## Fuel Focus

Understanding Gasoline Markets in Canada and Economic Drivers Influencing Prices

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Fuel Focus

## National Overview

Canadian Retail Gasoline Prices Fall by 2 Cents per Litre from Last Week

For the week ending December 13, 2011, the Canadian average retail price of gasoline decreased by 2 cents per litre from the previous week to \$1.18 per a litre-a ten-month low.

Diesel fuel and furnace oil prices both decreased by nearly 1 cent per litre, ending at $\$ 1.31$ and $\$ 1.17$ per litre respectively. Prices for diesel and furnace oil are 20 cents per litre higher than they were at this time last year.
Average retail pump prices in Canada reflect lower North American wholesale gasoline prices, which in turn are pushed downward by weaker crude oil prices.

## Recent Developments

- Canada's Petroleum Refining Industry Facing Global Challenges: According to a Conference Board of Canada study, the Canadian petroleum refining industry faces global challenges over the next several years as a result of slower growth in North American refined product demand. Competitive pressures from producers in overseas and developing economies, and domestic pressures due to tightening environmental standards are just some of the challenges that Canadian refiners face. The economic impact analysis assumes that $10 \%$ of refining capacity will be permanently lost in the next five years, which is roughly equivalent to the closure of one large refinery. (Source: Canada's Petroleum Refining Sector, www.e-library.ca
- Record Number of Well Licences in Saskatchewan and Manitoba: A record number of wells were licensed in Saskatchewan for the month of November. The province approved 456 permits, up from 406 a year ago and topping the former record of 409 in November 2005. Manitoba also authorized a record number of wells last month. The province's 76 well permits were one more than last year's November period. (Source: Daily Oil Bulletin, December 6, 2011)
- Canadian Crude Oil Production Up: Production of crude oil and equivalent hydrocarbons increased $9 \%$ to 14.5 million cubic metres in September 2011 compared to the same month a year earlier. Exports increased 26\% to 11 million cubic metres. About 75\% of Canada's total domestic production went to the export market compared to $65 \%$ a year earlier. Imports fell $13 \%$ to 3.1 million cubic metres. (Statistics Canada, The Daily, http:// www.statcan.gc.ca/ daily -quotidien/ 111209/dq111209c-eng.htm

This is the last issue of Fuel Focus for this year. A 2011 Annual Review is planned for January 13, 2012 and regular bi-weekly issues will resume on J anuary 27, 2012.

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: |  |
| :--- | :---: | :---: | :---: |
| $\Phi / L$ | $2011-12-13$ | Previous <br> Week | Last <br> Year |
| Gasoline | 118.3 | -2.2 | +7.9 |
| Diesel | 131.7 | -0.5 | +20.0 |
| Furnace Oil | 116.7 | -0.6 | +20.0 |

Source: NRCan

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## Retail Gasoline Overview

For the period ending December 13, 2011, the fourweek average regular gasoline pump price in selected cities across Canada was $\$ 1.20$ per litre, a decrease of 2 cents per litre compared to the previous report of December 2, 2011. Compared to the same period in 2010, the average Canadian pump price is 11 cents per litre higher.

The four-week average crude component was 67 cents per litre, an increase of nearly 1 cent compared
to two weeks ago. The crude oil price component of gasoline is 16 cents per litre higher than at the same time last year and accounted for more than half of the pump price.

At the national level, refining and marketing costs and margins decreased by 2 cents per litre to 15 cents per litre from the previous report two weeks ago. This is 5 cents per litre lower compared to the same period last year.

Figure 3: Regular Gasoline Pump Prices in Selected Cities Four-Week Average (November 22 to December 13, 2011)


## U.S. Consumers Favour Better Fuel Economy Standards

An overwhelming 93\% of U.S. consumers polled by Consumer Reports say they favour tougher Corporate Average Fuel Economy (CAFE) standards for cars and trucks.

