporting Initiative.

Facilitate intra-firm technology transfer in renewable energy solutions: Multinational corporations, private or semi-private utilities, and internationally cooperating small and medium-sized enterprises are important vehicles for international technology transfer, and should consider enhancing their activities for the transfer of renewables-related knowledge and skills to other actors as an element of their CSR agenda. In this context, trade unions should play an important role in such activities as well. Renewable energy technology transfer needs to be recognised not only as a challenge, but also as an opportunity for market development.

Specifically with regard to renewables, private sector policies are of special importance in three sectors:

i. energy producers and traders (e.g. energy companies, utilities),

ii. finance and insurance (e.g. banks, rating firms), and

iii. energy customers/consumers.

Energy producer/traders, and manufacturers

Pursue the development of renewables: All energy suppliers, including but not limited to the oil and gas industries, should follow examples of international industry leaders to actively pursue the development of renewables as a part of their investment and marketing schemes. Companies already involved in renewable energy should shift more investments from exploration and production of conventional fuels to renewables. Those that have not yet entered the renewables market should consider doing so. “Downstream” firms in the refinery and retail business of transport fuels should begin blending their products with biomass fuels.

Commit publicly to “green” energy: Electricity and gas utilities, as well as independent power producers (IPP), have begun to commit to generating and/or purchasing “green power” from renewables, with some concentrating on new markets where customers request certified renewable products. In addition, some district heating companies (e.g., in Scandinavia) have increased the share of biomass in their products, and similar developments have begun for green biogas—sold through distribution networks and as a transport fuel. These pioneers demonstrate that renewable energy can be marketed successfully, and that renewable power offers growing business opportunities. The use of renewables also provides companies with more diversified portfolios, reducing their risk in the event of fuel price fluctuations, and avoiding potential future taxes or regulations associated with conventional energy and/or greenhouse gas emissions. All utility companies should consider making a commitment to generating and purchasing energy with renewable sources.

Join forces to help create incentives for renewables: Renewable technology manufacturers should work together to promote renewable energy in general, through increased marketing efforts, and to encourage strong and consistent government policies to advance renewables through market creation.
Invest in renewable energy as a key industry strategy: Energy suppliers should recognize the economic benefits of advancing renewable energy. As markets develop around the world, those that are in the forefront of investing in and developing these technologies will be in strong positions to reap the economic rewards of a rapidly growing sector.

Finance and insurance

Treat renewable energy investments fairly: Insurance companies should provide coverage for renewable energy projects at fair and competitive rates, recognizing the risks of conventional energy, including the rising costs that many insurers will face as impacts of global climate change become more pervasive.

Provide finance for renewable energy investments: Banks should consider working with governments to provide low-interest, guaranteed loans for renewable energy projects. Low-cost capital is essential for addressing the barrier of high up-front capital costs, and availability of reasonable financing can increase investment in renewable energy considerably, helping to realise economies of scale while encouraging local investments in related infrastructure and training.

Offer risk-hedging financing tools for investments in renewables: Insurers and banks should develop and offer specialized instruments to minimize the various financial risks associated with investments in renewables, e.g., through bundling and aggregation of projects among technologies, regions, and countries. Cooperation with IFIs and ECAs could help to initiate/advance the application of such tools.

Pay increased attention to special conditions in developing countries: Particularly in developing countries, it would be helpful to establish flexible repayment schemes—for example, tying payments to borrowers’ income streams. Micro-finance is important for enabling local communities to invest in renewable energy technologies, e.g., to modernize the use of biomass, and generate higher incomes.

Commercial and industrial energy consumers

Recognize the range of benefits of using and marketing “green” energy: In general, businesses seek low energy costs, and the benefits associated with purchasing green energy are not fully recognized. However, some firms—particularly those working in tourism, services, and retail—have become pioneers, actively purchasing renewable energy to meet their own needs, and marketing renewables to their customers. Such actions both improve customer relations and increase the competitiveness of green power. Many businesses have also installed their own renewable energy systems—atop commercial buildings, for example—to meet their energy needs. More businesses should consider this option as well.

