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Fuel Focus

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

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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 Declined Nearly 1 Cent per Litre from Last Week

Canadian retail pump prices registered 99 cents per litre for the week ending June 15, 2010, down by less than 1 cent per litre from the previous week. The price was 5 cents per litre lower than last year at this time. Over the last six weeks, the price for gasoline has decreased by more than 6 cents per litre.

Fluctuating by less than 1 cent per litre, pump prices in the last four weeks reflected the mild fluctuations in North American wholesale gasoline and crude oil prices.

Diesel fuel prices remained almost unchanged at 96 cents per litre compared to the previous week. This is an increase of 6 cents per litre from the same period last year. Furnace oil prices declined by less than 1 cent per litre from the previous week to an average of 87 cents per litre.

Recent Developments

- **Customer Motivations:** Which factors encourage customer loyalty at retail gasoline outlets? Shell U.S. examined its customers' motivations and attitudes closely and found that 81% of the customers rated the location of the retail outlet as one of the most important factors in retaining customer loyalty. Gasoline prices and employee politeness are valued by 39% of Shell's customers, while the price of the convenience store items, cleanliness, and good lighting were rated at 26% and 24%, respectively. (Source: CARBURE, <http://www.aquip-petrole.com/>)
- **Canadian Crude Oil Production Declines 2.5% in March:** Production of crude oil and equivalent hydrocarbons decreased 2.5% to 13.1 million cubic metres in March 2010, compared to the same period last year. Exports declined 1.4% to 9 million cubic metres. About 69% of Canada's total domestic production went to the export market compared to 68% a year earlier. Imports increased 6.5% to reach 4 million cubic metres. (Statistics Canada, The Daily, <http://www.statcan.gc.ca/daily-quotidien/100608/dq100608c-eng.htm>)
- **Montreal East Refinery Converted to a Terminal:** After more than 11 months of seeking a suitable buyer for the Montreal East Refinery, Shell Canada Products announced on June 4, 2010, that the process was unsuccessful and that it will now proceed with converting the refinery into a terminal. The decision comes after considerable effort to market the refinery, which included a cooperative effort with a Special Committee to identify and approach potential purchasers. (Source: Shell Canada, http://www.shell.ca/home/content/can-en/aboutshell/media_centre/)

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

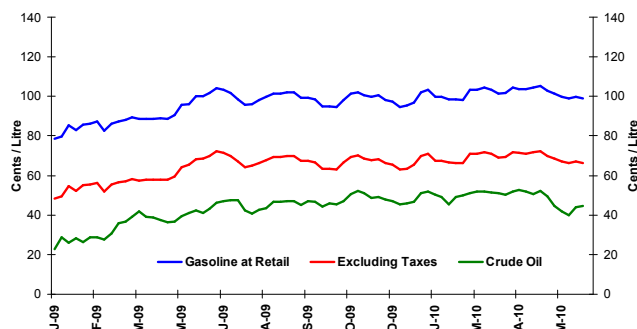
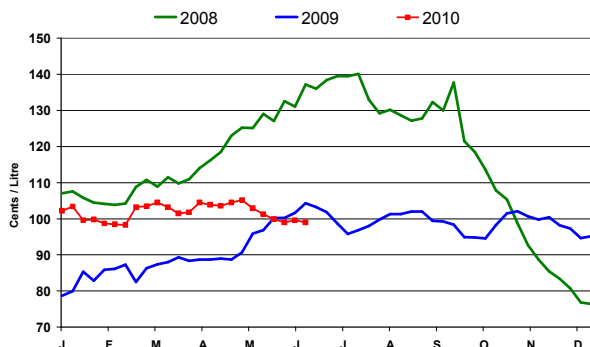


Figure 2: Weekly Regular Gasoline Prices



Changes in Fuel Prices

	Week of:	Change from:	
¢/L	2010-06-15	Previous Week	Last Year
Gasoline	99.0	-0.6	-5.3
Diesel	96.2	+0.1	+6.0
Furnace Oil	86.7	-0.4	+8.1

