

PARTNERSHIP INITIATIVES INFORMATION SHEET

Name of the Partnership/Initiative

Designing Country Profiles on Sustainable Energy Development

Expected date of initiation: **August 2002**

Expected date of completion: **August 2005**

Partners Involved:

This project has two phases: (1): initial demonstration of the methodology for constructing a country profile of sustainable energy development (CPSED), for which demonstration Brazil has been chosen, and (2) facilitate replication of CPSEDs in a number of other countries. For the initial demonstration phase, the partners to date consist of two international organizations and two research organizations.

Intergovernmental organizations:

The International Atomic Energy Agency (IAEA) with cooperation from the International Energy Agency (IEA).

Further cooperation is expected from other major intergovernmental organizations and a number of developed countries.

Funding is also being sought for later phases of this project.

Major Research Organizations:

Center for Biomass (CENBIO) of the University of Sao Paulo, Brazil

Graduate School of Engineering (COPPE) of the Federal University of Rio de Janeiro, Brazil

Leading Partner: International Atomic Energy Agency (IAEA)

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Main objectives of the Partnership/Initiative

The main objective of this partnership is to design and demonstrate the application of a systematic and comprehensive approach for developing Country Profiles on Sustainable Energy Development (CPSEDs). While CPSEDs would ultimately be applied in a number of developing countries, the initial demonstration will be in Brazil. The IAEA, CENBIO from the University of Sao Paulo and COPPE from the Federal University of Rio de Janeiro are conducting a project designed to identify potential sustainable energy strategies that will help Brazil to continue making progress towards a sustainable energy future. The effort will result in the building of a first comprehensive **Country Profile on Sustainable Energy Development**, including tools and indicators to monitor progress in achieving this goal.

Sustainable Development requires integrated economic development based on social responsibility and respect for the environment while keeping in mind the impact on future generations. Energy supply has a significant bearing on all the dimensions of sustainability: social, economic, institutional and environmental. There is a need among developing countries for a variety of tools and integrated evaluation methods that permit the formulation of comprehensive sustainable energy development strategies, as well as the monitoring of their successful implementation. Ideally, countries should be able to construct a profile of their own progress towards a sustainable energy future, though as yet none has attempted to do so in a systematic fashion.

Brazil is an ideal candidate for demonstrating the feasibility and merits of constructing such a profile. The world's fifth most populous country, the third largest energy consumer in the Western Hemisphere (behind United States and Canada), and the largest emitter of carbon dioxide emissions in the region. Brazil enjoys a broad mix of energy resource endowments and technologies and valuable environmental assets. The Amazon rainforest of Brazil, for instance, represents 30% of the planet's remaining tropical forest. In addition to acting as a mechanism for absorbing carbon dioxide from the atmosphere, the Brazilian Amazon forest provides shelter to at least one tenth of the world's plant and animal species.

A major priority for Brazil is to satisfy growing energy demand fuelled by population and economic growth, and to balance this effort with other priorities taking into account environmental concerns and energy issues such as affordability, accessibility, security, and efficiency. Energy policies now being implemented and the formulation of future policies should be monitored and evaluated in the light of sustainable development needs, and of their effectiveness in ensuring efficient expansion of energy services.

This broad spectrum of energy-environment concerns makes Brazil an ideal demonstration candidate for illustrating the applicability of CPSED's across a wide range of conditions.

Please also provide a brief description of the relationship of the Partnership/Initiative with the objectives of Agenda 21 as well as relevant goals and objectives of the United Nations Millennium Declaration:

Agenda 21 covers all issues that have significant bearing on the main key dimensions of sustainability, namely social, economic and environmental. One of these significant issues is energy. The provision of adequate and affordable energy services, in a secure and

environmentally benign manner, and in conformity with social and economic developmental needs, is an essential element of sustainable development. This was recognised by Agenda 21.

Providing energy services at affordable levels, with a considerable level of efficiency and minimizing negative environmental impacts is a real challenge for many developing countries, especially in those countries where large disparities in energy availability still exist. Brazil is the largest country in South America and one of the richest in natural resources. With over 170 million people, Brazil has the 11th largest world economy in terms of GNP. Brazil's significant forest, water and biodiversity resources are unevenly distributed throughout its territory and considerable imbalance exists in the social and economic conditions of the different regions. This imbalance is particularly marked in personal income and access to basic services including commercial energy and electricity.

Therefore, energy represents a major factor for Brazil in its search for sustainable development. The integrated assessment of Brazil's energy requirements and resources, taking into consideration social, economic, environmental and institutional implications, is needed. This partnership initiative is designed to fill this need, while at the same time providing a demonstration of a generic approach for constructing CPSED applicable in other countries.

With respect to the goals and objectives of the United Nations Millennium Declaration, this project is particularly relevant to the objectives III and IV that correspond to the goals of "Development and Poverty Eradication" and "Protecting Our Common Environment".

At the national level, the building of country profiles on sustainable energy development will allow not only the monitoring of progress towards national energy objectives but the formulation of specific sustainable energy strategies that will be consonant with social and environmental objectives. Improvements in the assessment of current energy policies and in the formulation of future policies (using ISED and other monitoring devices) will translate into a more efficient management of resources and by consequence into progress towards meeting the objectives of development, poverty eradication and protection of the environment.

At the international level, the building of a country profile for Brazil will pave the way for replication of CPSED, and provide a systematic way of assessing international progress towards sustainable energy development.

