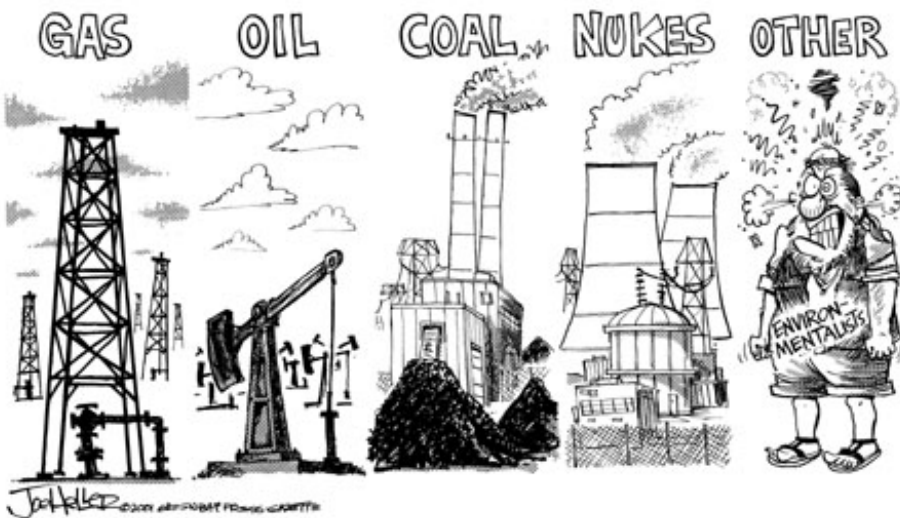
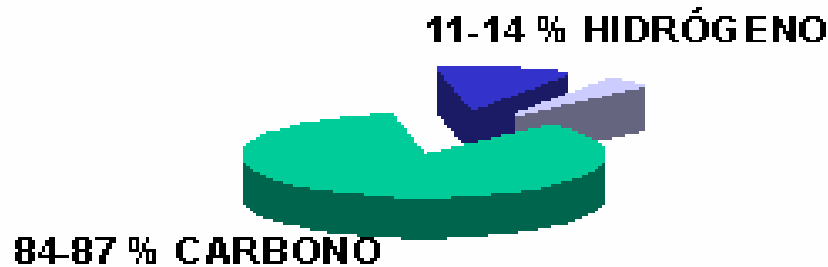


