

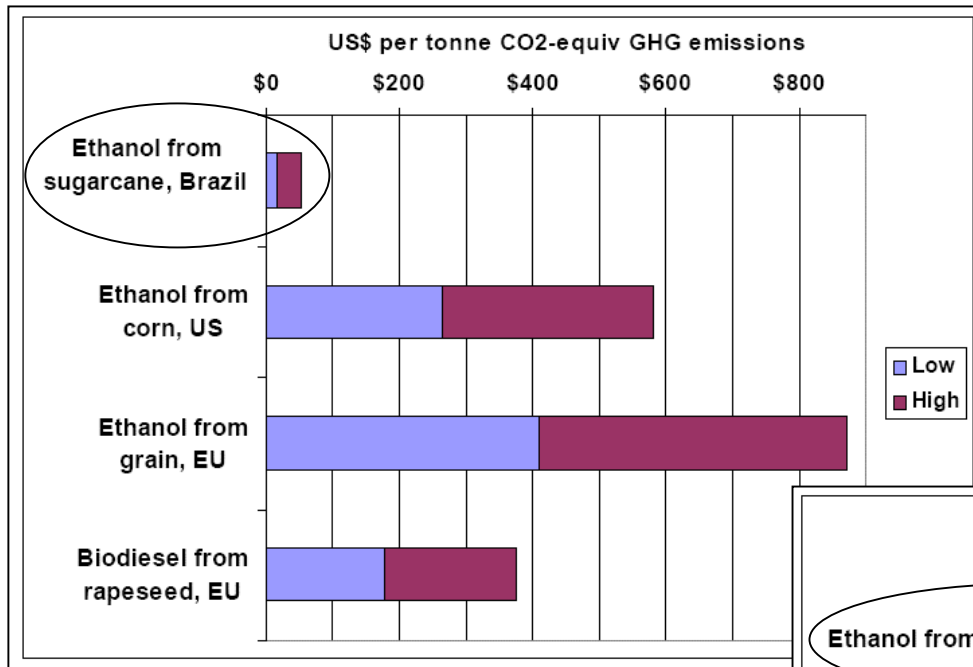
Ethanol & Sugar Industry in Brazil: An Overview



Ethanol Production & Energy Balance by Feedstock

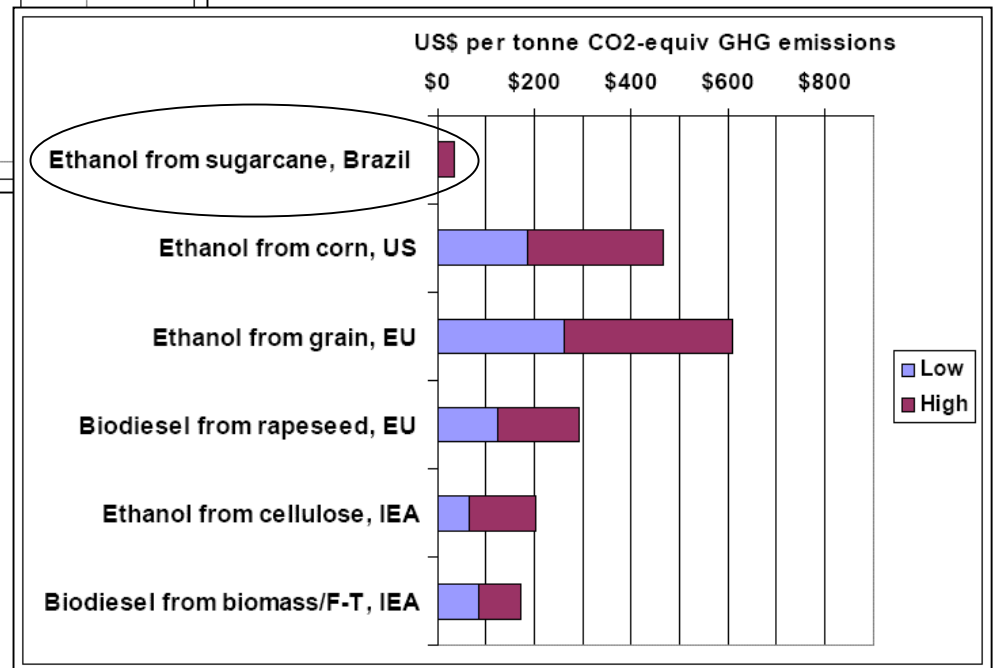
Feedstock	Energy Output/Energy Input
Wheat	1.2
Corn (USA)	1.3 – 1.8
Sugar Beet (EU)	1.9
Sugar Cane (Brazil)	8.3
Gasoline	0.83*

