

ETSAP Meeting

Cape Town - June, 30 of 2006

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”

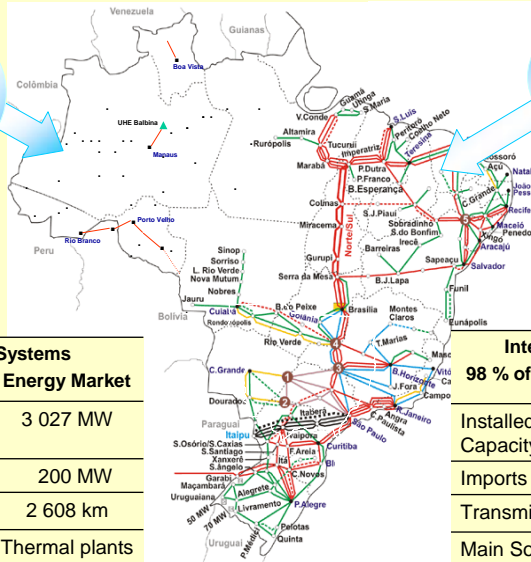
“Raise awareness of climate change and our other multiple challenges, and the means of dealing with them; and make available the information witch business and consumers need to make better use of energy and reduce emissions”

Overview

BRAZILIAN ELECTRICAL SYSTEM

ISOLATED SYSTEMS

INTERCONNECTED SYSTEM



Isolated Systems
2 % of the Total Energy Market

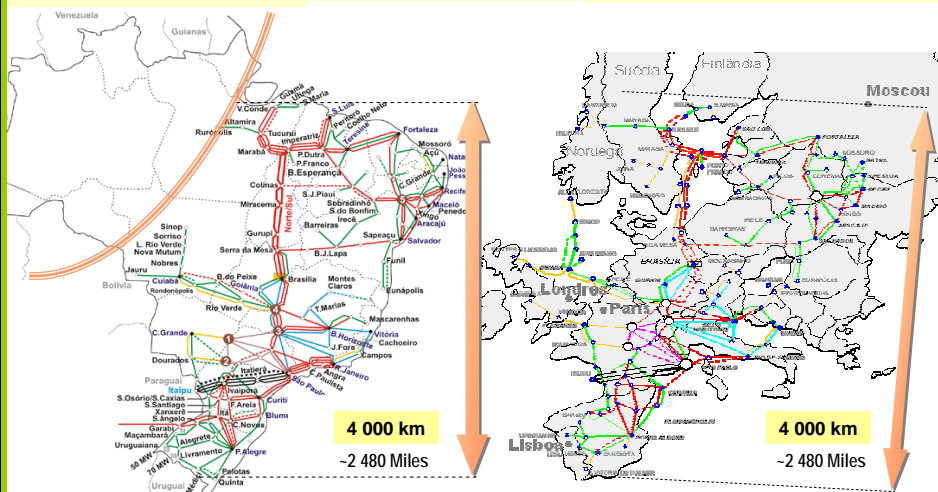
Installed Capacity	3 027 MW
Imports	200 MW
Transmission	2 608 km
Main Source	Thermal plants

Interconnected System
98 % of the Total Energy Market

Installed Capacity	89 838 MW
Imports	7 970 MW
Transmission	84 795 km
Main Source	Hydroelectricity

