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# Fuel Focus

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

Volume 4, Issue 3

February 27, 2009

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ISSN 1918-3321

Aussi offert en français sous le titre *Info-Carburant*



## National Overview

### Canadian Retail Gasoline Prices Declined Nearly 5 Cents per Litre from Last Week

Compared to the previous week, overall Canadian retail pump prices declined nearly 5 cents per litre and ended at 83 cents per litre on February 24, 2009. This four-week low reflects the decline in North American wholesale gasoline and world crude oil prices.

Diesel fuel decreased 2 cents per litre from last week to 84 cents per litre. Furnace oil prices declined 3 cents per litre from the previous week and averaged 72 cents per litre.

## Recent Developments

- Decline in Sales of New Motor Vehicles:** Sales of new motor vehicles fell 14.8% in December to 109,831 units. This is the largest monthly decline and lowest sales level since January 1998 when an ice storm crippled parts of the country. After sharp declines in November and December, preliminary industry data indicate that the number of new motor vehicles sold rose by about 6% in January. (The Daily, <http://www.statcan.gc.ca/daily-quotidien/090213/dq090213a-eng.htm>)
- Oil and Gas Royalty Revenue Projections on Target:** Offsetting the decline in the latter half of the year, rising commodity prices during the first half of the year should put original budget royalty revenue projections from Canadian provinces roughly on target for fiscal 2008/2009 ending March 31. However, if lower prices remain, this could significantly push royalty revenues downward in the following fiscal year. (Nickel's Daily Oil Bulletin, February 19, 2009)
- Regulated Gasoline Prices In Atlantic Canada Cost Consumers:** Regulated gasoline prices have cost motorists more than \$155 million in the four Atlantic Provinces according to the Atlantic Institute for Market Studies. One reason cited by the Institute for the higher prices is that by setting a maximum price by regulation, dealers will aim for that price even if they can afford to sell at a lower price. <http://www.aims.ca/aimslibrary.asp?ft=1&id=2453>

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

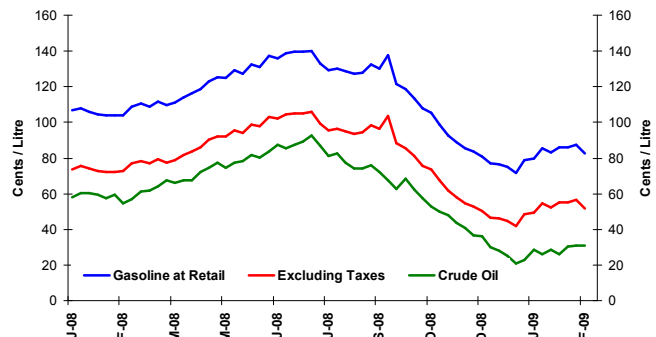
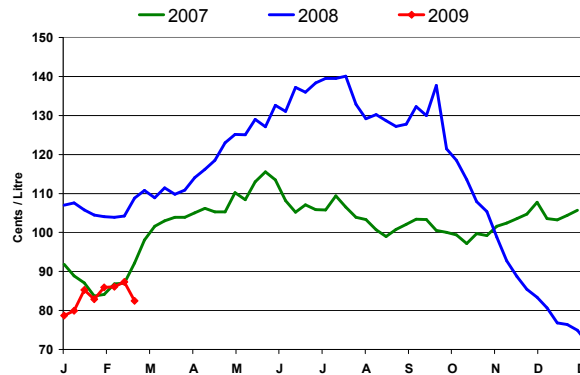


Figure 2: Weekly Regular Gasoline Prices



Changes in Fuel Prices

¢/L	Week of:	Change from:	
	2009-02-24	Previous Week	Last Year
Gasoline	82.5	-4.6	-28.3
Diesel	84.4	-2.4	-31.4
Furnace Oil	72.3	-3.4	-33.8