According to the magazine, nearly all respondents (93\%) support increased fuel efficiency, while $77 \%$ agree that car manufacturers should produce more fuel-efficient vehicles and the government should increase standards and enforce them. Over half (56\%) of respondents said they were considering hybrid or electric cars for their next vehicle. If availability improves over the next 15 years, then consumers are even more likely (72\%) to consider them.

Rising costs of gasoline were cited as a key driving force behind consumer opinions on government CAFE, according to the magazine. Eighty-nine percent of consumers who are considering these hybrid and electric models cited lower fuels costs as one of their motivations for making the transition.

Source: Global Refining \&Fuels Report, November 29, 2011.

## Wholesale Gasoline Prices

For the week of December 8, 2011, wholesale gasoline prices ranged from 70 to 76 cents per litre in selected centres. Overall, compared to the previous week, Canadian and American centres recorded price decreases in most centres. Price changes ranged from a decrease of less than 3 cents per litre to an increase of almost 1 cent per litre.

Compared to two weeks ago, wholesale prices in most selected centres are lower on average by 1 and 3 cents
per litre in both Canadian and American centres, respectively.

In the last four weeks, wholesale prices in all Canadian and American selected centres have decreased in the range of 3 to 8 cents per litre.

Overall, compared to the same period last year, prices in most selected centres are above last year's level with increases ranging from 6 to 9 cents per litre.

Figure 4: Wholesale Gasoline Prices
Rack Terminal Prices for Selected Canadian and American Cities Ending December 8, 2011 (Can $\dagger / \mathrm{L}$ )


Sources: NRCan, Bloomberg Oil Buyers Guide



## Choosing a Fuel-Efficient Vehicle

Vehicle use has a significant impact on the environment and our health. GHGs, particularly carbon dioxide (CO2), are produced when fuel is burned in your vehicle's engine. For every litre of gasoline used, about 2.3 kilograms (kg) of CO2 are generated. Although not directly harmful to our health, CO 2 emissions contribute to climate change. For more information, please visit: http:// oee.nrcan.gc.ca/ transportation/personal/ 1 7604

## Gasoline Refining and Marketing Margins

Four-week rolling averages are used for gasoline refining and marketing margins.

On average, refining margins this week declined by 2 cents per litre to 8 cents per litre at the national level compared to the last report on December 2, 2011.

In general, both refining and marketing margins are influenced by specific market conditions, mainly due to changes in product supply and demand balances.

Nationally, the marketing margin hovered at around 7 cents per litre.

This margin, which tends to fluctuate depending on local market conditions, represents the difference between the pump price and the price paid by the retailer to purchase the gasoline and also serves to pay for the costs associated with operating a service station.

Figure 5: Gasoline Refining and Marketing Margins
Four-Week Rolling Average Ending December 13, 2011
------- Refining Margin







Source: NRCan

## Crude Oil Overview

## Slight Decline in Crude Oil Prices

For the week ending December 9, 2011, prices for the three marker crudes averaged between $\$ 631 / \mathrm{m}^{3}$ and \$696/m³, (US\$99 to US\$109 per barrel). All benchmark crudes decreased in the range of $\$ 14$ to $\$ 30 / \mathrm{m}^{3}$ (US $\$ 1$ to US\$4 per barrel), compared to the previous week.

World crude oil prices continue to fluctuate in a narrow range reflecting economic uncertainties, and reduced demand for crude oil in the U.S. and Europe. Concerns over the European debt situation remain top of mind
as energy markets react to the potential debt crisis remedy, or lack thereof.

The long-drawn negotiations to find a solution to the European debt impasse create concerns in world oil markets that the crisis could trigger an economic downturn which would curb demand for crude oil. This seems to be having more of an impact on energy prices recently than the fundamental market factors for of the commodity (e.g., supply and demand).

