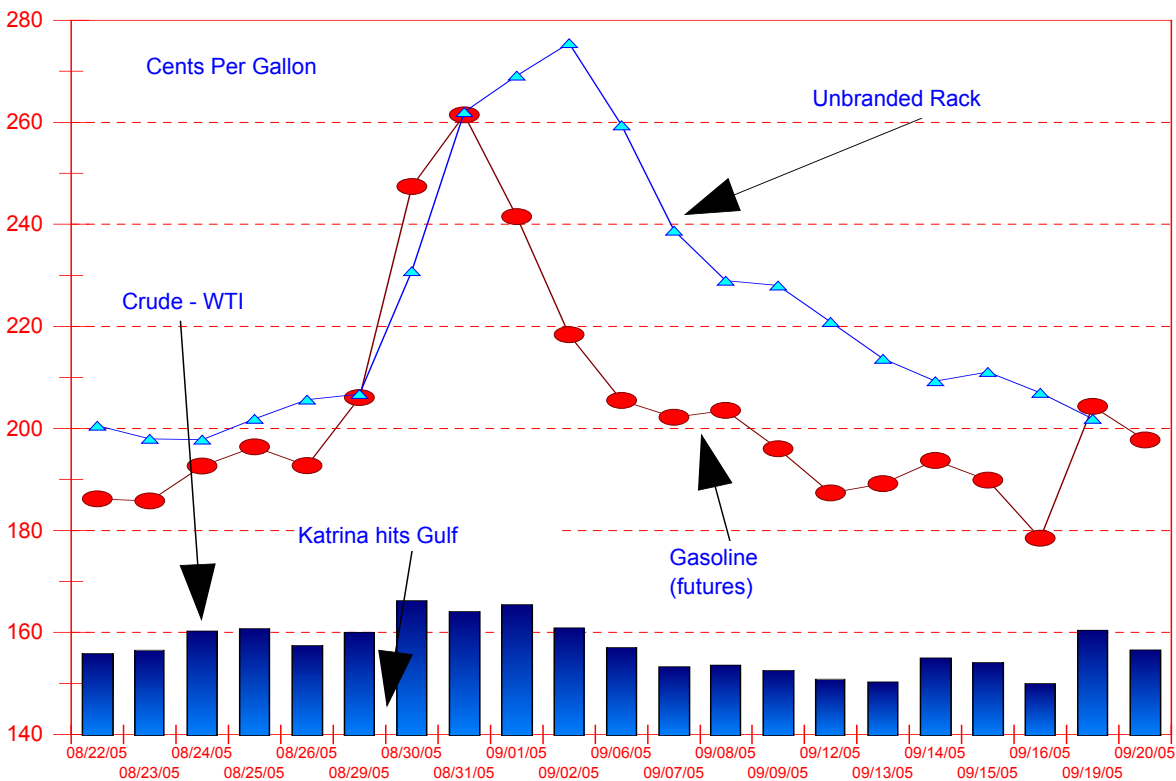


Hurricane Katrina HOW ONE STORM SPIKED WORLD PRODUCT MARKETS

Futures* Gasoline and Crude Price
And U.S. Average Unbranded Rack**
Daily, 8/22/05 - 9/20/05***



*New York Mercantile exchange daily closing price for near month West Texas Intermediate and gasoline

**regular grade gasoline, all brands and fuel types combined

***September 20 futures price is mid-day price, unbranded rack through September 19

Sources: NYMEX (futures), Lundberg Survey (rack)

Energy Détente Chart

Hurricane Katrina's fury knocked out 11% of U.S. refining capacity causing price signals and product flows to cascade world-wide. This issue of Energy Détente examines the market reaction to infrastructure damage and supply bottleneck, and implications for U.S. and non-U.S. refiners.

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What Is Energy Détente ?

First published in September 1980, [Energy Détente](#) is a monthly, single-theme periodical consisting of graphs, charts and interpretative text featuring energy subjects such as consumer fuel prices and taxes around the world, national energy policies, refining technology and margins, public subsidies, environmental protection, and other subjects. The Energy Détente Fuel Price/Tax Series is a unique compilation of national averages showing fuel prices that isolates tax portions within consumer prices. The Energy Détente Refining Netback Data Series calculates U.S. margins utilizing Lundberg unbranded rack prices where applicable.

Energy Détente is published by Tele-Drop, Inc., a subsidiary of [Lundberg Survey, Incorporated](#), and also accesses its parent company's U.S. petroleum marketing databases for content. Lundberg is sole source for U.S. gasoline market shares by state and nation on a monthly basis, daily wholesale gasoline and diesel prices by all three classes of trade and fuel type all markets, twice-monthly retail prices by market, retail margins by brand, the twice-monthly [Lundberg Letter](#), and other work product.

For a complete listing of Energy Détente back issues sorted by date or keyword search, please visit www.lundbergsurvey.com.

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Hurricane Katrina

HOW ONE STORM SPIKED WORLD PRODUCT MARKETS

How could one storm's damage cause surging gasoline prices around the world? It could and did because Hurricane Katrina put 2.6% of total world refining capacity out of commission. That is a big hit to world gasoline supply in today's conditions.

Although three weeks later some of that U.S. Gulf Coast refining capacity is now back on stream, the storm's damage, now 5% of U.S. capacity, accounts for 1.2% of world refining capacity. That is enough to tighten world gasoline supply and maintain higher prices. The U.S. Gulf Coast represents half of U.S. capacity; U.S. capacity is 21.4% of world refining. The fact of greater U.S. refining efficiency, evidenced in the country's higher capacity utilization rates, means that the capacity reduction has a greater effect than it would if it hadn't been the U.S. that Katrina ravaged.

Recent issues of [Energy Détente](#) have described the reaction of crude oil price and crude oil product prices to strong world petroleum demand. Another portion of price is that of a built-in risk factor that can include anything from terrorist attacks

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to natural disasters such as Hurricane Katrina.

Katrina's damage to U.S. refining and distribution infrastructure was manifested in price spikes not only in that U.S. region, but all over the nation.

Price hikes reverberated all the way to Europe and Asia as product flowed away from those markets to supply the distressed U.S. Northeast and Southeast markets. In addition to entrepreneurial export of product from non-U.S. markets, there was institutional market response.

[International Energy Agency](#) authorized 60-million barrels of crude oil and product to be released from European Strategic Petroleum Reserves (SPR) for U.S. markets. The U.S. released crude oil from its SPR as well.

Katrina unleashed higher refined product prices to end users around the world. The effects were notable in Germany, United Kingdom, and Japan, as shown in our [gasoline price by nation graph](#). U.S. motorists were greeted with the highest retail gasoline price ever on record (even adjusted for inflation) on September 9, at \$3.01 per gallon ([retail gasoline price graph](#).)

Not shown, U.S. retail prices have plummeted nearly 30¢ gal. since September 9.

As we go to press, another hurricane, Rita, is approaching the U.S. Gulf Coast. It is a Level 2 hurricane. Meanwhile, four key U.S. Gulf refineries remain idled due to Katrina's damage.

Temporary Spike

The [cover graph](#) shows the muted reaction crude oil showed to Katrina's damage. Despite shutting in some 90% of Gulf Coast offshore production, crude oil prices rose only slightly prior to falling below pre-Katrina price levels. Crude spiked September 19 in reaction to Hurricane Rita's approach, but has dropped today. As we go to press, crude is trading below its August 26 price and nearly \$4 below its peak on September 1. Part of this is due to refining infrastructure being knocked out, thereby causing a temporary drop in crude oil demand. As we go to press the U.S. government reports that some 56% of Gulf production remains shut in. The [Gulf oil production graph](#) shows the significance of Gulf oil production, accounting for 27.4% of U.S. production. Not shown, Gulf production accounts for some 2% of world output, and Katrina shut-ins account for more than 1% of world output.

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The IEA estimates that Katrina will end up permanently subtracting some 70-million barrels of crude oil from the market. In 2004 Hurricane Ivan resulted in some 44-million barrels of production lost forever. Ivan sunk seven offshore platforms, while Katrina sunk more than 50.

Katrina affected 19 U.S. refineries, shuttering ten of them. Four remain shut.