Source: NRCan

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## Retail Gasoline Overview

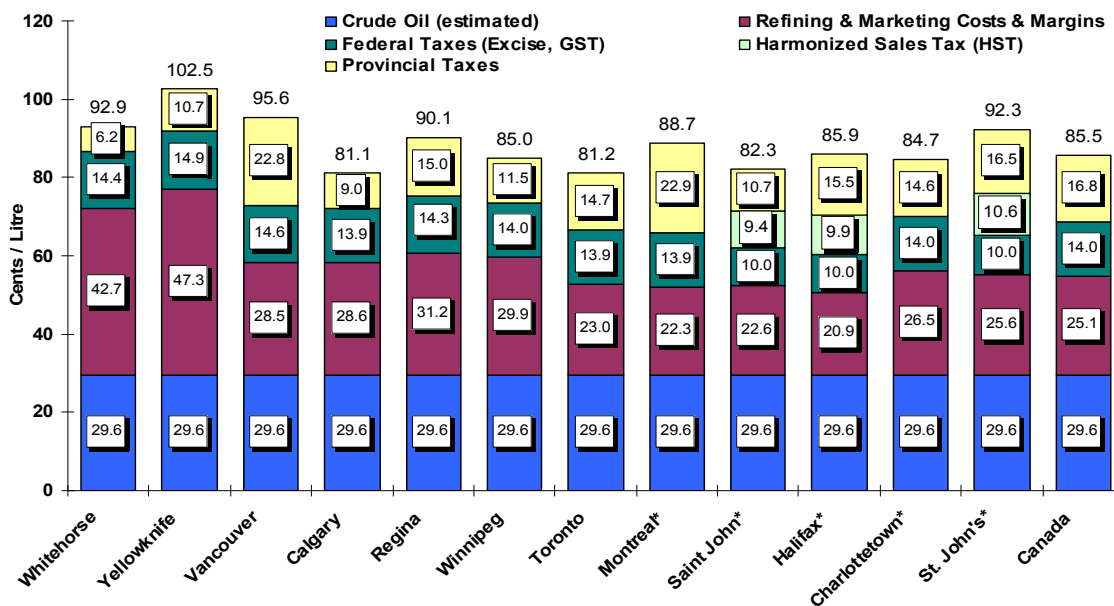
The **four-week average** regular gasoline pump price in selected cities across Canada was 86 cents per litre for the two-week period ending **February 24, 2009**. Average four-week retail pump prices were 21 cents per litre lower than those recorded at the same time last year.

The **four-week average crude oil** price component of gasoline rose by 2 cents per litre to 30 cents per litre when compared to the previous report on February 13, 2009. However, crude oil prices are 29 cents per litre lower than at the same time last year.

Retail gasoline prices in Western centres increased, on average, 1 cent per litre when compared to the previous report. Prices in Eastern centres increased on average by 2 cents per litre, and ranged from 81 to 92 cents per litre.

Since our last report, the overall refining and marketing costs and margins component declined 2 cents per litre from the last report on February 13, 2009, and are 8 cents per litre higher than at the last year at the same time.

**Figure 3: Regular Gasoline Pump Prices in Selected Cities  
Four-Week Average (February 3 to February 24, 2009)**



Source: NRCan

\* Regulated Markets

### Gasoline and Crude Oil Market Dynamic

Many consumers assume that changes in gasoline pump prices and crude oil prices are mostly, if not always, concurrent since gasoline is made from crude oil. The reality, however, is that the commodity price of gasoline will move irrespective of crude oil price fluctuations.

Gasoline prices at the wholesale level will respond to many factors independent from crude oil, such as, increased demand, seasonal demand, inventory levels, curtailment of production as a result of scheduled or un-scheduled maintenance, or repair operations at refineries. Serious weather events also have the potential to partially or completely shut down refineries which, in turn, causes a shortage of refining capacity and results in an extremely tight gasoline supply and hence higher prices. With Canadian refineries generally operating at full capacity, even a small disruption in supply can lead to higher prices regardless of what is happening in crude oil markets.