BRAZILIAN ELECTRICAL SYSTEM

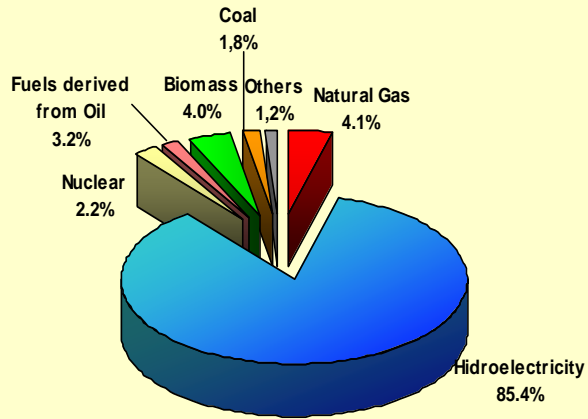
Continental Dimensions



BRAZILIAN ELECTRICAL ENERGY MATRIX - 2005

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

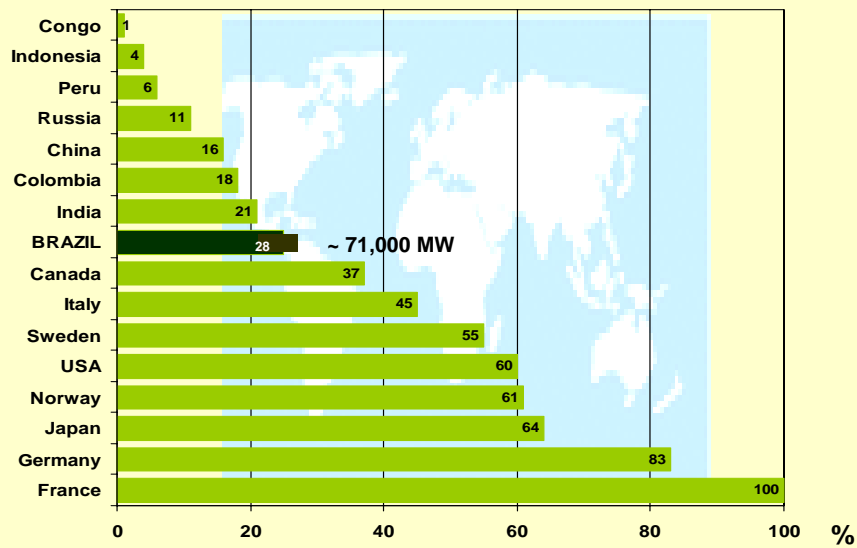
100%
 441.6 [TWh]



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

Source: MME - 2006

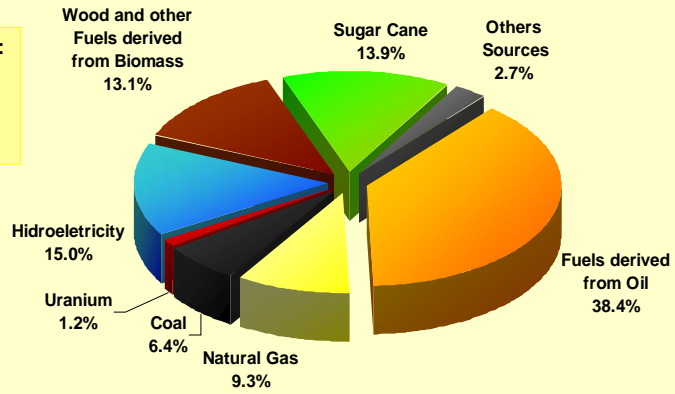
EXPLOITED HYDROELECTRIC POWER



Source: World Energy Council (1999); ANEEL (2002)

BRAZILIAN ENERGY MIX - 2005

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



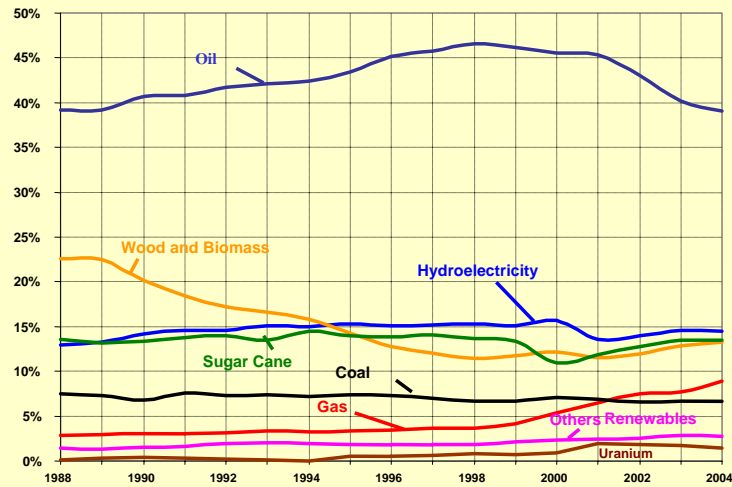
100%
 218.6 million [toe]