V.3 Civil Society

Use the power of consumers to develop and expand markets: private consumers have great power in the marketplace, and could be encouraged to send signals in terms of preferences for energy from renewables. In order to encourage consumers to demand renewable instead of conventional energy, it is necessary to provide them with relevant information that is neutral and, where possible, free of commercial interests—for example, via labels and advice about best-practice examples for renewable energy technologies. This requires creating institutional structures for consumer information and advice.

Strengthen civil society’s role in decision-making on sustainable energy solutions: The transition to renewables also requires greater involvement of general civil society in decision-making regarding future energy systems. Civil society group—from professional groups to unions and scientific organisations—have a wide variety of roles to play and skills to offer in the areas of policy formulation and project development and ownership.

Make use of the potential of non-governmental organisations (NGO): NGOs can fulfil the key function of providing information to particular stakeholder groups, can raise awareness and stimulate public debate, and can act as political
pressure groups. Especially in developing countries, NGOs are often key to implementing renewable energy systems; because they have such a strong presence on the ground, the role of NGOs in disseminating, installing and maintaining decentralised renewable energies should be strengthened. In addition, experience in other sectors shows that NGOs can be important intermediaries in the establishment of micro-credit schemes for rural consumers in developing countries. Their potential in this regard should also be harnessed to find financial solutions that can satisfy the energy needs of rural energy consumers.

*Increase awareness through the mass media:* The mass media can be important players in communicating the benefits of renewables to the public and, thereby, raising general awareness and acceptance. Some examples of popular but educative TV and radio programmes about sustainable energy issues already exist, in both developing and industrialised countries. These efforts should be increased and expanded into more markets and across more geographic areas, and using more communications channels. Media channels can be powerful and effective vehicles for increasing awareness of renewables, provided that the technologies they promote are consistent with women’s practical (household), productive (income-generation), and strategic (social empowerment) needs.

V.4 Research and Education

Universities and other research institutions have key roles to play in advancing renewables research and education.

*Focus curricula on new challenges:* Curricula in all areas of study need to be reviewed with respect to energy for sustainable development issues. Masters and Ph.D. programmes are needed to bring forward the skilled people needed for the design, construction, and operation of renewable energy systems. These programmes must cover technology, business, and policy issues.

*Strengthen renewable energy research:* Research to support renewable energy development is needed in natural science, engineering, economics, health, law, social sciences, and other areas. Efforts are justified to foster multi-disciplinary programmes.
ANNEX 9

ENERGIA/LIFE Side Event
Gender and Energy: A Key Variable in Poverty Reduction and Participatory Energy Production

ENERGIA/LIFE Side Event
June 2, 2004 from 17:30 – 19:30 hrs
INTERNATIONAL CONFERENCE FOR RENEWABLE ENERGIES, BONN

The ENERGIA International Network on Gender and Sustainable Energy and LIFE have organised a side event at the forthcoming International Conference for Renewable Energies to be held in Bonn, Germany, from 1st to 4th June 2004. The Side Event will take place on Wednesday 2nd June between 17:30 and 19:30 and will be located at the Bundesrat, Saal 315. The meeting agenda is attached. We welcome your involvement and look forward to a lively discussion.

If you need any more information on the event, please contact by email Sheila Oparaocha [energia@etcnl.nl] or Ulrike Roehr [roehr@life-online.de]

Sincerely,
Sheila Oparaocha
ENERGIA Secretariat Coordinator

The issue

Poverty Reduction and Participatory Energy Production: Two topics that show clearly why “Energy” is linked to “Gender” in diverse ways and the first cannot be discussed sufficiently without addressing the latter.

Poverty in general—and rural poverty in particular—affects men and women differently and women bear a disproportionate share of its hardships. The absence of modern energy has direct and significant consequences for women, ranging from serious health impacts from indoor pollution to lost opportunities for self-improvement and family wellbeing on account of the time spent on meeting basic household energy needs.

Evidence around the developing world suggests that a focus on productive, often male dominated, energy services has neglected the complementarity of productive and reproductive activities in rural households, and has led to interventions that are not or gender-biased, but are also less effective for poverty reduction. In a variety of ways, t

1 Economic activities for income generation and wealth creation.

2 The human resources and labour time required to enable households to reproduce themselves both intergenerationally and on a daily basis.
sheer burden of ensuring energy to meet basic household needs stands in the way of women’s social and economic empowerment.

