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Fuel Focus

Understanding Gasoline Markets in Canada and Economic Drivers Influencing Prices

Volume 6, Issue 6

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Canada

Copies of this publication may be obtained free of charge from:
Natural Resources Canada
Petroleum Resources Branch
580 Booth Street, 17th Floor
Ottawa, Ontario K1A 0E4
Phone: (613) 992-9612
TTY Service: (613) 996-4397 (Teletype for the hearing-impaired)
Fax (613) 995-1913
Email: prb.drp@nrcan-rncan.gc.ca
Web site: http://nrcan.gc.ca/eneene/focinf-eng.php

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National Overview

Canadian Retail Gasoline Prices Increased 2 Cents per Litre from Last Week

Canadian retail pump prices, for the week ending April 5, 2011, increased by 2 cents per litre to reach $1.28 per litre—the highest level since September 2008. This week's rise in retail gasoline price has been driven by higher wholesale and crude oil prices.

The Canadian retail pump price is 23 cents per litre higher than a year ago when the price of crude oil declined on higher than normal inventories and softening demand in the U.S.

Diesel fuel prices remained at $1.28 per litre from the previous week, but are 29 cents per litre higher from the same period last year. Furnace oil prices are down by 1 cent per litre compared to last week, and are 30 cents per litre higher from this time last year.

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

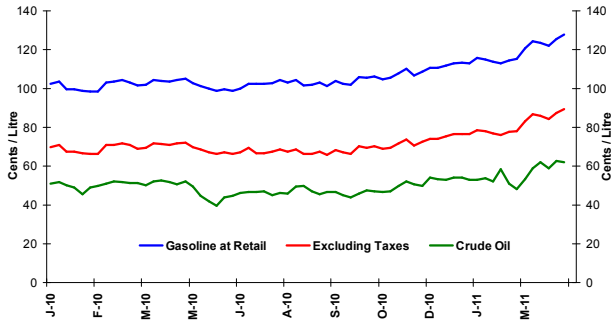
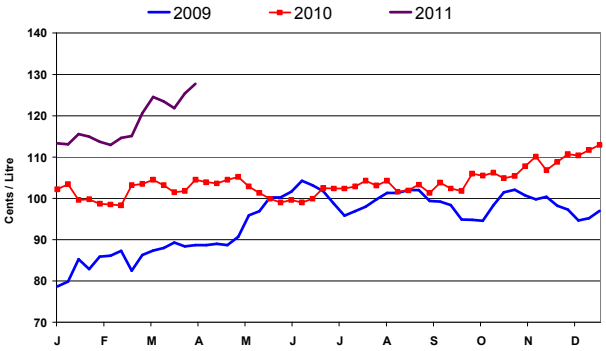


Figure 2: Weekly Regular Gasoline Prices



Changes in Fuel Prices

	Week of:	Change from:	
¢/L	2011-04-05	Previous Week	Last Year
Gasoline	127.7	+2.4	+23.2
Diesel	127.5	0.0	+29.4
Furnace Oil	119.9	-1.1	+30.1

Source: NRCan

Recent Developments

- **Energy Use and Greenhouse Gas Emissions**: Household energy use increased by 3.6% between 2005 and 2007, mainly the result of increased consumption of motor fuels. Motor fuel use accounted for 70.1% of the increase in total household energy use from 1990 to 2007. Energy use related to home heating, lighting and appliances was responsible for the remaining 29.9% of the advance. Combined, there was an overall increase in household energy use of 22.7% between 1990 and 2007. During the same period, Canada's population increased by 18.9%. (Source: The Daily, http://www.statcan.gc.ca/daily-quotidien/110328/dq110328a-eng.htm)
- **Canadian Rail to the Rescue**: As the geopolitical turmoil in the Middle East pushes world crude oil prices upward, along with retail gasoline prices, inland U.S. producers are challenged by the logistics of shipping crude at low cost to higher-priced markets. Canadian National Railway Co. has pioneered and trademarked PipelineOnRail, described as an "economically sound, surprisingly fast way to ship crude oil products within Alberta to the rest of Canada, the U.S. Midwest, the Gulf coast and other export markets." The plan seeks to use its extensive North American rail system to transport crude south to the U.S. Gulf Coast. (Source: Global Refining & Fuels Report, March 22, 2011)

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Retail Gasoline Overview

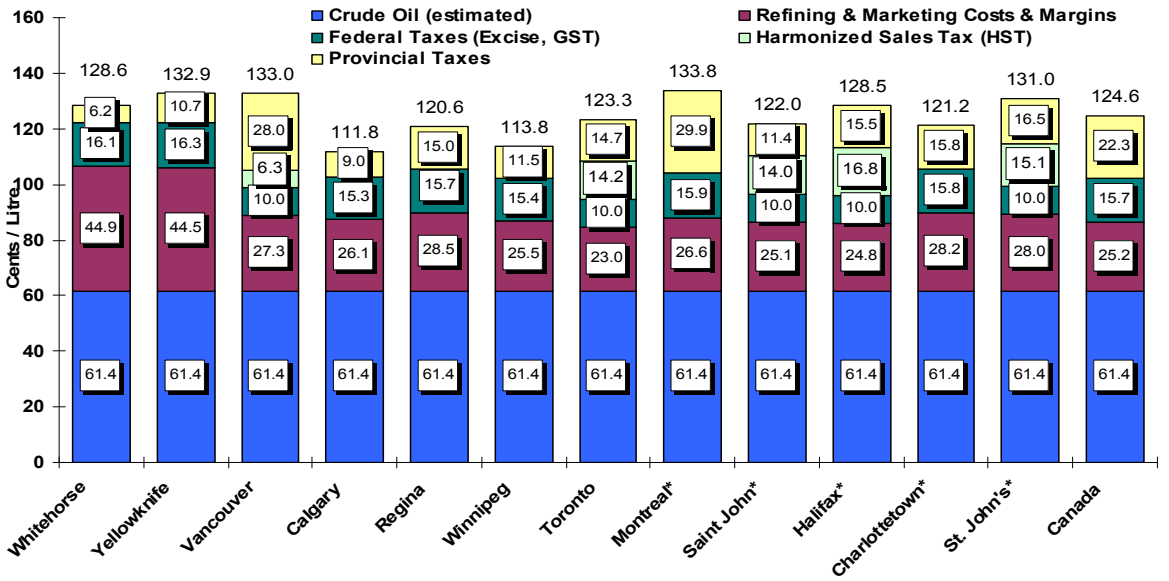
The **four-week average** regular gasoline pump price in selected cities across Canada was $1.25 per litre for the period ending **April 5, 2011**. This is 22 cents per litre higher than prices recorded at the same time last year.

The **four-week average** crude oil price (based on Edmonton Par) component of gasoline registered at 61 cents per litre, up by 3 cents per litre from two weeks ago. The crude oil price component of gasoline is 10 cents per litre higher than at the same time last year.

Retail gasoline prices in most Western centres (Winnipeg to Vancouver), which ranged from $1.12 per litre to $1.33 per litre, increased on average by 5 cents per litre when compared to the previous report. Prices in Eastern centres (Toronto to St. John's) rose on average by 8 cents per litre and ranged from $1.21 to $1.34 per litre.

Overall, the refining and marketing costs and margins component decreased by nearly 2 cents per litre to 25 cents per litre compared to two weeks ago. This is 6 cents per litre higher than at the same time last year.

Figure 3: Regular Gasoline Pump Prices in Selected Cities
Four-Week Average (March 15 to April 5, 2011)



Source: NRCan

** Regulated Markets*

Inventory Systems Influence Gasoline Replacement Costs

Consumers sometimes ask why the pump prices change when the gasoline in storage is the same as the day before. There are two different accounting systems used to determine the way a company values its inventory. Under the First In First Out (FIFO) system, inventories are valued at the price paid for the product when it was put into inventory. During periods of rising oil prices, the value of crude oil inventories is based on the price at the time the oil went into stock, not on the higher current cost of replacing the oil as it is used.

Under the Last In First Out (LIFO) system, inventories are valued at the price of the most recent addition to stocks. During periods of rising or falling prices, the value of the inventory is based on the most recent price and this is reflected in product prices immediately. Using replacement costs in retail pricing is especially important when wholesale prices fluctuate frequently. A retailer must generate enough cash from current retail sales to purchase the next delivery of gasoline. Otherwise, the retailer would be constantly relying on debt to finance wholesale gasoline purchases. Over time, either system will result in similar net values. Any financial gains made when prices move in one direction will be offset by corresponding losses when prices move in the opposite direction.

Source: Natural Resources Canada

Wholesale Gasoline Prices

Wholesale gasoline prices, when compared to the previous week, increased in most centres for the **week of March 31, 2011**.