Cost per Tonne of CO2 Reduction

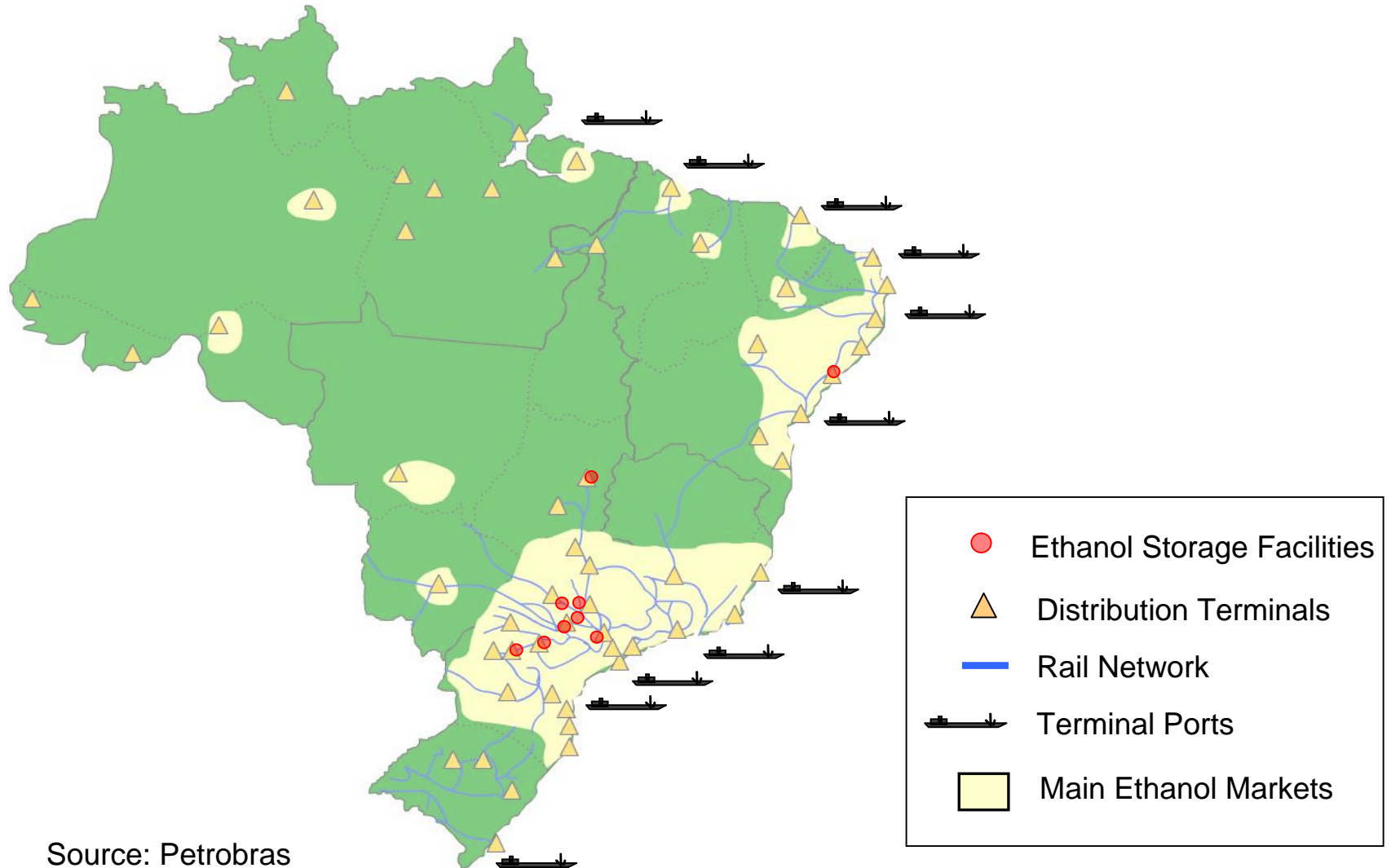


2002

Post - 2010



Main Ethanol Markets & Logistics



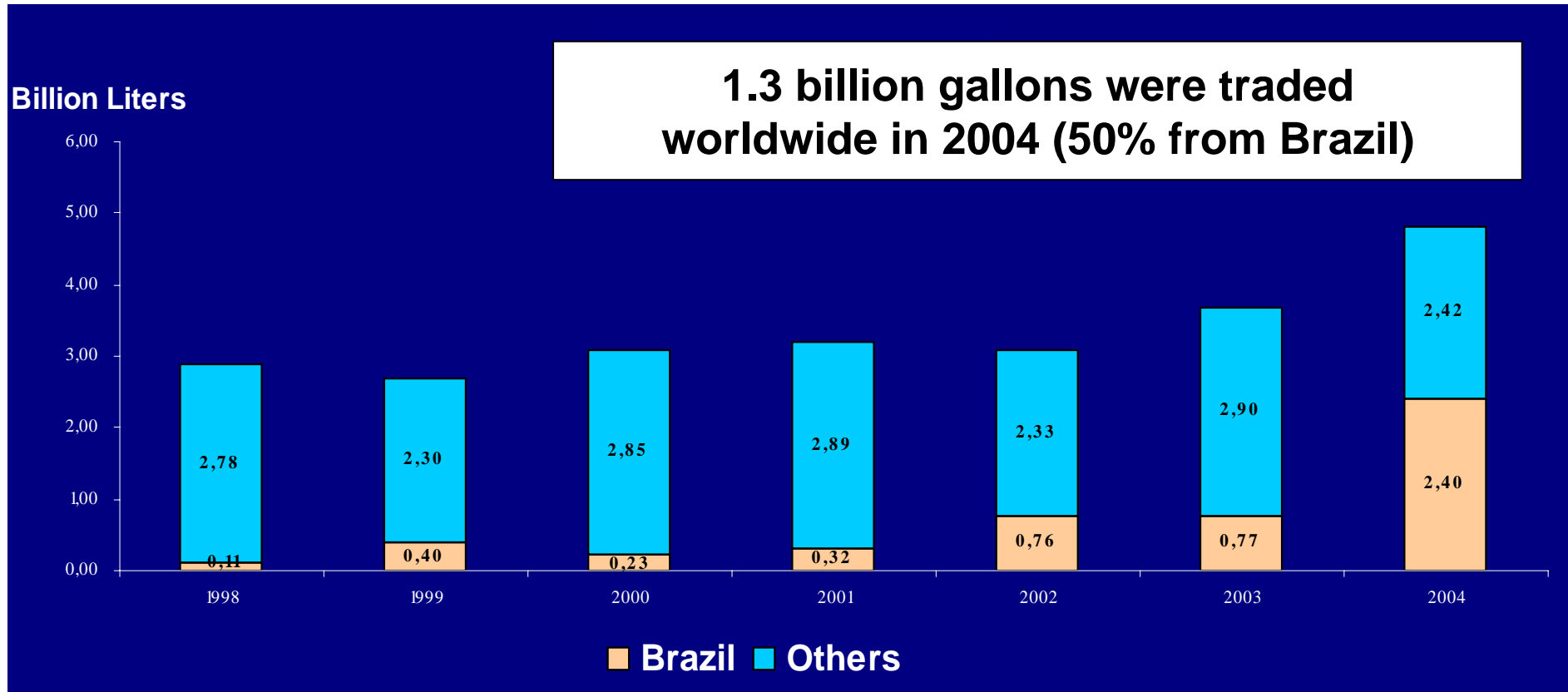
Source: Petrobras

US Imports from CBI - 2005



Ethanol Traded Worldwide

ALL TYPES OF ETHANOL



Source: F.O. Licht

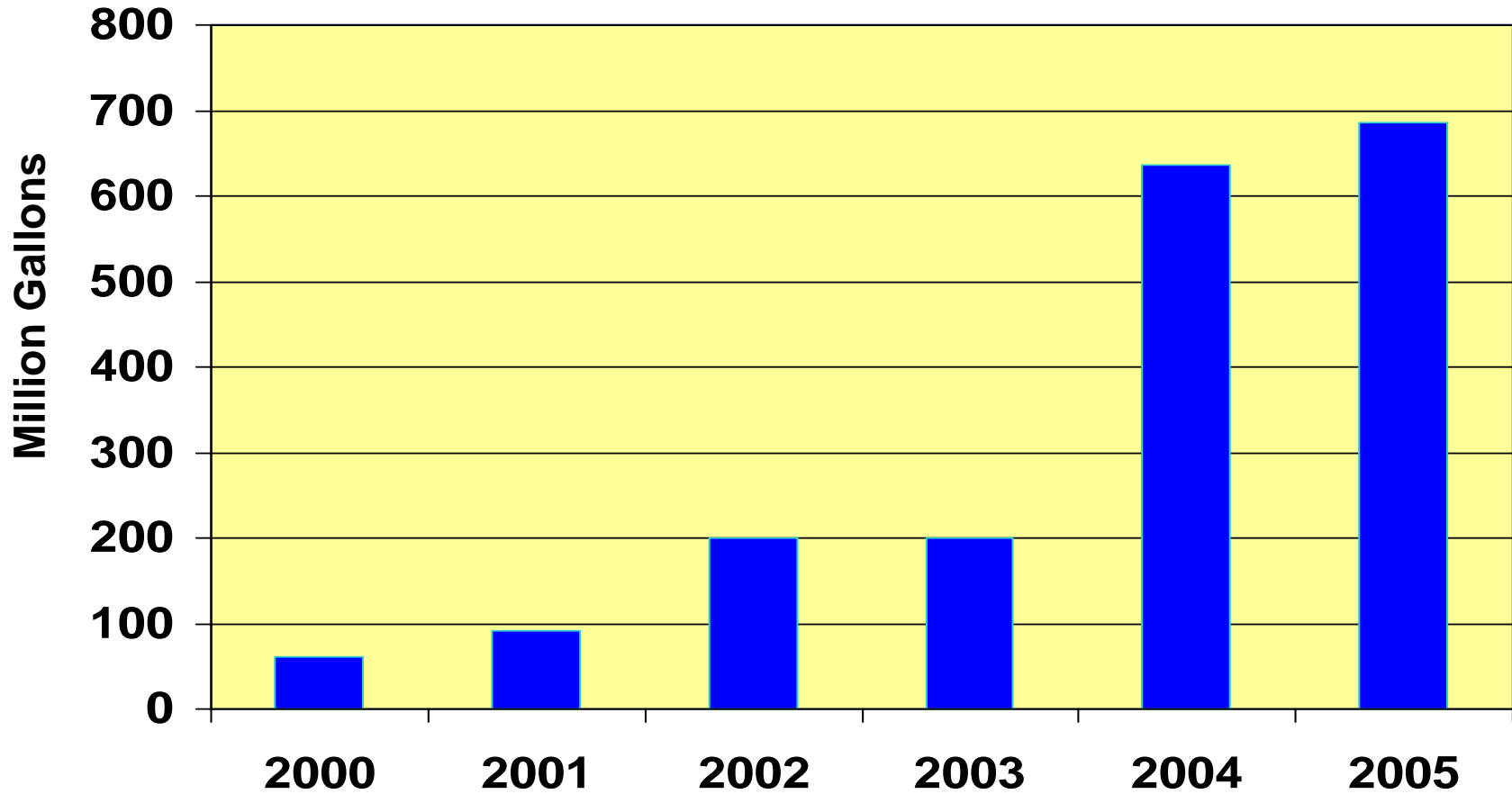