Renewable energy can play an important role in reducing women’s drudgery by providing improved access to energy services for lighting, cooking, and other household and productive activities that should have a significant positive effect on women education, literacy, nutrition, health, economic opportunities, and involvement in community affairs which, in turn, will benefit all family members.

All these activities contribute to improving gender equity and women’s empowerment. By taking a gender approach, renewable energy suppliers can increase their potential client base and the sustainability in the use of their technologies. However, this cannot take place in a vacuum and needs a supporting environment. Policy can create an enabling environment that ensures access to more sustainable energy services.

In general, women have been largely excluded from participation in energy policy and processes of decision-making. They lack access, or the equivalent access of men, to the resources needed for economic or political participation. Yet they are key stakeholders producing sustainable, equitable development policies. There is therefore a need for more gender-sensitive energy policies that equally address women’s and men’s energy needs.

Thus, the intergovernmental mechanism at the International Conference on Renewable Energy in Bonn June 2004, which will include stakeholders from all levels, is called upon to conclude recommendations of good policy and a political commitments that will address urgently the priority issues of emphasising the goal of increasing access and affordability to sustainable energy services for women through both empowering women and engendering renewable energy.

The Gender and Energy side event will aim at reviewing critical policy and programme design options to improve women’s access to modern energy services based on the lessons learned in the five best practices presented, and to promote that the gender perspective is taken into account in energy policymaking. To understand which issues must be addressed in effective policymaking at the regional and national level, such concrete experiences provide a wealth of insight. The presenters and organisers of the side even, hope that this effort will provide input for government policymakers, energy sector agencies, civil society and development assistance organisations to generate opportunities for development through energy activities.
Agenda

17:30: Welcome Remarks:
Sheila Oparaechoa, ENERGIA International Network on Gender and Sustainable Energy

17:40: Key Note Address: Gender and Energy, a Key Policy Variable in Poverty Reduction
Dr Kamal Rajal; Sustainable Energy Policy Advisor UNDP Sub-Regional Resource Facility - Asia Region

18:00: Women as Energy Entrepreneurs: Upesi Rural Stoves Programme in Kenya
Lydia Muchiri; Intermediate Technology Development Group (ITDG) – Eastern Africa

Gisela Renner; Windfang - Germany

18:40: Beyond Project Boundaries: Gender Impact of the Rural Micro Hydro Development Programme
Dr Indira Shakya; Royal Nepal Academy of Science and Technology (RONAST)

19:00: Pacific Energy and Gender Network (PEG)
Yogita Chandra Bhiakabhai; South Pacific Applied Geoscience Commission (SOPAC) Fiji

19:20: Concluding Remarks
Ulrike Roehr; LIFE e.V. – Germany

19:30: Close of Event
ANNEX 10

ENERGIA/LIFE Side Event Presentations
Gender and Energy: A Key Variable in Poverty Reduction and Participatory Energy Production

Side event by ENERGIA and LIFE e.V.
June 2, 2004
Agenda:

• Welcome Remarks: Sheila Oparaocha, ENERGIA

• Key Note Address: Gender and Energy, a Key Policy Variable in Poverty Reduction, Dr Kamal Rijal; UNDP

• Women as Energy Entrepreneurs: Upesi Rural Stoves Programme in Kenya, Lydia Muchiri; ITDG – Eastern Africa

• Women Producing Renewable Energy: Windfang, Gisela Renner; Windfang - Germany

• Beyond Project Boundaries: Gender Impact of the Rural Micro Hydro Development Programme, Dr Indira Shakya; (RONAST)

• Pacific Energy & Gender Network, Yogita Chandra Bhikabhai, PEG

• Concluding Remarks, Ulrike Röhr; LIFE e.V. – Germany
Mainstreaming Gender in Energy

A Way forward to meeting MDGs

Kamal Rijal, Ph. D.
Sustainable Energy Policy Advisor
Asia Pacific Region
Bangkok Sub-regional Resource Facility
Setting the Tone
Some Basic Facts on Energy Services

- More than 2 billion people do not have access to modern energy service.

- About half of humanity meets their cooking needs using biomass fuels (primarily fuelwood).

- Biomass fuel is renewable as long as it is used in a sustainable manner.

- Deforestation is a major challenge facing developing world.