Source: MME - 2006

Brazilian Energy Mix Evolution- 1988/2004

Total 1988: 144.438 10³ toe

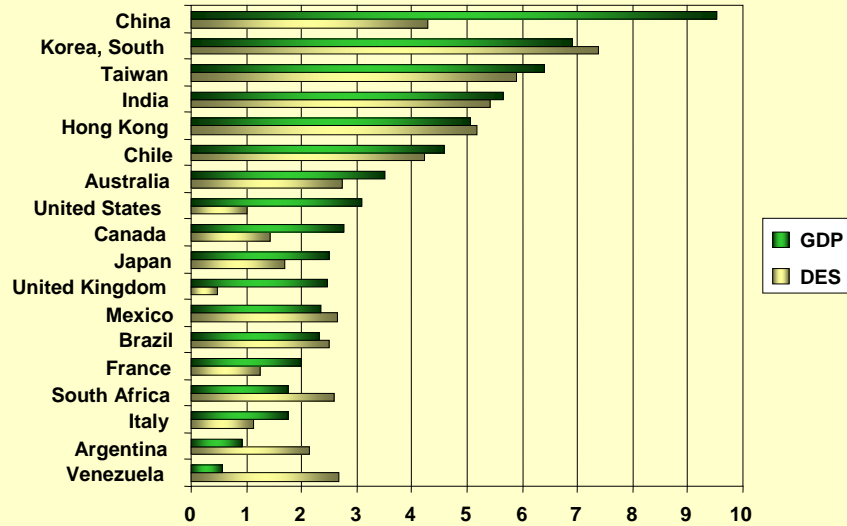
Total 2004: 213.370 10³ toe



Source: MME/EPE/BEN 2005

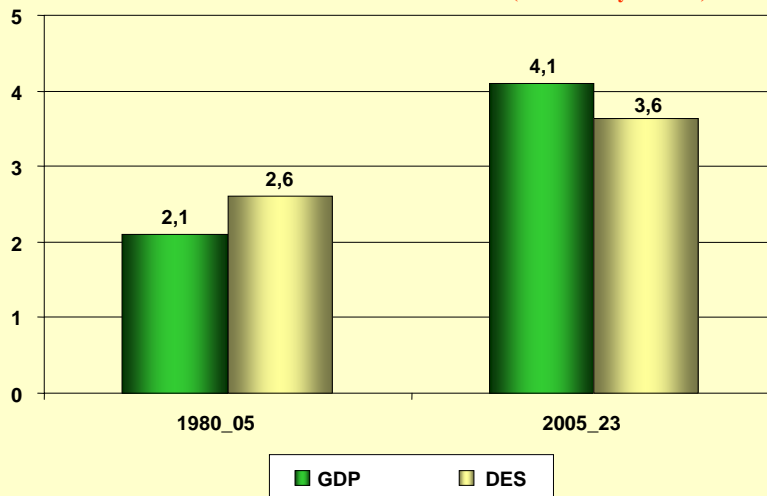
GDP Growth and Domestic Energy Supply Growth (% p.y.) (1980/2003)

Source: INTERNATIONAL ENERGY ADMINISTRATION – DOE/USA



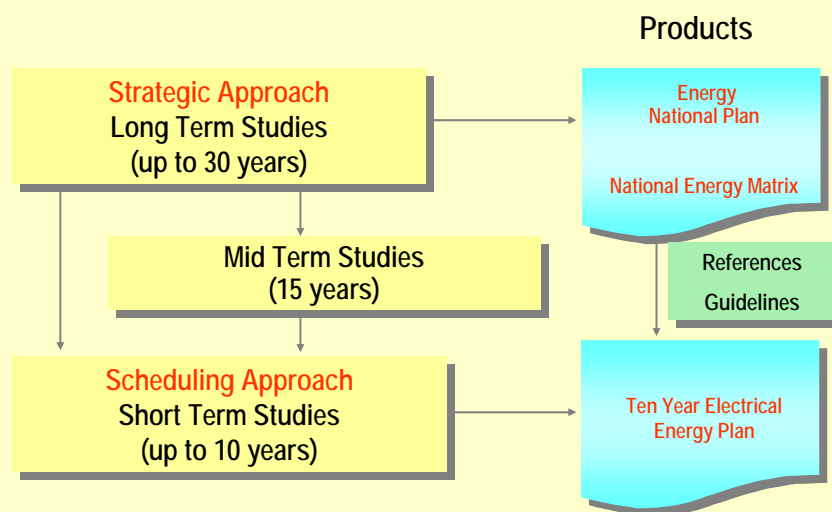
Forecasting for GDP Growth and Domestic Energy Supply- Brazil (% p.y.)

