

# **REPORT TO SECRETARY SPENCER ABRAHAM AND MINISTER DILMA ROUSSEFF ON THE STATUS OF U.S.-BRAZIL COOPERATION IN ENERGY**

## **BACKGROUND**

The United States and Brazil signed an Implementing Arrangement (IA) for cooperation in energy technology on October 14, 1997. The IA named the U.S. Department of Energy (DOE) and the Ministry of Mines and Energy of the Federative Republic of Brazil (MME) as the Executive Bodies of the IA. Three annexes to the IA were also signed on the same date: Annex I, for cooperation in the field of coal and power systems; Annex II, for cooperation in the field of renewable energy; and Annex III, for cooperation in the field of energy efficiency. The IA stipulated that DOE and MME, each names one Coordinator to supervise all cooperative activities, and to assess opportunities for expanding bilateral cooperation. Furthermore, the Coordinators may establish subcommittees to facilitate the implementation of projects initiated under the IA.

Having a mutual interest in expanding the collaboration provided for under the 1997 Implementing Arrangement to energy issues that are relevant to both countries, Secretary Abraham and Minister Rousseff signed a Memorandum of Understanding (MOU) between DOE and MME on June 20, 2003, for the establishment of a mechanism for consultations on energy cooperation. In addition to continuing collaboration in energy science and technology, the MOU established a mechanism for consultations on other energy issues of mutual interest such as energy planning and energy analysis, and energy trade and investment. The MOU also called for DOE and MME to each name a "Focal Point" to coordinate the ministerial meetings and the bilateral cooperation.

## **COORDINATION OF FUTURE ENERGY CONSULTATIONS/ENERGY COOPERATION**

Secretary Abraham and Minister Rousseff will each designate a Focal Point at DOE and MME, respectively; to coordinate the implementation of the activities stipulated in the June 2003, MOU, including the preparation of the regular meetings of the energy consultations. These Focal Points also will act as the "Coordinators" of the 1997 Implementing Arrangement and will coordinate, approve and monitor all energy technology cooperation under the Implementing Arrangement, and will assess opportunities for expanding the cooperation.

## **ACCOMPLISHMENTS**

### **The International Partnership on Hydrogen Economy (IPHE)**

The United States and Brazil were two of the founding members of the IPHE which has been established to provide a mechanism for partner countries to efficiently organize, evaluate and coordinate multinational research, development and deployment programs that advance the transition to a global hydrogen economy. Minister Rousseff participated in the IPHE Ministerial meetings in Washington, D.C. from November 19-21, 2003, and

signed, on behalf of Brazil, the IPHE Terms of Reference. Secretary Abraham signed on behalf of the United States. These Terms of Reference have established the IPHE operating structure that includes a Steering Committee, and an Implementation and Liaison Committee. DOE representative is a Co-Chair of the Steering Committee, and MME representative is the Vice Chair of the Planning and Liaison Committee.

### **Hydrogen Roadmap**

As part of the MOU signed in June 2003, DOE and MME agreed to exchange information on energy issues and technologies of mutual interest, including hydrogen technologies. Furthermore, Secretary Abraham and Minister Rousseff agreed to undertake a collaborative effort to advance hydrogen sector research, development and deployment activities, both bilaterally and multilaterally. This effort includes the establishment of a joint team of U.S. and Brazilian officials and experts, including representatives from the private sector and academic institutions, to consult regularly and identify common areas of interaction on specific points of their respective roadmaps that cover future hydrogen production, storage, transfer, end-use technologies, safety codes and standards, and outreach/communication efforts. This joint effort was launched on April 19, 2004, and is led by DOE and the U.S. Agency for International Development on the U.S. side, and MME on the Brazilian side. Secretary Abraham and Minister Rousseff signed a Memorandum of Cooperation on April 19, 2004, establishing this bilateral cooperation on hydrogen technology.

### **Carbon Sequestration Leadership Forum (CSLF)**

The United States and Brazil were two of the founding members of the Carbon Sequestration Leadership Forum established in June, 2003 to facilitate the development of technologies for carbon dioxide separation, capture, transport and storage in underground geologic formations. Secretary Abraham signed the Charter establishing the CSLF on behalf of the United States, and Minister Rousseff signed on behalf of Brazil. The CSLF will allow the leveraging of international resources through information sharing and joint participation in projects that aim at stabilization of greenhouse gas levels in the atmosphere and securing sustainable energy for the future.

The CSLF is convening an Ad-Hoc group of experts in Salvador, Brazil, on August 20, 2004, to finalize the draft technical roadmap and recommendations of proposed projects for the Melbourne, Australia Ministerial meeting on September 13-15, 2004.

### **Biomass/Biodiesel Cooperation**

In consultation with MME, DOE has initiated a joint study in collaboration with a number of Brazilian experts to assess the feasibility of joint projects with Brazil for the production of bio-diesel fuels. The study will involve U.S. and Brazilian private sectors and financial institutions, and will assess the benefits to Brazil such as the reduction in oil imports, the development of rural areas with sustainable, locally grown energy base, and the positive environmental benefits. In addition, on April 19, 2004, Secretary Abraham

and Minister Rousseff agreed to organize a joint Biomass/Bio-diesel workshop in Brazil in the coming months. The workshop will bring technical experts, private sector representatives and financial institutions from both countries together to review the status of the biomass/bio-diesel technologies and to identify collaborative opportunities for commercial deployment as well as for technology development.

