

Price setting mechanisms for gasoline and diesel in Mexico

GERENCIA DE EVALUACION DE OPERACIONES

April 12, 2004

Refined products balance, 2003

(Thousands of barrels per day)

Total

Net production (1)	1,249
Net Imports (2)	143
Sales (3)	1,377

Gasoline

Net production (1)	437
Net Imports	143
Sales (3)	602

Diesel

Net production (1)	289
Net Imports	6
Sales (3)	295

Jet fuel

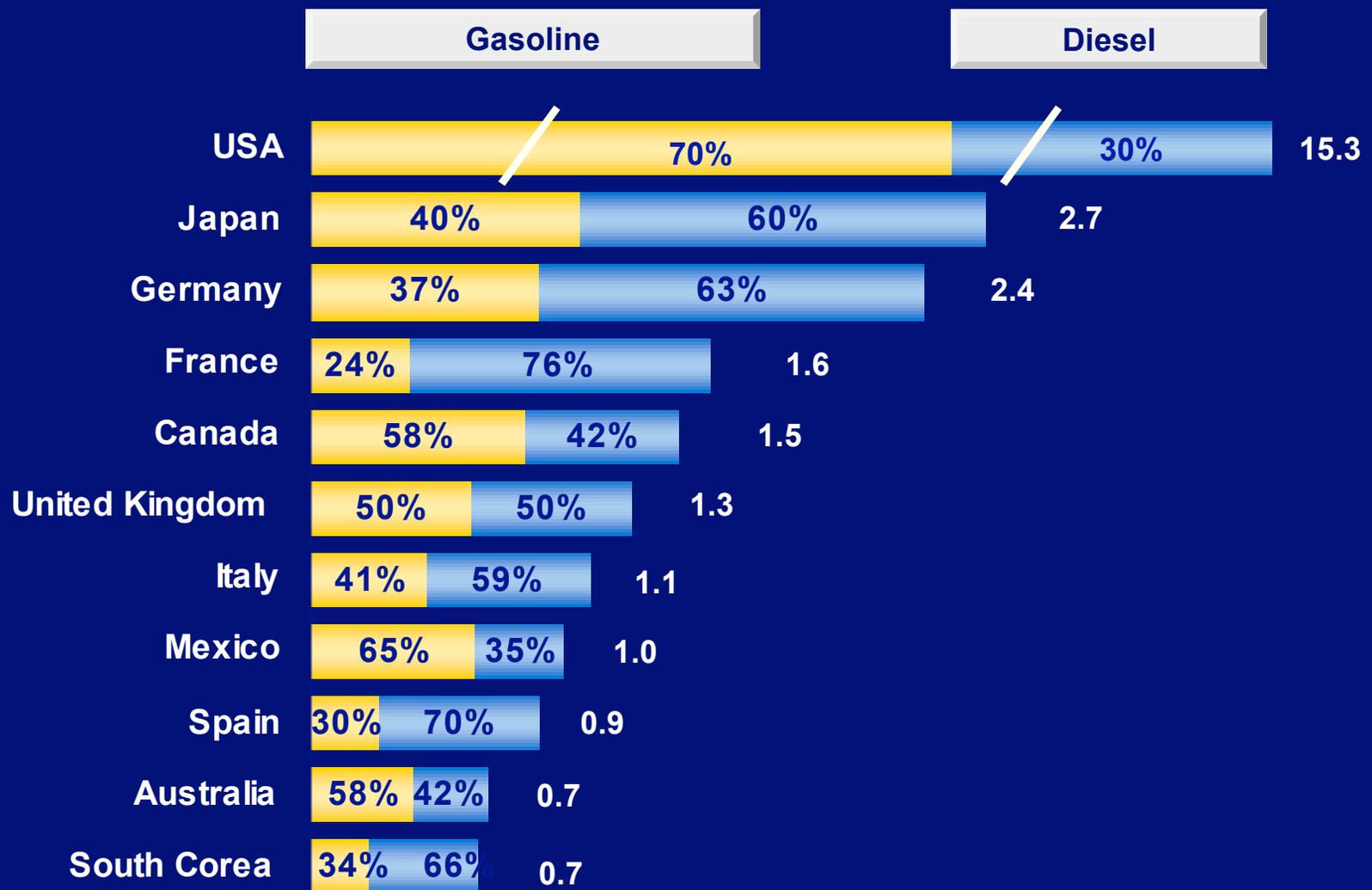
Net production	60
Exports	8
Sales	54

Fuel oil

Net production (1)	370
Exports (2)	1
Sales (3)	356

1. Includes self consumption
2. Excludes naphtha, virgin stock and VGO
3. Includes sales to Pemex Organisms

Relative Apparent Consumption



Pemex Refinación: National Refining System



Pemex Refinación: oil pipelines



Pemex Refinación: Storage and distribution terminals



Pemex Franchise

Total Number of Service Stations



Incremental
Service Stations

173

414

427

451

Current Price Policy

- All prices, public or recognized by the government as income or raw material prices for Pemex, are based on international opportunity costs with logistics and quality adjustments 
- Except, public prices for gasoline, diesel and LPG. This prices are set by the government and managed according to fiscal economic policy
- The income price of gasoline, diesel and LPG for Pemex are also based on international quotations with logistics and quality adjustments. For gasoline and Diesel, the government receives a variable tax income (20-80% of public price)
- Crude Oil prices for mexican refineries are the export prices with the logistics cost.
- Prices are adjusted every week. Some prices every month
- This means that Pemex is valued as a producer competing in the international market and that gasoline and diesel sales are used as a fiscal revenue tool by the government.

Structure and Behavior of Refining Industry

Industrial Structure

- **Supply:**
 - Highly fragmented
 - High Capital expenditure
 - Smooth cost curves (known technologies)
 - Limited entrance (mature market)
- **Demand:**
 - Limited product differentiation
 - Growth at similar rates as economic growth
 - Higher environmental product quality
- **Highly Competitive Market**
 - Deep and efficient spot markets