Brazilian Ethanol Exports - 2005

Country

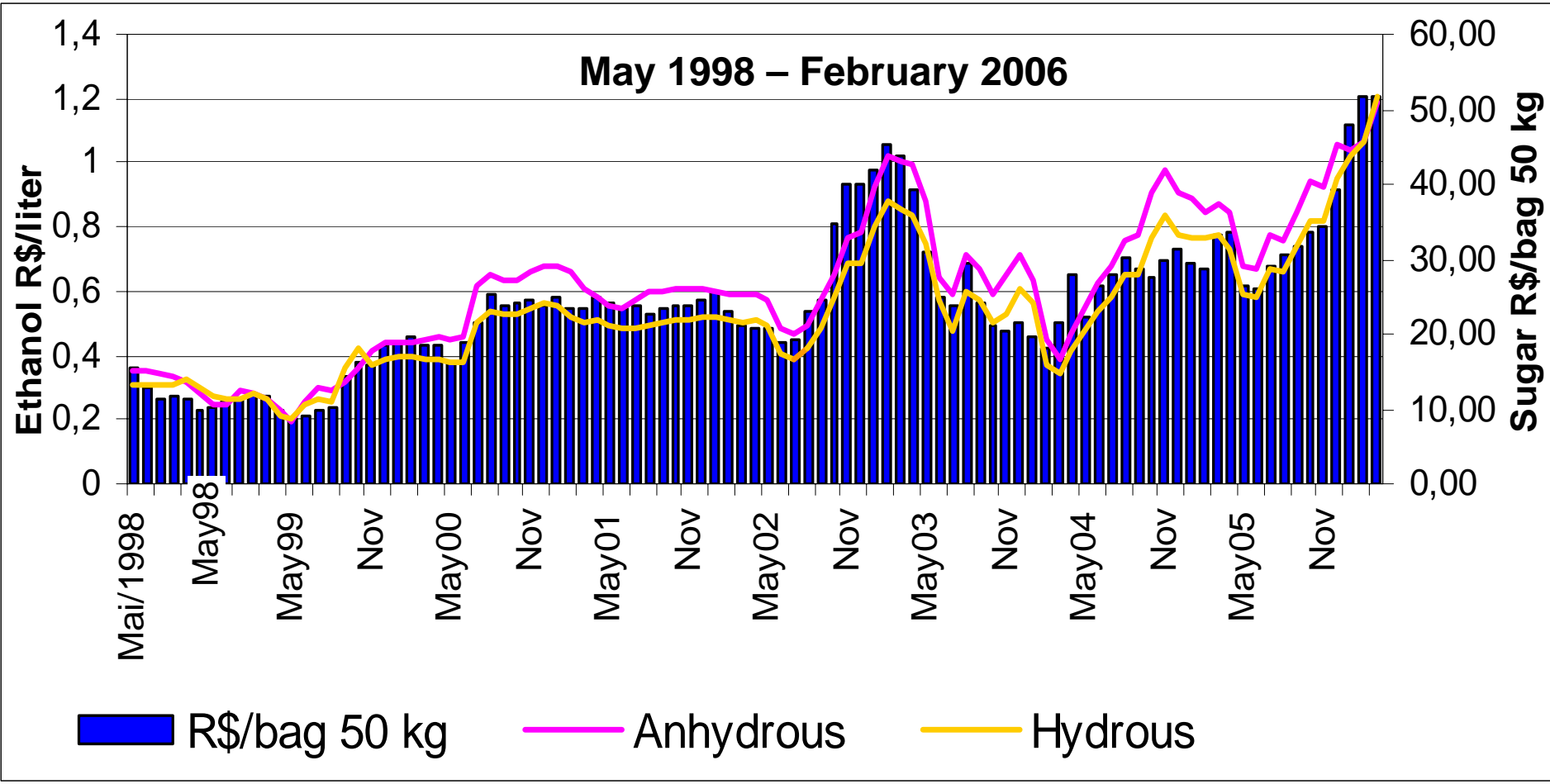
Million Gallons

India	108,522
Japan	83,327
USA	68,881
Netherlands	68,534
Sweden	64,965
South Korea	57,161
El Salvador	41,704
Jamaica	35,214
Costa Rica	33,472
Nigeria	31,292
Mexico	26,446
Venezuela	13,072
Trinidad & Tobago	9,542
Others	42,751
TOTAL	684,886