BUSH ADMINISTRATION'S PLAN FOR GENERATING MORE ENERGY-



Crudo y productos

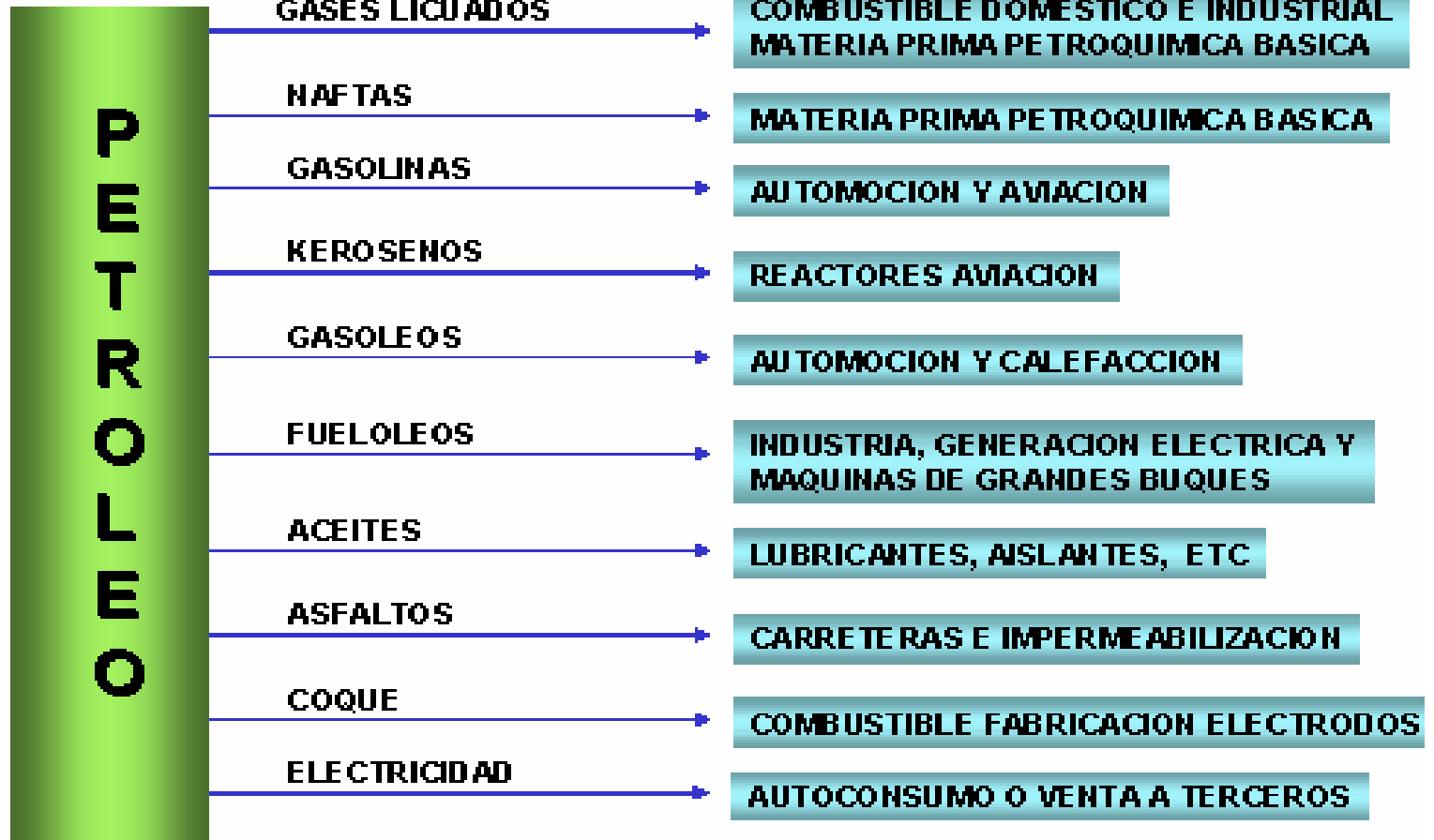


OTROS:	
AZUFRE	0.04-6 %
NITROGENO	0.1-1.5 %
OXIGENO	0.1-0.5 %
METALES	50-150 ppm

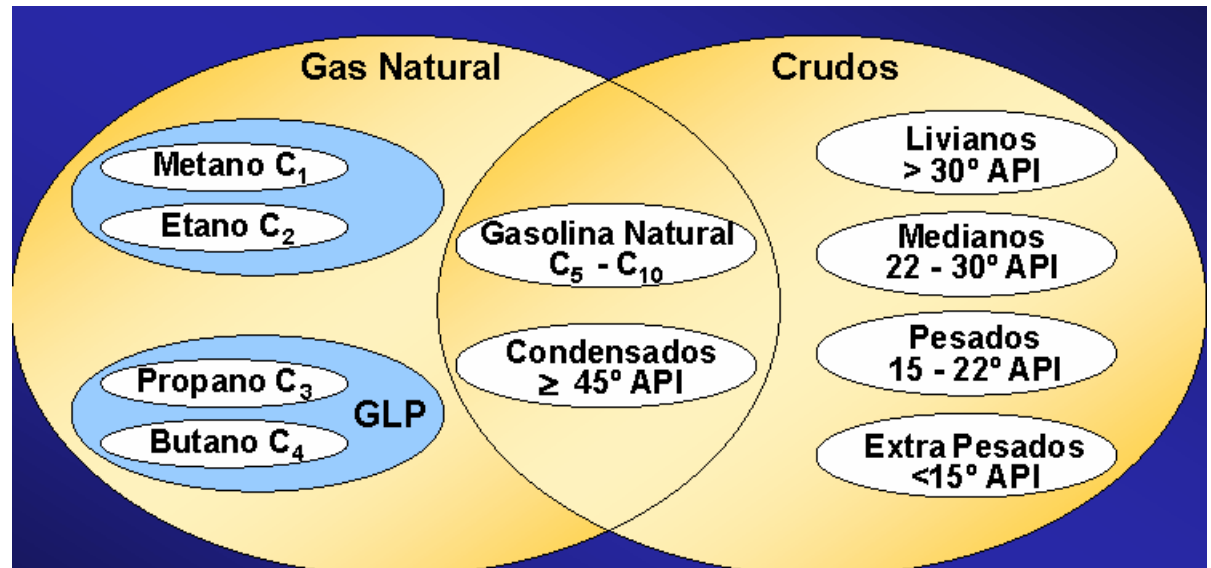
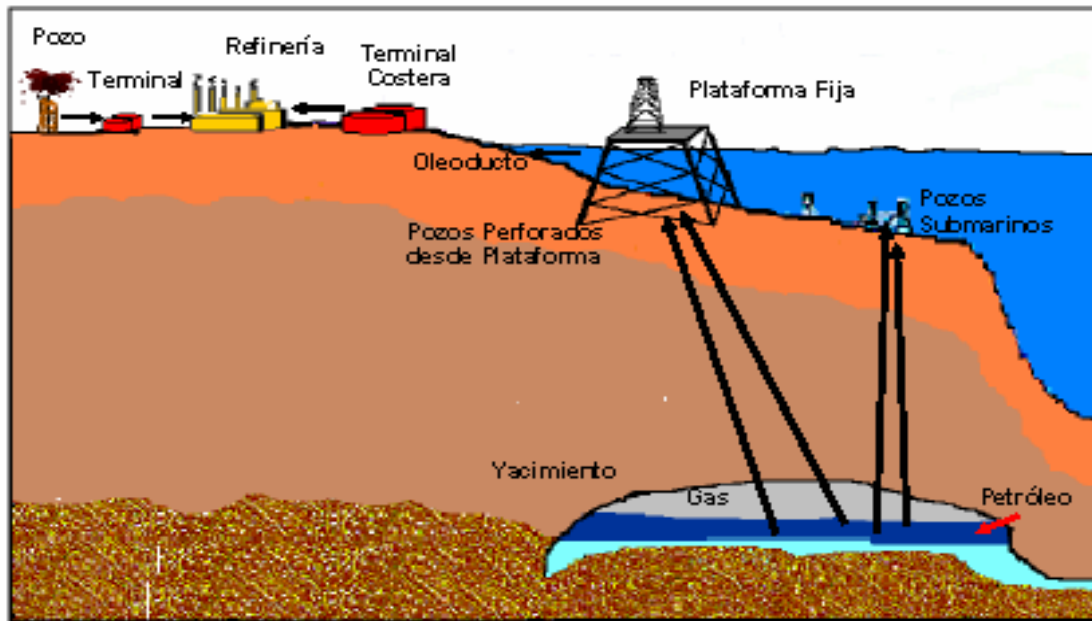
- ✓ **Diversas clasificaciones.**
 - ✓ **Por densidad ($^{\circ}$ API) y contenido en azufre:**
 - ✓ **Dulces $< 0,5$ %**
 - ✓ **Normales $1,5 - 1,8$ %**
 - ✓ **Alto azufre $> 1,8$ %**
 - ✓ **Por el tipo de hidrocarburos:**
 - ✓ **Parafínicos**
 - ✓ **Nafténicos**
 - ✓ **Asfálticos**



Crudo y productos.