Finally, the volatility in gasoline prices is also a function of the region where you live. And, frequent changes to the price of crude oil only makes this volatility in the retail and wholesale gasoline markets more pronounced. For example, large urban outlets have a definite advantage as higher sales volumes will have a lower cost per unit sold, while the smaller outlets will need a higher margin to cover their retailing costs. In 2008, the average mark-up (retailer margin) made by retailers in our sample of five Canadian cities is 6 cents per litre. To stay competitive many will add other services such as convenience stores or car washes to generate additional income and enable them to sell gasoline at lower prices.

The Supplement section of this report provides further explanation on the nature of the recent gasoline and crude oil price movements in Canada.





## Wholesale Gasoline Prices

Wholesale gasoline prices ranged from 40 to 49 cents per litre in selected centres for the **week of February 19, 2009**. Overall, compared to the previous week, Canadian and American centres recorded price decreases ranging from 1 to 6 cents per litre.

Compared to two weeks ago, in both Canada and the U.S, wholesale prices in most selected centres are lower on average by 2 cents per litre.

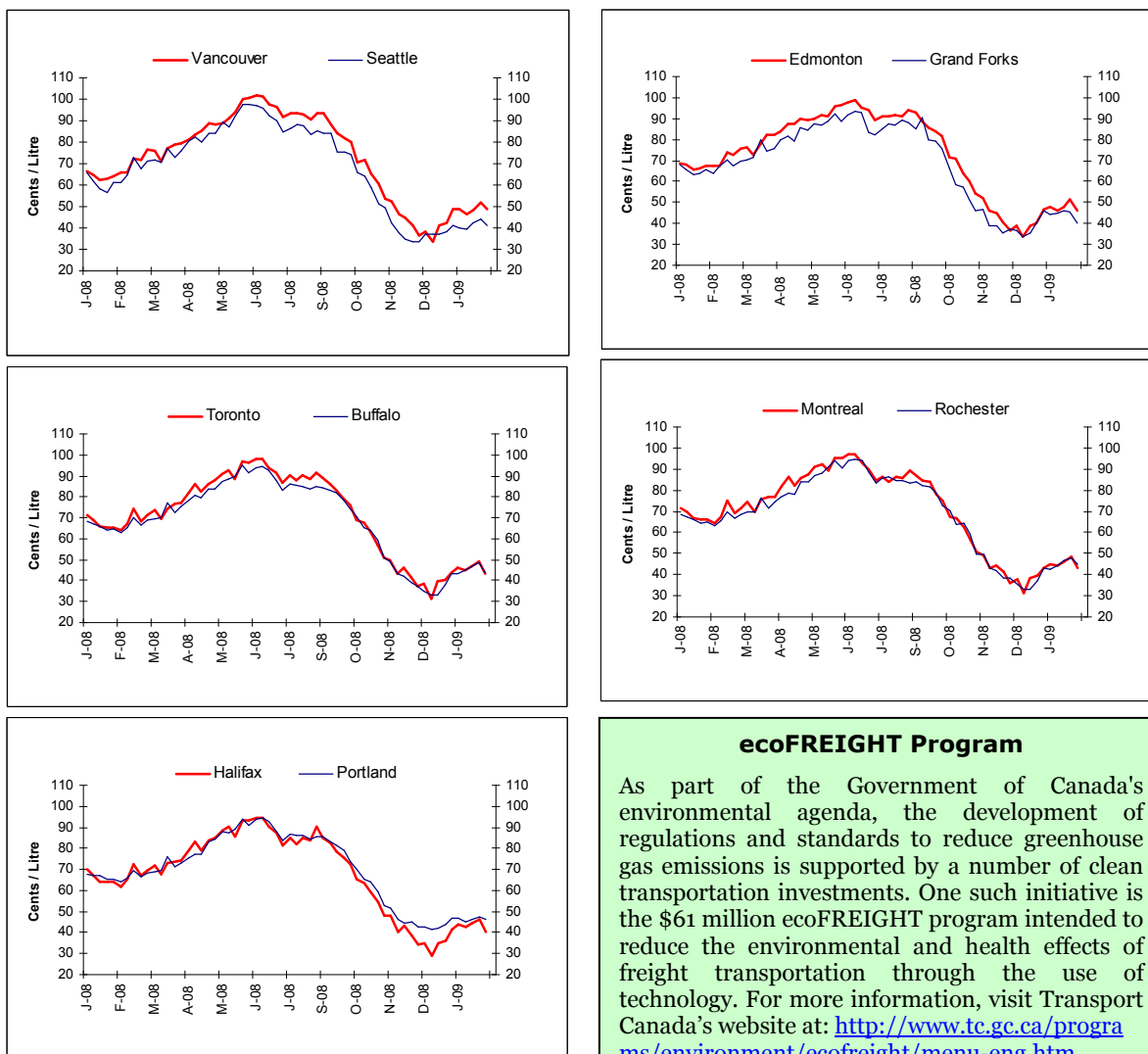
For the week ending February 19, 2009, compared to the previous week, in most Western centres prices declined in the range of 3 to 5 cents per