Brazilian Ethanol Exports

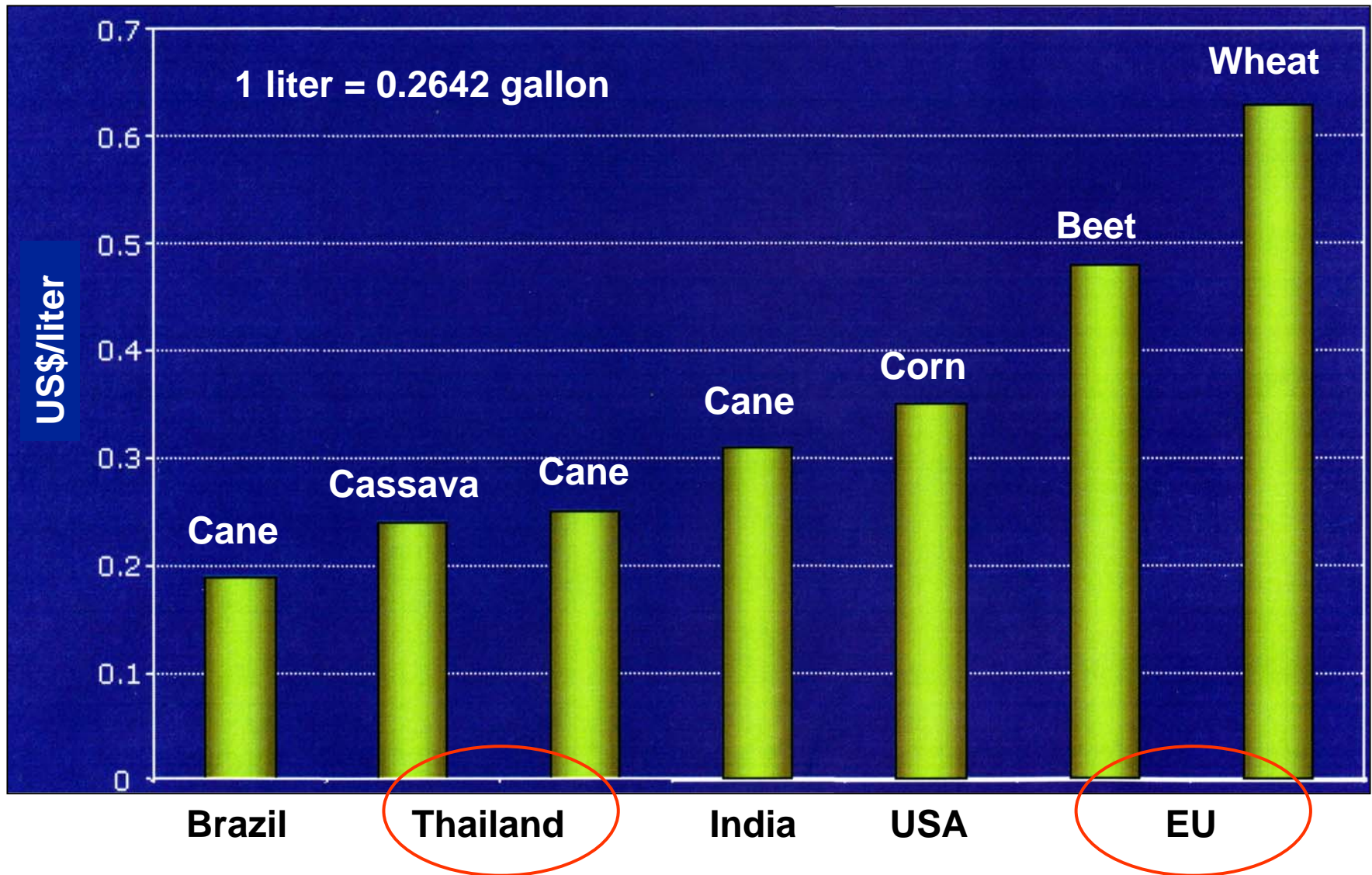


Ethanol and Sugar Prices in the Brazilian Market

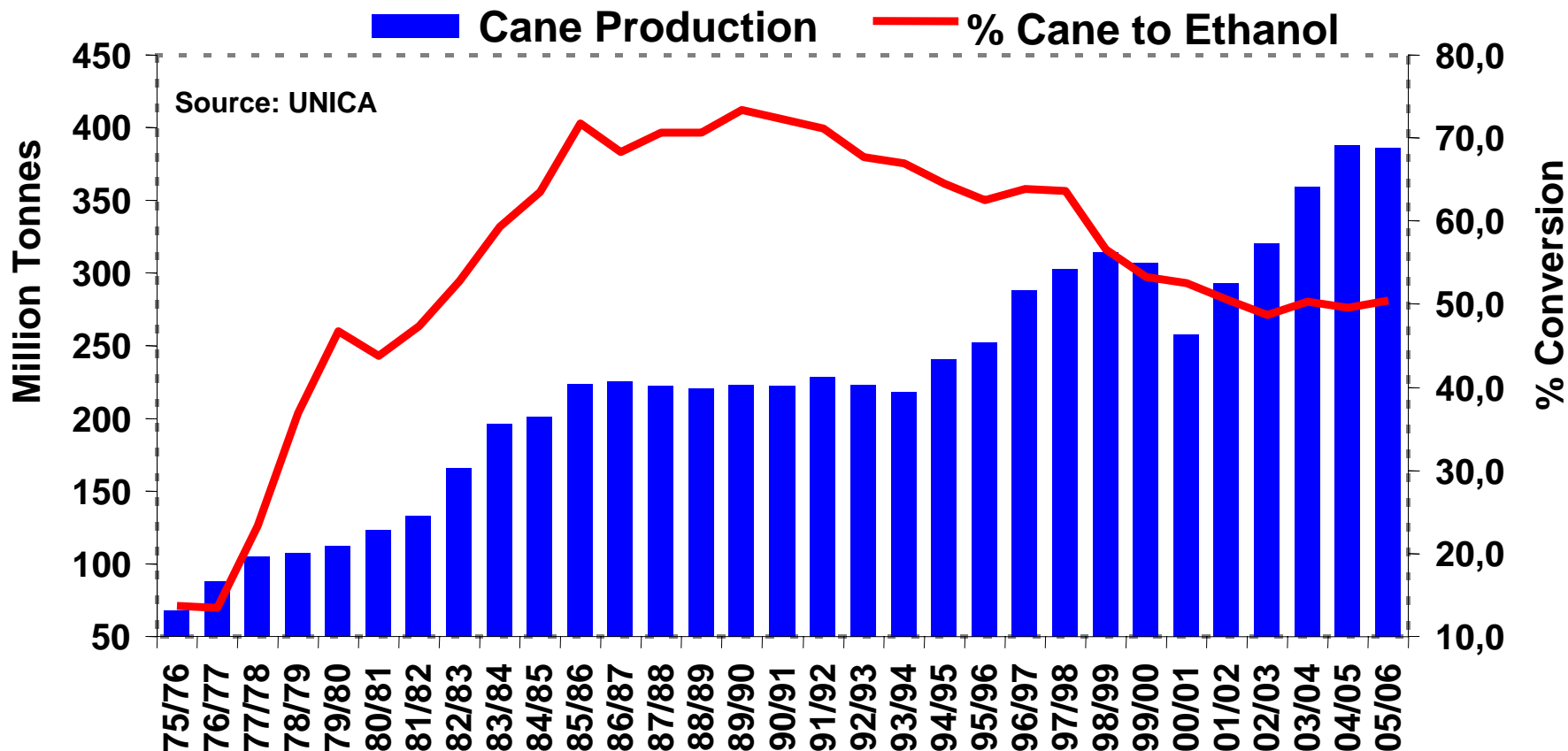