Source: NRCan

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Retail Gasoline Overview

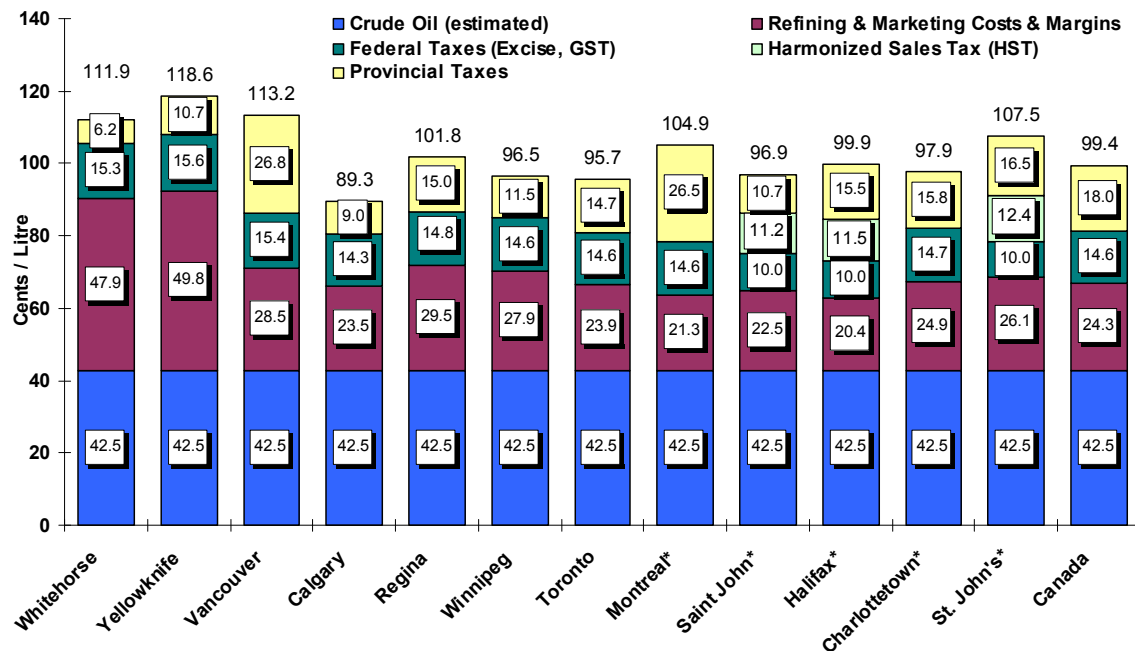
The **four-week average** regular gasoline pump price in selected cities across Canada was 99 cents per litre for the period ending June 15, 2010. This is a decrease of more than 1 cent per litre from the last report on June 4, 2010, and represents a decrease of 2 cents per litre compared to the same period in 2009.

The **four-week average** crude oil price component of gasoline was down 1 cent from two weeks ago and registered 43 cents per litre—1 cent per litre lower than in the same period of 2009.

Retail gasoline prices in Eastern centres declined on average by 2 cents per litre and, compared to the last report two weeks ago, ranged from 89 cents per litre to \$1.13 per litre. Prices in Western centres decreased, on average, by 2 cents per litre and ranged from 96 cents per litre to \$1.08 per litre.

At the national level, refining and marketing costs remained almost unchanged from the previous report of two weeks ago at 24 cents per litre.

**Figure 3: Regular Gasoline Pump Prices in Selected Cities
Four-Week Average (May 25 to June 15, 2010)**



Source: NRCan

* Regulated Markets

The Energy Canadians Use Daily Comes Mainly from Two Sources

Canada's energy consumption is dominated by petroleum and natural gas, which together account for 56.2 percent of the country's energy consumption. The remaining 43.8 percent is derived from many sources, with hydropower, for example, accounting for 25.4 percent of Canada's energy consumption. This range is essential for the equally varied uses that Canadians find for their energy.

Petroleum is used primarily for transportation and natural gas primarily for stationary applications, such as heating and electricity generation. Hydro, coal, biomass, nuclear power and wind power are all used to generate electricity. Of these sources, hydropower, wind, solar energy, biomass and biofuels are renewable, while crude oil, natural gas, coal and uranium are non-renewable because we can't replenish them once they're used.

The diversity of the energy sources that Canada consumes is also reflected by provincial production. For example, while provinces including British Columbia, Manitoba and Quebec generate large quantities of hydroelectricity, only Saskatchewan produces uranium. Likewise, while Ontario leads the country in wind energy production, Nova Scotia features North America's only tidal power plant.

Source: NRCan and Centre for Energy, <http://www.centreforenergy.com/AboutEnergy/CanadianEnergy/EnergyDrivesCanada.asp?page=16>



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Wholesale Gasoline Prices

For the **week of June 10, 2010**, compared to the previous week, wholesale gasoline prices decreased in five of the selected centres while another five registered an increase. Price changes ranged from a decline of 4 cents per litre to an increase of 1 cent per litre.