Expected results of Demonstration Phase:

At the national level, the partnership will result in an overall assessment of the energy sector of Brazil, a review of potential future energy demand scenarios and the definition of a comprehensive set of sustainable energy strategies specifically designed to move the country towards a sustainable energy future. Indicators of sustainable energy development will be identified to monitor the country's progress towards meeting its national development goals.

Brazil will have a benchmark to measure its relative future progress on energy sustainability, including more efficient use of energy, natural and financial resources. Brazilian research and governmental organizations will have increased availability of and expertise in using energy planning tools and evaluation methodologies for the integrated assessment of energy strategies and programs. The modelling framework and guidelines developed in Brazil will permit other countries to construct systematically their country profiles on sustainable energy development.

At the international level, countries and international organizations will have a consistent framework for assessing the progress towards sustainable energy development, and will have benchmarks for comparing progress along different policy paths. The statistical record of sustainable energy development will be greatly enhanced and available for systematic substantive analysis.

Specific targets of the Partnership/Initiative and timeframe for their achievement:

The specific target is a final report to be ready by the end of 2004 and published by August 2005. The final report will include results of the energy economic, social, environmental and institutional analyses and the Brazilian profile on sustainable energy development. The report will identify specific strategies to follow at the macro and micro levels. Recommendations will be helpful both to decision makers and the general public of Brazil. In addition, the report will include a discussion and summary on lessons learned and guidelines that can be replicated by other countries to create their own energy country profiles. This latter element is the key product—a sample country profile and the definition of an approach for replicating *Country Profiles on Sustainable Energy Development* in other countries. A second output would be a **video** (to be distributed in this case in Portuguese) that will be developed for laymen, providing simple but valuable ideas on possible paths and contributing factors in the country's effort toward a sustainable energy future. The ideas should allow the improvement of lives and the saving of natural and financial resources. The publication and video would be designed to serve as an example to follow or a basic approach that can be implemented in other countries.

Coordination and Implementation mechanism

Please provide a brief description of expected coordination/implementation mechanism of the Partnership/Initiative.

Under this project, CENBIO and COPPE will develop the needed data and conduct the studies required to produce sustainable energy strategies. The IAEA would disseminate relevant tools, organize training courses and workshops on model application, ISED implementation, and provide technical support. The IAEA staff and Brazilian participants together would develop the definitions and analytical approach for constructing a country profile. Other international organizations are expected to participate by providing technical and financial support. The project will be implemented in about 2 to 3 years.

An Expert Committee is being organized with about 10 members, 5 experts from Brazil and 5 from international organizations including the International Energy Agency/OECD and some regional international organizations. COPPE and CENBIO are the Brazilian research organizations leading the Brazilian team while the IAEA is the organization leading the international effort. The Expert Committee will direct the final analysis and will define the strategies for a sustainable energy future.

Arrangements for funding

Please describe available and/or expected sources of funding for the implementation of the Partnership/Initiative (e.g. donor government(s); international organization(s)/financial institution(s); foundation(s); private sector; other major groups, etc.)

The IAEA will provide technical and partial financial support for the implementation of this project. This includes personnel for the management and implementation of the project, training personnel available at the two participating universities to train the Brazilian team in the use of energy modelling tools, and resources for the publication of the report. COPPE and CENBIO are providing technicians, research facilities, data collection and support for the management of the Brazilian team. Additional financial support will be needed to support the research activities, the management Committee, the publication of the report and the preparation of the Video.

Voluntary contributions are being sought from developed countries interested in seeing progress in developing countries in the implementation of sustainable development strategies and Agenda 21 objectives. Countries with high environmental priorities may see this project as an opportunity to enhance their status as leaders in the struggle to help the poor to move towards sustainable development.

Arrangements for capacity building and technology transfer

Please include information if the Partnership/Initiative provides for training, informational support, institutional strengthening and/or other capacity building measures. Please also provide here a brief description of expected arrangements for technology transfer (if applicable).

The IAEA will provide appropriate tools and models; training and technical support in the use of these tools; and managerial support in the coordination and implementation of the overall project. Analytical tools will permanently be installed in the Brazilian research facilities securing full transfer of methodology and know-how.

The training activities will focus on methodological issues and collection procedures relevant for the data required to establish indicators of sustainable energy use and to define sustainable energy strategies. The training will result in enhanced decision-making capability in Brazil.

Links of Partnership/Initiative with on-going sustainable development activities at the international and/or regional level (if any)

Please provide a brief description:

This initiative is directly linked to the activities of the UN Commission on Sustainable Development and activities of the IAEA in particular its multi-agency work on Indicators for Sustainable Energy Development. The initiative is also linked to the sustainable development activities of the OECD, the IEA, Eurostat and the ECLAC.

Monitoring Arrangements

Please describe expected arrangements for monitoring of progress in the implementation of Partnerships/Initiative after it will be launched at the WSSD:
(e.g. frequency/modalities of preparation of progress reports; electronic updates, news-letters, etc)

Progress on the implementation of this initiative will be monitored by the IAEA and the Brazilian research institutes throughout the 2-year period by the submission of 4 progress reports

summarizing findings and specifying the chapters' outlines of the final report. The expert group is planning to hold at least 4 meetings to discuss progress in the preparation of the country profile, to review the progress reports and to ensure completion of all the specific tasks approved in the overall project plan.

Other relevant information:

Web-site (if available):

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