Source: Unica

2004 - Ethanol Cost of Production



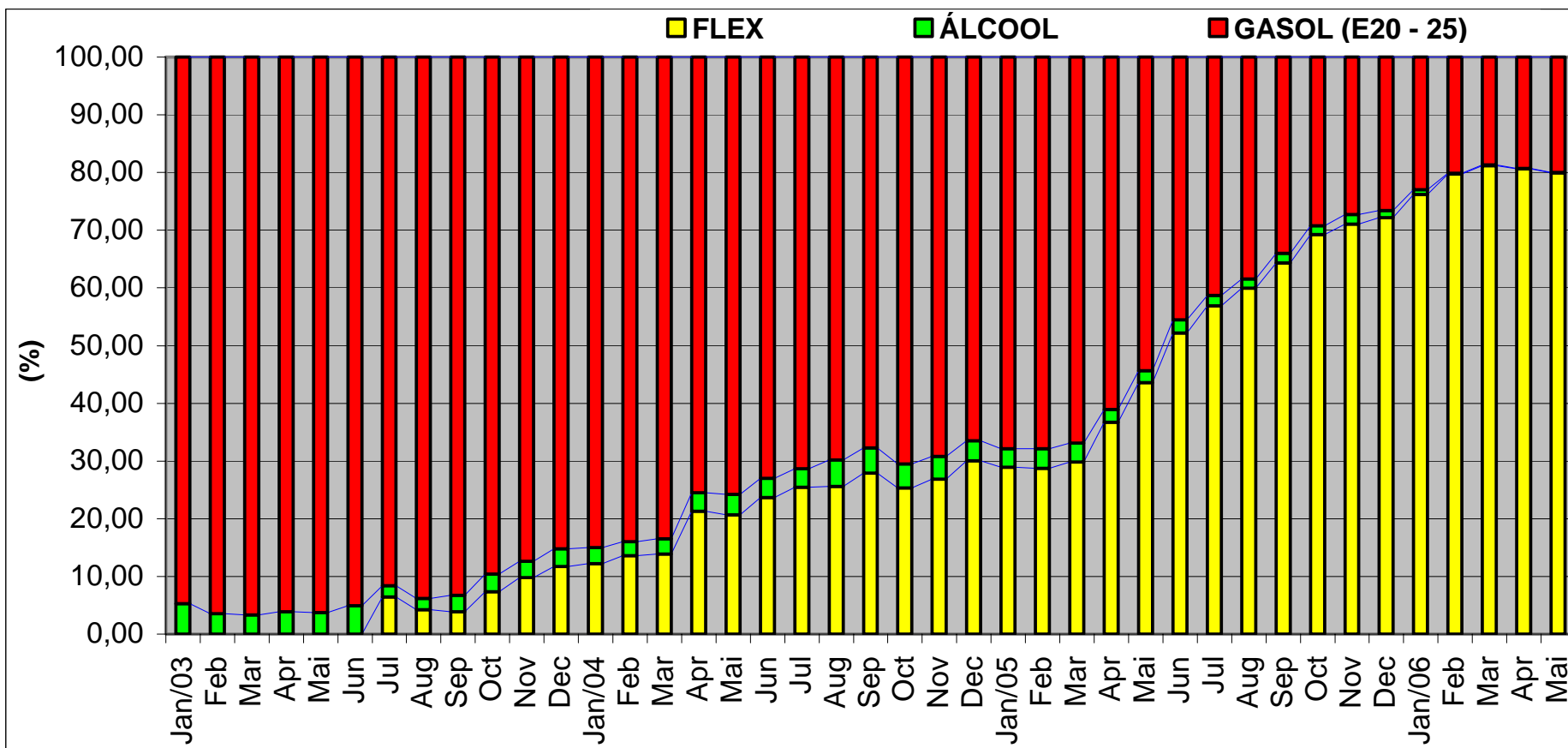
Sugar Cane Production & Conversion to Ethanol