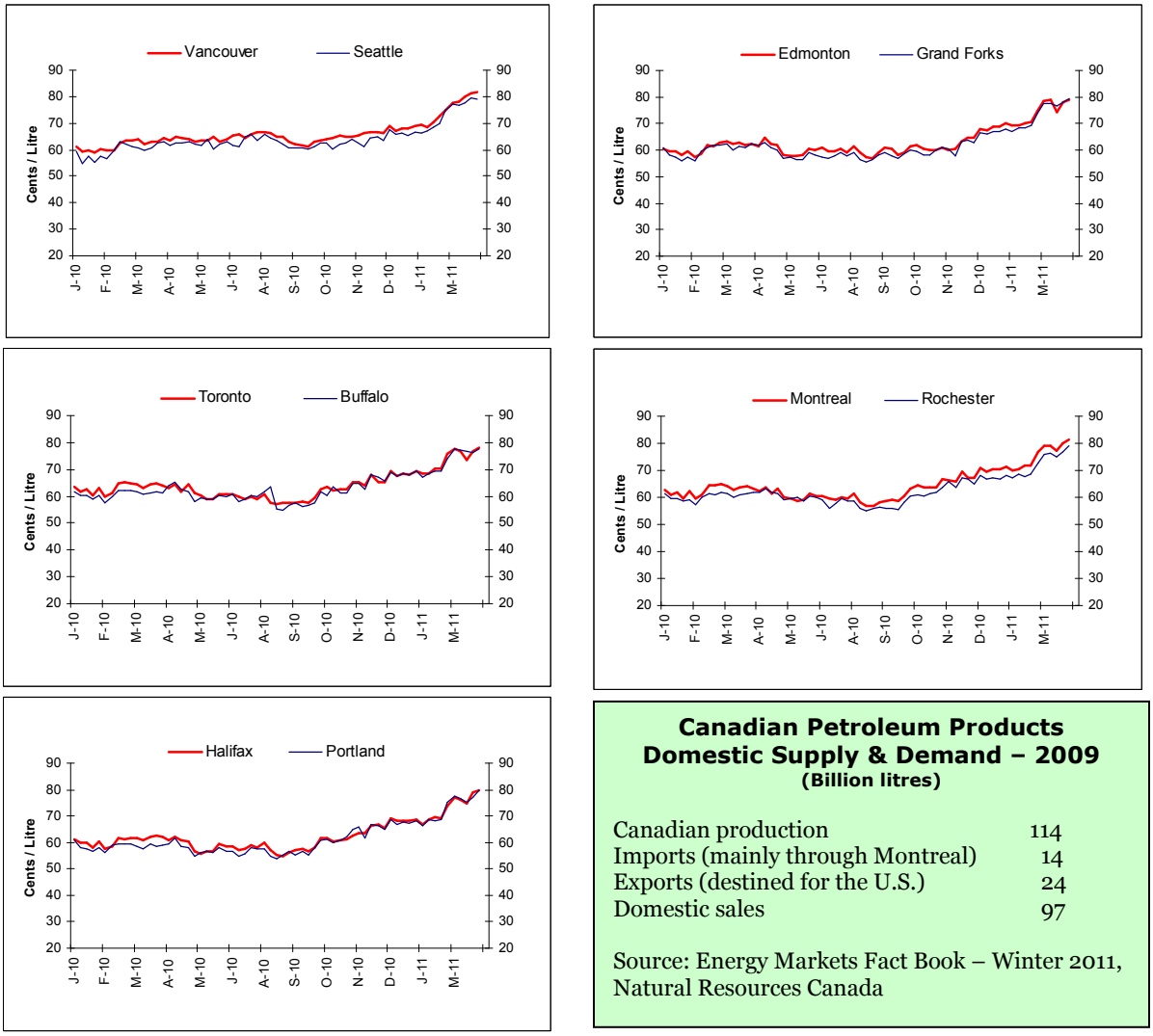
Wholesale gasoline prices in the Eastern markets of both Canada and the United States increased by 1 to 3 cents per litre, compared to the previous week, and ended the period between 77 and 82 cents per litre.

In the Western centres, prices ranged between a decrease of less than 1 cent per litre to an increase of nearly 2 cents per litre, ending the period between 79 to 82 cents per litre.

In the last two weeks, wholesale prices in all Canadian and American selected centres have increased by 1 to 5 cents per litre.

Overall, wholesale gasoline prices in most markets are 14 to 19 cents per litre above last year's level.

Figure 4: Wholesale Gasoline Prices
Rack Terminal Prices for Selected Canadian and American Cities Ending March 31, 2011
(Can ¢/L)



Canadian Petroleum Products Domestic Supply & Demand – 2009
(Billion litres)

Canadian production	114
Imports (mainly through Montreal)	14
Exports (destined for the U.S.)	24
Domestic sales	97

Source: Energy Markets Fact Book – Winter 2011, Natural Resources Canada

Sources: NRCan, Bloomberg Oil Buyers Guide

Gasoline Refining and Marketing Margins

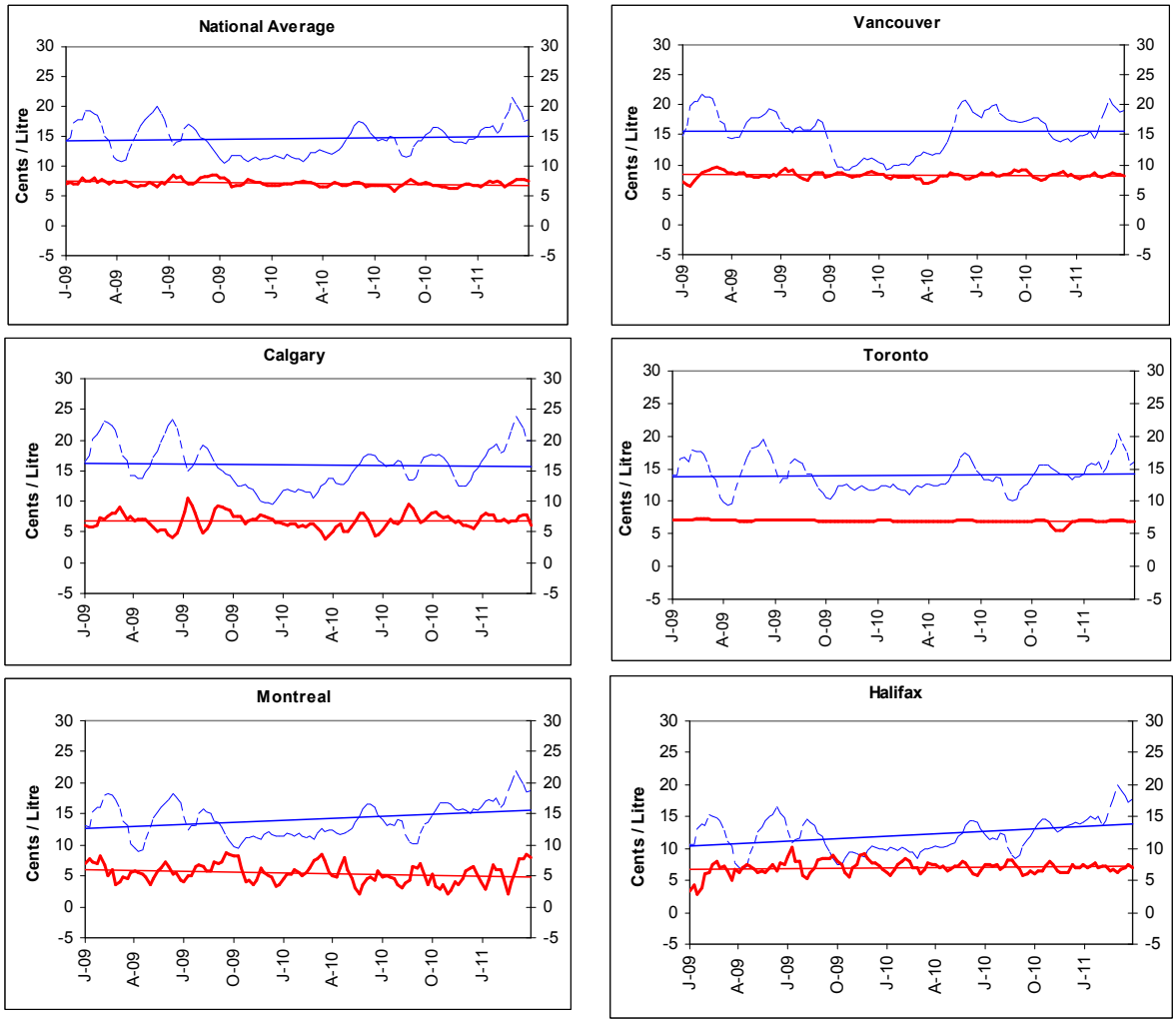
Four-week rolling averages are used to illustrate the refining and marketing margins for gasoline in Figure 5.

Refining margins trended downward mainly due to higher crude oil prices and, with higher gasoline inventories in North America, the expectation of sufficient supply to meet this summer's driving demand. These margins have decreased in all selected centres, which signifies that wholesale gasoline prices have not increased as promptly as crude oil prices.