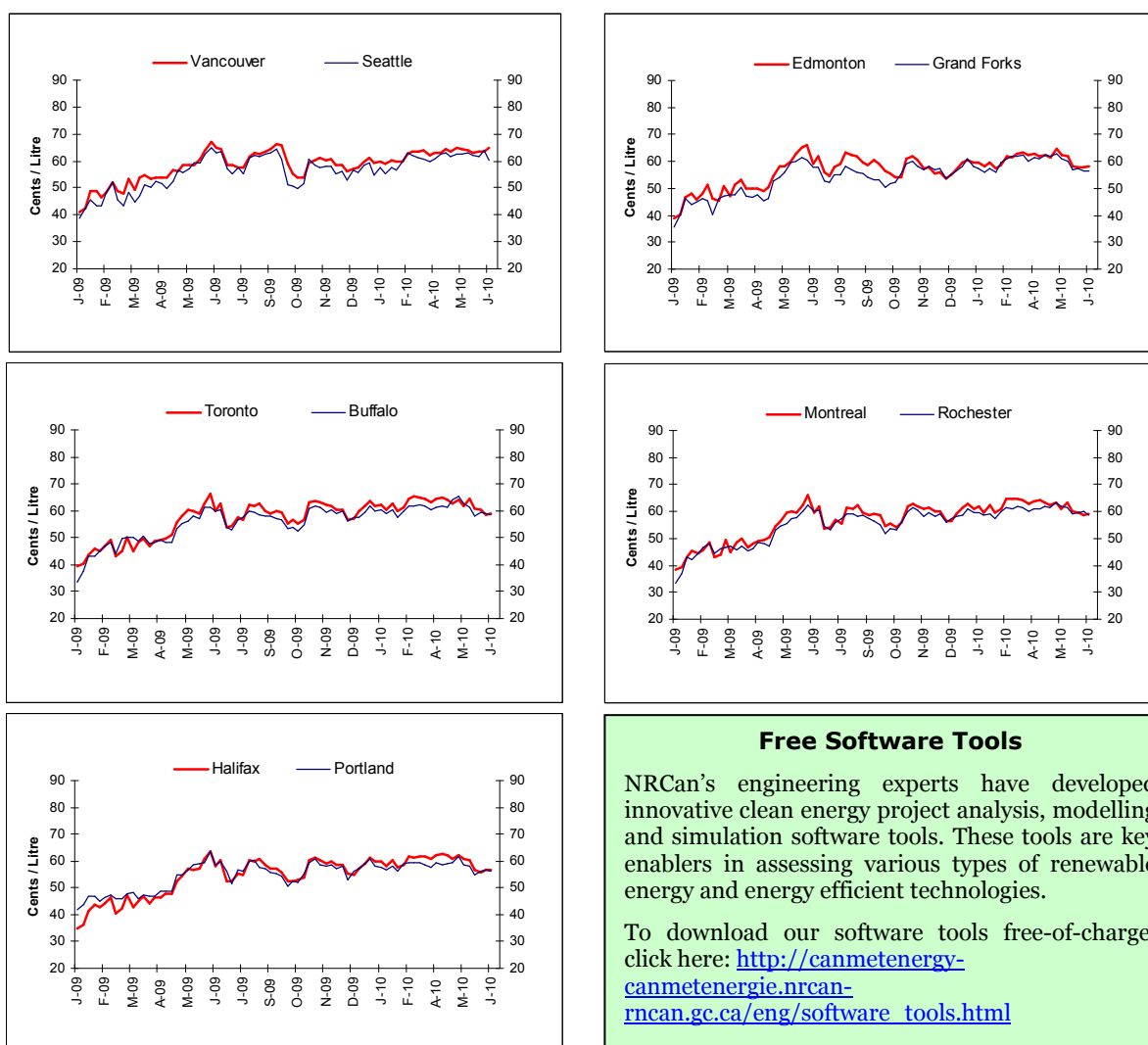
In the Eastern markets of Canada and the United States, wholesale gasoline prices, compared to the previous week, registered increases ranging from less

than 1 cent per litre to decreases of 1 cent per litre. The period ended in the 56- to 59-cent-per-litre range.

