GEF Roundtable on Sustainable Energy

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Global Environment Facility

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Experts from around the world participated in the Global Environment Facility (GEF) Roundtable on Sustainable Energy on January 30, 2002.

Chaired by Professor José Goldemberg, one of the world's top authorities on energy and development, the roundtable offered a vision and set of actions to promote clean energy for sustainable development. Participants included representatives of developed and developing country governments, private businesses, nongovernmental organizations, and multilateral agencies.

The roundtable was one of four sponsored by GEF to address critical environmental and sustainable development issues as a contribution to the World Summit on Sustainable Development (WSSD). Each roundtable was held in conjunction with a WSSD preparatory meeting. The roundtable conclusions were presented to the second WSSD prepatory committee meeting and are being fully integrated into the Summit process.

GEF has already committed more than $1 billion, primarily in grants, and attracted $5 billion in cofinancing to assist developing countries with clean energy technologies. For more information, visit www.gefweb.org.

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Energy for Sustainable Development — The Next 10 Years

Summary of the GEF Roundtable on Sustainable Energy
José Goldemberg, Chair

Access to clean energy is essential to poverty alleviation and sustainable development goals. Energy is both an engine of development and a source of many of the problems we face today. Approximately 80 percent of all energy used in the world comes from fossil fuels, which are the main contributors to environmental and health problems at the local, regional, and global levels. For example, much biomass in the form of wood and agricultural waste continues to be used in inefficient cookstoves in rural areas. This practice is a major source of health problems that affect mainly poor women and children. Provision of alternatives that substitute for wood fuels and support new income opportunities would address the needs of more than a half billion poor people around the world.

Although access to clean energy is by no means sufficient for sustainable development, it is an essential component of strategies for rural jobs, education, food security, water supplies, urban and rural public health, local self-sufficiency, and a host of other development benefits.

In many developing countries, fossil fuel consumption contributes to rising urban air pollution, large foreign exchange burdens, and degradation of ecosystems on which human livelihoods depend. At a time when these concerns are high on the global agenda, supplies of fossil fuels are also a security issue. Reducing the consumption of fossil fuels in both industrialized and developing countries through energy efficiency measures and expanded use of renewable energy sources (biomass, wind, solar, small hydro, and geothermal) is therefore critical.

National governments, households, and private companies spend $40–60 billion per year on new energy-supply infrastructure, more than $1 trillion per year on direct energy purchases, and much larger sums on the

infrastructure that consumes energy. Even small positive shifts in these investments and purchases can influence sustainable development. In particular, governments have a wide choice of policies to affect these expenditures at national and local levels, and in rural and urban contexts. Some policies have proven much better than others in practice.

Learning from Experience

In the 10 years since the Rio Earth Summit, use of clean renewable fuels has grown rapidly, despite continued large subsidies for fossil fuels globally. Wind power and solar power are now the fastest-growing energy technologies in the world, with 20-40 percent annual growth. Although many successful implementation models around the world demonstrate the feasibility and benefits of using renewable energy, renewables still represent only 2 percent of world energy consumption. Energy efficiency policies have had large impacts in many countries as well. Codes and standards, consumer information and incentives, more energy-efficient products (such as lights and motors), building codes, and support to industry in reducing energy intensities have successfully reduced energy consumption and costs in many countries.

Panelists drew from experience with energy for sustainable development over the past decades to point out that successful policies and programs do exist. They cited specific measures, such as "electricity feed-in laws" in Europe that have provided incentives and institutional mechanisms for wind power industries to flourish and become cost-competitive with conventional power, with little public investment in research or technologies. Several developing countries have established targets for renewable energy; for example, India has a policy to attain 10 percent of new power generation from renewable energy by 2012. Panelists also cited specific businesses that are on their way to becoming proven models, such as Grameen Shakti in Bangladesh, a non-profit supplier of rural solar systems and consumer microcredit.

Experience suggests that four key factors contributing to the successful use of renewable fuels are costs, institutional and human infrastructure, financing, and incentives (including subsidies and tax policies). These factors reflect both barriers and opportunities for intervention.

Where renewables have flourished, policies have addressed one or more of these factors, often in combination. Where renewables have languished, inattention to one or more factors has impeded progress.

