ETSAP Meeting

SUMMARY

- Overview
- The Planning Process
- Renewables
- Efficiency Evolution
- Some Policies for Efficiency and Renewable Source in Brazil
The Gleneagles Communiqué Commitments

“Promote innovation, energy efficiency, conservation, improve policy, regulatory and financing frameworks; and accelerate deployment of cleaner technologies, particularly lower-emitting technologies”

“Raise awareness of climate change and our other multiple challenges, and the means of dealing with them; and make available the information which business and consumers need to make better use of energy and reduce emissions”

Overview
BRAZILIAN ELECTRICAL SYSTEM

**Isolated Systems**
- 2% of the Total Energy Market
- Installed Capacity: 3,027 MW
- Imports: 200 MW
- Transmission: 2,608 km
- Main Source: Thermal plants

**Interconnected System**
- 98% of the Total Energy Market
- Installed Capacity: 89,838 MW
- Imports: 7,970 MW
- Transmission: 84,795 km
- Main Source: Hydroelectricity

**Continental Dimensions**

- 4,000 km (~2,480 Miles)
BRAZILIAN ELECTRICAL ENERGY MATRIX - 2005

Renewable Sources:
- Brazil 2005 – 89%
- World 2003 – 18%

Matrix associated with generation of electrical energy
Included energy imported from Itaipu

Source: MME - 2006

EXPLOITED HYDROELECTRIC POWER

BRAZILIAN ENERGY MIX - 2005

Fuels derived from Oil 38.4%
Natural Gas 9.3%
Hidroelectricity 15.0%
Uranium 1.2%
Coal 6.4%
Wood and other Fuels derived from Biomass 13.1%
Sugar Cane 13.9%
Others Sources 2.7%

Renewable sources:
Brazil 2005 – 44.7%
World 2003 – 13.5%
OCDE 2003 – 7.1 %

100% 218.6 million [toe]


Total 1988: 144.438 10^3 toe
Total 2004: 213.370 10^3 toe

Source: MME/EPE/BEN 2005
GDP Growth and Domestic Energy Supply Growth (% p.y.)
(1980/2003)

Source: INTERNATIONAL ENERGY ADMINISTRATION – DOE/USA

Forecasting for GDP Growth and Domestic Energy Supply-Brazil (% p.y.)

The Reference Scenario
(Preliminary Results)
The Planning Process

THE PLANNING PROCESS

Strategic Approach
Long Term Studies
(up to 30 years)

Mid Term Studies
(15 years)

Scheduling Approach
Short Term Studies
(up to 10 years)

Products

Energy
National Plan
National Energy Matrix

References
Guidelines

Ten Year Electrical
Energy Plan
THE PLANNING PROCESS

Main Products and Studies for 2005/2006

- National Energy Matrix – 2030 (2023)
- National Energy Plan – 2030
- Electrical Energy Ten Year Expansion Plan – 2006/2015

How About The Renewables?
Renewable Share 1988 - 2004

Source: MME/EPE/BEN 2005

Domestic Energy Supply: A Possible Future – BR (%)

Preliminary Results
A Illustrative Comparison:
Brazil (A Scenario for 2023) x World (2025) (%)

Energetic Efficiency Evolution

* AEO 2005 DOE/USA
Useful Energy Balance - Brazil

Average Efficiency by Sector (%)

Energetic: 65, 73, 75
Households: 33, 43, 47
Transports: 31, 35, 37
Industrial: 62, 68, 72

Global Average Efficiency (%)*

1984: 47
1994: 54
2004: 58

* Related to Final Consumption
Some Policies for Efficiency and Renewable Source in Brazil
Some Policies for Efficiency and Renewable Source in Brazil

- **CONPET** - executes timely strategic actions with the following main objectives: reduce consumption of diesel oil and reduce black smoke emission, promote the use of natural gas as fuel, stimulate new technological developments in the household appliances segment, stimulate companies in the industry to rationalize power.

- **The Brazilian Labeling Program (PBE) and the Labeling of Household and Gas Powered Appliances** - The PBE is a power conservation program that uses informative labels to inform consumers about the power efficiency of some products sold in the country.

- **Biofuel Program** - Brazil also launched a national biodiesel programme last year, to add three percent biodiesel to petroleum diesel. But for now this is not a mandatory measure. The idea is to diversify fuel sources, which include castor oil, palm oil, soy oil and other oil-producing plants and, additionally, promote the social inclusion.

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Some Policies for Efficiency and Renewable Source in Brazil

- **PROINFA** - Promote the Renewable Energy insertion in Electrical energy matrix, namely biomass, wind and hydroelectric plant powers up to 30 MW. (about 1100 MW of each source by 2008).

- **PROCEL** - The government of Brazil established a national electricity conservation program known as PROCEL at the end of 1985. PROCEL, housed at Eletrobras, funds energy efficiency projects carried out by state and local utilities, state agencies, private companies, universities, and research institutes. Eletrobras/PROCEL also helps utilities obtain low-interest financing for major energy efficiency projects from a revolving loan fund within the electric sector.

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