The following estimates from industry are for capacities down from today, September 20, forward:

- Marathon, Garyville (LA), 245,000 barrels per day (b/d) capacity, restarted
- Motiva, Convent (LA), 235,000, restarted
- ExxonMobil, Baton Rouge (LA), 494,000, restarted
- Total, Port Arthur (TX), 285,000, restarted
- Valero, St. Charles (LA), 185,000, restarted
- Motiva, Norco (LA), 226,000, restarted

- Chevron, Pascagoula (MS), 325,000, shut, major damage
- ExxonMobil, Chalmette (LA), 187,000, shut, major damage
- ConocoPhillips, Belle Chasse (LA), 247,000, shut, major damage
- Murphy, Meraux (LA), 120,000, shut, major damage

In addition to refineries, many pipelines and other distribution infrastructure were also significantly affected and in some cases closed. Also shown on the [cover graph](#) are the reactions of futures gasoline ([New York Mercantile Exchange](#)) and U.S. average unbranded rack gasoline. The short term shock to gasoline markets was spectacular, with futures gasoline spiking 69¢ gal. between August 26 and August 31. Unbranded rack spiked slightly more in delayed fashion, adding some 70¢ gal. by September 2. These prices could not last, and they didn't, as product flowed from all over the U.S. and from foreign sources. [Chevron](#) told [Energy Détente](#) that it sent trucks and drivers from its West Coast operations to help with distribution in the South and Southeast. Futures gasoline returned to pre-Katrina levels by September 9. Despite the enormity of the disaster, the gasoline spike lasted for only eight trading sessions when it became clear that much of the shut in capacity would be reopened soon. Unbranded rack's spike lasted longer, about two weeks, but has been steadily drifting down since September 2, and averaged 201.85¢ gal. on September 19.

No hard data are available yet as to motorists' reaction to Katrina and what kind of demand drop-off will occur. Anecdotal

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reports were of hoarding just prior to and after the storm hit, but since then of huge drop-offs in retailer volumes due to the price deterrent. The U.S. is also entering a lower demand season in September with fewer daylight hours. Also of note is the fact that the three states most damaged by Katrina account for some 4.6% of U.S. gasoline demand. Demand in this region will be significantly curtailed.

U.S. Officials' Reaction To Katrina

The [EPA](#) and other federal regulators have relaxed environmental and safety regulations in order to alleviate supply bottlenecks.

Many federal and local politicians and regulators have seized on the Katrina disaster to attack the oil industry. Numerous "price gouging" investigations have been launched with some claiming a 20¢ gal. price hike is criminal. Other politicians are suggesting any "windfall" profits earned by the industry be turned over to government (rather than be invested in additional petroleum extracting and refining infrastructure).

Some nations react logically, allow product rationing via price, others react wrong-headedly, freezing prices. Meanwhile, Russia has enacted a gasoline price freeze, following the lead of Hawaii's state government.

Refining Margins

As reported in ED 6/28/05, 2005 was shaping up to be a stellar year for refining margins. Through June 24, the 2005 crack spread (3-2-1 NYMEX near month futures using crude, gasoline, and heating oil) had averaged \$9.49 bbl.

Through September 20, the 2005 year-to-date average has ballooned to \$11.13 per bbl. The [annual crack spread graph](#) shows the fantastic growth in refining margins, from 2002's meager \$4.75 bbl. to 2005's strong performance. Due to the increase in the light-heavy crude price differential, actual refining margins have grown even more than those shown in this graph.

The [daily crack spread graph](#) shows daily margin (crack spread NYMEX) since August 1. The post Katrina spike peaked at \$32 bbl. Since then it has dropped sharply, but still posts \$17.41, much larger than it was in early August.

Contrary to popular belief, Katrina was not good news for the U.S. refining sector. The margin spike (shown on the daily graph) lasted just seven days. Meanwhile, refineries that

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were shuttered or had reduced capacity did not get to join the party. Katrina has been a disaster for refiners in general, not a boon. In the week ended September 9, U.S. refiners posted a dismal 87% capacity utilization rate.

Granted some refiners that escaped Katrina unscathed enjoyed fat margins for a little over a week. Also, some opportunistic importers and exporters capitalized on bloated U.S. prices.

Not only have most Gulf Coast refiners lost money due to outages, but all refiners have also been hammered with bad PR fanned by grandstanding politicians. The U.S. Gulf accounts for 50% of U.S. refining capacity and is also frequently in the path of hurricanes. Because of this, refineries are built to withstand hurricane force winds. However, all contingencies cannot always be accounted for.

Another drawback has been lost demand due to high prices, barrels that would have otherwise been served by refiners.

Other News

Today, OPEC announced it will maximize its production and effectively not enforce its quota system as of October 1. OPEC claims it is offering another 2-million b/d, but physical supply will be lucky to add half that amount. With most OPEC members already operating at their limits, it is expected any boost in supply will come from Saudi Arabia. Saudi Arabia was already producing some 1-million b/d more than its official quota in August (per IEA's September 2005 Oil Market Report), leaving just 1-million b/d in spare capacity. This would more than make up for the lost production due to Katrina.

That Saudi Arabia had not already been producing to its limit could be considered scandalous by some, considering the crude oil price/supply situation. Certainly, the Kingdom had already been beneficiary of higher world oil prices and profits.

It may be that OPEC is conducting PR damage control considering any enforcement of price increasing quotas during a natural disaster in the U.S. would not look good.

This is the first suspension of the quota system since August 29, 1990.

Summary

Katrina's destruction was much more than a local disaster, as the hurricane's destructive force has cascaded throughout the entire U.S. and world fuels market.

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Motorists in Japan and Germany are paying more for gasoline and diesel due to Katrina. Motorists in California also paid more. These are signs of a market working well, distributing product to areas in need via vital price signals.

Hurricanes have been a fact of life the oil industry has been dealing with for many decades. They are not a new threat. They are one of many risks faced by the industry each year and are in fact a reason that firms continue to invest in additional production and refining capacity. The fact that hurricanes cause havoc in markets is not a surprise. If government were more accommodative towards oil infrastructure in other parts of the nation this threat could be somewhat mitigated.

Rita is expected to hit land in the Gulf Coast on Friday.

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Barking about gas

By Jeff Jacoby | September 11, 2005

WHAT IS IT about the price of gasoline that turns seemingly normal politicians into barking economic demagogues?

When Jill puts her house on the market for \$450,000 -- triple what she paid 10 years ago, but the going price in her neighborhood today -- the politicians understand that the 200 percent markup is the result of supply and demand in the real estate market. Senators don't call press conferences to denounce Jill as a profiteer. Attorneys general don't threaten to prosecute her. Governors don't compare her to looters.

But when Joe's service station ups the price of gasoline by \$1 a gallon, the political world freaks out. Never mind that a Category 4 hurricane has devastated oil production throughout the Gulf Coast, depleting the nation's refining capacity by 2 million barrels a day and driving up the price Joe's wholesaler is now charging *him*. For some reason, politicians forget everything they learned in Economics 101 and rush to savage Joe for "gouging" his customers.

Republican Governor Sonny Perdue of Georgia, for example, issues an order imposing penalties on gasoline dealers who charge more than he thinks they should. "I do not believe there is an energy emergency in this state," he announces -- as if Georgia is magically shielded from the forces that drive gasoline prices in the other 49 states.

In Massachusetts, Governor Mitt Romney -- a Harvard MBA who didn't make a fortune in venture capital by demagoguing markets -- takes to the microphones to denounce the alleged gouging as "white collar looting" and urges motorists to turn in offenders through a state hotline. Missouri's GOP governor, Matt Blunt, excoriates gasoline "profiteering" as "both unconscionable and illegal." Even President Bush gets into the act, demanding "zero tolerance" of lawbreakers --

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a category into which he lumps looters, insurance swindlers, and poor beleaguered Joe, "price gouging at the gasoline pump."

Then there are Democrats like Governor Richard Codey of New Jersey, who vows to inflict "maximum penalties" on overcharging gas stations, which he estimates at one of every four in his state. Senators Maria Cantwell of Washington and Carl Levin of Michigan call for something even more unwise -- a revival of gasoline price controls, like those Richard Nixon and Jimmy Carter embraced 30 years ago.

