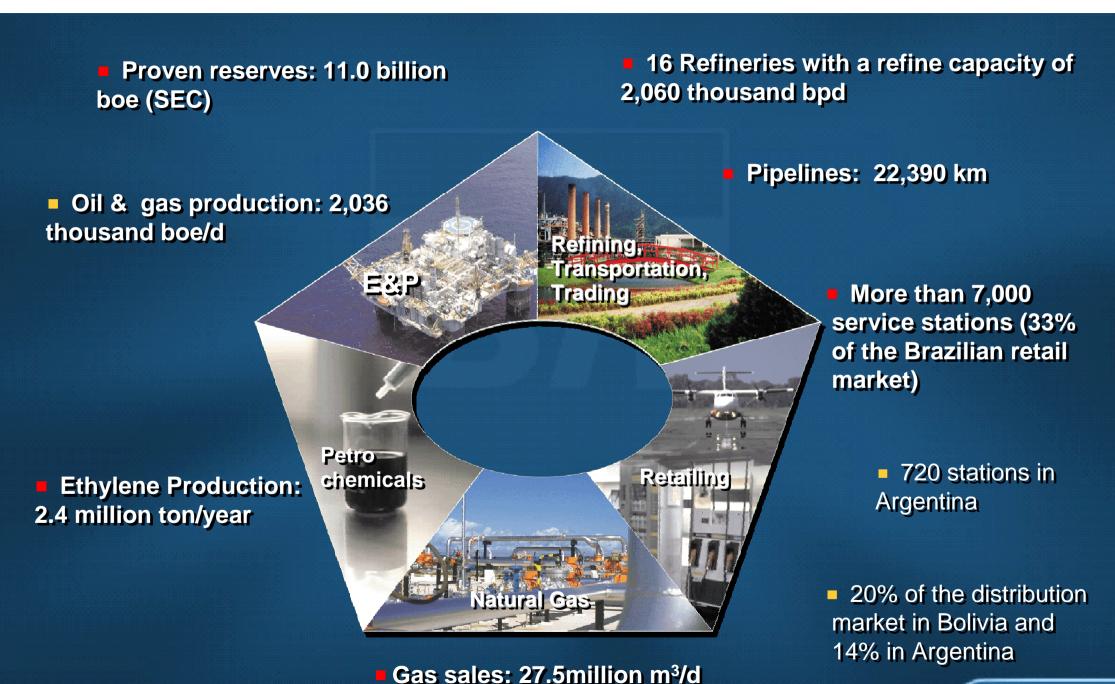


PETROBRAS

BIOFUEL



Company Overview





Growth - Profitability - Social and Environmental Responsability

- Biofuels market alcohol and biodiesel
- Biodiesel production
- Renewable energy
- R&D Petrobras Center (Cenpes) projects on renewables



Renewable Energy and Biofuels

Business Plan 2007-2011 → total US\$ 87.1 billion

2007-2011 Investments	2011	
Biodiesel Plants	Availability of 855 Thous. m³/year	
H-Bio (Bio-Refining)	Processing 425 Thous. m³/year of vegetable oil	
Alcohol pipelines	3.5 million m³ Ethanol Exports	
Alcohol Vessel Project		
Wind Power	240 MW Installed Capacity of Power Generation from Renewable Sources	
Photovoltaic		
Other Renewable Energy Sources		

Investments of US\$ 700 millions in development of renewable energy sources and biofuels



- ~ 50.000 industries
- Exports: US\$ 2.5 billion/year (sugar and ethanol)
- Total area of plantations: 5 million hectares
- Sugar cane production: 340 million tons/year
- Installed capacity for ethanol production: 16 million m³/year
- Ethanol production: >14 million m³/year
- Ethanol present potential surplus (for export): 2 million m³/y
 - can be expanded



Brazilian Potential Seeds

Type of Seed	Oil Content (%m)	Productivity (kg/ha.year)	Oil Production (kg/ha.year)
Animals Fat	100	-	-
Castor Bean	50	1 500	750
Sunflower	42	1 600	672
Peanut	39	1 800	702
Sesame	39	1 000	390
Rape Seed	38	1 800	684
Palm	20	10 000	2 000
Soy Bean	18	2 200	396
Cotton	15	1 800	270
Babassu	6	15 000	900



Castor Bean











PETROBRAS - R&D





PETROBRAS Biodiesel Projects





PETROBRAS Biodiesel Projects







Social and environmental aspects of biofuels

- Renewable sources of energy
- Job creation and social inclusion
- Diversity of seeds and regions
- Castor bean and palm seeds production are manpower intensive.
- Soy bean production is highly automated







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