The Reference Scenario
(Preliminary Results)



The Planning Process

THE PLANNING PROCESS



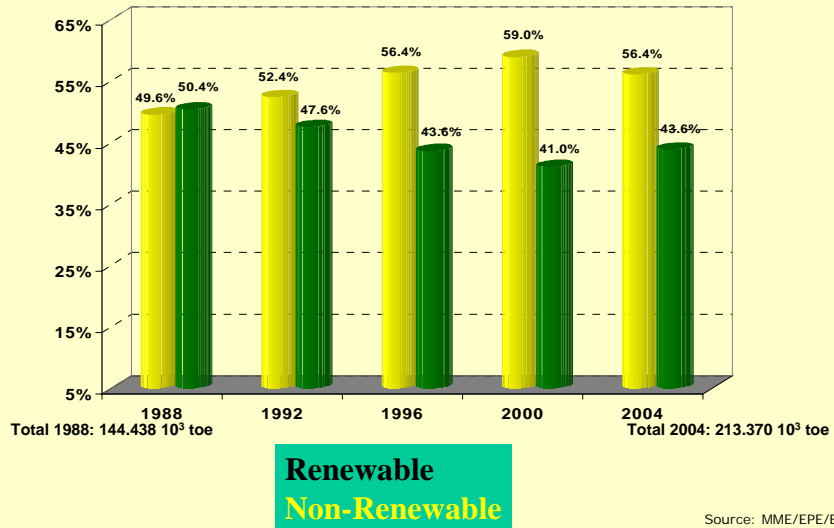
THE PLANNING PROCESS

Main Products and Studies for 2005/2006

- National Energy Matrix – 2030 (2023)
- National Energy Plan – 2030
- *Electrical Energy Ten Year Expansion Plan – 2006/2015*
- National Energy Expansion Plan – 2007/2016
- National Energy Balance – 2005 e 2006
- Planning Handbook – 2005 and 2006

How About The Renewables?