But artificial price caps will work no better now than they did in the 1970s. They won't get petroleum refined faster. They won't reduce motorists' demand for gasoline. All they will create is shortages -- the one thing price controls always bring in their wake.

The only rational and efficient way to allocate a scarce commodity is through price. That is because the more you value something, the more you are generally willing to pay for it. By charging what the market will bear -- for gasoline or anything else -- vendors channel their product to the customers who value it the most. A mandatory cap on the price of gas may seem like kindness to the poor, but all it can do is raise demands that can't be met. The result is "Sold Out" signs on Joe's pumps, or gasoline lines stretching around the block.

"If there's not enough fuel and you put a cap on," former President Bill Clinton said recently on CNN, "then what you might do is just drop the supply even quicker, imposing greater hardship on people." He gets it. Why don't the others?

Painful as they are, price spikes are invaluable -- especially after a disaster, when critical goods and services are at a premium. At \$3 or \$4 a gallon, post-Katrina gasoline prices are transmitting two urgent messages. To consumers they say: "Conserve! Buy only as much as you really need, and look for ways to use even less." To the energy industry they say: "Produce! Get those refineries back online and supply more gasoline ASAP." Aren't those exactly the behaviors we want to encourage?

But the power of market pricing to affect behavior is unwelcome to those who think useful things don't happen unless the government tells them to happen. In The New York Times last week, Senator Levin dismissed the idea that higher prices will induce consumers to use less gasoline. "By that logic," he snorted, "you could raise prices to \$10 a gallon and you make sure that people walk."

In the real world, though, consumers *do* make choices based on price, as the large photo accompanying the Times story illustrated nicely. It showed a woman turning away from gasoline pumps charging \$5.88 a gallon. The caption read: "The price of gas at a station in Stockbridge, Ga., last week was too high for one customer, who returned to her car without buying."

* * * * *

Jeff Jacoby is a columnist for [The Boston Globe](#). His articles also appear at [townhall.com](#).

(Graphs follow tables.)

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**ENERGY DÉTENTE REFINING NETBACK DATA
U.S. GULF COAST**

PRICES AS OF September 09, 2005
(OFFICIAL/CONTRACT VS. SPOT CRUDE PRICES)

HIGHER TECHNOLOGY

PRODUCT YIELD PER BARREL (%/BBL)

PRODUCT	WTI	ARABIAN LIGHT	MAYA
UNLEADED GASOLINE	47.80 %	42.20 %	31.80 %
DIESEL (0.5% S)	29.60 %	27.80 %	21.40 %
FUEL OIL (1% S)	18.60 %	0.00 %	0.00 %
FUEL OIL (2-3% S)	0.00 %	25.90 %	43.00 %
LOSS (GAIN)	4.00 %	4.10 %	3.80 %
TOTAL	100 %	100 %	100 %

PRODUCT WORTH (\$/BBL)

PRODUCT	SPOT PRICE	WTI	ARABIAN LIGHT	MAYA
UNLEADED GASOLINE	99.70	47.66	42.07	31.70
DIESEL	86.37	25.57	24.01	18.48
FUEL OIL (1%)	56.63	10.53	0.00	0.00
FUEL OIL (2-3% S)	42.24	0.00	10.94	18.16
GROSS PRODUCT WORTH		83.76	77.02	68.34

NETBACK (\$/BBL)

	WTI	ARABIAN LIGHT	MAYA
GROSS PRODUCT WORTH	83.76	77.02	68.34
REFINING COST	2.00	2.00	2.25
FREIGHT COST	0.50	1.00	0.25
NETBACK	81.26	74.02	65.84
POSTED PRICE	61.63	0.00	52.99
REFINERY MARGIN	19.63	0.00	12.85
SPOT CRUDE PRICE	64.31	59.87	50.06
REFINERY MARGIN	16.95	14.15	15.78

NOTE: PRODUCT PRICES ARE SPOT EXCEPT GASOLINE AND FUEL OIL NO.2 DIESEL
WHICH ARE LUNDBERG SURVEY, INC. UNBRANDED WHOLESALE (RACK) AVERAGES

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**ENERGY DÉTENTE REFINING NETBACK DATA
U.S. WEST COAST**

PRICES AS OF September 09, 2005
(OFFICIAL/CONTRACT VS. SPOT CRUDE PRICES)

PRODUCT YIELD PER BARREL (%/BBL)

PRODUCT	ANS	HI-TECH
		SAN JOAQUIN VALLEY
UNLEADED REGULAR GASOLINE	47.00 %	32.00 %
LIGHT DISTILLATE (JET/KEROSENE)	11.00 %	12.00 %
MIDDLE DISTILLATE (DIESEL)	27.00 %	29.00 %
RESIDUAL FUEL OIL	3.00 %	0.00 %
CUTTER STOCK	0.00 %	8.00 %
LPG	9.00 %	16.00 %
COKE	5.94 %	8.00 %
LOSS (GAIN)	-2.94 %	-5.00 %
TOTAL	100 %	100 %

PRODUCT WORTH (\$/BBL)

PRODUCT	SPOT PRICE	ANS	SAN JOAQUIN VALLEY
		UNLEADED GASOLINE	96.54
LIGHT DISTILLATE (JET/KERO)	82.22	9.04	9.87
MIDDLE DISTILLATE (DIESEL)	89.26	24.10	25.89
RESIDUAL FUEL OIL	60.63	1.82	0.00
CUTTER STOCK	80.69	0.00	6.46
LPG	63.00	5.67	10.08
COKE	5.45	0.32	0.44
GROSS PRODUCT WORTH		86.32	83.63

NETBACK (\$/BBL)

	ANS	SAN JOAQUIN VALLEY
GROSS PRODUCT WORTH	86.32	83.63
REFINING COST	3.00	3.00
FREIGHT COST	0.00	0.25
NETBACK	83.32	80.38
POSTED PRICE	0.00	53.40
REFINERY MARGIN	0.00	26.98
SPOT CRUDE PRICE	62.31	54.95
REFINERY MARGIN	21.01	25.43

NOTE: PRODUCT PRICES ARE SPOT EXCEPT GASOLINE AND FUEL OIL NO.2 DIESEL WHICH ARE LUNDBERG SURVEY, INC. UNBRANDED WHOLESALE (RACK) AVERAGES

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**Energy Détente Fuel Price/Tax Series, National Petroleum End User Prices in U.S. Dollars
Eastern Hemisphere**