Western wholesale gasoline prices ended in the range of 56 to 65 cents per litre with changes ranging from a decline of 4 cents per litre (Seattle) to an increase of more than 1 cent per litre (Vancouver).

Overall, prices in most selected centres are 2 to 7 cents per litre lower than in the same period last year.

Figure 4: Wholesale Gasoline Prices
Rack Terminal Prices for Selected Canadian and American Cities Ending June 10, 2010
(Can ¢/L)



Sources: NRCan, Bloomberg Oil Buyers Guide





Gasoline Refining and Marketing Margins

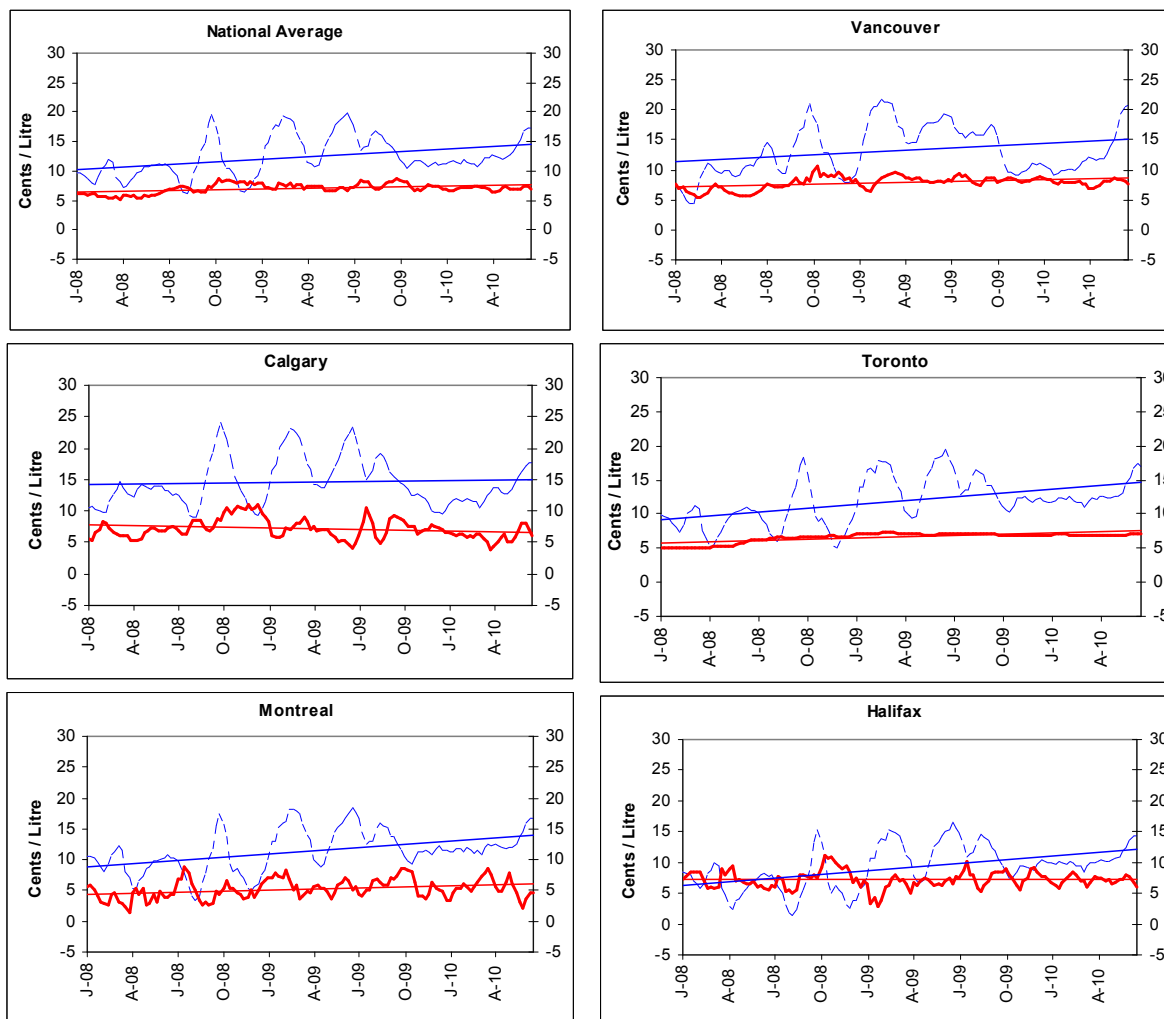
Four-week rolling averages are used for gasoline refining and marketing margins. Overall, refining margins have gradually increased around 17 cents per litre—approximately 3 cents per litre lower than for the same period in June 2009.