The trend is to convert a higher percentage of cane to ethanol: 58% of 575 Mt in 2010

Market Share of New Vehicles Sales

BRAZIL: % of Sales - Light Duty Vehicles



Source: ANFAVEA
Made by UNICA

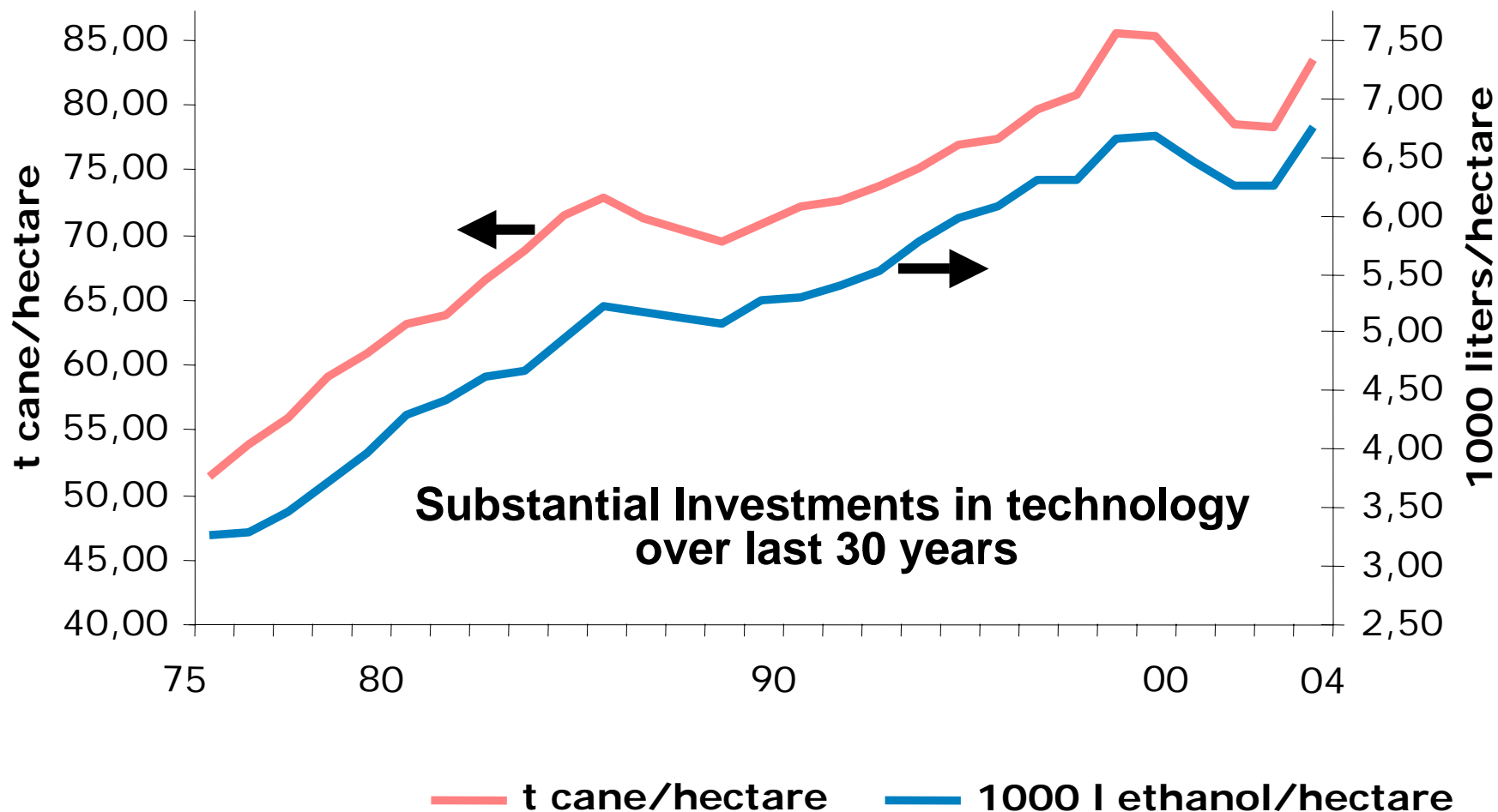
Corn X Sugar Cane (average values)

Feedstock	Cost	Liter/tonne (gallon/tonne)	Liter/ha (gallon/acre)
Corn	More expensive	390 (103)	3,500 (374.5)
Sugar Cane	Less expensive	85 (22.5)	6,500 (695.5)