Competitive behavior

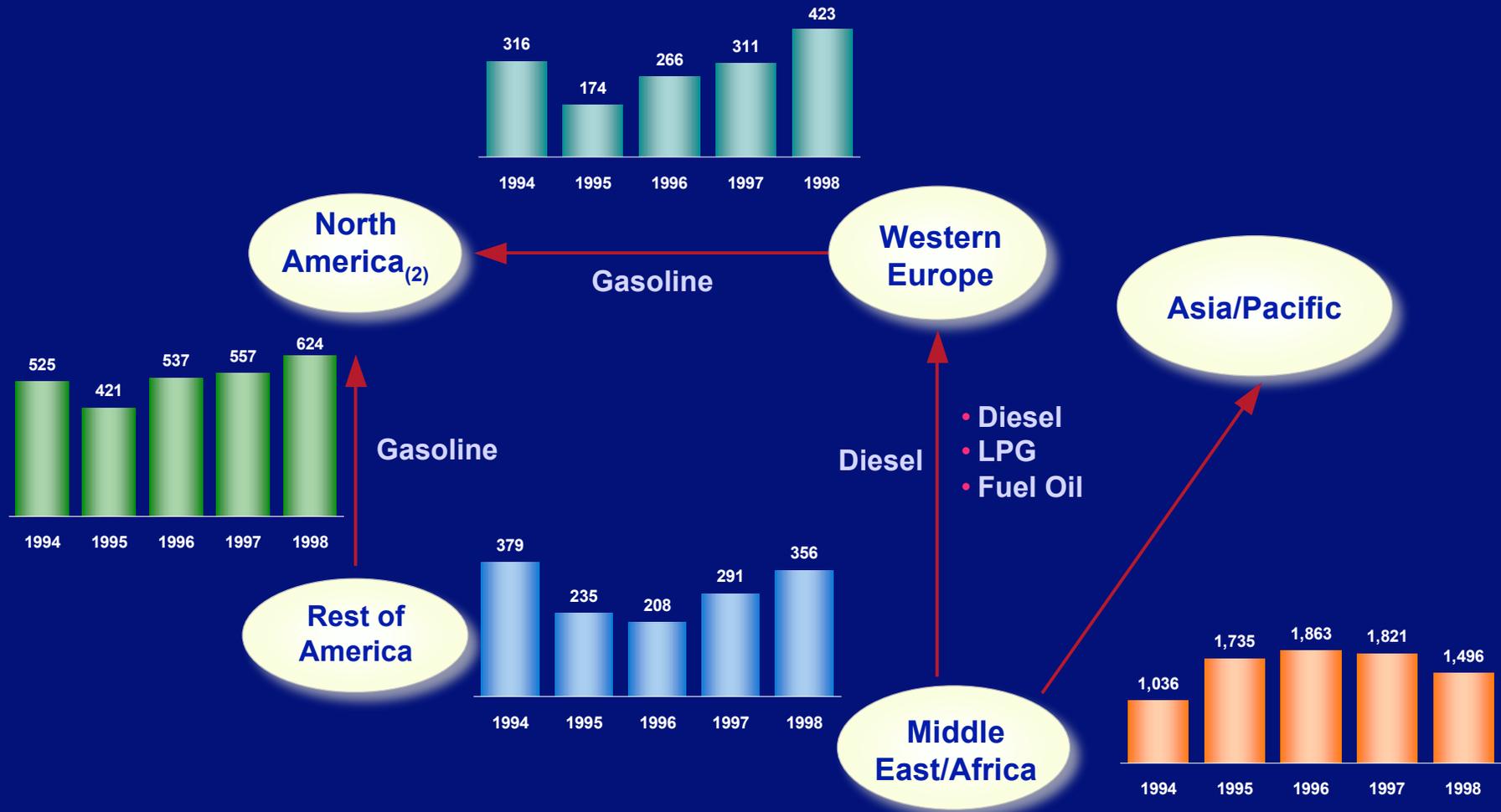
- Pricing is a function of the variable cash cost for the marginal producer
- High margins cause excess of capacity because attractive ROI (cyclic market)
- Tendency to integrate vertically
- High cost out barriers, shutting down production is difficult implying slow adjustments and extended oversupply periods

Economic Performance

- High volatility in margins
- Marginal configuration is becoming more complex
- Cyclic revenues
- ROI close or lower to capital cost

World Refined Products Market: Net Volume Transactions , 1994 -1999 ⁽¹⁾

(Thousand Barrels per Day)



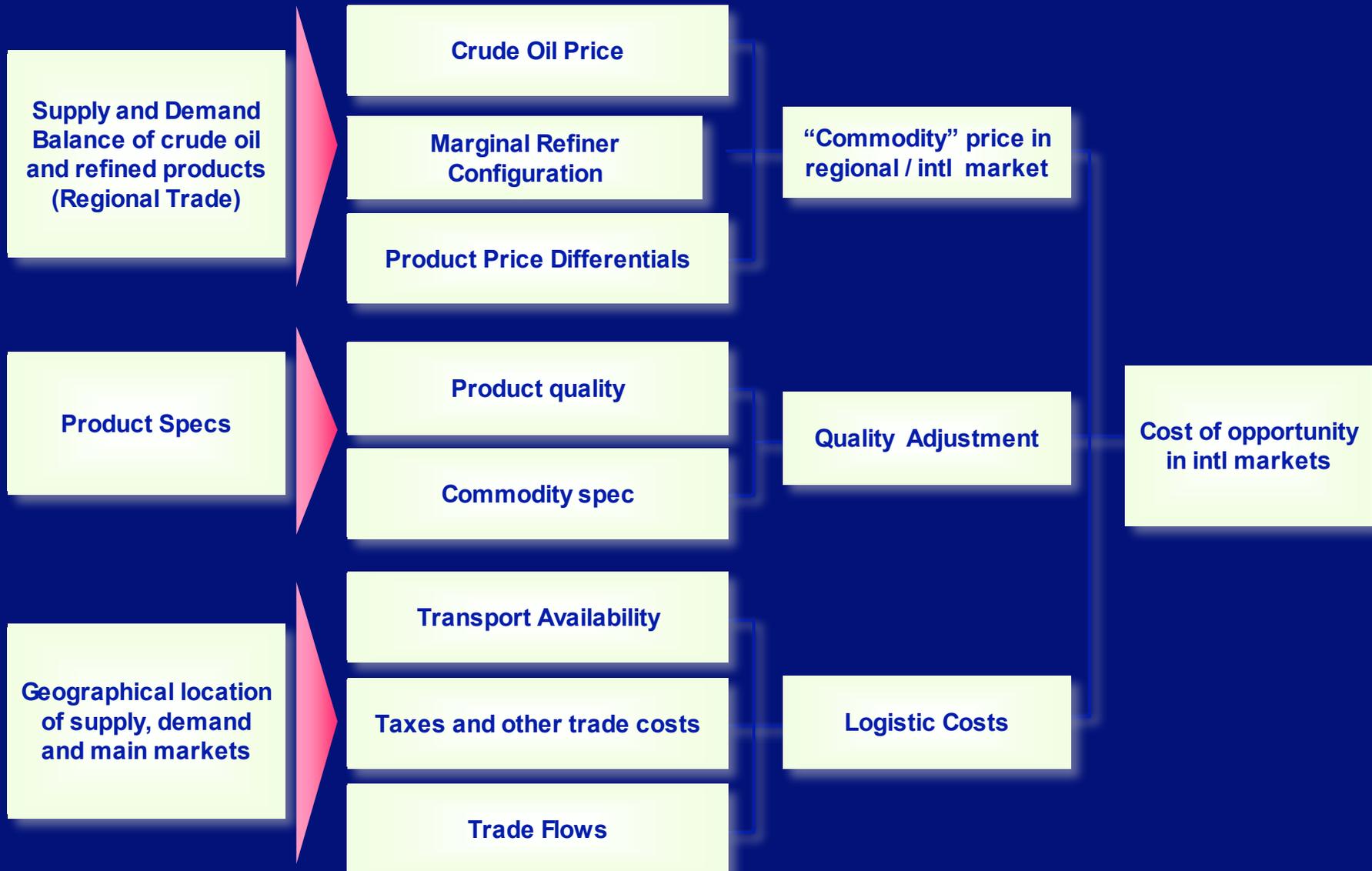
(1) Volume transactions include the total sum of products. The main product is described

(2) Includes Canada, United States and Mexico.

Source: Blackwell's, "World Oil Trade: An Annual Analysis and Statistical Review and International Oil Movements, 1999".