litre and ended at 40 to 49 cents per litre. Despite the price decline, the gap remains in Canada's Western centres compared to their American counterpart because of supply constraints from planned refinery maintenance in Western Canada. Prices in Eastern centres decreased in the range of 1 to 6 cents per litre and ended at 40 to 46 cents per litre.

Overall, compared to the same period last year, wholesale prices in all selected centres are well below last year's level with decreases ranging from 24 to 32 cents per litre.

**Figure 4: Wholesale Gasoline Prices**

Rack Terminals Prices for Selected Canadian and American Cities Ending February 19, 2009  
(Can ¢/L)



Sources: NRCan, Bloomberg Oil Buyers Guide

### ecoFREIGHT Program

As part of the Government of Canada's environmental agenda, the development of regulations and standards to reduce greenhouse gas emissions is supported by a number of clean transportation investments. One such initiative is the \$61 million ecoFREIGHT program intended to reduce the environmental and health effects of freight transportation through the use of technology. For more information, visit Transport Canada's website at: <http://www.tc.gc.ca/programs/environment/ecofreight/menu-eng.htm>





## Refining and Marketing Margins

**Four-week rolling averages** are used for the gasoline refining and marketing margins shown in Figure 5 for the period ending February 24, 2009.

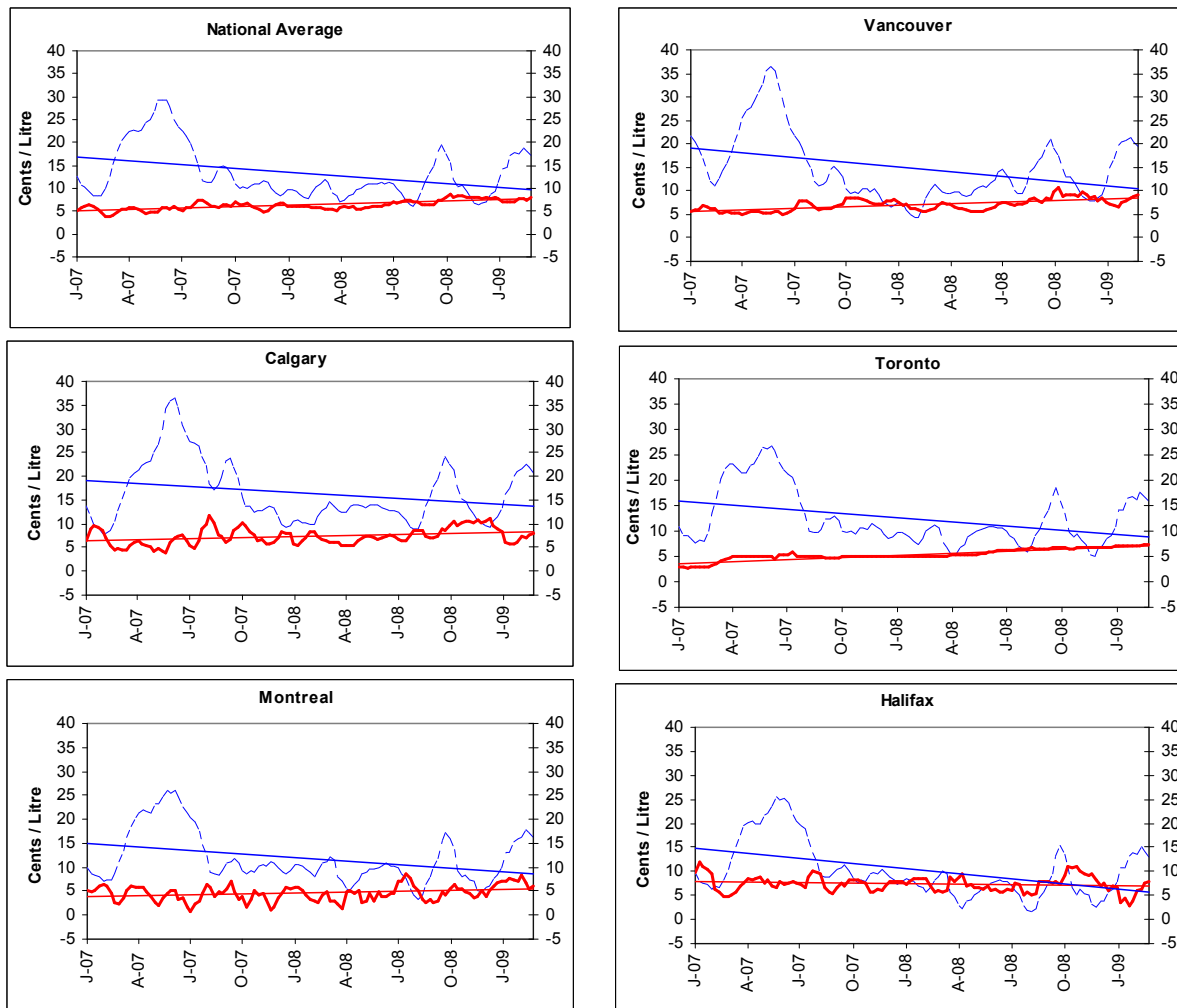
Overall, refining margins have declined to 17 cents per litre from a high of 19 cents per litre two weeks ago. Declining refining margins reflect the decrease in North American demand for gasoline and a well-supplied market.

The refining margins shown here are derived numbers based on the difference between the estimated crude oil price and the wholesale price of gasoline at a point in

time. While the analysis presented here is useful to track the trends in gasoline margins and to estimate how much of the price at the pump is going to the refiner, it does not represent overall refining margins.

Gasoline is only one of many products produced from a barrel of crude oil and generally accounts for about 30-35% of a refinery's output. As one of the higher valued products, gasoline generates a disproportionate share of the revenues. Gasoline margins are offset by much lower margins on other products such as heavy fuel oil and asphalt that can often sell for less than the cost of the crude oil used to make them.

**Figure 5: Refining and Marketing Margins**  
Four-Week Rolling Average Ending February 24, 2009  
----- Refining Margin      — Marketing Margin