Country	Date	(Pound)	(MCF)	(Gallon)	(Gallon)	(Gallon)	(Gallon)	(Gallon)	(Gallon)	(Gallon)	(Gallon)	(Gallon)	(Gallon)
Currency	Exchange Rate to US\$	LPG	Natural Gas	Regular Unleaded	Regular Leaded	Premium Leaded	Premium Unleaded	Gasohol	Diesel	Motor Alcohol	Av. Gas (100 Oct)	Av. Gas (110 Oct)	Jet Fuel
Australia	Sep-05 Price:			3.78		1.95*a			1.88*a				
Dollar	1.2917 Tax:			n/a		1.03			0.98				
Austria	Sep-05 Price:			5.44					4.92				
Euro	0.8055 Tax:			2.90					2.28				
Bahrain	Oct-00 Price:	0.12			0.80	1.00			0.70				
Dinar	0.3770 Tax:	0.00			0.00	0.00			0.00				
Belgium	Sep-05 Price:			6.43		3.74*b	3.96*c		5.14				
Euro	0.8055 Tax:			3.81		2.80	2.68		2.49				
Bulgaria	Aug-05 Price:			3.51									
Lev	1.5833 Tax:			n/a									
China	Aug-05 Price:			1.85					0.89*d				0.81*d
Yuan	8.1037 Tax:			n/a					n/a				n/a
Cyprus	Sep-05 Price:			4.44					4.25				
Pound	0.4615 Tax:			2.01					1.73				
Czech Republic	Sep-05 Price:			5.18	2.21*e	2.32*e	5.03		4.94				
Koruna	23.5239 Tax:			2.73	1.40	1.42	2.71		2.39				
Denmark	Sep-05 Price:			6.88					5.41				
Krone	6.0060 Tax:			3.92					2.80				
Egypt	Aug-05 Price:			0.65									
Pound	5.7740 Tax:			n/a									
Estonia	Sep-05 Price:			4.47					4.13				
Kroon	12.6046 Tax:			2.03					1.78				
Finland	Sep-05 Price:			6.62					4.99				
Euro	0.8055 Tax:			4.00					2.53				
France	Sep-05 Price:			6.25		4.13*b	6.84		5.27				
Euro	0.8055 Tax:			3.79		3.12	4.13		2.82				
Germany	Sep-05 Price:			6.65					5.53				
Euro	0.8055 Tax:			3.99					2.97				
Ghana	Jan-03 Price:							2.42	2.11				
Cedi	8280.0000 Tax:							n/a	n/a				
Greece	Sep-05 Price:			4.68		3.39*f	4.92		4.47				
Euro	0.8055 Tax:			2.10		2.01	2.33		1.83				
Hungary	Sep-05 Price:			5.43					5.22				
Forint	196.8890 Tax:			3.13					2.74				
India	Sep-05 Price:			3.57									
Rupee	43.8020 Tax:			n/a									
Indonesia	Sep-05 Price:	0.08*a		0.89		1.97*g	0.57*h		0.24*a		0.26*a		
Rupiah	10204.0000 Tax:	0.01		n/a		n/a			0.03		0.02		
Ireland	Sep-05 Price:			5.14		3.60*b	3.57*i		5.06				
Euro	0.8055 Tax:			2.97		2.39	2.11		2.61				
Italy	Sep-05 Price:			6.14		3.42*h			5.54				
Euro	0.8055 Tax:			3.67		2.44			2.86				
Japan	Sep-05 Price:			4.49				3.69*j	2.99*k				
Yen	109.7090 Tax:			n/a				1.89	1.27				
Kuwait	Aug-05 Price:	0.10		0.78	0.74*l	0.91	0.84		0.71				
Dinar	0.2920 Tax:				0.00								
Latvia	Sep-05 Price:			4.55				4.33	4.08				
Lat	0.5608 Tax:			1.87				2.18	1.62				
Lebanon	Aug-05 Price:			2.63									
Pound	1503.5000 Tax:			n/a									
Lithuania	Sep-05 Price:			4.48					4.19				
Lita	2.7814 Tax:			2.04					1.80				
Luxembourg	Sep-05 Price:			5.84		2.94*m	3.36*n		4.52				
Euro	0.8055 Tax:			2.84		1.99	1.86		1.84				

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**Energy Détente Fuel Price/Tax Series, National Petroleum End User Prices in U.S. Dollars
Eastern Hemisphere**

Country	Date	(Pound)	(MCF)	(Gallon)	(Gallon)	(Gallon)	(Gallon)	(Gallon)	(Gallon)	(Gallon)	(Gallon)	(Gallon)	(Gallon)
Currency	Exchange Rate to US\$	LPG	Natural Gas	Regular Unleaded	Regular Leaded	Premium Leaded	Premium Unleaded	Gasohol	Diesel	Motor Alcohol	Av. Gas (100 Oct)	Av. Gas (110 Oct)	Jet Fuel
Malta	Sep-05 Price:			4.17			4.50		4.02				
Lira	0.3458 Tax:			2.09			2.37		1.77				
Netherlands	Aug-05 Price:		17.27*k	6.48			5.14*k		3.61*k				
Euro	0.8096 Tax:		5.91	n/a			3.79		2.16				
New Zealand	Aug-05 Price:			3.28			3.44*p		2.19*p				
Dollar	1.4482 Tax:			1.53			1.55		0.25				
Nigeria	Aug-05 Price:					0.38							
Naira	136.5000 Tax:					n/a							
Norway	Aug-05 Price:			6.27			4.93*o		4.45*o				
Krone	6.3980 Tax:			n/a			3.26		2.64				
Pakistan	Dec-03 Price:			2.23			2.47		1.23				
Rupee	57.3394 Tax:			n/a			n/a		n/a				
Philippines	Aug-05 Price:					2.20	1.37*e		1.32*e				1.31*e
Peso	55.9597 Tax:					n/a	0.45		0.37				0.31
Poland	Sep-05 Price:			5.32					4.75				
Zloty	3.1643 Tax:			2.93					2.28				
Portugal	Sep-05 Price:			5.67			3.42*q		5.95				
Euro	0.8055 Tax:			3.36			2.54		3.41				
Romania	Aug-05 Price:			4.09									
Leu	29812.0000 Tax:			n/a									
Russia	Aug-05 Price:			2.10					1.20*r				
Ruble	28.4172 Tax:			n/a					n/a				
Saudi Arabia	Aug-05 Price:			0.91									
Riyal	3.7509 Tax:			n/a									
Singapore	Sep-05 Price:			4.48			2.76*t		1.42*t				
Dollar	1.6734 Tax:			n/a			n/a		n/a				
Slovakia	Sep-05 Price:			4.99			4.51*u		5.00				
Koruna	30.7220 Tax:			2.71			2.74		2.59				
Slovenia	Sep-05 Price:			4.71					4.56				
Tolar	192.7700 Tax:			2.51					2.21				
South Africa	Aug-05 Price:			2.62		1.80*s	1.82*s		1.80*s				
Rand	6.4641 Tax:			n/a		0.66	0.66		0.64				
South Korea	Aug-05 Price:	0.31*a		5.43					4.30				
Won	1016.5000 Tax:	0.04		3.26					2.05				
Spain	Sep-05 Price:			5.13			2.91*v		5.53				
Euro	0.8055 Tax:			2.57			1.76		2.77				
Sweden	Sep-05 Price:			6.12					5.54				
Krona	7.5019 Tax:			3.73					2.95				
Switzerland	Aug-05 Price:			4.74				3.10*w	3.24*w				
Franc	1.2625 Tax:			n/a				1.99	2.04				
Taiwan	Aug-05 Price:	0.21*x	7.83*x	2.84			2.44*x		1.78*x		2.26*x		1.36*x
Dollar	31.8167 Tax:	0.01	0.42	n/a			0.90		0.57		0.89		0.06
Thailand	Aug-05 Price:			2.25									
Baht	41.1353 Tax:			n/a									
United Kingdom	Sep-05 Price:			6.57			4.88*y		6.19*g				6.77
Pound	0.5437 Tax:			4.26			3.96		4.10				4.29
Zimbabwe	Feb-03 Price:			11.05									9.09
Dollar	55.2000 Tax:			n/a									n/a

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**Energy Détente Fuel Price/Tax Series, National Petroleum End User Prices in U.S. Dollars
Eastern Hemisphere**

Country	Date	(Gallon)	(Gallon)	(Gallon)	(Barrel)	(Pound)	(Barrel)	(Barrel)	(Barrel)	(Barrel)	(Barrel)	(Barrel)	(Metric Ton)
Currency	Exchange Rate to US\$	Kerosene	White Gasoline	Lubricants	Asphalt	Grease	Fuel Oil No. 2	Fuel Oil No. 5	Fuel Oil No. 6	Bunker	Bunker C	Bunker Marine	Coal
Australia	Sep-05 Price:												
Dollar	1.2917 Tax:												
Austria	Sep-05 Price:						147.38						
Euro	0.8055 Tax:						45.51						
Bahrain	Oct-00 Price:	0.60											
Dinar	0.3770 Tax:	0.00											
Belgium	Sep-05 Price:						119.63						
Euro	0.8055 Tax:						24.41						
Bulgaria	Aug-05 Price:												
Lev	1.5833 Tax:												
China	Aug-05 Price:												
Yuan	8.1037 Tax:												
Cyprus	Sep-05 Price:						158.01						
Pound	0.4615 Tax:						59.54						
Czech Republic	Sep-05 Price:						201.09						26.07*e
Koruna	23.5239 Tax:						99.36						4.71
Denmark	Sep-05 Price:						214.31						
Krone	6.0060 Tax:						98.45						
Egypt	Aug-05 Price:												
Pound	5.7740 Tax:												
Estonia	Sep-05 Price:						115.63						
Kroon	12.6046 Tax:						26.34						
Finland	Sep-05 Price:						134.02						
Euro	0.8055 Tax:						38.28						
France	Sep-05 Price:						137.26						
Euro	0.8055 Tax:						33.67						
Germany	Sep-05 Price:						136.38						
Euro	0.8055 Tax:						30.92						
Ghana	Jan-03 Price:	2.11											
Cedi	8280.0000 Tax:	n/a											
Greece	Sep-05 Price:						135.41						
Euro	0.8055 Tax:						24.80						
Hungary	Sep-05 Price:						219.11						
Forint	196.8890 Tax:						114.89						
India	Sep-05 Price:												
Rupee	43.8020 Tax:												
Indonesia	Sep-05 Price:	0.23*h											
Rupiah	10204.0000 Tax:												
Ireland	Sep-05 Price:						139.36						
Euro	0.8055 Tax:						26.86						
Italy	Sep-05 Price:						226.64						
Euro	0.8055 Tax:						117.36						
Japan	Sep-05 Price:	1.64*k											
Yen	109.7090 Tax:	0.08											
Kuwait	Aug-05 Price:	0.71											
Dinar	0.2920 Tax:												
Latvia	Sep-05 Price:						126.11						
Lat	0.5608 Tax:						22.92						
Lebanon	Aug-05 Price:												
Pound	1503.5000 Tax:												
Lithuania	Sep-05 Price:						114.26						
Lita	2.7814 Tax:						21.61						
Luxembourg	Sep-05 Price:						118.23						
Euro	0.8055 Tax:						14.64						

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**Energy Détente Fuel Price/Tax Series, National Petroleum End User Prices in U.S. Dollars
Eastern Hemisphere**

Country	Date	(Gallon)	(Gallon)	(Gallon)	(Barrel)	(Pound)	(Barrel)	(Barrel)	(Barrel)	(Barrel)	(Barrel)	(Barrel)	(Metric Ton)
Currency	Exchange Rate to US\$	Kerosene	White Gasoline	Lubricants	Asphalt	Grease	Fuel Oil No. 2	Fuel Oil No. 5	Fuel Oil No. 6	Bunker	Bunker C	Marine	Coal
Malta	Sep-05 Price:						83.22						
Lira	0.3458 Tax:						2.76						
Netherlands	Aug-05 Price:	2.21*b					109.56*k						50.58*b
Euro	0.8096 Tax:	0.79					56.87						18.40
New Zealand	Aug-05 Price:												
Dollar	1.4482 Tax:												
Nigeria	Aug-05 Price:												
Naira	136.5000 Tax:												
Norway	Aug-05 Price:	2.58*o					92.02*o						
Krone	6.3980 Tax:	0.69					25.95						
Pakistan	Dec-03 Price:	1.48											
Rupee	57.3394 Tax:	n/a											
Philippines	Aug-05 Price:	0.97*e									35.94*e		
Peso	55.9597 Tax:	0.05									1.07		
Poland	Sep-05 Price:						134.86						
Zloty	3.1643 Tax:						36.03						
Portugal	Sep-05 Price:						134.81						
Euro	0.8055 Tax:						32.14						
Romania	Aug-05 Price:												
Leu	29812.0000 Tax:												
Russia	Aug-05 Price:												
Ruble	28.4172 Tax:												
Saudi Arabia	Aug-05 Price:												
Riyal	3.7509 Tax:												
Singapore	Sep-05 Price:												
Dollar	1.6734 Tax:												
Slovakia	Sep-05 Price:						116.73						
Koruna	30.7220 Tax:						22.41						
Slovenia	Sep-05 Price:						124.44						
Tolar	192.7700 Tax:						32.79						
South Africa	Aug-05 Price:		45.00										
Rand	6.4641 Tax:												
South Korea	Aug-05 Price:	3.35									43.73*a		
Won	1016.5000 Tax:	1.05									3.94		
Spain	Sep-05 Price:						124.00						
Euro	0.8055 Tax:						33.82						
Sweden	Sep-05 Price:						210.34				4751.00		
Krona	7.5019 Tax:						112.94						
Switzerland	Aug-05 Price:												
Franc	1.2625 Tax:												
Taiwan	Aug-05 Price:	1.84*x						45.74*x	35.95*x	27.60*x			73.64*x
Dollar	31.8167 Tax:	0.58						2.69	2.22				3.51
Thailand	Aug-05 Price:												
Baht	41.1353 Tax:												
United Kingdom	Sep-05 Price:						113.78						
Pound	0.5437 Tax:						20.68						
Zimbabwe	Feb-03 Price:												
Dollar	55.2000 Tax:												

*a JUN-00 *b DEC-99 *c DEC-02 *d MAR-02 *e AUG-00 *f JUN-03 *g AUG-05 *h DEC-01 *i JUN-01 *j SEP-02 *k DEC-03 *l MAY-00 *m MAY-99 *n JAN-03 *o MAR-00 *p MAR-05 *q JUL-99
*r OCT-02 *s APR-00 *t APR-03 *u DEC-04 *v AUG-01 *w JAN-00 *x OCT-00 *y SEP-99

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**Energy Détente Fuel Price/Tax Series, National Petroleum End User Prices in U.S. Dollars
Western Hemisphere**

Country	Date	(Pound)	(MCF)	(Gallon)	(Gallon)	(Gallon)	(Gallon)	(Gallon)	(Gallon)	(Gallon)	(Gallon)	(Gallon)	(Gallon)
Currency	Exchange Rate to US\$	LPG	Natural Gas	Regular Unleaded	Regular Leaded	Premium Leaded	Premium Unleaded	Gasohol	Diesel	Motor Alcohol	Av. Gas (100 Oct)	Av. Gas (110 Oct)	Jet Fuel
Argentina	Aug-04 Price:	0.43*a		2.13			2.37		1.81				1.31
Peso	3.0628 Tax:	0.09		1.04			1.09		0.70				0.23
Bolivia	Jul-00 Price:			2.03			3.03		1.91		2.27		1.23
Boliviano	6.0700 Tax:			0.76			1.58		0.53		0.21		0.06
Bonaire	Feb-01 Price:	0.30		2.98			3.00		1.43				
Guilder	1.7900 Tax:			1.43			1.43		0.06				
Brazil	Aug-05 Price:	0.27*b	2.17*b	3.12			2.27*b		1.32*b	1.31*b	3.89*b		
Real	2.3079 Tax:	0.05	0.34	n/a			1.22		0.41	0.51	1.57		
Canada	Aug-05 Price:			2.76			3.23*d		2.87*d				
Dollar	1.2161 Tax:			0.99			1.07		0.82				
Chile	Jan-04 Price:	0.44*c		2.78			2.83		1.82				
Peso	585.4801 Tax:	0.06		n/a			n/a		n/a				
Costa Rica	May-04 Price:			2.55			2.67		1.89		2.75		1.68
Colon	432.0400 Tax:			0.96			1.01		0.57		0.96		0.58
Cuba	Aug-05 Price:			3.03									
Peso	1.0000 Tax:			n/a									
Curacao	Feb-01 Price:	0.30		3.02			3.10		1.36				
Guilder	1.7900 Tax:			1.60			1.60		0.11				
Ecuador	Jan-00 Price:	0.38		2.31			3.61		1.56		2.28		1.04
Sucre	19815.0000 Tax:			0.38			0.60		0.26		0.36		0.16
Guatemala	Sep-99 Price:			1.61			1.68		1.16				
Quetzal	7.7787 Tax:			0.62			0.63		0.27				
Haiti	Jan-03 Price:			2.09									
Gourde	38.2390 Tax:			n/a									
Honduras	Mar-03 Price:			1.05			2.68		2.11				
Lempira	17.0800 Tax:			1.05			1.06		0.50				
Jamaica	Sep-04 Price:			2.22		1.98*e	2.39		2.08				2.16
Dollar	61.2800 Tax:			0.45		0.73	0.48		0.41				
Mexico	Aug-05 Price:	0.25*f	7.57*d	2.20			2.63*d		1.85*d				1.96*d
Peso	10.6112 Tax:	0.03	0.99	0.49			0.61		0.23				0.26
Nicaragua	Aug-05 Price:			2.89			2.96		2.69			4.19	2.07
Cordoba Oro	16.3700 Tax:			0.70			0.70		0.54		0.90		0.01
Panama	Aug-05 Price:	0.21*g			2.19	1.64*g	1.63*g		1.31*g				1.10*g
Balboa	1.0000 Tax:				n/a	0.60	0.60		0.25				
Paraguay	Jun-00 Price:	0.29		2.11	1.78		2.62		1.30	1.24	3.46		0.92
Guarani	3500.5000 Tax:	0.02		0.75	0.74		1.03		0.22	0.02	0.32		0.01
Peru	Dec-03 Price:	0.42		2.92	2.54		3.30		2.22		3.65		1.55
New Sol	3.4746 Tax:	0.10		1.62	1.32		1.78		1.01		0.58		0.25
Puerto Rico	Aug-05 Price:			2.01			2.20		2.13				
Dollar	1.0000 Tax:			0.23			0.23		0.15				
Trinidad and Tobago	Apr-05 Price:	0.17			1.58	1.51*h	1.82		0.91				
Dollar	6.2471 Tax:	0.02			0.86	0.87	0.89		0.26				
United States	Sep-05 Price:		9.09*j	3.01			3.21		2.99				
Dollar	1.0000 Tax:			0.46			0.46		0.48				
Uruguay	Sep-05 Price:	0.50		4.87	3.15*i	3.44*i	5.11		3.34		7.57		3.20
Peso	24.1546 Tax:	0.09		1.89	1.43	1.69	2.24		0.63		3.29		0.15
Venezuela	Aug-05 Price:				0.12	0.43*k	0.52*k		0.26*k			1.14*k	0.80*k
Bolivar	2145.9000 Tax:				n/a	0.19	0.19		0.05			0.05	0.04

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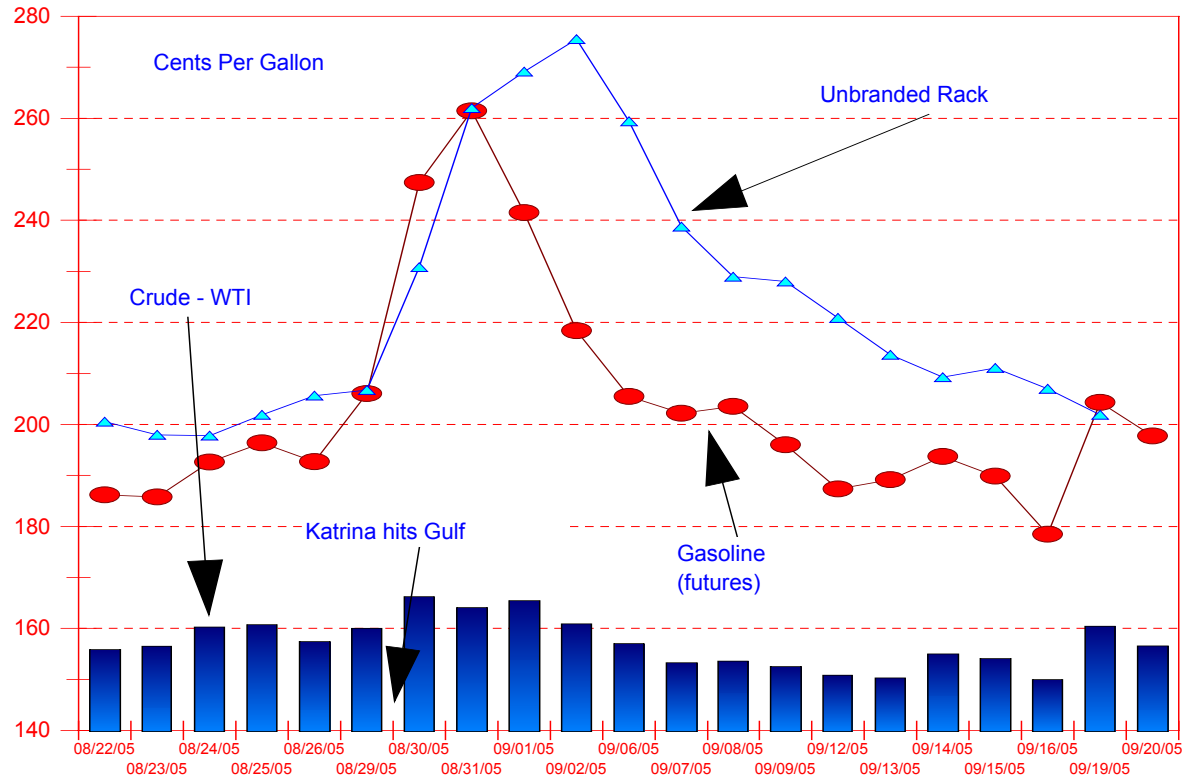
**Energy Détente Fuel Price/Tax Series, National Petroleum End User Prices in U.S. Dollars
Western Hemisphere**

Country	Date	(Gallon)	(Gallon)	(Gallon)	(Barrel)	(Pound)	(Barrel)	(Barrel)	(Barrel)	(Barrel)	(Barrel)	(Barrel)	(Metric Ton)
Currency	Exchange Rate to US\$	Kerosene	White Gasoline	Lubricants	Asphalt	Grease	Fuel Oil No. 2	Fuel Oil No. 5	Fuel Oil No. 6	Bunker	Bunker C	Marine	Bunker Coal
Argentina	Aug-04 Price:	1.65					41.50						7.86* ^l
Peso	3.0628 Tax:	0.49					7.38						1.43
Bolivia	Jul-00 Price:	1.18							59.76				
Boliviano	6.0700 Tax:								7.45				
Bonaire	Feb-01 Price:	1.30											
Guilder	1.7900 Tax:	0.06											
Brazil	Aug-05 Price:	1.06* ^b											
Real	2.3079 Tax:	0.29											
Canada	Aug-05 Price:						99.48* ^d		54.11* ^d				
Dollar	1.2161 Tax:						10.82		5.35				
Chile	Jan-04 Price:	1.73							38.22* ^c				
Peso	585.4801 Tax:	n/a							4.67				
Costa Rica	May-04 Price:	1.93			48.38		47.76						
Colon	432.0400 Tax:	0.28			8.10		7.63						
Cuba	Aug-05 Price:												
Peso	1.0000 Tax:												
Curacao	Feb-01 Price:	1.29											
Guilder	1.7900 Tax:	0.10											
Ecuador	Jan-00 Price:								26.54				
Sucre	19815.0000 Tax:								1.64				
Guatemala	Sep-99 Price:	1.11		5.17	40.71	1.25					31.05		
Quetzal	7.7787 Tax:	0.20		0.47	6.43	0.11					5.78		
Haiti	Jan-03 Price:												
Gourde	38.2390 Tax:												
Honduras	Mar-03 Price:	1.86											
Lempira	17.0800 Tax:	0.30											
Jamaica	Sep-04 Price:	1.99			57.84						38.82		
Dollar	61.2800 Tax:	0.37			0.96						0.39		
Mexico	Aug-05 Price:						45.27* ^d						
Peso	10.6112 Tax:						5.90						
Nicaragua	Aug-05 Price:	2.62			72.66				49.01* ^m				
Cordoba Oro	16.3700 Tax:	0.42			19.56				8.05				
Panama	Aug-05 Price:	1.23* ^g			43.63* ^g						36.49* ^g		
Balboa	1.0000 Tax:	0.13			3.78						6.30		
Paraguay	Jun-00 Price:	1.03					35.88		13.63				
Guarani	3500.5000 Tax:	0.07					2.68		2.68				
Peru	Dec-03 Price:	2.24	1.90		54.52			36.00	36.58		37.83	89.18	
New Sol	3.4746 Tax:	0.94	0.30		8.70			5.75	5.84		6.04	41.92	
Puerto Rico	Aug-05 Price:												
Dollar	1.0000 Tax:												
Trinidad and Tobago	Apr-05 Price:	0.91											
Dollar	6.2471 Tax:	0.16											
United States	Sep-05 Price:												115.10* ⁿ
Dollar	1.0000 Tax:												
Uruguay	Sep-05 Price:	3.13					138.22		51.93				
Peso	24.1546 Tax:	0.41					42.92						
Venezuela	Aug-05 Price:	0.67* ^k	0.63* ^k	11.28* ^k		0.63* ^k			10.06* ^k				
Bolivar	2145.9000 Tax:	0.04	0.19	1.43		0.10			0.21				

*a JUN-00 *b AUG-02 *c DEC-00 *d JUL-05 *e DEC-99 *f SEP-00 *g NOV-00 *h SEP-03 *i JAN-04 *j MAY-05 *k MAR-01 *l JUL-02 *m FEB-05 *n AUG-05

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Futures* Gasoline and Crude Price And U.S. Average Unbranded Rack** Daily, 8/22/05 - 9/20/05***



*New York Mercantile exchange daily closing price for near month West Texas Intermediate and gasoline

**regular grade gasoline, all brands and fuel types combined

***September 20 futures price is mid-day price, unbranded rack through September 19

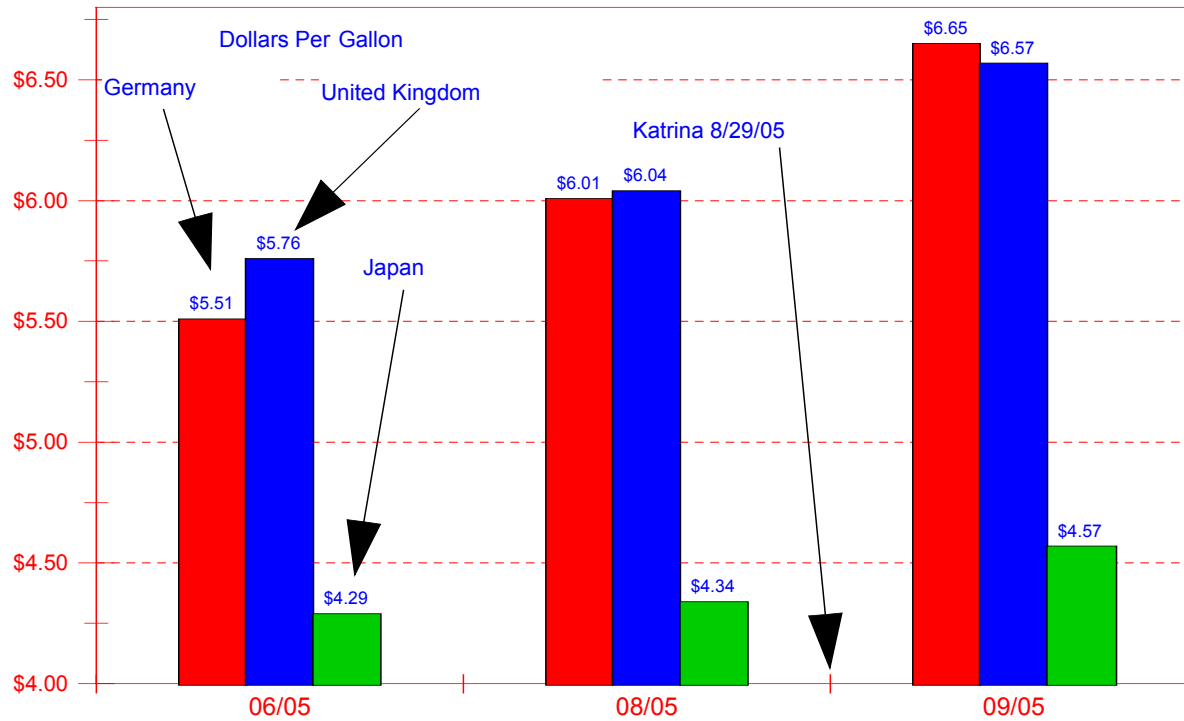
Sources: NYMEX (futures), Lundberg Survey (rack)

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Average Retail Gasoline Price* By Nation Germany, United Kingdom, and Japan June 2005 – September 2005

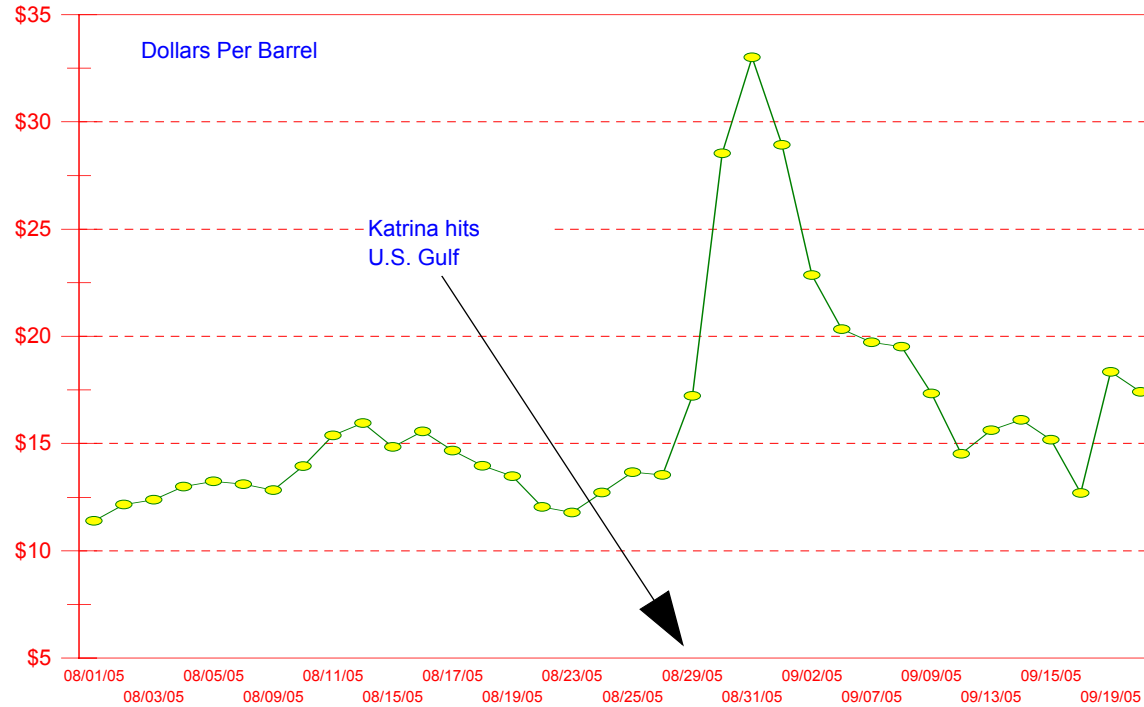


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Daily NYMEX Crack Spread*, 8/1/05 – 9/20/05



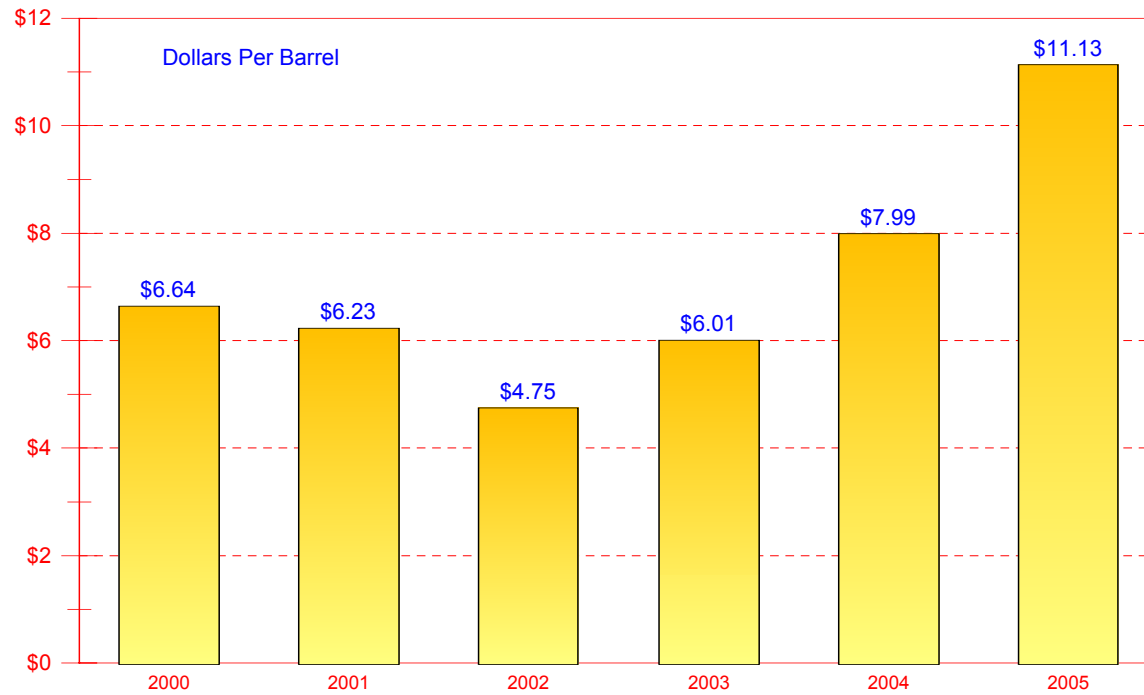
*daily 3-2-1 crack spread is two parts gasoline plus one part heating oil minus 3 parts crude
 Note: September 20 is mid-day price
 Note: NYMEX futures prices are for near month, crude oil is WTI, gasoline is regular grade RFG.
 Source: New York Mercantile Exchange (NYMEX)