Opportunity Costs of Refined Products

Main Factors that Determine Value in International Markets



Price Setting Mechanism: Logistics

Export netback



Value at refinery gate



Import displacement

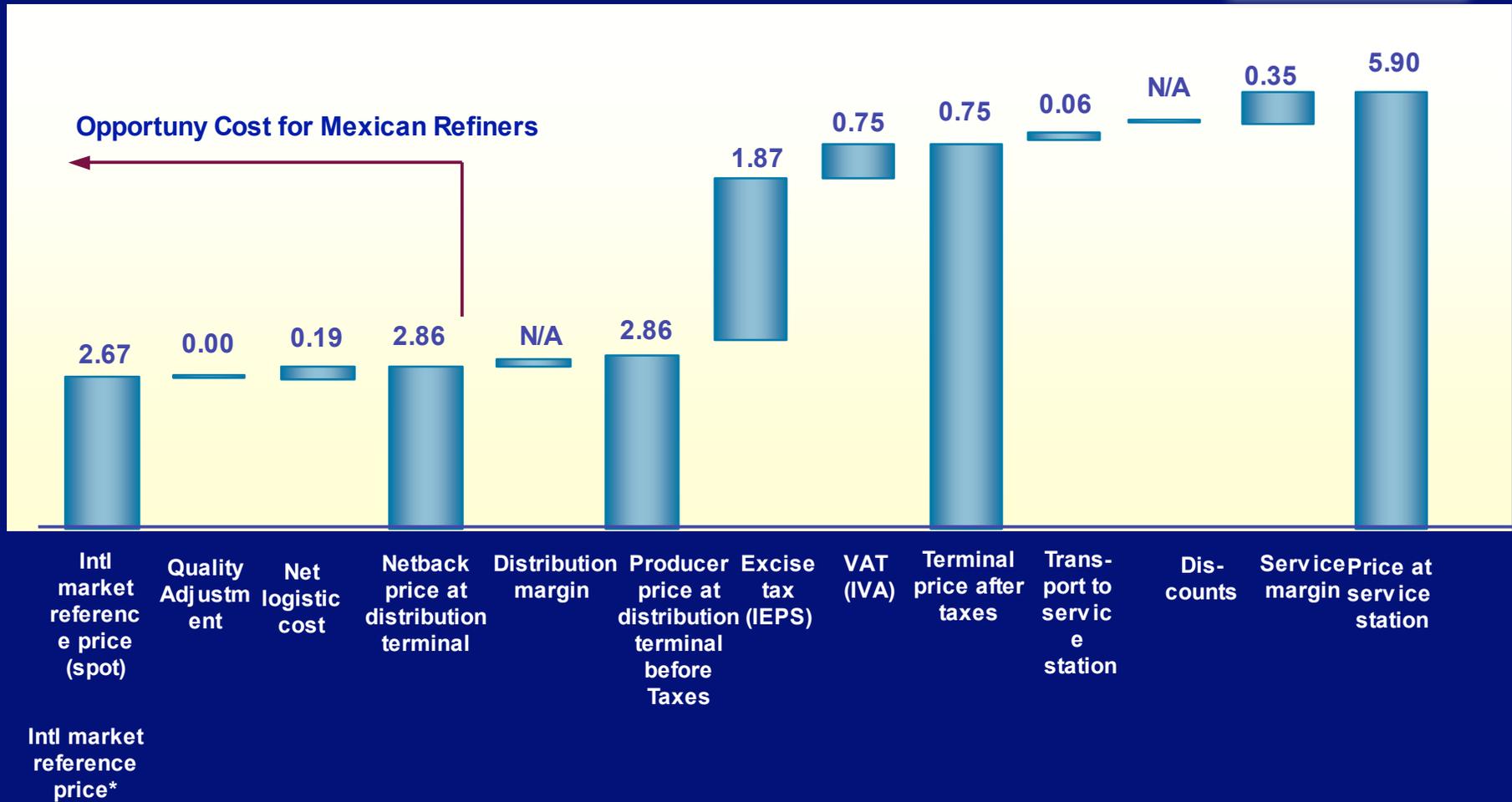


Value at refinery gate



Structure of Public Prices – Automotive Fuels

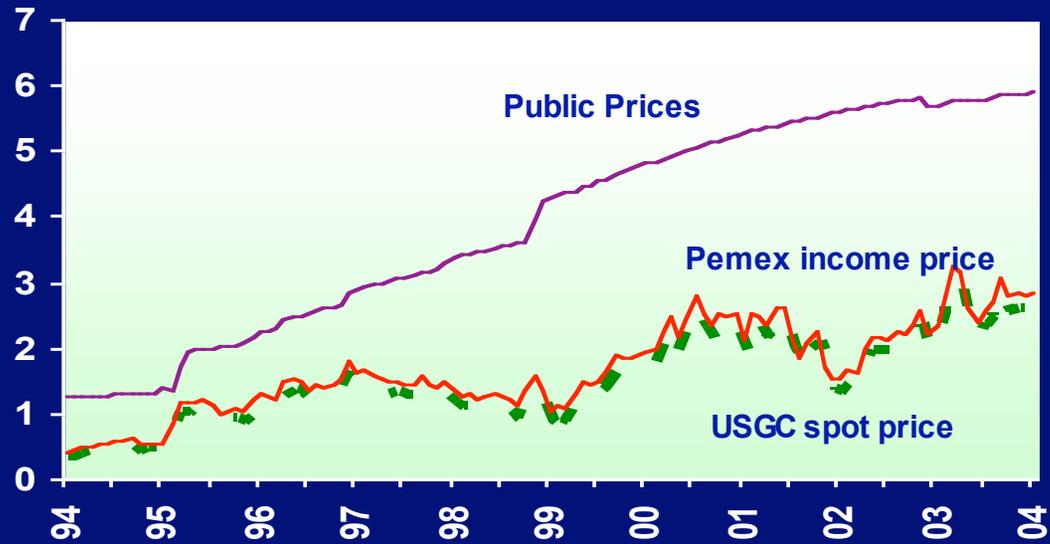
*Example:
Pemex Magna
(Pesos / liter)*



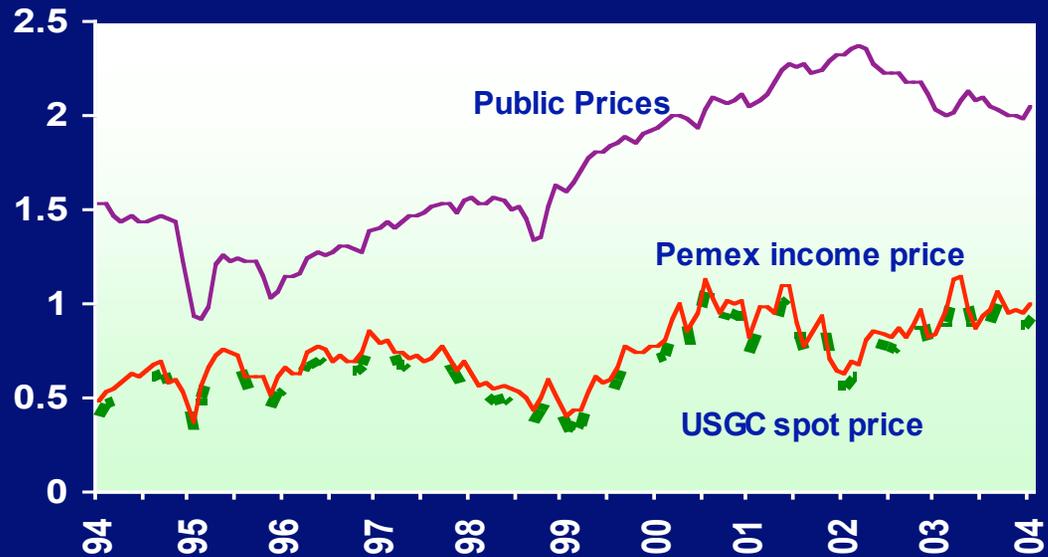
Pemex Magna Gasoline Prices



Pesos per liter

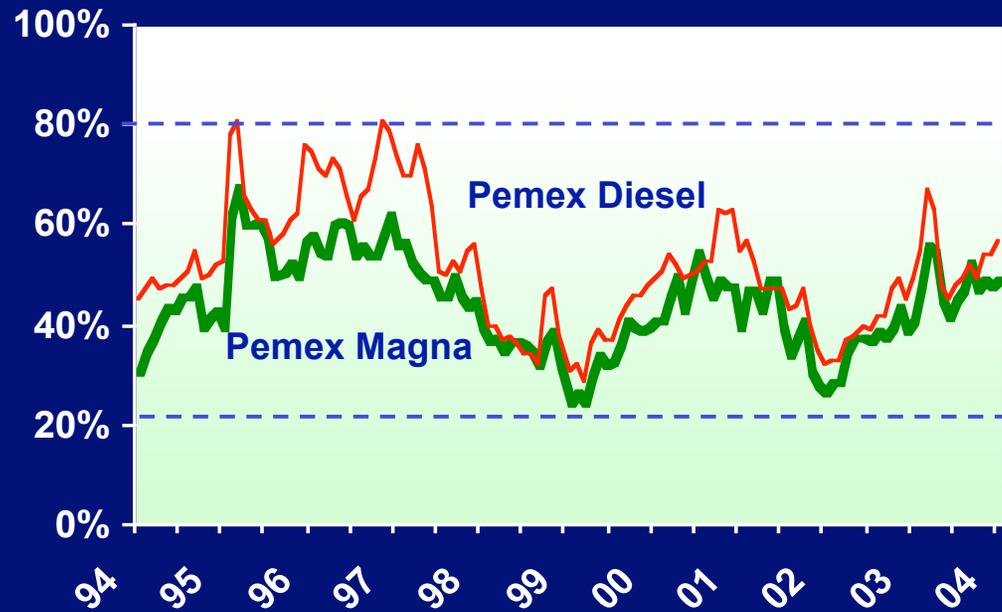


Dollars per gallon

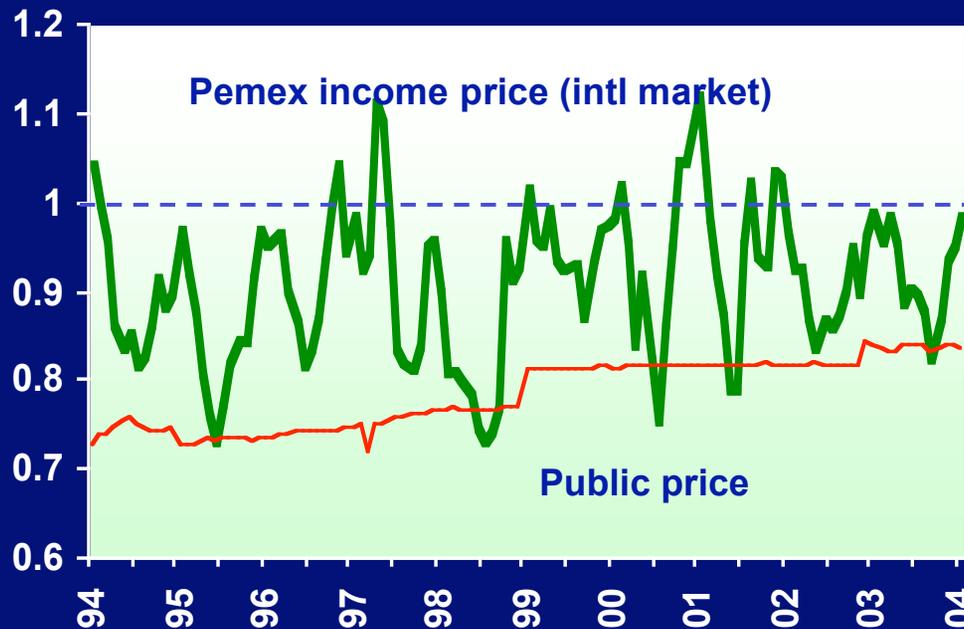


Relative Pricing

Pemex income price / Public price



Pemex Diesel / Pemex Magna



Pricing mechanisms for gasoline and diesel in relation to fuel efficiency strategies

- The current pricing scheme for gasoline and diesel allows a 120 billion pesos of fiscal revenue. This represents between 10 to 20% of total fiscal revenues for the government.
- The implementation of a fuel efficiency program can save investment requirements to fulfill the future gasoline and diesel demands and will help maintain a less vulnerable position in the event of a shortage of volume in the international market. 
- Nevertheless, in terms of fiscal revenues this could mean direct loss. For every 5% of savings nearly 6 billion pesos of taxes per year will not be perceived, regardless of its origin (import or internal production)
- Changes to the fiscal revenue schemes should be considered as an important factor in the definition of gasoline/diesel fuel efficiency programs

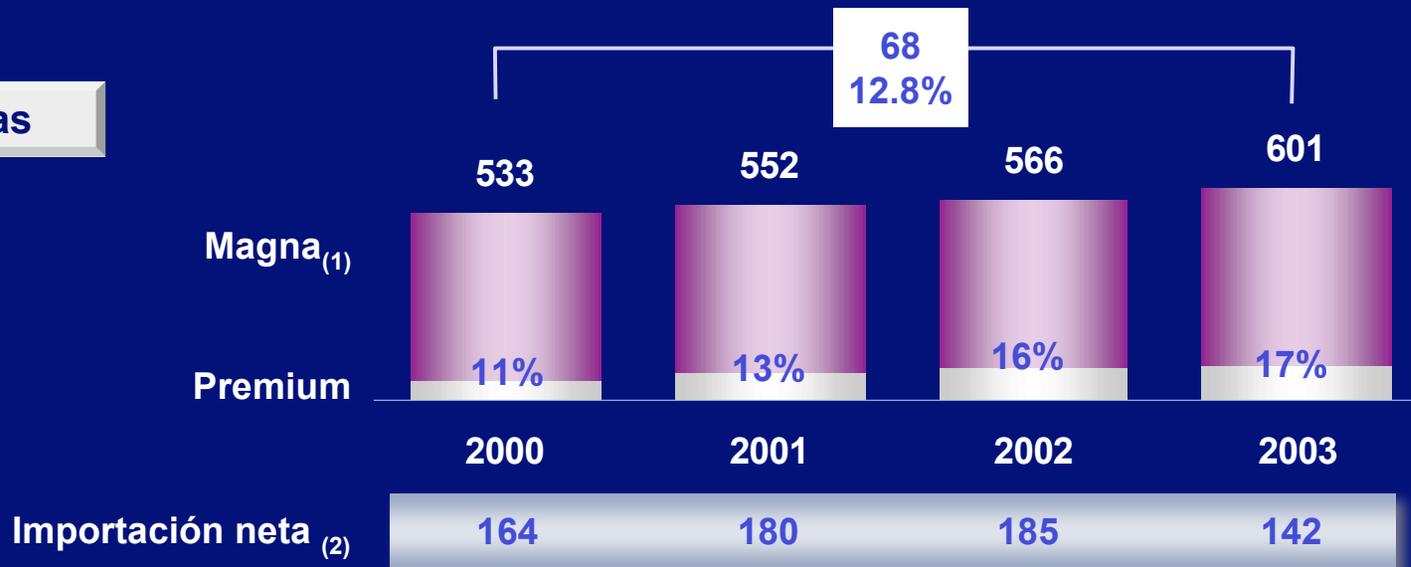
Annex

Ventas de combustibles automotrices

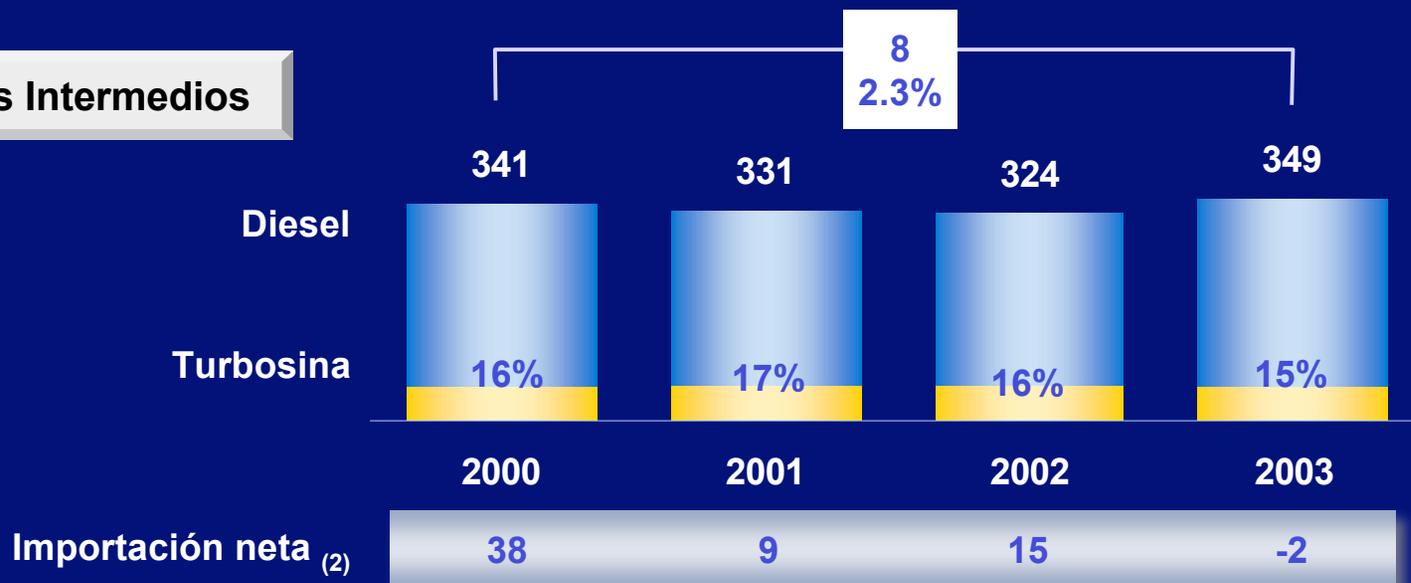


(MBD)