E&P. Esquema de producción



Sistema de precios en la industria petrolera

Precios de transferencia



Precios productor



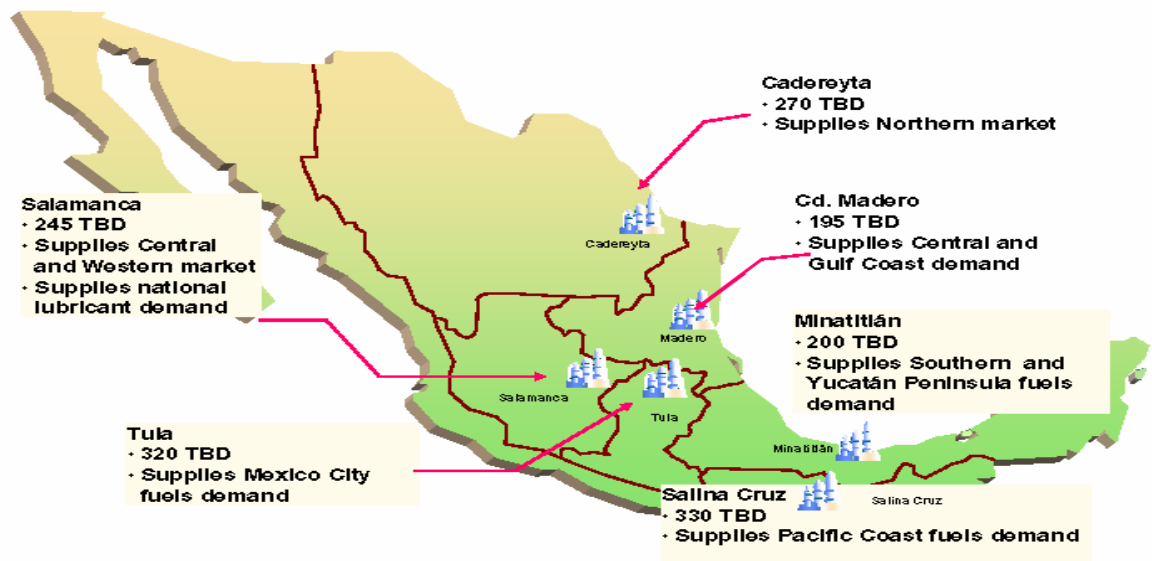
Precios de venta al público

- Determinan el ingreso de las unidades de negocio
- Precios de transferencia oportunos, sencillos y precisos, orientados a decisiones operativas de las unidades de negocio
- Basados en costos de oportunidad internacionales
- Utilizados en la toma de decisiones de corto plazo de las unidades de negocio

- Determinan el ingreso neto de la empresa
- Reflejan el valor netback propio de la compañía

- Envían señales económicas a los consumidores
- Incluyen impuestos indirectos, fletes y comisiones