### **Energy Information Exchange**

DOE sent representation from the Energy Information Administration (EIA) to MME in September 2003, to exchange views on energy data collection and forecasting and how energy information contributes to energy planning and analysis. The two sides agreed on the need to develop a Memorandum of Understanding between EIA and the appropriate agency under MME for the exchange of energy information. EIA will work together with MME during the coming months to develop such a Memorandum of Understanding.

### **Regulatory Exchange**

DOE sent a delegation from the Federal Energy Regulatory Commission (FERC), led by a FERC Commissioner, to Brazil to meet with the National Electrical Energy Agency (ANEEL). The purpose of the visit was to exchange experiences and practices as energy regulators. No next steps are planned at this time in this field.

### **Offshore Permitting Regulation**

Representatives from DOE's Office of Fossil Energy visited Brazil in December, 2003, and met with MME staff and representatives of the Brazilian Environmental Licensing Agency (IBAMA), the National Petroleum Agency (ANP), Petrobras and the Brazilian Institute of Petroleum (IBP) to exchange views and experiences on regulatory policies practiced in both countries in the oil sector. No next steps are planned at this time. DOE will be ready to continue these exchanges, if MME so wishes, and will include other US Government agencies, such as EPA and Department of Interior, in such exchanges

### **Energy Investment Symposium**

DOE and MME co-hosted an Energy Investment Symposium on November 21, 2003, in Washington, D.C. Minister Rousseff participated in the symposium and was accompanied by the Presidents of Electrobras and Petrobras, and the Director General of ANEEL and ANP, and a member of the Brazilian Congress. The Brazilian delegation presented Brazil's new electric power model and recent developments in Brazil's oil and gas industry and exchanged views with U.S. companies invested in Brazil. DOE and MME will continue to explore ways to address energy investment issues through future public/private sector dialogues.

## **Coal and Power Systems**

The United States and Brazil have had extensive collaboration in the field of coal and power systems since 1997, including

- Several conferences aimed at the utilization of Brazilian coal resources in the southern states of Rio Grande do Sul and Santa Catarina using clean and advanced power systems. These conferences included private sector representatives from both countries and private and public financial institutions.
- Joint study of a coal gasification project utilizing the site at Triunfo in Rio Grande do Sul
- Joint feasibility study, funded by the U.S. Trade Development Agency, of a \$400 million Fluidized Bed Coal plant in Brazil
- Establishment of a partnership between Brazil Southern States and the U.S. Southern States Energy Board
- A number of technology trade missions from Brazil to U.S. coal and advanced power facilities.

## **Cooperation in Renewable Energy**

The United States and Brazil have been cooperating on renewable energy technologies since the early 1990's. This cooperation has been through DOE's National Renewable Energy Laboratory (NREL) jointly with USAID. Current work has focused on joint effort with Brazilian institutions to identify and implement cost-effective renewable-based options to support the Brazilian Government's policy of universal access to electricity and capacity building activities in the Amazon region. These joint efforts include:

- **Local Partnerships and Capacity Building Activities:** In 2003, NREL signed MOUs with the Federal Universities of Pará (UFPA) and Amazonas (UFAM) that provide the institutional framework for joint activities in the Amazon region's two largest states. Initial activities will include a series of training workshops in the use of NREL's analytical tools and methodologies to identify and implement least-cost rural energy options.
- **Rural Energy Planning:** In the state of Amazonas, NREL is working with CEAM and UFAM to conduct community-based rural electrification options analysis that will support implementation of Brazil's new universal electrification program, *Luz Para Todos* ("Lights for All"). These activities will include use of NREL's GIS-based integrated resource assessment tools and techniques to help identify least-cost energy options based on local energy resources and end-user needs. A joint workshop will be held in Golden, Colorado, in May, 2004, that will focus on integrated rural energy planning, project analysis and program development, and share experiences from rural energy development in other countries.

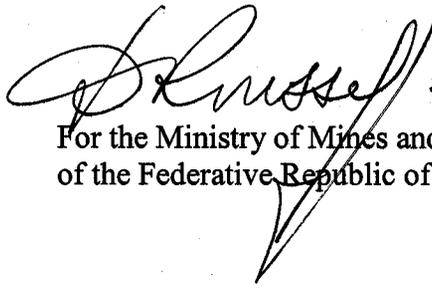
## CONCLUSION

Secretary Abraham and Minister Rousseff have reviewed the work done thus far and agreed to continue the cooperation on the aforementioned areas of interest. The Focal Points named by Secretary Abraham and Minister Rousseff will work to maintain regular contacts between the DOE and MME working groups and explore new ways of expanding cooperative efforts.

Secretary Abraham and Minister Rousseff have approved this joint report on April 19, 2004.



For the Department of Energy of the  
United States of America:



For the Ministry of Mines and Energy  
of the Federative Republic of Brazil: