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Fuel Focus

*Understanding Gasoline Markets in Canada
and Economic Drivers Influencing Prices*

2008 Annual Review

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2008 Annual Review

The Fuel Focus 2008 Annual Review presents this year's highlights of the domestic gasoline market. Throughout the year the regular bi-monthly Fuel Focus report provides readers with regular information on the various aspects of the Canadian gasoline markets and the economic drivers influencing prices.

In this annual issue we summarize the events that characterized the Canadian retail gasoline market during the year.

Highlights

- Canadian retail gasoline prices in 2008 averaged \$1.14 per litre, an increase of 12 cents per litre compared to \$1.02 per litre in 2007. Gasoline prices rose in the first half of the year to \$1.40 per litre by July—the highest weekly average price ever recorded—and ended at 72 cents per litre—its lowest level since January 6, 2004.
- Retail pump prices throughout the year were significantly influenced by the rise and subsequent fall in world crude oil prices. In the first half of the year, the crude oil price component of retail pump prices rose 35 cents per litre to 93 cents per litre in July, while in the second half of the year the crude oil price component declined by 72 cents per litre to 21 cents per litre.
- The drop in gasoline prices in the latter half of the year was mainly due to the worldwide economic downturn reducing demand for refined petroleum products in general.
- While the appreciation of the Canadian dollar shielded Canadian consumers from the high gasoline prices late last year and early this spring, the subsequent depreciation of the Canadian dollar against the American dollar reduced the full impact of the softening of crude oil prices on petroleum product prices to consumers.
- Canadian and American wholesale gasoline prices averaged approximately 74 and 72 cents per litre respectively in 2008—about 10 cents per litre higher in both countries than in 2007.
- Gasoline refining margin fluctuations ranged from a high of 20 cents per litre to a low of 6 cents per litre. While retail gasoline prices reached record levels in 2008, the average refining margin for the year was 10 cents per litre, a 6 cent per litre decline from 2007. Nationally, marketing margins increased by 1 cent per litre to nearly 7 cents per litre.
- World crude oil prices for the three crude oil benchmarks (Edmonton Par, WTI and Brent) averaged around \$646/m³ (\$US98/bbl) an increase of \$164/m³ (\$US26/bbl) from 2007.

Figure 1: Crude Oil and Regular Gasoline Price Comparison (National Average)

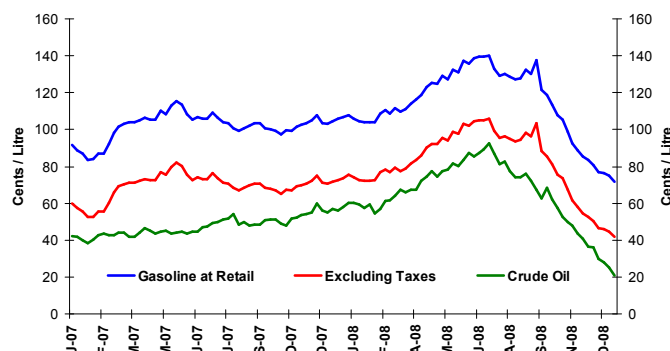
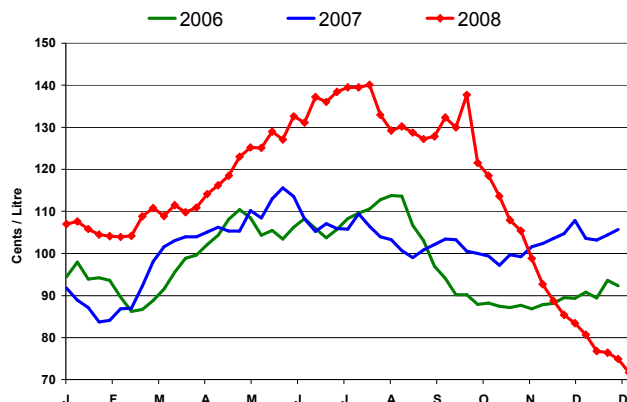


Figure 2: Weekly Regular Gasoline Prices



Changes in Fuel and Crude Oil Prices

¢/L	Annual		
	2008	2007	Change
Gasoline	114.0	101.8	+12.2
Diesel	124.9	99.8	+25.1
Furnace Oil	113.2	85.7	+27.5
Crude Oil	64.5	47.8	+16.7

Source: NRCan

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Retail Gasoline Overview

The annual average gasoline pump price in the selected cities shown in Figure 3 was \$1.14 per litre in 2008, an increase of 12 cents per litre compared to 2007.