Refineries



Etapas en la administración de precios en Pemex

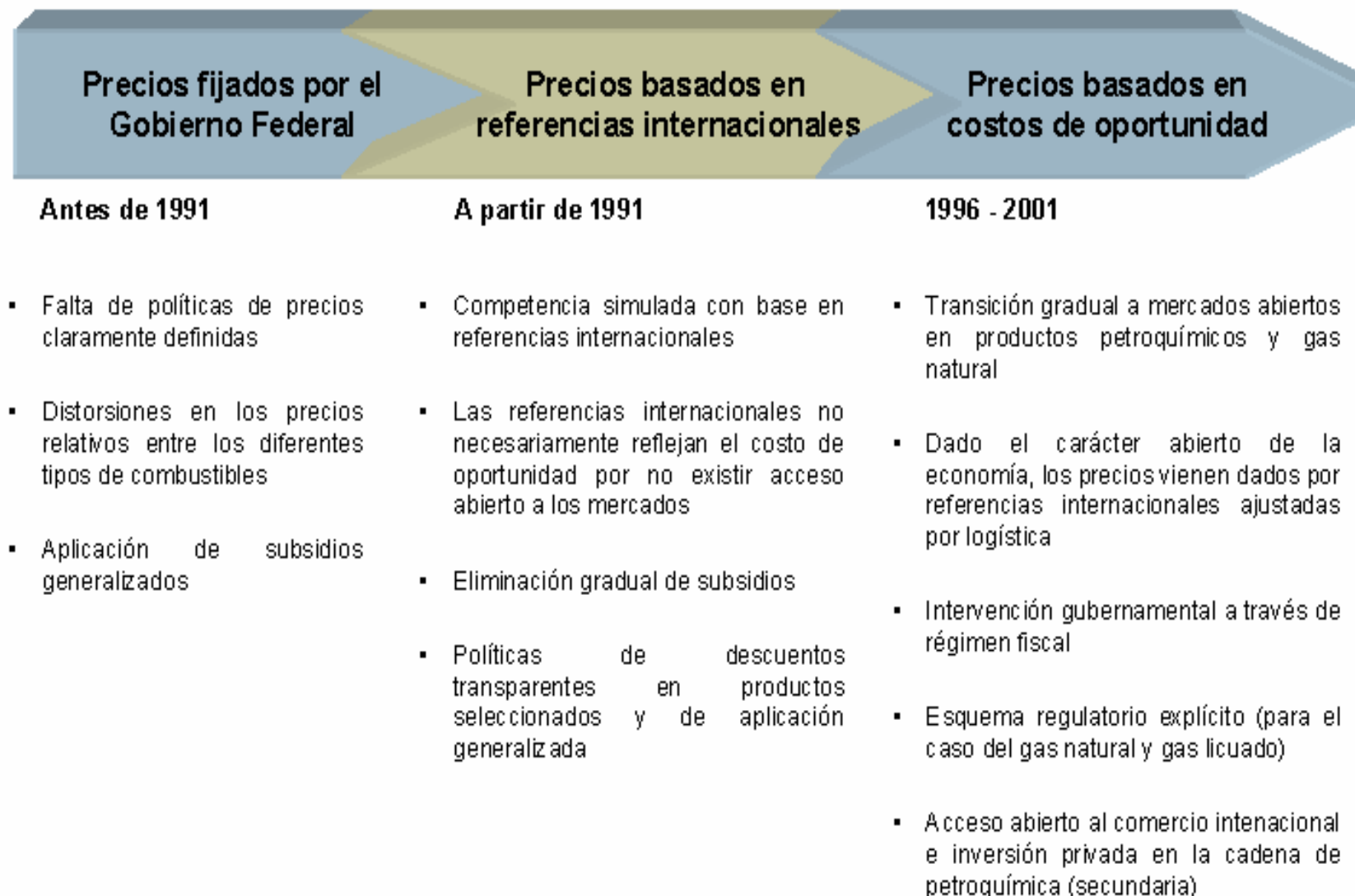


Table 10. NYMEX Light Sweet Crude Oil Contract Specifications

Trading Unit	1,000 U.S. Barrels (42,000 gallons).
Trading Hours.....	Open outcry trading conducted between 10 am till 2:30 pm. NYMEX ACCESS@ on Mon-Thu begins at 3:15 pm and concludes 9 am the following day. Sunday ACCESS begins at 7 pm (all times are New York).
Trading Months.....	30 consecutive months plus long-dated futures initially listed 36, 48, 60, 72, and 84 months prior to delivery. Additionally, calendar strips can be executed (during open outcry trading hours) at an average differential to the previous day's settlement prices for periods of 2 to 30 consecutive months in a single transaction.
Price Quotation.....	Dollars and cents per barrel.
Minimum Price Fluctuation	\$0.01 per barrel (i.e., \$10 per contract).
Maximum Daily Price Fluctuation	Initially \$3.00 per barrel for all but the first two months, rising to \$6.00 per barrel if the previous settlement price of any back month is at the \$3.00 limit. If \$7.50 per barrel movement in either of the two front months, then the limit for all months becomes \$7.50 per barrel in the direction of the price movement.
Last Trading Day	Trading stops at close of business on the 3rd business day prior to the 25th calendar day of the month preceding the delivery month. If 25th is a non-business, then trading stops on 3rd business day prior to last business day preceding the 25th.
Delivery.....	FOB seller's facility, Cushing, OK, at any pipeline or storage facility with access to pipeline, by in-tank transfer, in-line transfer, book-out, inter-facility transfer.
Delivery Period	Deliveries are rateable over the course of the month and must be initiated on or after the first calendar day and completed by the last calendar day of the delivery month.
Alternative Delivery Procedure.....	Available to buyers and sellers matched by the Exchange after termination of spot month contract. If buyer and seller agree to the contract specifications, they may proceed and must notify the Exchange.
Exchange of Futures for Physicals (EFP)	Commercial buyer or seller may exchange a futures position for a physical position by notifying the Exchange. EFPs may be used to initiate or liquidate a futures position.
Deliverable Grades.....	Specific domestic crudes with 0.42% sulfur or less, and not less than 37 degree API gravity nor more than 42 degree API gravity; including WTI, Low Sweet Mix, NM Sweet, North TX Sweet, OK Sweet, South TX Sweet. Specific foreign crudes not less than 34 degree API nor more than 42 degree API; including Brent, Forties, and Osenberg Blend for which the seller will receive a 30 cent per barrel discount; Bonny Light and Cusiana (a 15 cent premium); and Qua Iboe (a 5 cent premium).
Inspection	Will be conducted according to pipeline practices. Buyer or seller may appoint an inspector and the requesting party will cover the cost and notify the other party.
Position Limits.....	20,000 contracts for all months combined, but not to exceed 1,000 in the last 3 days of trading in the spot month or 10,000 in any one month.
Margin Requirements.....	Margins are required for open futures positions.

Source: New York Mercantile Exchange (NYMEX), web site www.nymex.com.

CUADRO 10
 CARACTERÍSTICAS DEL CONTRATO DE FUTUROS
 DEL PETRÓLEO CRUDO WTI, SWEET, LIGHT.

Mercado	NYMEX
Horario de cotización	9:45–15:10
Unidad del Contrato	1 000 barriles de crudo
tipo WTI dulce	
Precio cotizado en	Dólares americanos por barril
Fluctuación mínima	Un centavo de dólar por barril.
Valor de la fluctuación mínima	10.00 por contrato
Fluctuación máxima autorizada diaria	\$ 1.50 dólares por barril
Contratos	Contratos próximos 18 meses
Entrega física	Cushing, Oklahoma.
Fecha límite de negociación	Día 19–20 de cada mes, fecha última para cerrar posición de compra o venta.

FUENTE: The Irwin Business and Investment Almanac, Irwing Professional Publishing, 1996.