Source: NRCan





## Crude Oil Overview

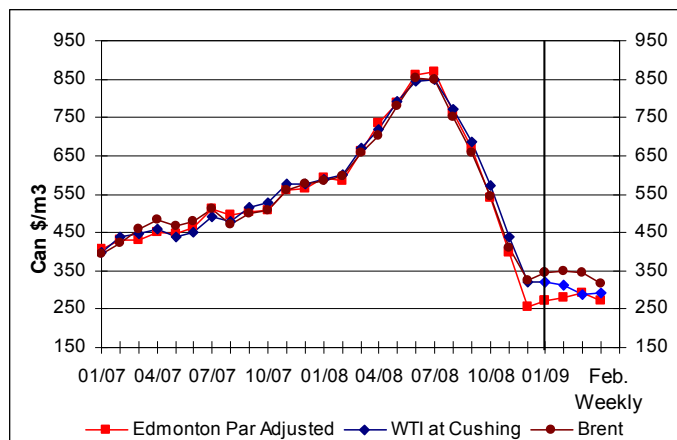
### Crude Prices Remain Somewhat Stable

For the week ending February 20, 2009, crude oil prices averaged between \$271/m<sup>3</sup> and \$318/m<sup>3</sup> (\$US34 to \$US40 per barrel), with Brent trading at a significant premium to other crude oil types.

With US crude inventories continuing to be well above the 5-year historical average range—and in some cases reaching the capacity of the current infrastructure—the price producers can demand for their crude oil in this market has declined significantly. While the price differential between Brent and North American crudes has decreased over the past week, it is still significant at close to \$US6 per barrel.

There is increasing concern among consuming countries that with prices being sustained at such low levels, the necessary infrastructure investment will not be made in order to increase the supply of crude oil to meet future demand. A number of analysts are predicting that this lack of investment will lead to tight supply in the future and result in a significant upward price impact. On the other hand, OPEC has cut back quotas significantly over the past year, which in theory—assuming all countries have complied—would lead to excess production capacity in the market and a significant buffer against increased future demand.

**Figure 6: Crude Oil Price Comparisons**



### Canadian Oil Refinery Economics

While Canada is a large and growing net oil exporter, crude oil imports satisfy more than half of domestic refinery demand. The transportation costs associated with moving crude oil from the oil fields in Western Canada to the consuming regions in the east and the greater choice of crude qualities make it more economic for some refineries to use imported crude oil.

Refineries in Western Canada run domestically produced crude oil, refineries in Quebec and the eastern provinces run primarily imported crude oil, while refineries in Ontario run a mix of both imported and domestically produced crude oil. Most refineries in Western Canada and Ontario were designed to process the higher price but low sulphur crude oil that is produced in Western Canada. Unlike leading refineries in the U.S., Canadian refineries in these regions have been slower to reconfigure their operations to process lower cost, less desirable crude oils, such as those coming from Alberta's oil sands. However, with growing oil sands production and the declining production of conventional light low sulphur crudes, refineries in Western Canada and Ontario have started to make the investment required to process the increasing supply of heavier crudes.

In Western Canada and Ontario, almost 50% of the crude oil processed by refiners is conventional light, low sulphur crude oil and another 25% is high quality synthetic crude oil. Refineries in Atlantic Canada and Quebec are dependent on imported crudes and tend to process a more diverse crude slate than their counterparts in Western Canada and Ontario. These refiners have the capacity to purchase crude oil produced almost anywhere in the world and therefore have incredible flexibility in their crude oil buying decisions.

For more information, please visit: <http://nrccan.gc.ca/eneene/sources/petpet/refraf-eng.php>

### Changes in Crude Oil Prices

Crude Oil Types	Week Ending: 2009-02-20		Change From:			
			Previous Week		Last Year	
	\$Can/ m <sup>3</sup>	\$US/ bbl	\$Can/ m <sup>3</sup>	\$US/ bbl	\$Can/ m <sup>3</sup>	\$US/ bbl
Edmonton Par	271.51	34.39	-18.70	-2.92	-342.17	-62.15
WTI	292.77	36.99	+5.67	+0.08	-342.76	-62.57
Brent	318.05	40.19	-25.34	-3.95	-305.41	-57.48