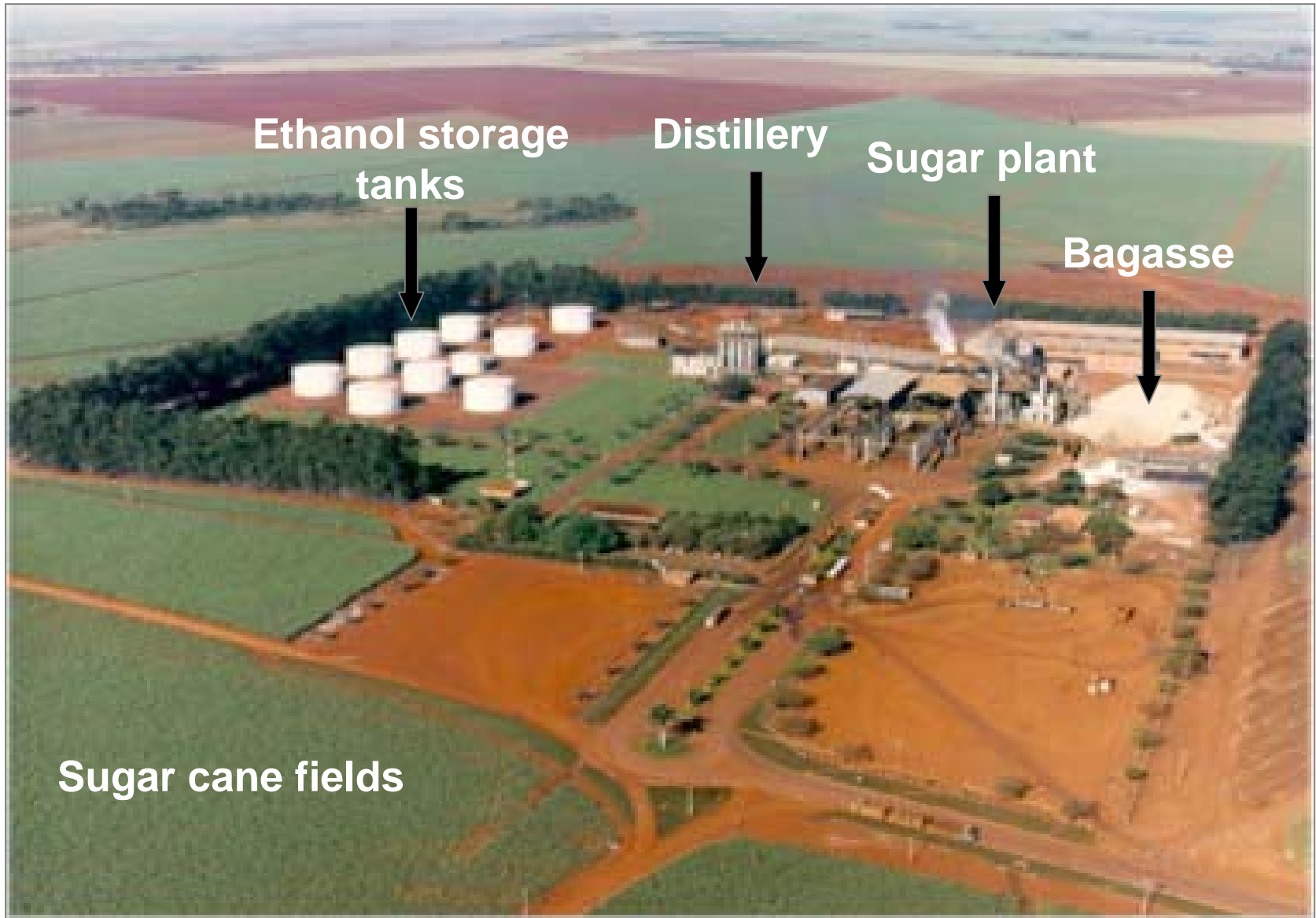
The key productivity indicator is volume/area → → →
availability of land & cost

Best Practice: Investments in Technology, Management & Infrastructure

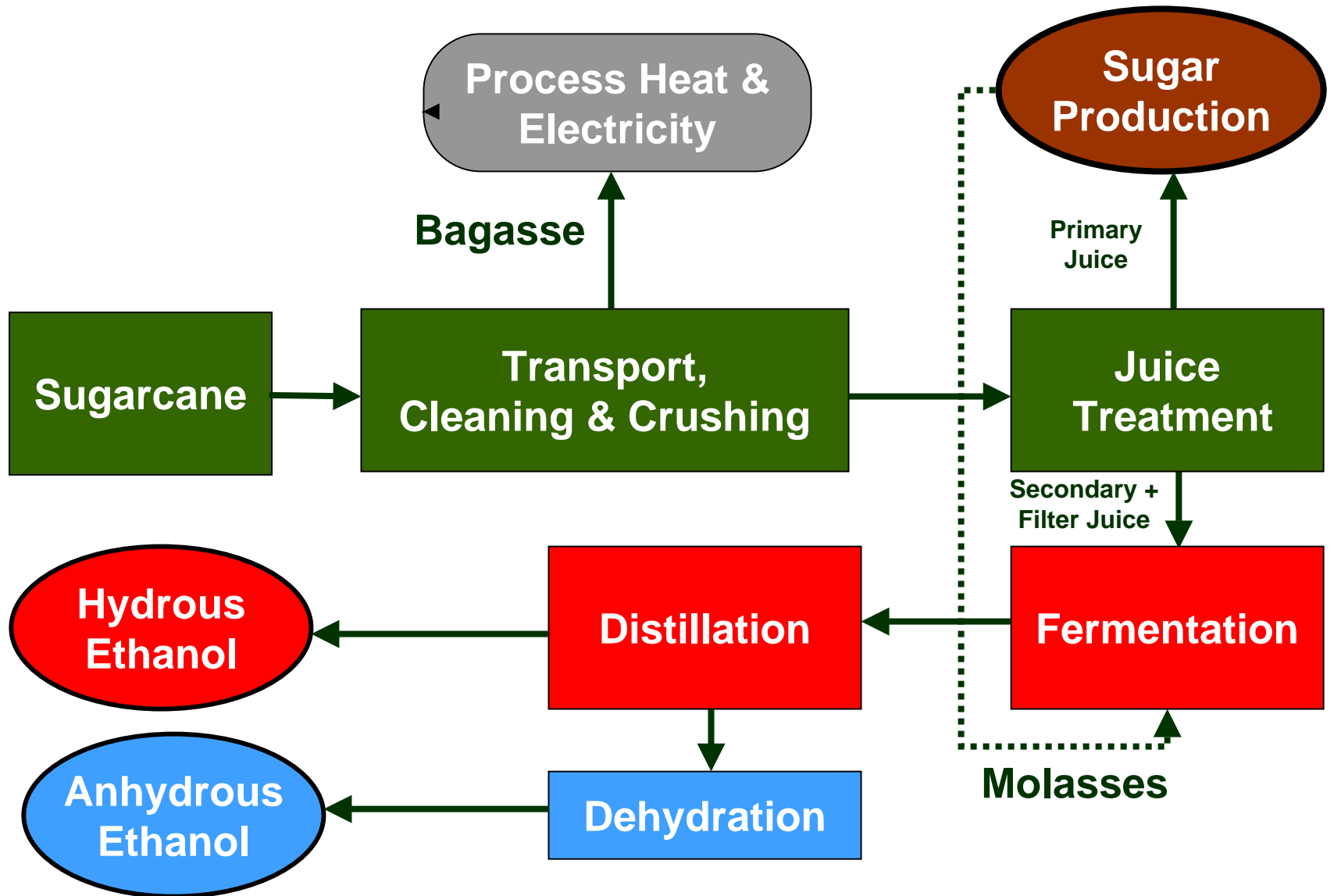
Productivity Gains in the Center-South Region