- Energy services contributes to poverty reduction and economic growth.
Why Gender in Energy?

- Quality of energy services impacts lives of women and men differently.
- Availability to high or low quality of energy services is a location specific (rural, urban).
- Affordability relates to disposable income of the households (poor versus rich women/men).
- Access relates to both of the above, including social and environmental factor.
What do we understand by Quality of Energy?

- Fuelwood, agriculture residue, animal dung, direct solar are examples of low quality fuels.

- Electricity, LPG and modern biomass fuels are high-grade energy.

- Characteristics of biomass fuels
  - Low bulk density
  - Low calorific value
  - Inefficient in use
  - Labour intensive
Case Example of gender variations in rural household energy management

- **Division of labour:** Women shouldered the responsibility of collecting and managing the household energy needs.

- **Access to and control of energy resources:** Women and men have different degrees of access and control.

- **Decision making in domestic energy management:** When energy has to be purchased, men enter the decision-making process.

- **Perception of benefits from energy services:** Women and men have different perceptions about the benefits of energy.
Key Observations

- Management, collection and use of fuels falls disproportionately on women and girl child at the household level and SMEs (informal sector of economy).

- Lack of energy services directly correlates with many of the elements of poverty (such as: low education levels, inadequate health care, and limited employment possibilities).

- Gender issues have a key role in energy management, planning and policies primarily because gender differences and inequalities have consequences for energy needs, use and priorities.
Energy Services through “Gender Lens”

- Socially constructed Roles and Responsibilities
- Access and Control
- Decision making and information access
- Power Relation
- Stereotype

Provision of Energy Services

Practical Needs

Strategic Needs

Empowerment

Participation
Gender Streaming
What does it mean?

Gender mainstreaming calls for positive action at different levels, and require commitment, capacities and resources.

- At the policy level, to ensure that the issue of gender equality becomes a visible and central concern in energy programming and planning.

- At the programme level, to ensure that all energy interventions create opportunities for women's empowerment and facilitate gender equality.

- At the organizational level, to ensure that space and opportunities for learning, growth and contributing to organizational goals are created equally for women and men at all levels.
Recognizing that men and women have different energy dynamics (roles in household, decision making areas, energy needs, responses to crises or coping mechanisms).

Developing policies and technologies responding specifically to these needs.

Incorporating meaningful roles in planning, designing and executing energy programmes.

Improving energy access to women to improve quality of life and increase efficiency and reduce work burden in productive activities.
Measures for mainstreaming gender into energy policies and programmes

- Shift in approach from ‘technology’ focus to creating access to energy service.

- Promoting improved access to a variety of fuels and energy technologies, through investments in market development, taxes and tariff policies.

- A more market-oriented approach to the energy sector, which would promote greater understanding of consumer needs, including those of women.

- Directing energy services intervention that meet women’s practical, productive and strategic needs.
Measures for mainstreaming gender  

- Promoting women as energy entrepreneurs and building their capabilities and networks.

- Use of gender tools and methodologies for incorporating gender concerns into programming and planning processes.

- Addressing knowledge gaps in gender, energy and poverty, through research.

- Providing support mechanisms like credit and information to improve women’s access to energy services.
Thank you very much
Women as Energy Entrepreneurs: Upesi Rural Stoves Programme in Kenya

By

Lydia Muchiri;

Intermediate Technology Development Group (ITDG) – Eastern Africa
Background and introduction

- Kenya’s population is over 30 million people, 85% of whom live in rural areas.
- Sources of energy are biomass, hydro, petroleum, geothermal resources, modern solar and wind technologies.
- Biomass provides approx. 72% of energy demand and over 93% of rural household energy needs.
- 3% use LPG for cooking, Electricity < 40% of the urban and 2% of rural households.
- 85% of rural and 50% of urban households use kerosene for lighting.
- Solar use is increasing steadily, averaging 20,000 units between 2000 - 2002.
Targeting women!

- Women/children suffer most from over-reliance on biomass energy resources.
- They are the main producers and consumers of woodfuel for domestic use and have limited access to modern, clean and efficient energy technologies.
- They spend a lot of time and physical energy sourcing and processing firewood.
- More vulnerable to indoor air pollution exposure and illnesses associated with smoke.