Gasolinas



Destilados Intermedios



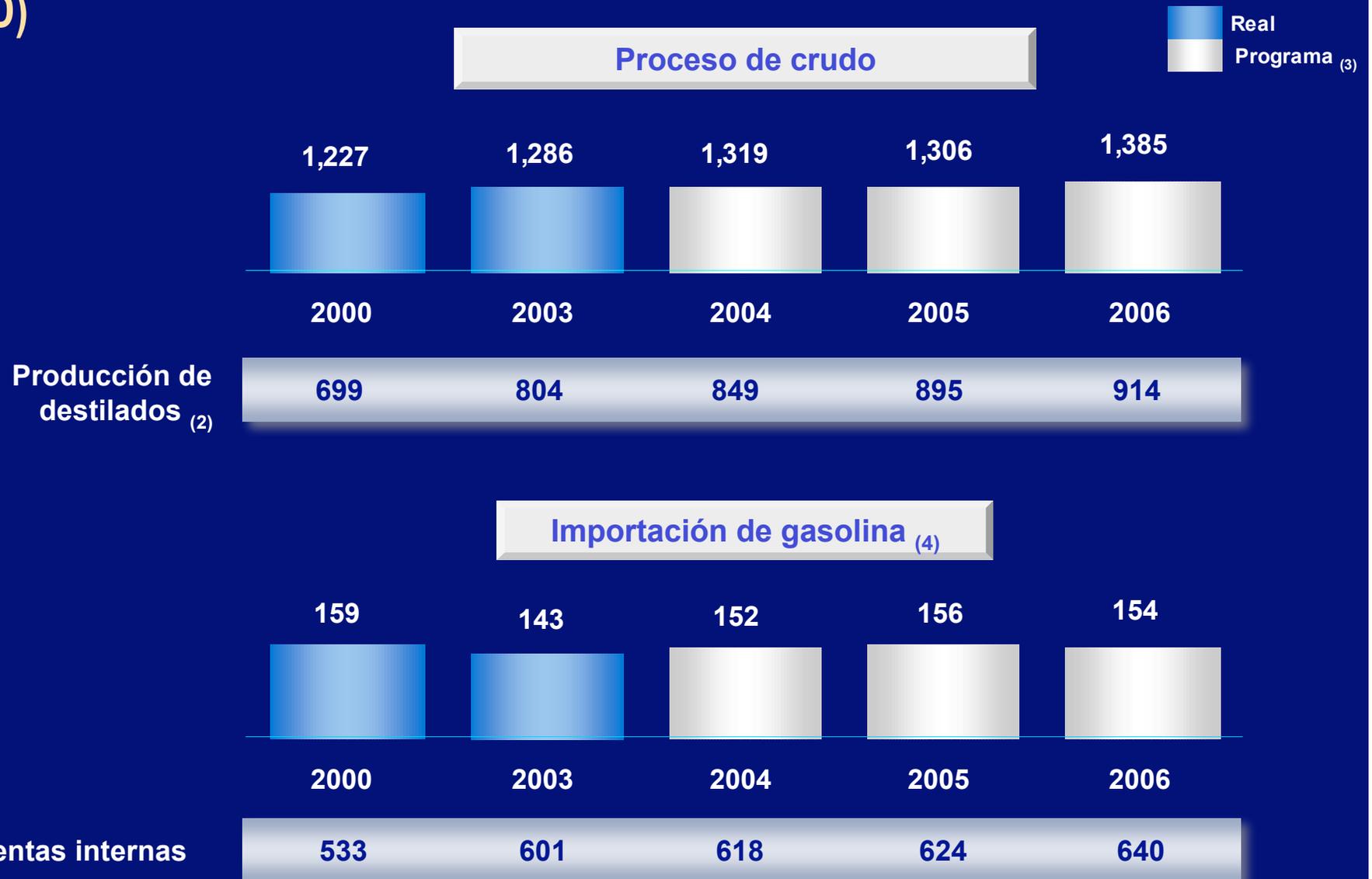
(1) Incluye otras gasolinas

(2) Incluye maquila

Producción de petrolíferos



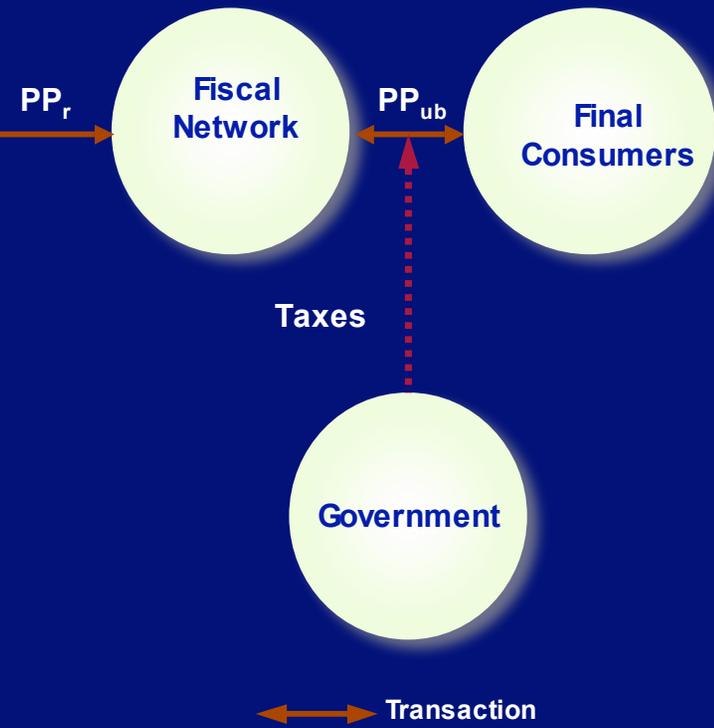
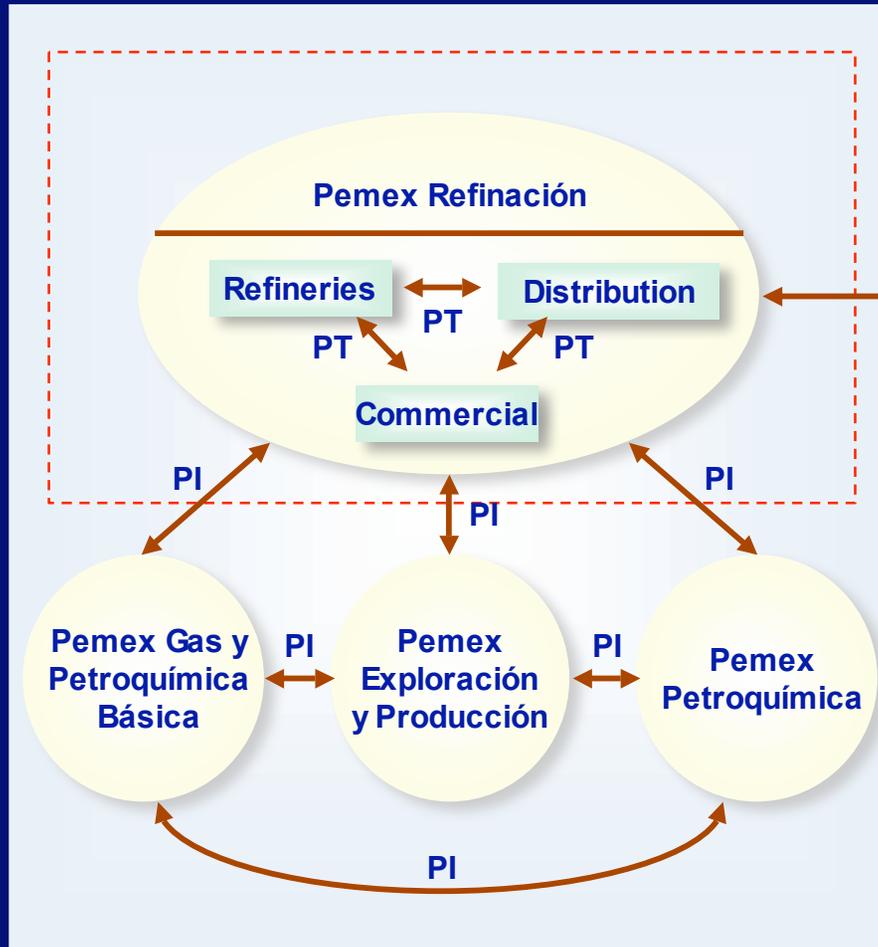
(MBD)



(1) Incluye crudo reconstituido
(2) Gasolina, diesel y turbosina

(3) 2004 metas presidenciales, 2005-2006 Programas Financieros Presupuestales, máximo potencial y Plan de Negocios.
(4) Incluye componentes y retorno de maquila

Pricing Scheme for Products: Pemex – Government – General Public



Note: PT – Transfer Price
 PI – Intercompany price
 PP_r – Producer Price
 PP_{ub} – Public Price