Source: NRCan





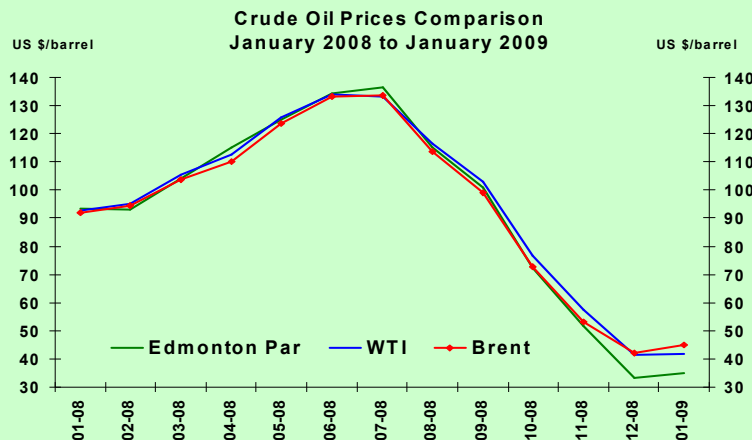
## Gasoline and Crude Oil Prices

World crude oil prices have gone from an historical monthly average high of more than \$US130 per barrel by mid-July 2008, to a just over \$US40 in January 2009, a drop of more than \$US90 per barrel. Judging from the number of calls and correspondence received by NRCan, it seems that many Canadian consumers are concerned that prices for gasoline and other petroleum products did not fully reflect the decline in crude oil prices. The following provides information regarding the responsiveness of gasoline, and other petroleum product prices, to the recent declines in the price of crude oil.

One of the main reasons consumers have not seen a similar decline at the pump has been the **value of the Canadian dollar** against that of the U.S. Prices for crude oil are set in international markets and based in American dollars. As crude oil is valued in U.S. dollars, the relative value of the Canadian dollar has a significant impact on prices that consumers pay for petroleum products such as gasoline and heating oil. During the first six months of last year, the Canadian dollar was valued above that of the U.S. This meant the high crude oil prices—again valued in US dollar terms—that global markets were dealing with, were not fully felt in Canada. American consumers felt the impact of these prices more than Canadian consumers. The recent declines in our dollar have reversed the situation. As more Canadian dollars are needed to purchase goods valued in US currency, Canadians have not been able to fully benefit from the falling crude oil prices.

In addition to the decline in the value of the Canadian dollar there are other factors that are influencing the price of petroleum products. Canada has a **dual oil market**: refiners in Western Canada use domestic crude oil priced at West Texas Intermediate (WTI) parity, while refiners in Eastern Canada rely mostly on imports. These imports are priced against the North Sea Brent crude—which is also a light sweet blend—and is the benchmark price for European markets and products. Historically, the WTI price, which is quoted on the New York Mercantile Exchange (NYMEX) and is reported by the media, has traded at about 5% higher than the Brent. However, in recent months this trend has reversed with WTI trading lower than the Brent—more than 5% in January—due to higher than average inventory levels at Cushing, Oklahoma, the hub where the WTI is sold. This means that consumers in Western Canada face lower crude prices than consumers in Eastern Canada who are paying prices based on Brent crude.

As well, the North-American refining industry is entering the **seasonal refinery maintenance** phase which tends to constrict supply of refined products. With the approach of the summer driving season, the U.S. typically relies on imports from Europe to balance its gasoline market. In order to attract imports, wholesale prices for gasoline in the U.S. tend to trade upwards. As a result, wholesale prices and retail pump prices across North American markets have increased while the WTI crude price remains depressed. (See figure.)



**What is being done to help consumers?** There are a number of federal programs that can help consumers adjust to higher energy prices. For example, NRCan’s Office of Energy Efficiency has programs to assist truckers in improving their vehicle efficiency; help commercial fleet operators optimize the fuel efficiency of their operations; aid individuals in improving the fuel efficiency of their cars and/or in the purchasing of more fuel efficient models; and enable homeowners, commercial establishments and small businesses to renovate to higher levels of efficiency and/or to make greater use of renewable energy. For more information, please visit: <http://oee.nrcan.gc.ca/english/>