Source: WHO/PHE GFH
**ITDG-EA intervention**

**Upesi project**
- **Aim:** to improve the living and working conditions of women by enabling them to benefit from use of fuel efficient stoves
- **Purpose:** To provide an effective approach to commercialization of improved stoves

**Strategy**
- Training selected women group to produce and market ceramic stoves
- Adaptation and production of quality Upesi stoves
- Strengthen capacity of producer groups and distributors in marketing
- Develop a commercialization strategy to expand consumer choices and increase incomes
- Establish a network of key actors
- Dissemination
Impacts and lessons

- 8 producer groups (50 women) trained on production and marketing
- 23 promoters, 8 retailers and 5 distributors established
- Earnings Euros 165 monthly per individual
- Fuel savings up to 60%
- Reduction in time spent in firewood collection by 2 days/week
- Smoke reduction and improved work environment
- Increased women’s income, social status, self esteem and confidence
Lessons

- Rural stoves can be effectively commercialized through rural networks
- Standardization of production procedures ensures quality and sustainability of markets
- Networks are viable medium for stoves dissemination
- Replicability: IGA from stoves ensures continuity of production
- Transportation of Upesi products to markets is a major constraint
Windfang e.G.  
www.windfang.net  
rennergie@netcologne.de
My topics

- Our co-operative
- Our objectives
- Our current status
- Where do we want to go
- Vision for the future
Our co-operative

- 200 women
- co-operative society
- 3 acting groups
  - general assembly
  - board (women executive officers)
  - supervisory board
Our objectives?

Philosophy
- electricity generated from renewable energies
- women power

Aimes
- to earn money
- to qualify women
- climate protection

construction
maintainance
administration
Our current status

- Wind-generators
- Photovoltaic plant

3,300,000 KWh /a

Net profits 20,000 - 50,000 €/a

Women get payed
Wind Turbines:
Hemme, Schleswig-Holstein and Ochsenwerder, Hamburg
Photovoltaics on the roof of the Frauenmuseum Bonn
Where do we want to go?

Growing or stay smart

- growing
  - more turnover
  - rules of the big
- stay smart
  - stable benefit
  - no payment

To stay smart, what does it mean
Solar PV on the roof of the University of applied science, Hamburg Bergedorf
Vision for the future!

Future energy projects
initiated in co-operation
Vision for the future!

Future energy projects initiated in co-operation

- may be together with you?
International Conference for Renewable Energies, Bonn

ENERGIA/LIFE Side Event

June 02, 2004, Bonn, Germany

Presented by

Yogita Chandra Bhikabhai

SOPAC
Gender & Energy: A key Variable in Poverty Reduction and Participatory Energy Production

Pacific Energy and Gender Network (PEG)
Pacific Energy and Gender Network

Coordinated by South Pacific Applied Geoscience Commission (SOPAC)
Pacific Energy and Gender Network (PEG)

• Overall objective “available, reliable, affordable, environmentally sound energy for sustainable development and gender equity for all Pacific islanders”.

• Linkages with other gender related initiatives in the Pacific have already been established and are expected to further develop. Focal points of various networks (as below) are already part of the PEG and this will facilitate information exchange and further networking;

• The following networks are associated to PEG:

  • ENERGIA, ECOWOMAN, Asia Pacific Gender Science and Technology Project (APGEST), APACE Village First Electrification Group (APACE VFEG); Melanesian Islands Village Electrification Group (MIVEG).
Agreed Recommendations on the Establishment of the Pacific Energy and Gender Network (PEG)

• That the PEG Network includes and welcomes all countries, and all peoples and their organizations that have gender and energy interests in this Oceania region;

• That the PEG Network becomes, through this workshop a strategy and action, in the Pacific Islands Energy Policy and Plan (PIEPP) in order to further gender equity and sustainable energy development in the region;

• That this PEG Network is formally established through a coordinating “hub” and initially be hosted by SOPAC;
Agreed Recommendations on PEG

• That the “hub” or Secretariat for PEG Network exists as a separate function to the host organization with the option that the “hub” of the Network rotates throughout the region and be hosted by different organizations with suitable capacity

• That the PEG Network would welcome regional, national and community organizations to membership and would provide encouragement and opportunity for community based representation

• That a small, representative working group be established, by this workshop to plan, oversee and be responsible for the operationalizing of the PEG Network.