Table S3. Petroleum and Natural Gas Price Risks and Risk Management Strategies

Participants	Price Risks	Risk Management Strategies and Derivative Instruments Employed
Oil Producers	Low crude oil price	Sell crude oil future, buy put option
Petroleum Refiners	High crude oil price	Buy crude oil future or call option
	Low product price	Sell product future or swap contract, buy put option
	Thin profit margin	Buy crack spread ^a
Storage Operators	High purchase price or low sale price	Buy or sell futures
Large Consumers		
Local Distribution Companies (Natural Gas)	Unstable prices, wholesale prices higher than retail	Buy future or call option, buy basis contract ^b
Power Plants (Natural Gas)	Thin profit margin	Buy spark spread ^c
Airlines and Shippers	High fuel price	Buy swap contract

^aEssentially, buy crude oil future and simultaneously sell product future.

^bA basis contract fixes the transportation cost between Henry Hub and a local market.

^cBuy natural gas future and sell electricity future.

Source: Energy Information Administration.

Table S2. Example of an Oil Futures Contract

Date	Prices per Barrel		Contract Activity	Cash In (Out)
	WTI Spot	December Future		
January	\$26	\$28	Refiner "buys" 10 contracts for 1,000 barrels each and pays the initial margin.	(\$22,000)
May	\$20	\$26	Mark to market: (26 - 28) x 10,000	(\$20,000)
September	\$20	\$29	Mark to market: (29 - 26) x 10,000	\$30,000
October	\$27	\$35	Mark to market: (35 - 29) x 10,000	\$60,000
November (end)	\$35	\$35	Refiner either: (a) buys oil, or (b) "sells" the contracts. Initial margin is refunded.	(\$350,000) \$22,000

Source: Energy Information Administration.

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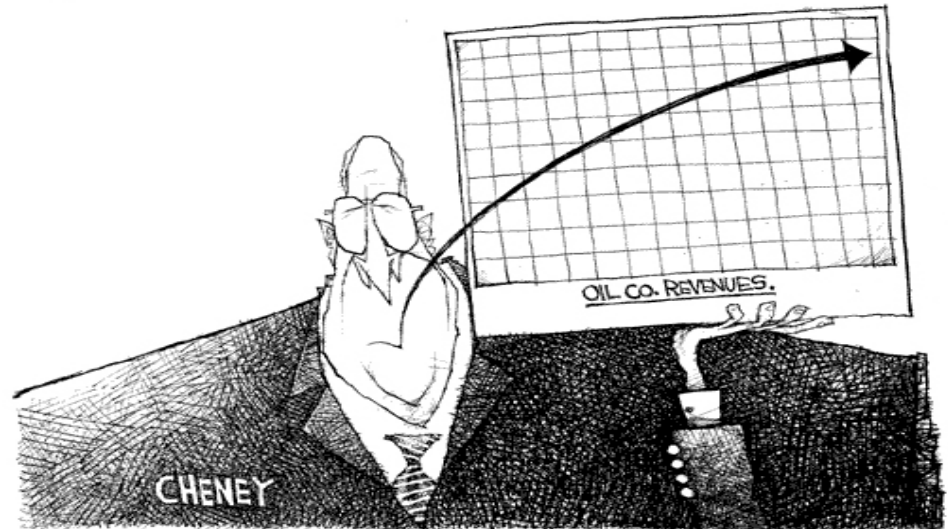