Figure 6: Crude Oil Price Comparisons


Changes in Crude Oil Prices

| Crude Oil Types | $\begin{array}{c}\text { Week Ending: } \\ \text { 2011-12-09 }\end{array}$ |  | Change From: |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{array}{c}\text { PCan/ } \\ \mathrm{m}^{3}\end{array}$ |  | $\begin{array}{c}\text { \$US/ } \\ \text { bbl }\end{array}$ | $\begin{array}{c}\text { \$Can/ } \\ \mathrm{m}^{3}\end{array}$ | $\begin{array}{c}\text { \$US/ } \\ \mathrm{bbl}\end{array}$ | $\begin{array}{c}\text { \$Can/ } \\ \mathrm{m}^{3}\end{array}$ |
| Edmonton Par | 631.21 | 98.86 | -29.73 | -3.85 | +95.34 | +14.41 |
| bbl |  |  |  |  |  |  |$]$

Source: NRCan

## Heating Oil in the U.S.

While almost $85 \%$ of households in the United States heat with natural gas or electricity, more than $10 \%$ rely on heating oil or propane, according to the 2009 Residential Energy Consumption Survey. In Canada, approximately $10 \%$ of homes use furnace oil for heat. The shares of heating oil and propane are likely to remain small but significant in the U.S. residential heating mix. These fuels serve distinct populations-heating oil primarily serves households in the Northeast, while propane serves households in rural areas across the country.

Over $80 \%$ of homes that rely on heating oil for space heating are located in the Northeast. Also, heating oil is most commonly used in older homes, as about one-half of all homes that currently use heating oil were built before 1950. Generally, homes built since 1980 are not heated with heating oil, except in the Northeast. The survey data show that heating oil equipment is older than average but more likely to be regularly maintained than other types of heating equipment, providing some potential efficiency benefits.
Source: U.S. Energy Information Administration, http:// www.eia.gov/ todayi nenergy/ detail.cfm?id=4070

## Comparison of Retail Diesel and Gasoline Prices

Gasoline and diesel fuel prices have traditionally followed each other over the years, with gasoline prices rising above diesel prices in the spring and summer months. However, the traditional relationship between the two products was reversed on occasion in the last few years, reflecting the emergence of diesel fuel as the fastest growing petroleum product. The distillate demand (diesel oil, furnace oil and kerosene), driven primarily by on-road diesel requirements, has been the fastest growing component since 1993. Because of the significant proportion of distillate demand that comes from the trucking industry, this component is the most closely linked with economic activity.

Various supply and demand factors, as well as the market structure, are different for diesel and gasoline. For instance, gasoline demand is driven primarily by the retail market. Diesel demand is primarily in the commercial, industrial and agricultural sectors, with only 15 percent of consumption at the retail level. Retailers who sell diesel face greater distribution costs and lower sales volumes than they do selling gasoline. However, at the retail level, federal excise taxes partially offset diesel's higher marketing costs. Each litre of retail gasoline sold in Canada is subject to a 10 cent federal excise tax; the excise tax on diesel is only 4 cents per litre.

Domestic sales of diesel have been increasing since 2003, reflecting a growing proportion of diesel-powered vehicles. However, with increasing fuel efficiency standards being imposed on vehicle manufacturers by governments, automobile companies have indicated that they will be introducing more diesel-powered vehicles in order to adhere to the regulations. Demand for diesel fuel is expected to continue to grow as retail consumers (non-commercial) start to take notice of the efficiency and durability of diesel engines.

Diesel and heating oil are what we refer to as 'distillates' and are more or less the same type of product (except for the sulphur content and driveability specifications). With the heating season underway, refiners have been producing more distillate and somewhat less gasoline with more of the distillate pool dedicated to heating oil, especially in Eastern Canada where heating oil is a significant source of home heating in certain regions. This has added extra pressure on diesel fuel prices. Furthermore, since 2006, new environmental regulations requiring a reduction of the sulphur content in diesel have resulted in reduced production and increased per unit production costs for refiners. These extra costs to produce this cleanerburning fuel are now reflected in retail prices.