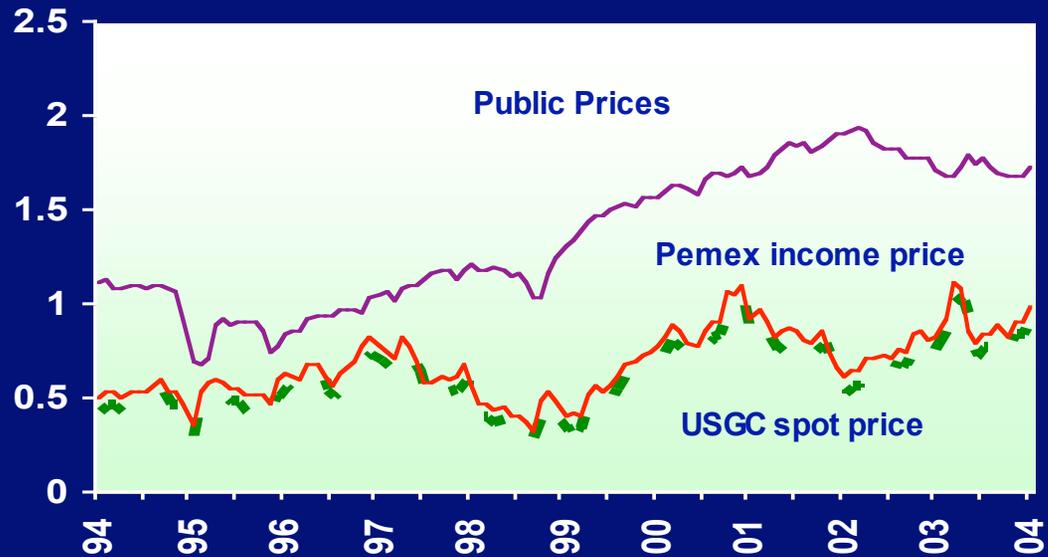
Pemex Diesel Prices



Pesos per liter

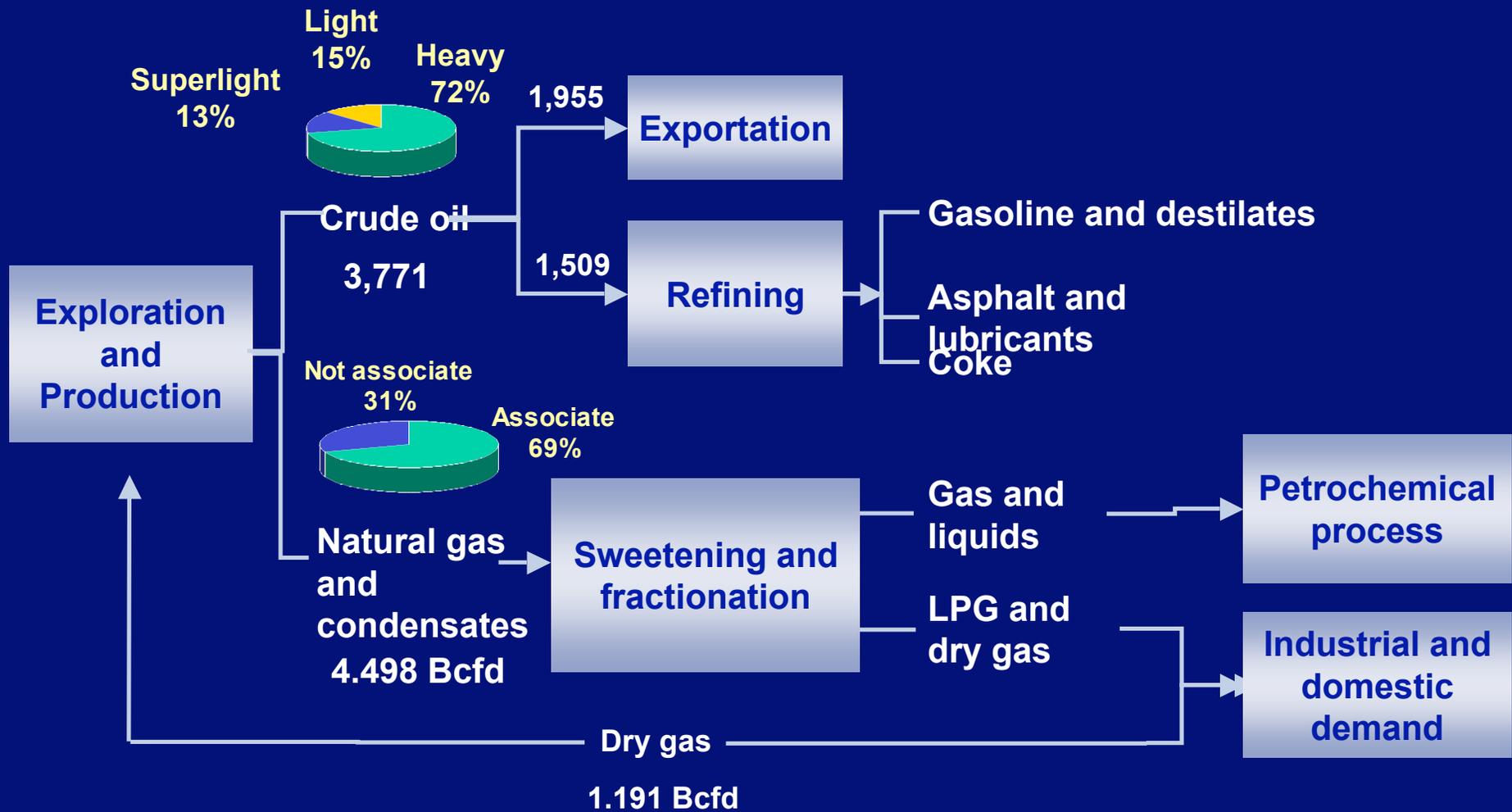


Dollars per gallon

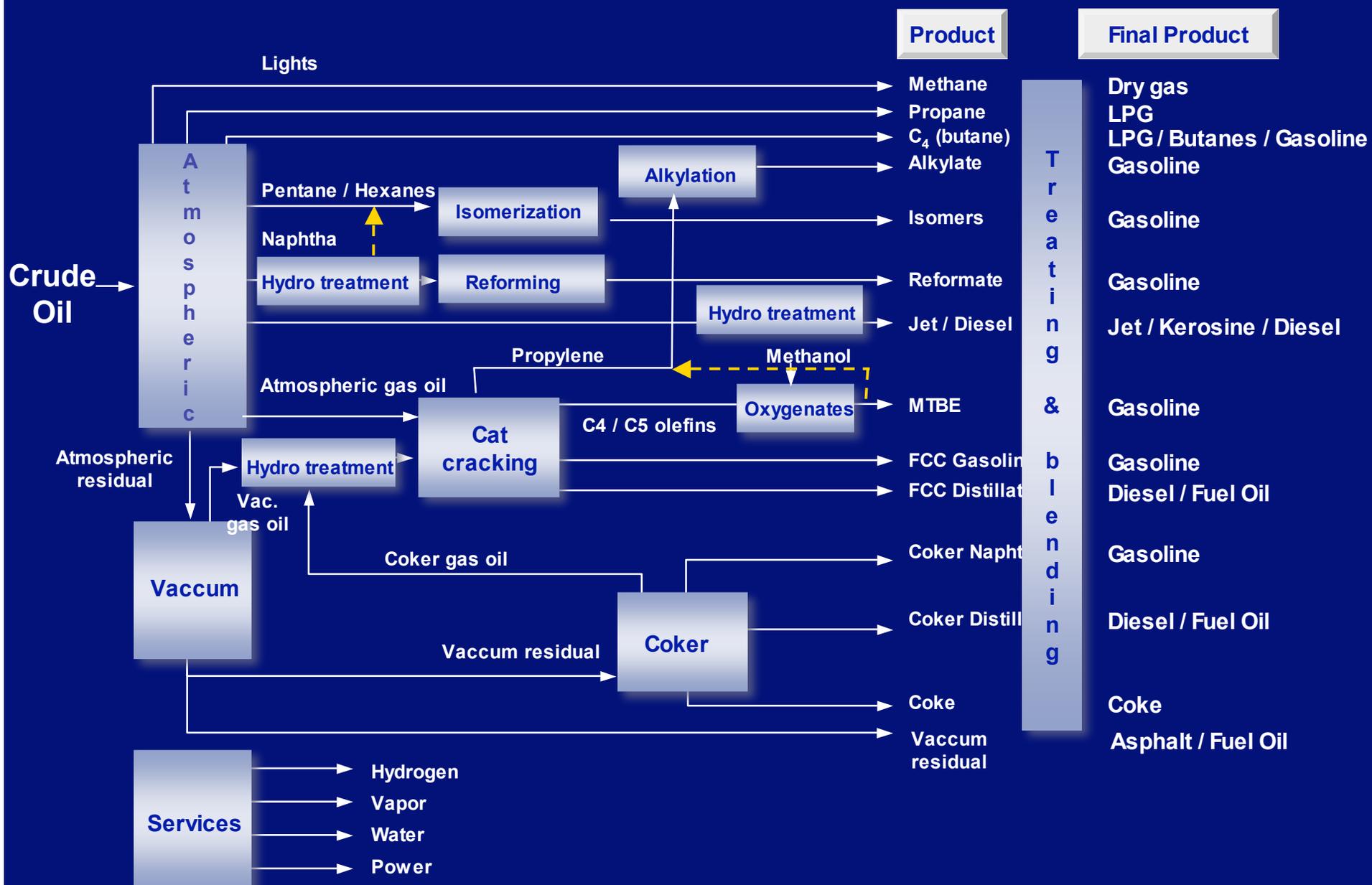


Pemex: productive framework

(thousands barrels per day)