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Annual Average NYMEX Crack Spread*, 1995 – 2005**



*daily 3-2-1 crack spread is two parts gasoline plus one part heating oil minus 3 parts crude, average of daily closing prices for year

**2005 is through September 20

Note: NYMEX futures prices are for near month, crude oil is WTI, gasoline is regular grade RFG.

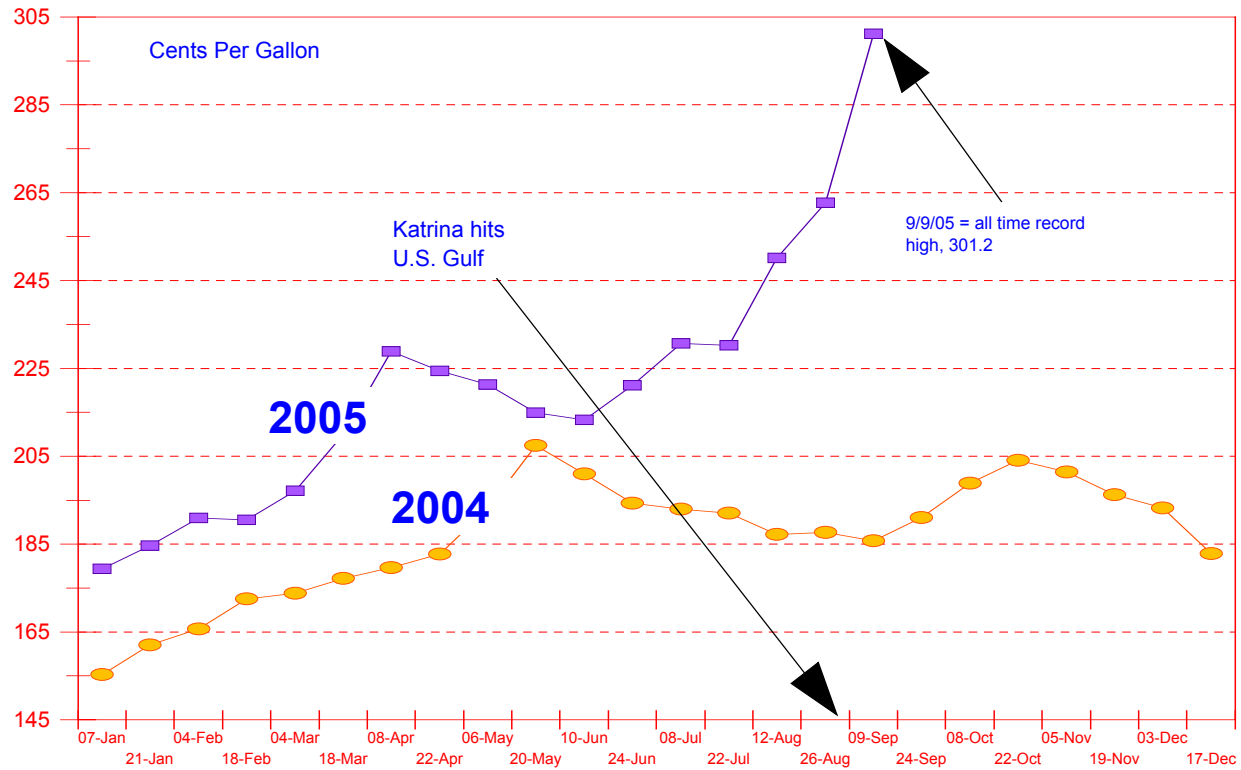
Source: New York Mercantile Exchange (NYMEX)

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U.S. Average Retail Gasoline Price*, 1/09/04 – 9/9/05



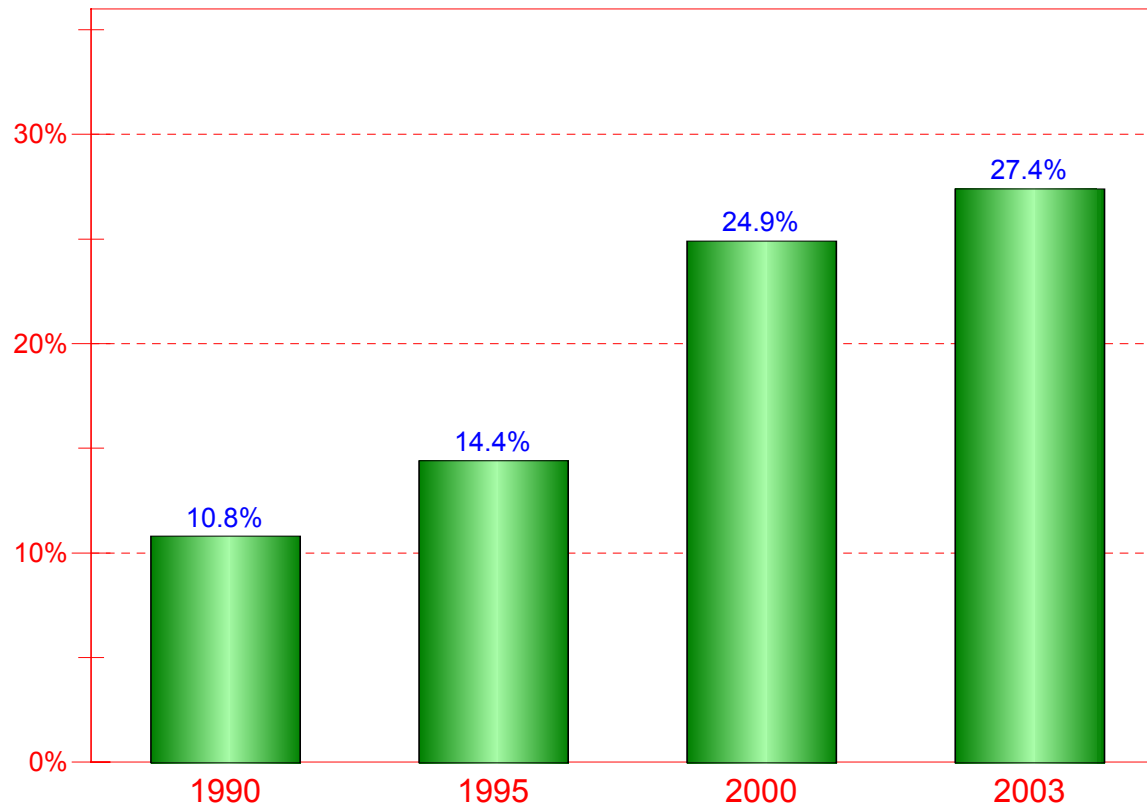
*regular grade, weighted average all states and D.C., twice-monthly
 Source: Lundberg Survey

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U.S. Gulf of Mexico* Crude Oil Production Percent of U.S. Total 1990 – 2003**



*state and federal offshore reserves in Gulf of Mexico
**selected years
Source: EIA

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