As we near the spring season, the demand for gasoline is expected to increase despite higher prices. As a result, refiners will be attempting to balance the supply of distillate (heating oil and diesel) while converting their operations to produce more gasoline in readiness for the driving season.

As seen in previous years, this situation can create a temporary tightening of supply and an upward pressure on refining margins. Ultimately, the higher margins are reflected in the pump price.

Figure 5: Gasoline Refining and Marketing Margins
Four-Week Rolling Average Ending April 5, 2011
------- Refining Margin ——— Marketing Margin



Source: NRCan

Crude Oil Overview

Steady Upward Movement in World Crude Oil Prices

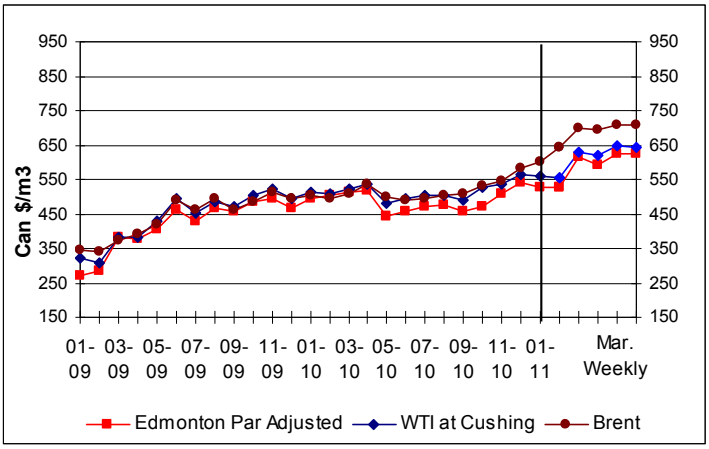
For the week ending April 1, 2011, prices for the three marker crudes averaged between $625/m³ and $710/m³, (US$102 to US$116 per barrel). This is an increase of $1 to $2/m³ (US$1 per barrel) from the previous week.

World crude oil prices remain buoyed by the turmoil in the Middle East with the WTI price hovering in the $105 per barrel (WTI) range in the last few weeks. Meanwhile the strength of crude oil futures, and other commodities, pushes the Canadian dollar up outperforming many other currencies.

Demand for crude oil may be less as refiners usually shut down for maintenance before the gasoline demand season. This could soften crude oil prices. In contrast, as refiners begin this maintenance to prepare for the summer driving season, gasoline production may be constrained, pushing prices upward.

Overall, significant excess production capacity and North American commercial crude oil inventories could help moderate price impacts.

Figure 6: Crude Oil Price Comparisons



Changes in Crude Oil Prices

Crude Oil Types	Week Ending: 2011-04-01		Change From:			
			Previous Week		Last Year	
	$Can/m³	$US/bbl	$Can/m³	$US/bbl	$Can/m³	$US/bbl
Edmonton Par	624.54	102.19	+1.87	+0.95	+101.81	+20.22
WTI	644.96	105.54	+1.70	+0.95	+112.93	+22.25
Brent	710.44	116.26	+1.42	+0.97	+189.26	+34.66

Source: NRCan

World's 20 Largest Refineries

Company	Crude Capacity, Thousand Barrels per Calendar Day
Exxon Mobil Corporation (U.S.)	5,783
Royal Dutch/Shell (Netherlands)	4,509
Sinopec (China)	3,971
BP (United Kingdom)	3,325
ConocoPhillips (U.S.)	2,778
Chevron Corp. (U.S.)	2,756
Petroleos de Venezuela.S.A. (Venezuela)	2,678
Valero Energy Corporation (U.S.)	2,616
China National Petroleum Company (China)	2,615
Total (France)	2,451
Saudi Arabian Oil Company (Saudi Arabia)	2,433
Petroleo Brasilerio S.A. (Brazil)	1,997
Petroleos Mexicanos (Mexico)	1,703
National Iranian Oil Company (Iran)	1,451
JX Nippon Oil & Energy Corp. (Japan)	1,423
Rosneft (Russia)	1,293
OAO Lukoil (Russia)	1,217
Marathon Oil Corp.	1,188
Repsol YPF S.A. (Spain)	1,105
Kuwait National Petroleum Corporation (Kuwait)	1,085
Irving Oil Ltd. (Canada) *	300

Rank as of January 1, 2011
Source: *Global capacity growth slows, but Asian refineries bustle*, Oil & Gas Journal, December 6 2010.
* Canada's largest refinery included for reference only.