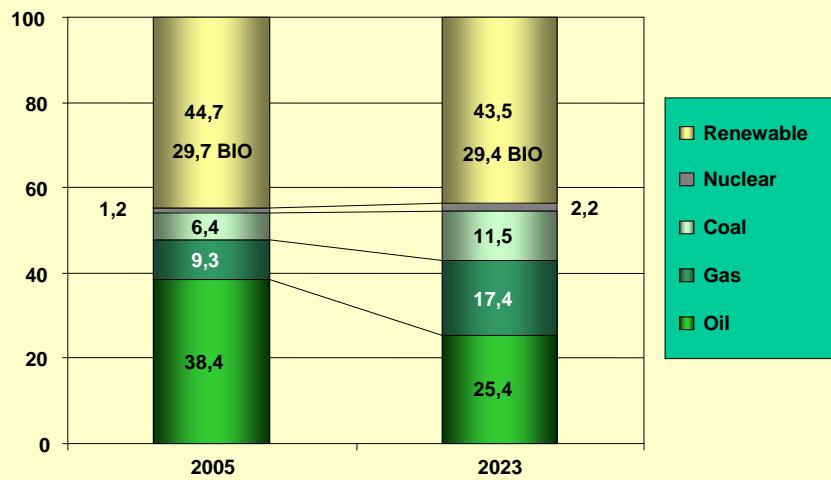
Renewable Share 1988 - 2004



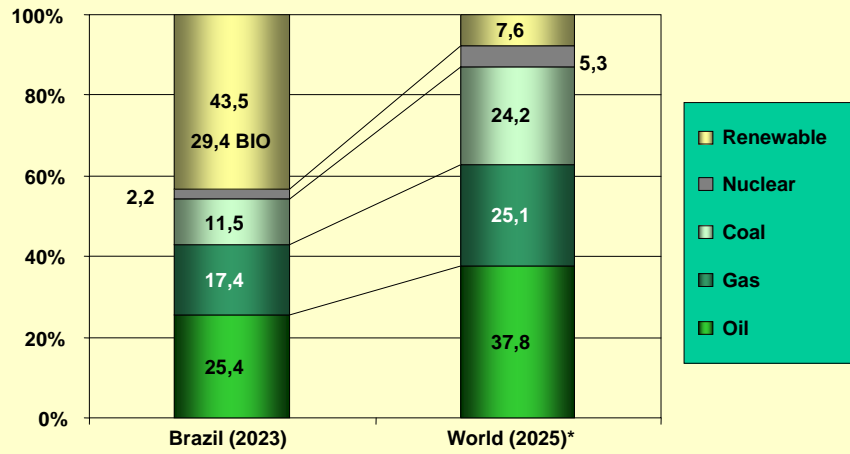
Source: MME/EPE/BEN 2005

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

Preliminary Results



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

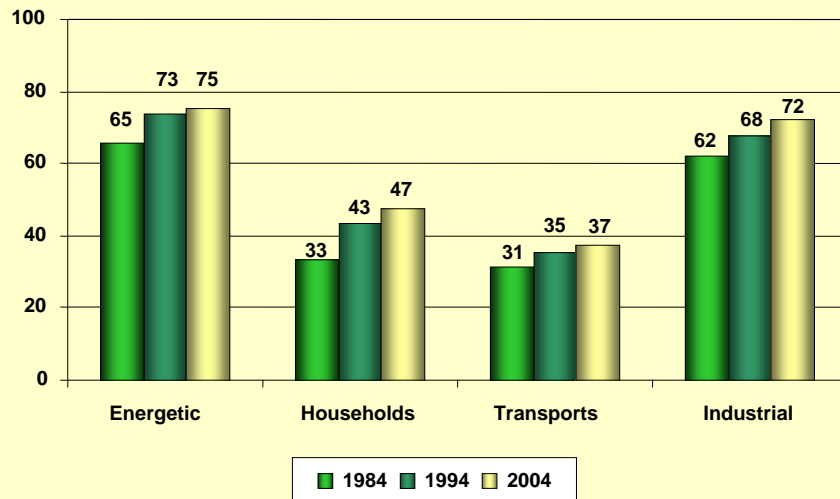


* AEO 2005 DOE/USA

Energetic Efficiency Evolution

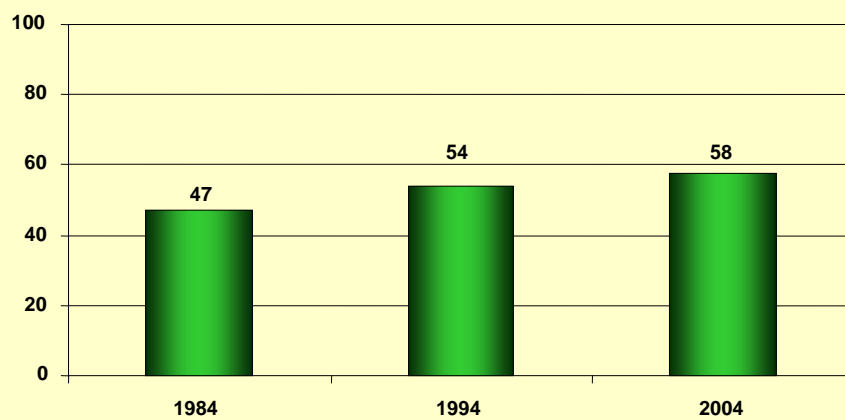
Useful Energy Balance - Brazil

Average Efficiency by Sector (%)



Useful Energy Balance - Brazil

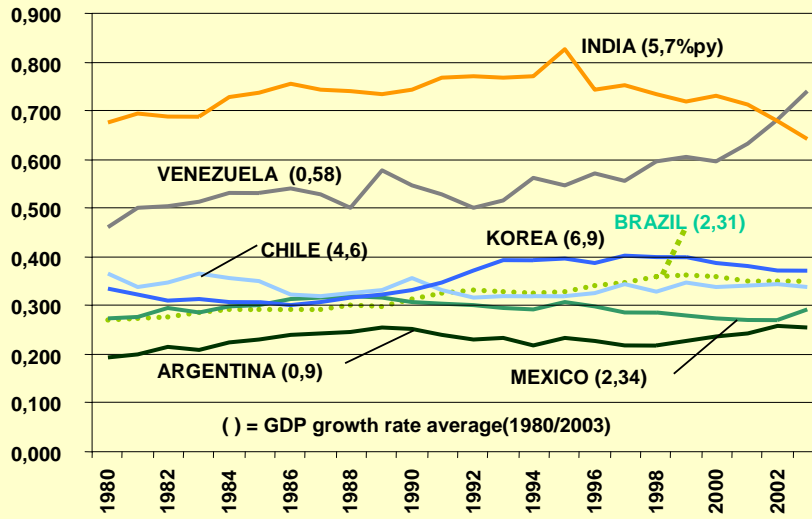
Global Average Efficiency (%)*



* Related to Final Consumption

Energy Intensity toe / 1000 x US\$ (2000)

Source: INTERNATIONAL ENERGY ADMINISTRATION – DOE/USA



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 Programm-**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.

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.
- **Others ongoing initiatives** - National Energetic Efficiency Plan and its insertion in Planning Processes.

Ministry of
Mines and Energy



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