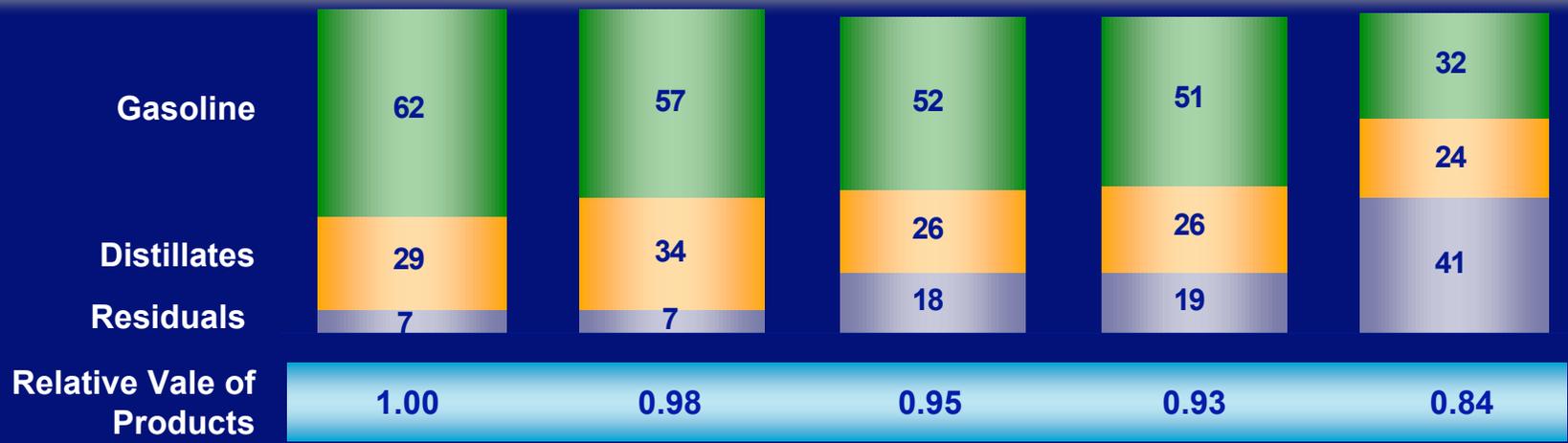
Typical complex refinery



Refinery Configurations

Illustrative

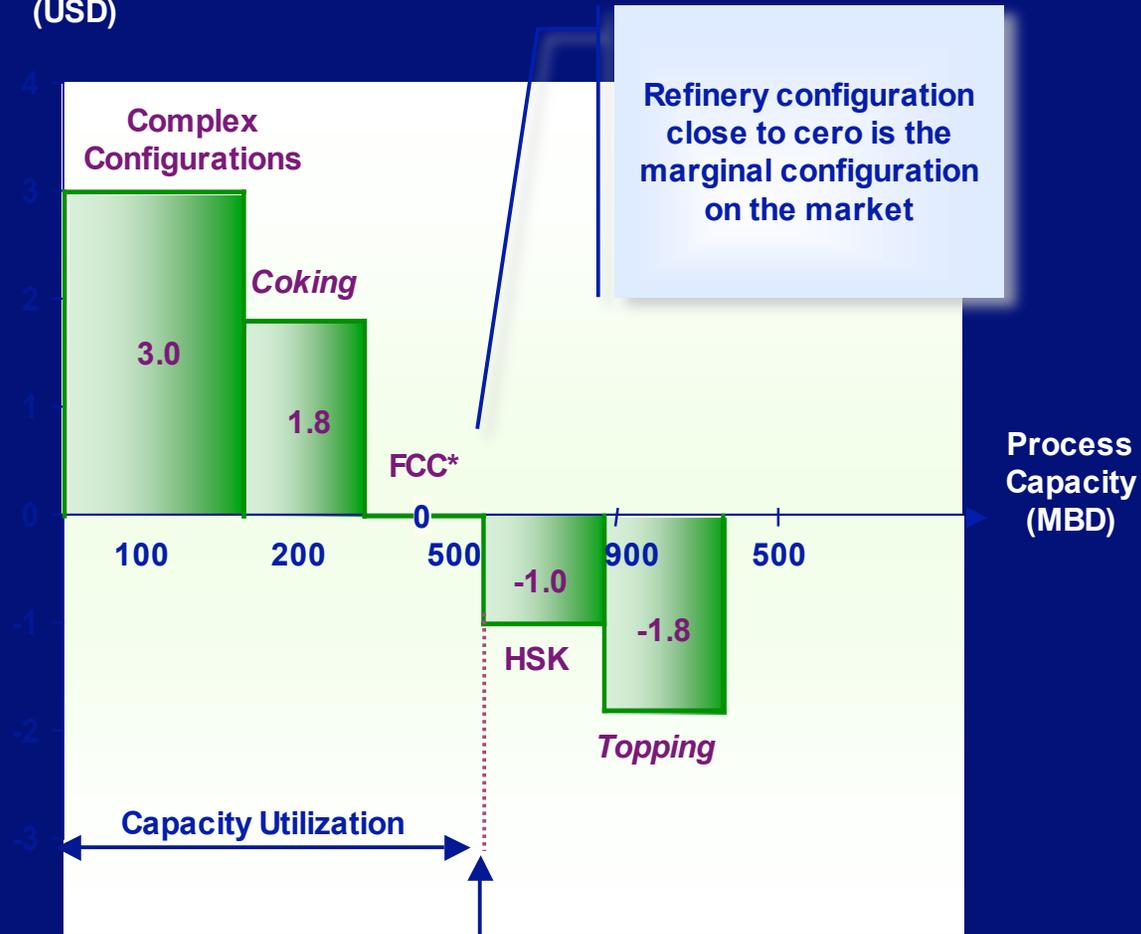
Process	Complex with hydrocracking	Coker	FCC/ Alky	FCC	Hydroskimming
Primary Distillation	X	X	X	X	X
Vaccum Distillation	X	X	X	X	X
Catalytic Reforming	X	X	X	X	X
Fluid Catalytic Cracking	X	X	X	X	
Alkylation	X	X	X		
Thermal Cracking (Coker)	X	X			



← Heavy - Sour Crude Oil Light - Sweet Crude Oil →

Market Supply Curve

Variable Margin
per barrel
(USD)



Crude process /
product supply is in
balance with demand

- In efficient market product prices are in equilibrium with the barrel that generates a zero variable margin:
 - Higher product demand results in higher product prices and crude runs which in turn lower product prices

* Refinería marginal

Economic Cycle of Marginal Refiner

Illustrative