Priorities for the Future: What Should Happen

Panelists identified priorities for incorporating clean energy into sustainable development:

1. Expanded markets in developed countries. Important reductions in technology costs will arise from expanded markets in developed countries. Clean energy targets adopted in industrialized countries mean expanded markets and reduced costs for energy efficiency and renewables, both of which benefit developing countries. Governments should adopt targets according to their respective conditions. Carefully crafted subsidies with sunset clauses should be considered.

2. Moderated fossil-fuel subsidies. Moderating or, when possible, phasing out fossil-fuel subsidies is fundamental to improving market conditions for energy efficiency and renewable energy in all countries. Tax and subsidy policies of many types should treat fossil fuels and renewable energy sources equally.

3. Credit channeled to those who need it. Capital is available for clean energy if new mechanisms can channel funds to those who need it, and can divide large pools of credit into smaller increments with low transaction costs. Needs exist at three levels: households and community groups need micro-credit; entrepreneurs need long-term "patient capital" that allows them time to develop products and services based on renewable energy; and investors need reduced or shared credit risks until confidence in renewables grows and track records of success emerge.

4. Market access in power-sector regulatory frameworks and policies. Regulatory frameworks and policies can provide "market access" to renewable-energy power producers, enabling those producers to sell power to utilities or end-users. Such frameworks and policies can "level the playing field" for renewable energy and

energy efficiency by removing inherent biases and barriers. Key elements are legal access rights and stable and fair prices. Renewable energy certificates are another policy for encouraging competitive investment and access.

5. Cleaner cooking fuels. Modern cooking fuels, such as biogas and LPG, need much greater attention in rural development programs because of their health and economic benefits. Linkages to agriculture and forestry and sustainable biomass harvesting are important. The special situation of women, who spend much time gathering fuel wood and who receive the greatest exposure to indoor air pollutants, should not be neglected.

6. Productive uses of renewable energy in rural areas. Sustainable development requires sustainable agriculture, improved education and health care, and rural jobs and industries. Integration of renewable energy into agriculture, education and health care, and rural industries is often the least-cost option for addressing these productive and social needs without relying on purchases (and subsidies) of nonrenewable fuels. Renewable energy needs to be on the agendas of donors and officials working in these sectors.

7. Efficiency improvements in conventional energy use. Despite significant progress in improving energy efficiency, significant reductions in energy intensity—that is, reductions in energy use in the provision of goods and services—remain possible, especially in transport, buildings, and industry. Opportunities for such reductions exist even in countries with low per-capita energy use.

8. Rural entrepreneurship. Rural entrepreneurs are key drivers of new clean-energy technologies, particularly for household lighting and productive uses in small industry, agriculture, and water supply. But few clean-energy enterprises exist, and the challenges of rural-enterprise development and financing are large. New models of enterprise development and financing are needed, along with adoption of proven models.

9. "Green consumerism." There is a willingness to pay for "green" attributes of products and services, and such "green consumerism" should be encouraged. Large numbers of people avoid specific products for environmental reasons and favor products certified as "green."

10. Socially and environmentally responsible investment funds. Many such funds exist. They could be channeled more explicitly into meeting clean energy needs.

Recommendations: Mechanisms, Institutions, and Partnerships

Panelists made concrete recommendations concerning the mechanisms, institutions, and partnerships that should be included in the WSSD program of action.

Government Actions

- Targets and timetables. Governments should adopt targets and timetables for increasing both energy efficiency and the use of renewable fuels, building on existing targets, such as the EU target of attaining 12 percent of energy from renewables by 2010 and India's target of attaining 10 percent of new power generation from renewable energy by 2012. Setting of targets, such as those outlined in the Secretary General's Report for WSSD, along with adoption of policies and measures, sends a strong economic and political message that can unleash the power of the market. Regional differentiation and country-specific approaches to targets are important.

- Mechanisms to facilitate markets for clean energy. Governments can carefully craft policies, regulations, and standards that complement targets and enable markets to function effectively. Regulatory frameworks can create relatively favorable environments for private investment. For example, targets and policies for rural electrification in South Africa opened the way for electricity markets to operate and enabled rapid expansion of electricity services in rural areas. Market liberalization by itself is not sufficient—active guidance and rules are needed.