The rise in retail gasoline prices in the first half of the year was primarily due to strong crude oil prices throughout North America, rising summer demand for gasoline, and substantial U.S commercial crude oil inventory drawdowns. Conversely, in the latter part of the year, as world crude oil prices tumbled upon reduced demand for petroleum products in the wake of a global economic slowdown, pump prices started to decline from a peak of \$1.40 per litre in July.

Crude oil, the main pump price component, averaged approximately 65 cents per litre in 2008, an increase of 17 cents per litre from the previous year.

Despite record high retail gasoline prices in 2008, the

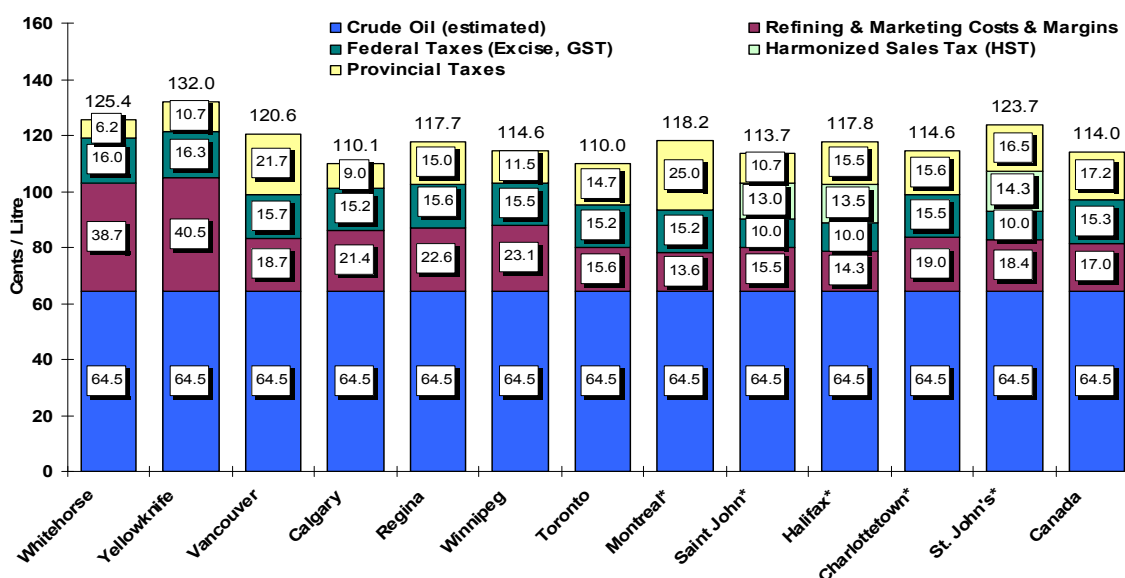
refining and marketing costs and margins component registered a decrease of 5 cents per litre over 2007. This dampened the impact of the rising crude oil prices on retail pump prices.

In 2008, federal and provincial taxes accounted for a total of around 33 cents per litre of the total gasoline price at the pump, essentially unchanged from 2007.

Both Eastern and Western markets registered, on average, an increase of approximately 12 cents per litre in gasoline prices in 2008 over 2007 mainly due to higher overall crude oil costs.

The federal tax reduction was the result of the lowering of the GST to 5% on January 1, 2008. At the provincial level, PEI reduced its gasoline tax, while B.C. introduced a carbon tax of 2.34 cents per litre on July 1, 2008.

Figure 3: Regular Gasoline Pump Prices in Selected Cities
Annual Average for 2008



Source: NRCan

* Regulated Markets

Regular Gasoline Pump Price Components in Selected Cities													
Change in Annual Average for 2008 over 2007 (cents per litre)													
Selected Cities	WH	YK	VA	CY	RE	WG	TO	ML	SJ	HX	CH	SJ's	CA
Provincial Taxes			1.2					0.8			-2.5		0.4
HST									0.4	0.4		0.6	
Federal Taxes	-0.4	-0.4	-0.4	-0.4	-0.4	-0.2	-0.3	-0.4			-0.4		-0.3
R & M Costs and Margins	-4.7	-2.5	-5.3	-4.5	-4.4	-3.6	-4.2	-4.9	-5.7	-6.7	-4.3	-5.1	-4.8
Crude Oil	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9
Retail Pump Prices	11.8	14.0	12.4	12.0	12.1	13.1	12.4	12.4	11.6	10.6	9.7	12.4	12.2

Note: Empty fields mean no changes from 2007 to 2008. The shaded areas mean the tax is not applicable. Federal taxes include the excise tax and the GST where applicable. The GST was reduced by 1% to 5% and the HST to 13% on January 1, 2008. B.C. introduced a carbon tax of 2.34 cents per litre on July 1, 2008. PEI taxes are revised on a monthly basis.





Wholesale Gasoline Prices

In 2008, wholesale gasoline prices in Canada and the U.S. followed similar trends, with the annual average in Canada at 74 cents per litre, slightly higher than the 72 cents per litre in the selected American centres.

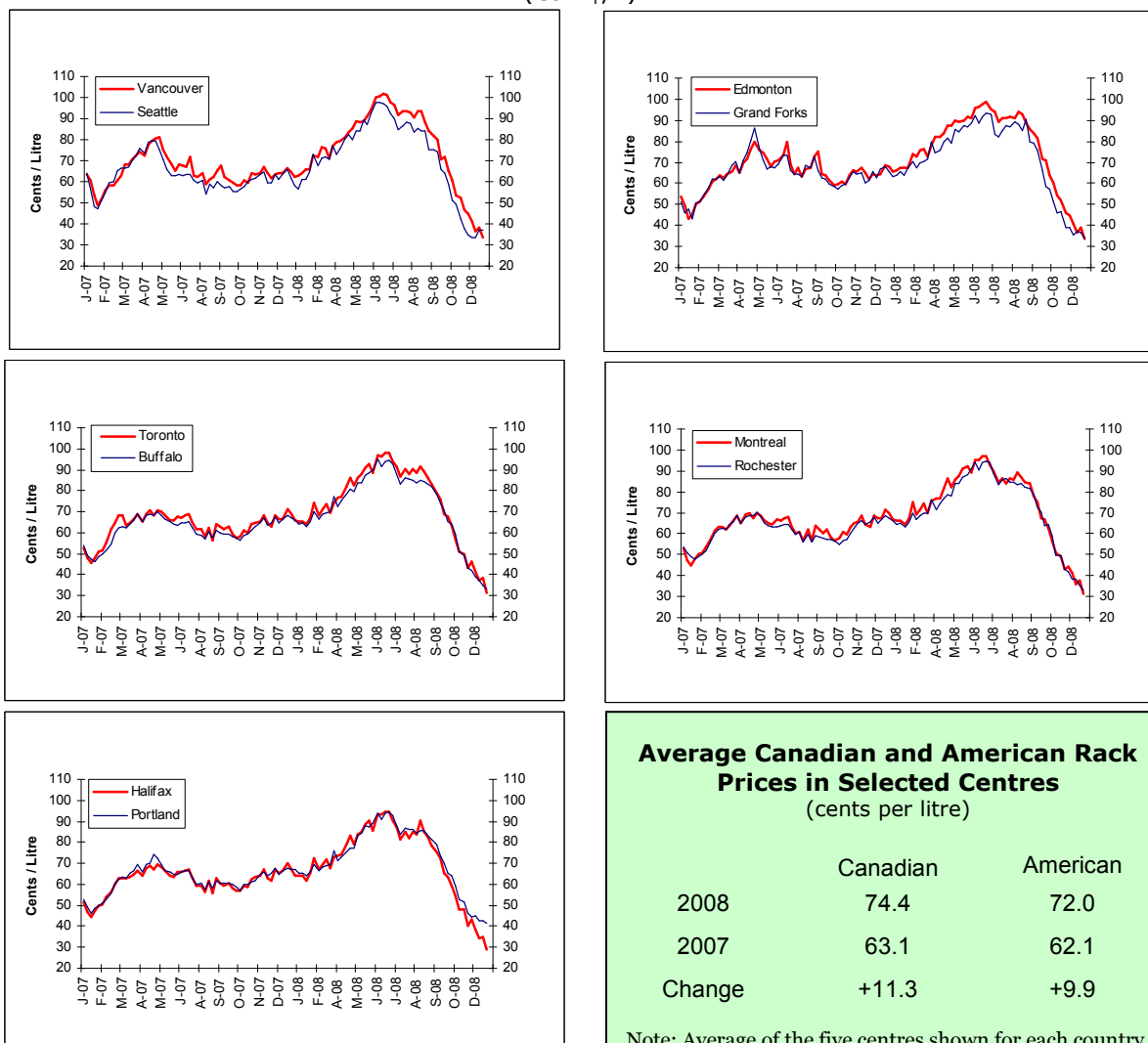
The upward pressure on wholesale gasoline prices by mid-year was related mainly to historically high world crude oil prices. Compared to their American counterparts, prices remained relatively higher in Canadian western centres. This is partly due to supply constraints and the physical characteristics of petroleum networks for Alberta and British Columbia which tend to limit options for alternate supplies as shown by the gap in mid-year.

Wholesale gasoline prices in most selected centres were

above last year's level with increases ranging from 8 to 12 cents per litre compared to 2007. Overall, Canadian and American wholesale gasoline prices followed each other closely. Although narrowing noticeably in the last four months, the gap between western Canadian and American centres remained throughout the second half of the year. The notable exception was the Halifax/Portland spread in the last month of 2008 which could reflect a particular and temporary supply and demand dynamic in eastern Canada and the eastern coast of the U.S.

In 2008, average wholesale prices ranged between 71 and 76 cents per litre in the Canadian markets and between 71 and 73 cents per litre in the competing U.S. markets.

Figure 4: Wholesale Gasoline Prices (Weekly Average)
Rack Terminals Prices for Selected Cities ending December 25, 2008
(Can ¢/L)



Sources: NRCan, Bloomberg





Refining and Marketing Margins

Refining margins for gasoline were less volatile in 2008 compared to 2007. Overall, average refining margins decreased 6 cents per litre to 10 cents per litre in 2008 compared to the previous year.

The **four-week rolling average** refining margins ranged from a high of 20 cents per litre to a low of 6 cents per litre in 2008. In comparison, margins fluctuated in the range of 29 and 8 cents per litre in 2007.

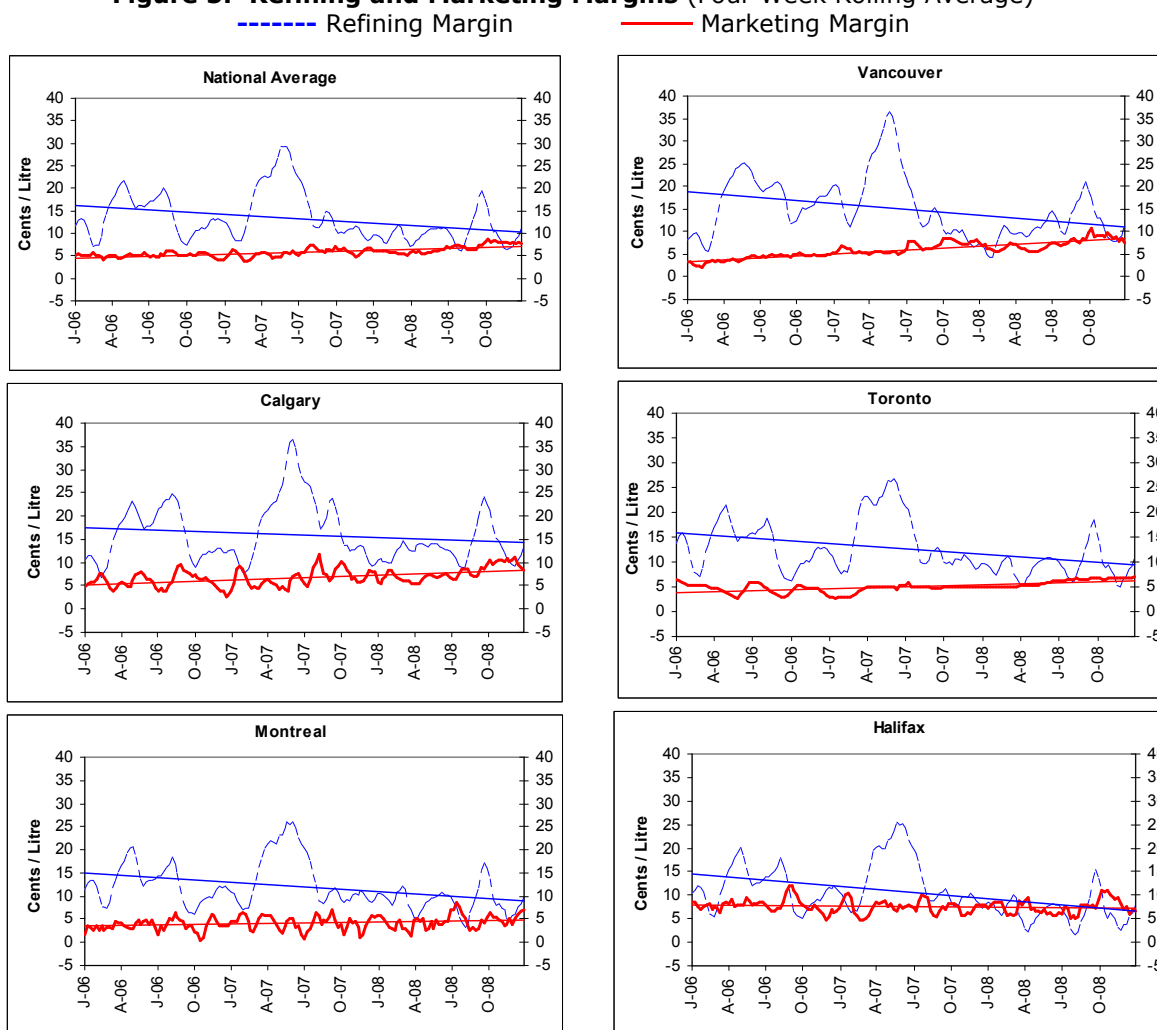
Refinery margins reflect market conditions. This year's notable feature was the absence of the traditional spike in refining margins as in previous summers. Sufficient gasoline and crude oil inventories in the U.S. further contributed to the lower refining margins. In addition, there were few market supply constraints and refining margins reflected a mostly balanced supply and demand situation.

The exceptions were the interruptions at Shell's Scotford

Upgrader in Alberta early in the year followed by operational problems at Imperial Oil's refinery in Edmonton, which contributed to the supply tightness in western provinces. This led to reduced supply of gasoline and diesel at service stations across the Prairies and into British Columbia. The generally tight market in Western Canada was also brought about by strong economic growth in the region.

By comparison, **marketing margins** fluctuated over a much narrower range and were much more stable than refining margins. Nationally, the average margin increased slightly from last year by 1 cent per litre to nearly 7 cents per litre. Montreal showed the widest fluctuations with margins moving in the 7 cent per litre range in 2008, nearly 1 cent per litre above 2007. Marketing margins in Toronto moved in a much narrower range of 5 to 7 cents per litre in 2008 compared to 3 and 6 cents per litre the previous year.

Figure 5: Refining and Marketing Margins (Four Week Rolling Average)



Source: NRCan





Crude Oil Overview

Another Extraordinary Year in World Crude Oil Markets

In last year's report, we stated that "2007 was an interesting year for crude oil prices," but for 2008 it was like nothing we have ever seen before. Geopolitical events, significant trading on futures markets, and the start of a worldwide recession led to record highs and subsequent record declines in world oil prices.

In 2008, world crude oil prices for the three crude oil benchmarks (Edmonton Par, WTI and Brent) averaged around \$646/m³ (\$US98/bbl) an increase of \$164/m³ (\$US26/bbl) from 2007. Prices peaked in July at over \$US148 per barrel. The following is a summary of the more significant events affecting the price of crude oil in 2008.

Downturn in the World Economy: 2008 was characterized by a steady increase in world crude oil prices peaking in July followed by the lowest prices since 2004. Likely the most important factor affecting the price of crude oil in 2008 was the downturn in the world economy. With the major world economies facing significant credit challenges, economic activity has decreased substantially. This has affected demand for crude oil-derived products and the perception that demand will decrease even further in the future.

Oil Commodity Trading Activities: As in 2007, there was significant paper trading of crude oil on world markets in 2008. While the effects of increased trading activity are hard to quantify, it appears that speculative trading increased the level of volatility in crude oil prices substantially. The rise to close to \$US150 and subsequent fall to \$US40 cannot be easily explained by traditional market fundamentals.

The U.S. Dollar: While at the beginning of the year, Canadian consumers were somewhat shielded from the high crude oil prices due to an appreciating Canadian dollar relative to the U.S. currency, U.S. refiners were faced with extremely high prices that were passed on to consumers in the form of higher pump prices. As the year progressed and the price of crude oil dropped,

so too did the Canadian dollar. This meant that Canadian consumers did not see the same percentage declines in pump prices.

Geopolitical Activities: While contributing to higher prices in the early part of 2008, heading into the summer, the continued conflict between Russia and Georgia, militant attacks in Nigeria and escalated concerns about Iran's nuclear program had very little affect as prices declined in the latter half of the year.

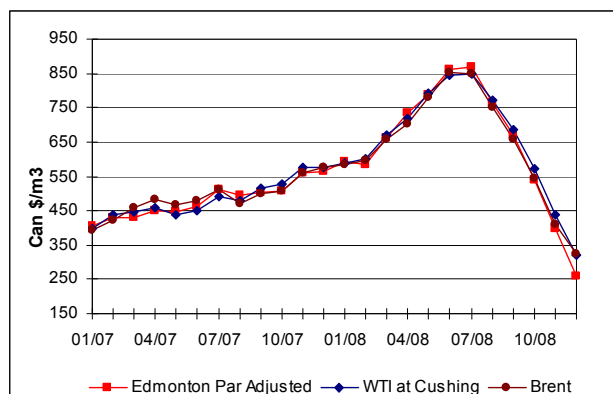
OPEC: The cartel continues to be a major player in world oil markets. In an effort to restore some of the \$US100 drop in prices, on December 17, 2008, OPEC announced its largest cut in quotas ever—2.2 million barrels per day effective January 1, 2009.

Weather Related Activities: Although there was very little weather related impact on price, Hurricanes Ike and Gustav in September 2008 caused significant disruptions to the U.S. oil supply. The relatively small price impact can be attributed to the decrease in North American demand that was taking place due to the economic slowdown.

U.S. Inventories: After being well below the bottom of the 5-year range during the spring of 2008, as the year came to a close, U.S. inventories increased to levels at the high end of the five-year average. This increase sent a signal to traders that the market was oversupplied and caused a decrease in the price of crude.

Forecasting: Looking back, there were varying views on where the price of crude oil would end up in 2008 based on different supply and demand assumptions, levels of geopolitical activity, and predictions about where economies would head in the New Year. It is important to remember that when looking at these forecasts they represented what *could* happen in fairly *specific* scenarios. In fact, only six months ago, many analysts were predicting oil prices would average over \$US200 per barrel for 2009—with the downturn in the economy, prices ended the year at its lowest level since early 2004.

Figure 6: Crude Oil Price Comparisons



Changes in Crude Oil Prices

Crude Oil Types	Annual					
	2008		2007		Change	
	\$Can/ m ³	\$US/ bbl	\$Can/ m ³	\$US/ bbl	\$Can/ m ³	\$US/ bbl
Edmonton Par	642.70	97.86	480.44	71.93	+162.26	+25.93
WTI	654.05	99.50	482.44	72.25	+171.62	+27.25
Brent	642.25	97.60	485.55	72.65	+156.70	+24.95

Source: NRCan





Index - 2008 Fuel Focus Supplements

The following provides an index of the information and analysis provided as Supplements in the Fuel Focus Reports throughout the year. To view the full content of each Supplement, please follow the link.

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Futures Market and Crude Oil Prices

<http://nrcan.gc.ca/eneene/sources/pripri/reprap/2008-02-01/supsup-eng.php>

Historical Gasoline Prices

<http://nrcan.gc.ca/eneene/sources/pripri/reprap/2008-02-15/supsup-eng.php>

World Average Retail Gasoline Prices

<http://nrcan.gc.ca/eneene/sources/pripri/reprap/2008-03-14/supsup-eng.php>

Non-OPEC Countries Expected Oil Production Growth

<http://nrcan.gc.ca/eneene/sources/pripri/reprap/2008-03-28/supsup-eng.php>

What's Driving Gasoline Pump Prices Up?

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How much does it cost to operate a vehicle?

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Canadian Petroleum Product Market Outlook - Spring 2008

<http://nrcan.gc.ca/eneene/sources/pripri/reprap/2008-05-23/supsup-eng.php>

What is Summer Grade Gasoline?

<http://nrcan.gc.ca/eneene/sources/pripri/reprap/2008-06-06/supsup-eng.php>

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<http://nrcan.gc.ca/eneene/sources/pripri/reprap/2008-07-04/supsup-eng.php>

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<http://nrcan.gc.ca/eneene/sources/pripri/reprap/2008-10-24/supsup-eng.php>

Residential Heating Oil - Ways to Reduce Your Heating Bill

<http://nrcan.gc.ca/eneene/sources/pripri/reprap/2008-11-07/supsup-eng.php>

Petroleum Product Regulating Agencies and Price Information Centres

<http://nrcan.gc.ca/eneene/sources/pripri/reprap/2008-12-05/supsup-eng.php>

Canadian Petroleum Product Market Outlook - Fall 2008

<http://nrcan.gc.ca/eneene/sources/petpet/reprap/2008-11/index-eng.php>

Fuel Focus Reports website link: <http://www.nrcan.gc.ca/eneene/sources/pripri/latder-eng.php>