Typical Sugar & Ethanol Plant in Brazil



Brazilian Integrated Sugar & Ethanol Production



The Industry is Expanding Rapidly

2013/2014 Scenario:

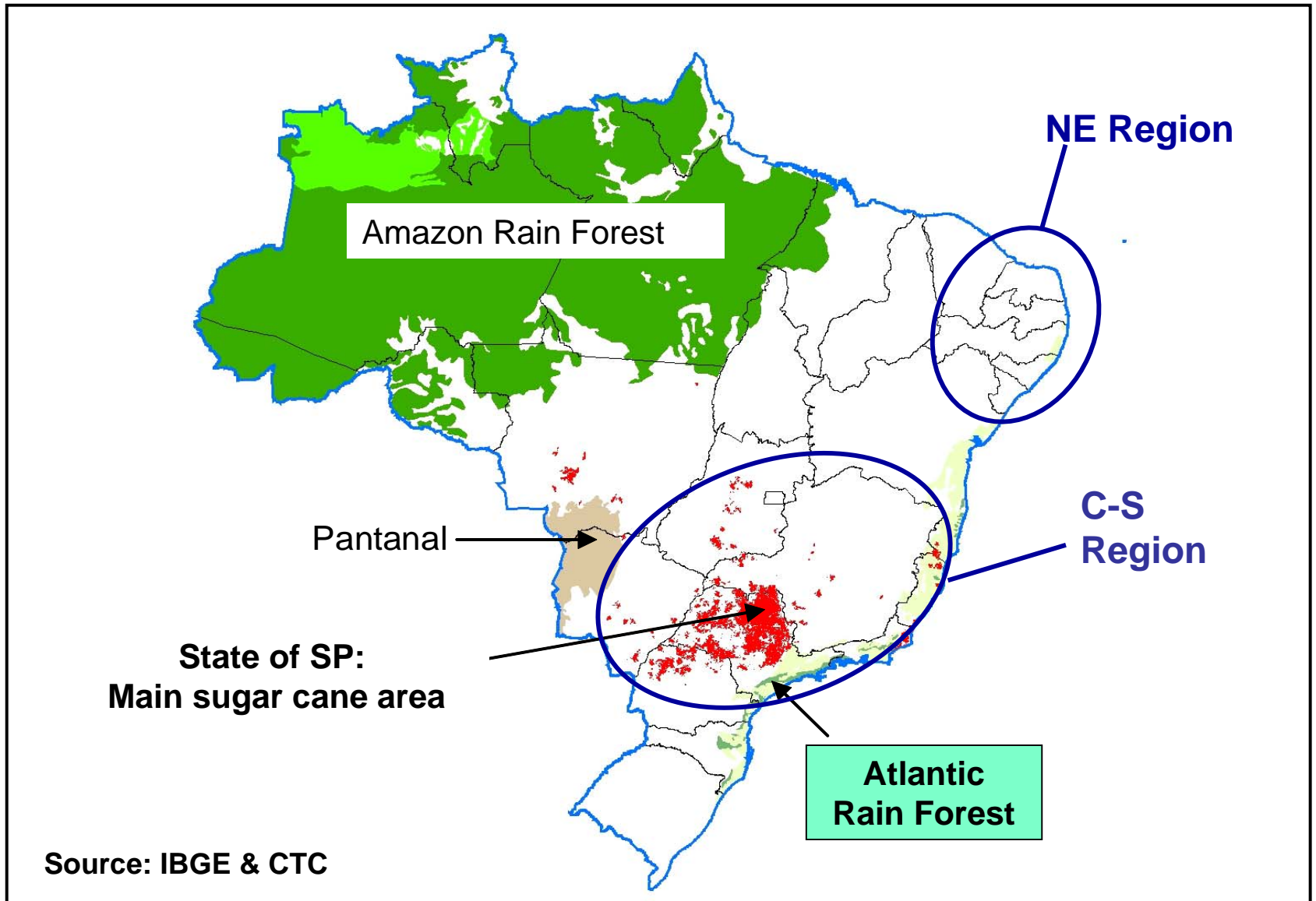
- NE Region: 17 new plants
 - C-S region: 75 new plants (SP State → 44)
 - Investments: approx. US\$ 10 billion
 - Sugar cane production: 673 million tonnes (143.4 kg ATR/t)
 - Ethanol production: 31 billion liters (8.2 billion gallon)
 - Ethanol export: 6 billion liters (1.6 billion gallon)
 - Sugar production: 40 million tonnes
 - Sugar export: 27 million tonnes
- } 92*

Brazil's Potential to Increase Production

	Million Hectares (Million Acres)
Brazil	850.0 (2,100.4)
Total arable land	320.0 (790.7)
Cultivated land:	
all crops	60.40 (149.3)
Sugar cane	5.8 (14.4)
Sugar cane for ethanol	2.9 (7.2)
Available land with potential for agriculture expansion	90.0 (222.4)
Each additional billion liters (264.2 million gallons) of ethanol requires:	0.15 (37.1)

Note : 1 hectare = 2.471 acres

Brazil: Main Sugar Cane Regions



Sugar and Ethanol Prospects

Sugar

- **Increase in demand**
 - Domestic Market (1.8-2% p.y.)
- **Export market**
 - WTO Panel (approx. 5 Mtonnes)
- **Increase in world demand**
(3 Mtonnes) approx. 3% p. y.
- 36% decrease in E.U. domestic prices within 3 years – only a few countries can stand this new situation and meet the demand for exports.

Ethanol

- **Domestic demand for ethanol**
 - Flex-Fuel Vehicles (FFV):
 - 2 million Ethanol cars
 - Ethanol-gasoline blends
 - Small markets (aviation etc)
- **Chemical industry**
 - Petrochemical X Alcoholchemical
- **Increase of ethanol exports**
 - Oil (supply & prices)
 - Kyoto Protocol
 - Air pollution
 - Sustainable energy source

Thank You

**Eduardo Pereira de Carvalho
President**

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