- Environmentally and socially sustainable reform. Multilateral agencies and government regulators should work together to enhance the environmental and social dimensions of energy-sector reform and restructuring. There exist responsible and effective

ways to incorporate environmental and social objectives into policies and institutions undergoing change.

Donor, Multilateral Assistance Agency, and NGO Actions

- Capacity building for appropriate regulation, good policy, and sound business practices. Support for capacity building is essential for know-how transfer, but also more generally to support institutions and policies necessary to create the enabling environment for clean energy. Many regulators and policy-makers don't understand opportunities for or approaches to supporting clean energy. Business leaders also need to better understand how they can be environmentally and socially responsible and how they can influence clean-energy and development solutions.

- New financing mechanisms and institutions. New financing mechanisms are needed to channel existing sources of finance, which regularly fail to reach those who need it most. Investment funds and intermediaries, including microfinance institutions, can be used to channel and package credit from large sources and blocks to small recipients and amounts. Risk sharing and risk mitigation are important aspects of financing mechanisms. Export credit agencies and international financial institutions should address risk sharing and risk mitigation needs of clean energy technologies in their activities and recognize the importance of meeting those needs in pursuing market reforms.

- Know-how transfer. Technical know-how transfer through alliances and joint ventures could ensure participation of developing countries in the development and diffusion of clean-energy technologies. Developing countries are already the leaders in some energy technologies, such as modern uses of biomass.

Multi-Stakeholder Actions

- Learning from both successful and unsuccessful models. "Success stories" need to be better documented, shared, and understood. At the same time, reports of failures yield important lessons that can help countries avoid repetition of mistakes and ineffective actions. Successful models of energy businesses, policies, community organization, and financing exist and can be replicated. All can learn and share lessons—policy-makers, business leaders, entrepreneurs, NGOs, and financiers.

- Networks and consultative groups. Networks of institutions could play a greatly expanded role in information sharing, training, know-how transfer, and monitoring progress towards meeting agreed targets. One such model is the Consultative Group on International Agricultural Research (CGIAR), in which a central organization drives the network. This model could be adapted to clean energy by expanding it to include financing, policies, and markets. Another model is the Asian Energy Institute, a 13-country network for research, training, and information/knowledge exchange.

- Strategic alliances. Strategic alliances among governments, NGOs, and the private sector can "orchestrate" demand, act as "agents of change," incorporate local knowledge into strategies, and pursue specific energy and development goals (with targets and timetables) by aggregating and aligning the strengths and activities of their individual entities. Such alliances could operate both locally and globally and would likely be sector- specific—agriculture, telecommunications, or power generation, for example—because each alliance would involve different partners for the different sectors.

Forward Toward the Summit

The panel reached a clear consensus that energy must be brought to the forefront of the WSSD process. Progress on sustainable development is not possible without efforts to address energy, particularly from the perspective of rural development, human health, and reduced energy expenditures and dependence. If the above-proposed priorities and actions are to be effectively addressed, energy and finance ministers will need to be engaged in the WSSD process. Equally important, agriculture, health, education, water, and rural development officials must recognize the need to integrate energy into their policies and agendas.

José Goldemberg serves as Secretary of Environment of the state of São Paulo, Brazil, and was formerly the Minister of Environment of Brazil.

Panelists

GEF Roundtable on Sustainable Energy, January 30, 2002

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THE WORLD SUMMIT ON SUSTAINABLE DEVELOPMENT AND THE GEF

The World Summit on Sustainable Development will focus world attention on global progress toward sustainable development and provide strategic direction for the 21st century. Tens of thousands of heads of state, government officials, leaders of the NGO and business communities, and representatives of civil society groups are expected to attend the Summit in Johannesburg, South Africa, August 26 to September 4, 2002.

By formal resolution, the U.N. General Assembly has invited the GEF to participate fully in the Summit, including the review of Agenda 21, the global action plan for sustainable development that was adopted at the 1992 Earth Summit.

The General Assembly's request that the GEF be involved in the WSSD reflects well on the GEF's potential to bring about positive change. In the 10 years since it was created, the GEF has allocated $4.2 billion in grants and leveraged an additional $11 billion in cofinancing. GEF supports more than 1,000 projects in 160 developing nations and countries with economies in transition. A recent assessment by an independent panel of experts finds that the GEF has been a "catalyst for innovative programs" and has produced "significant results" to improve the global environment.

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