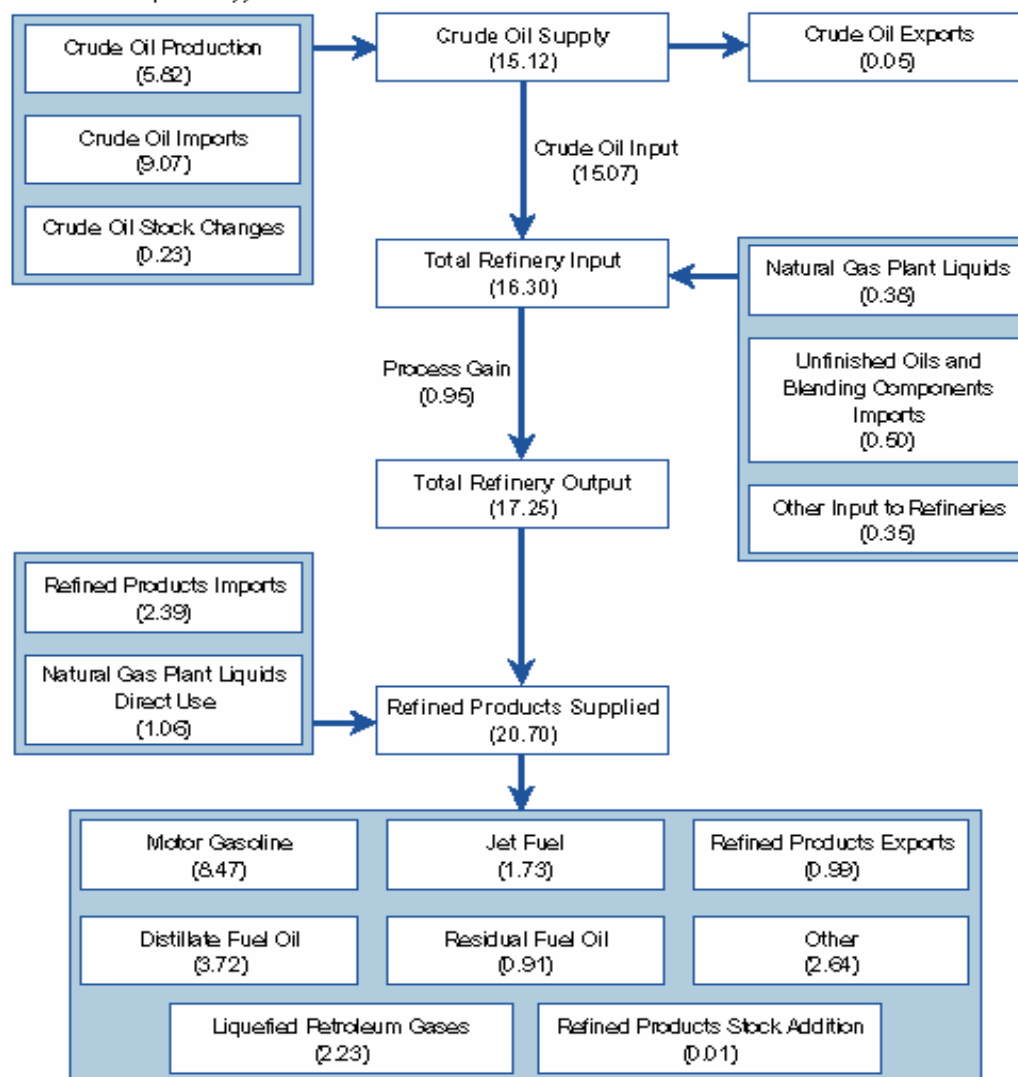
Table 1. Major U.S. and Foreign Futures Exchanges

Exchange	Country	Primary Commodities
Chicago Board of Trade (CBOT)	USA	Grains, US Treasury notes and bonds, other interest rates, stock indexes
Chicago Mercantile Exchange (CME)	USA	Livestock, dairy products, stock indexes, Eurodollars and other interest rates, currencies
Kansas City Board of Trade (KCBT)	USA	Wheat and stock indexes
Minneapolis Grain Exchange (MGE)	USA	Spring wheat
New York Board of Trade (NYBOT)	USA	Sugar, coffee, cocoa, cotton, currencies
New York Mercantile Exchange (NYMEX)	USA	Metals, crude oil, heating oil, natural gas, gasoline
Philadelphia Board of Trade (PBOT)	USA	Currencies
Bolsa de Mercadorias & Futuros (BMF)	Brazil	Gold, stock indexes, interest rates, exchange rates, anhydrous fuel alcohol, coffee, corn, cotton, cattle, soybeans, sugar
EUREX	Germany/Switzerland	Interest rates, bonds, stock indexes
Hong Kong Futures Exchange (HKFE)	Hong Kong	Stock indexes, interest rates, currencies
International Petroleum Exchange (IPE)	England	Crude oil, gas oil, natural gas, electricity
London International Financial Futures Exchange (LIFFE)	England	Interest rates, stock indexes, bonds, coffee, sugar, cocoa, grain
London Metals Exchange (LME)	England	Copper, aluminum, lead, zinc, nickel, tin, silver
Marche Terme International de France (MATIF)	France	Bonds, notes, interest rates, rapeseed, wheat, corn, sunflower seeds, stock indexes
MEEF Renta Fija	Spain	Bonds, interest rates, stock indexes
Singapore Futures Exchange	Singapore	Interest rates, stock indexes, crude oil
Sydney Futures Exchange	Australia	Interest rates, stocks, stock indexes, currencies, electricity, wool, grains
Tokyo Grain Exchange (TGE)	Japan	Corn, soybeans, red beans, coffee, sugar
Tokyo International Financial Futures Exchange (TIFFE)	Japan	Interest rates, currencies

Source: Commodity Futures Trading Commission.

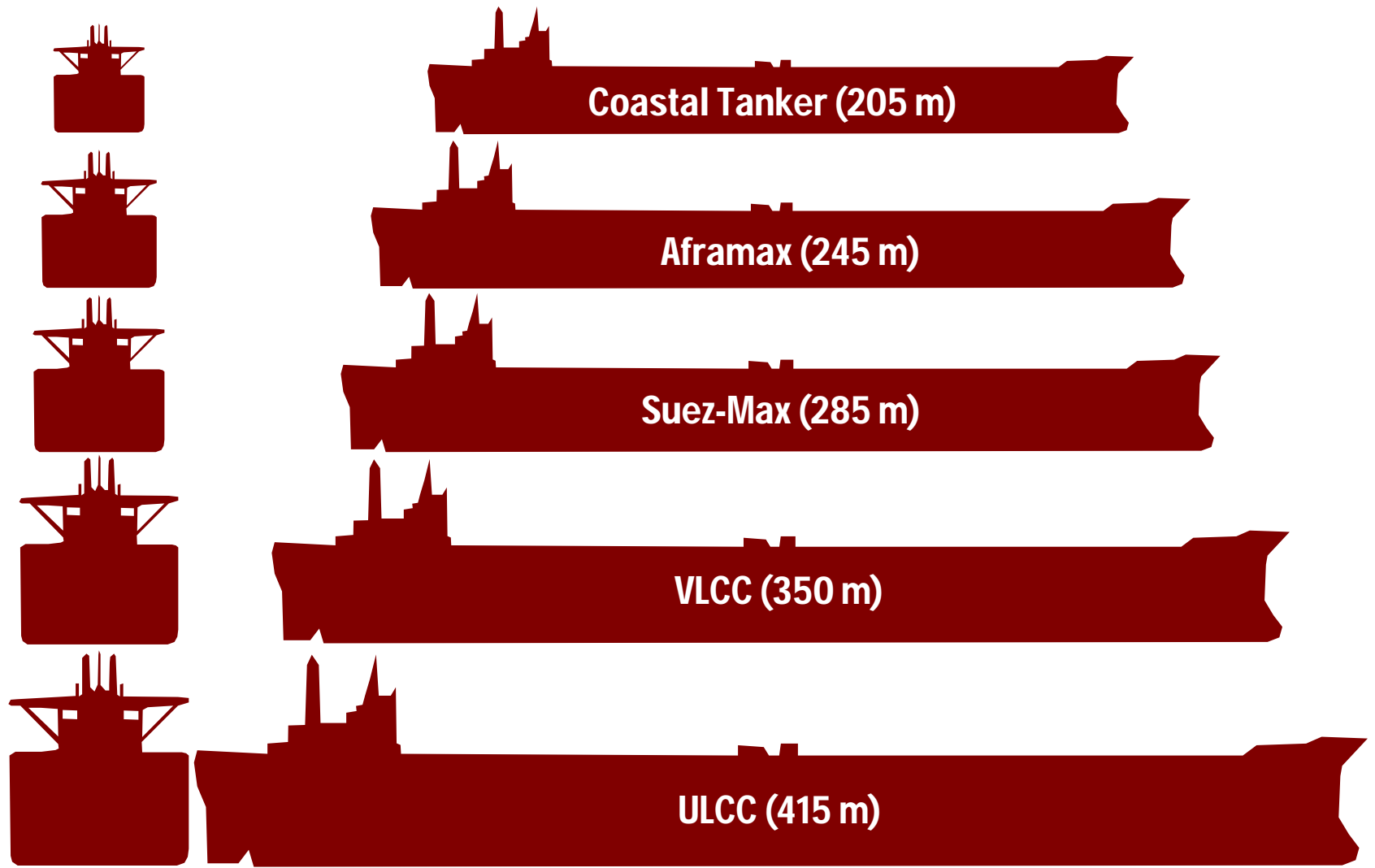
Figure 7. Crude Oil Processing Stages, 2000

(Million Barrels per Day)



Source: Energy Information Administration, Petroleum and Energy Profile 1999, DOE/EIA-0545(99) (Washington, DC, July 1999), p. 46, updated to 2000 by EIA staff.

Trasporte Marítimo del Petróleo



Principales Rutas del Petróleo