• That the PEG Network through this workshop chooses to accept the invitation extended to the Oceania region, to join the broad international gender and energy network known as ENERGIA.
PEG Activities

• Follow up on Regional Workshop on “Gender, Energy and Sustainable Development”, 4-8 August 2003, one of the recommendations from the meeting: “Recognising the need to increase awareness of energy and gender issues, the dissemination of information was considered important and needs to be strengthened”

• A Project- Increased Awareness on Gender Issues in the Energy Sector has been recently initiated;

• Funded by Technical Centre for Agriculture and Rural Cooperation (CTA), based in the Netherlands;

• Geographic Coverage – Pacific Island Countries.
PEG Activities

Project Outputs:

• Information materials (posters, pamphlets, video, rural radio programmes) developed and distributed in the region;

• Articles on gender & energy featured on the Pacific Energy Newsletter (PEN);

• PEG website developed, including an on-line interactive contact database;

• Documented and shared successful experiences, case studies and examples that include community participation.
Strengthening PEG

• PEG is collaborating with ENERGIA for further support and strengthening;

• PEG is represented at conferences and facilitates information exchange and possible partnerships;

• PEG further seeks other potential donor support to implement the recommendations from the Regional Workshop “Gender, Energy Sustainable development” in the Pacific region.
Renewable Energy Awareness at Grassroots Level

Renewable Energy - Save My Island Home

Taiwan (ROC)

Greenhouse effect

Changing weather patterns

Depleting stocks of fossil fuels

coal

gas

Rising sea levels

SOPAC
Thank You
ANNEX 11

Gender Input into International Action Programme

[Available from the SOPAC Virtual Library @ www.sopac.org]
MAINSTREAMING GENDER INTO ENERGY POLICY, PLANNING AND PROGRAMMES AT THE INTERNATIONAL, REGIONAL, NATIONAL AND LOCAL LEVEL

<table>
<thead>
<tr>
<th>Region / country</th>
<th>Region: Europe, Asia, Africa and the Pacific</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leading actor(s)</td>
<td>Representatives Organisations of Women as a Major Stakeholder Group at Renewables 2004,</td>
</tr>
<tr>
<td>Participating actor(s)</td>
<td>ENERGIA The International Network on Gender and Sustainable Energy, LIFE e.V.-Women develop eco-techniques, The Pacific Energy and Gender Network (South Pacific Applied Geoscience Commission), Intermediary Technology Development Group, Centre for Rural Technology, Nepal</td>
</tr>
<tr>
<td>Main objective(s)</td>
<td>To mainstream gender into energy policy, planning and programmes at the International, regional, national and local level</td>
</tr>
<tr>
<td>Contents</td>
<td></td>
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</tbody>
</table>
• Developing instruments, methodologies, tools, guidelines for mainstreaming gender into energy planning, programmes and policy  
• Gender impact assessment of renewable energy programmes, projects and policy  
• Gender and energy awareness raising and advocacy at international, regional, national and local level  
• Developing renewable energy technologies using a gender sensitive participatory technology development (PTD) approach  
• Training in using a gender inclusive approach in policy, technology, planning and programmes  
• Professional training of women to be employed in the energy sector  
• Support and participation in networking on gender and energy  
• Facilitation and the mobilization of funds for gender and energy initiatives. |
| Expected results |  
• Availability of gender and energy methodologies, tools, guidelines  
• Improved and inclusive energy policies, planning and programmes that meet the needs and interests of all target groups  
• Gender disaggregated information for policy, planning and programme  
• Increases understanding, knowledge and adoption of user friendly technologies  
• Increased active participation of women in planning and decision making in the energy sector.  
• Increased number of gender and energy focused activities in the energy sector |
| Target area / place | The Pacific, Asia, Europe, Africa |
| Arrangement(s) for financing | Donor funds |
| Monitoring process and time frame | Reporting and review of activities, monitoring and evaluation of activities by 2006 |
| Contact person | ENERGIA Secreatariat, Sheila Oparaocha, Coordinator, energia@etcnl.nl. Tel: +31 33 4326027, Fax: +31 33 4040791 |
| Other relevant information |  |