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 for tracking the trends in gasoline margins and estimating

how much of the pump price is going to the refiner; it does not represent overall refining margins.

Gasoline, accounting for about 30-35% of a refinery's output, is only one of many products produced from a barrel of crude oil. 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 often sell for less than the cost of the crude oil used to make them.

Figure 5: Gasoline Refining and Marketing Margins
Four-Week Rolling Average Ending June 15, 2010
----- Refining Margin — Marketing Margin



Source: NRCan





Crude Oil Overview

Mild Increase in Crude Oil Prices

For the week ending June 11, 2010, prices for the three marker crudes averaged between \$445/m³ and \$481/m³, (US\$68 to US\$73 per barrel). While Brent declined slightly, this is an increase of \$2 to \$15/m³ (US\$1 to US\$2 per barrel) for Edmonton Par and WTI compared to the previous week.

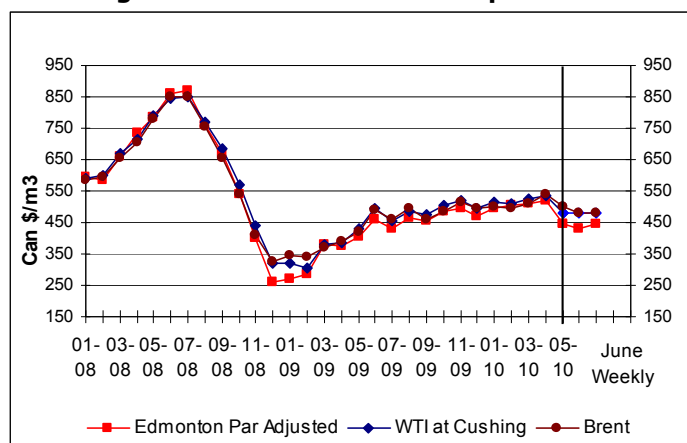
World crude oil prices remain in a hiatus partly over concerns about the European debt crisis, uncertainties over the global economic recovery, and the fluctuation in the U.S. dollar. Large U.S. crude oil and petroleum product inventories also contribute to moderating prices.

Geopolitical and weather events could further impact prices. The potential sanctions by the United Nations

against Iran in response to Tehran's growing nuclear threat could firm up prices as China may vote in favour of penalties. However, China also relies on Iran for roughly 12% of its oil imports and several Chinese firms have active business interests in Tehran. An online poll in a state-owned Chinese newspaper showed that 80% of Chinese opposed sanctions against Iran.

As the hurricane season approaches in the U.S. (typically from June to November) tropical storm activities threatening the Gulf of Mexico region will likely cause increased volatility in the markets. Because oil and gas production facilities operating in the area are typically evacuated and shut down as a precautionary measure, some supply is removed from the market causing a temporary increase in prices.

Figure 6: Crude Oil Price Comparisons



Changes in Crude Oil Prices

Crude Oil Types	Week Ending: 2010-06-11		Change From:			
			Previous Week		Last Year	
	\$Can/ m ³	\$US/ bbl	\$Can/ m ³	\$US/ bbl	\$Can/ m ³	\$US/ bbl
Edmonton Par	444.91	67.86	+14.60	+2.43	-17.65	+1.64
WTI	481.28	73.41	+2.02	+0.52	-13.47	+2.58
Brent	480.06	73.22	-1.67	-0.03	-10.48	+3.00

Source: NRCan

U.S. Short-Term Energy Outlook

The U.S. Energy Information Administration (EIA) has lowered its projections for world oil prices slightly for 2010. Uncertainty about economic growth in China and in the Euro zone has continued to weigh on oil markets, and declines in equity markets have led to fears that the economic recovery may not progress as fast as had been hoped.

Crude oil prices fluctuated considerably last month, with the West Texas Intermediate (WTI) spot price ranging from a high of \$86 per barrel on May 3 to a low of \$65 on May 25, before ending the month at \$74. According to some market analysts, uncertainty over the global economic recovery, particularly with respect to Europe's debt crisis, the tightening of credit by China, and the liquidation of futures contracts contributed to the crude price decline. Moreover, WTI prices fell further than most other crudes because of record high inventories in Cushing, Oklahoma. EIA projects WTI crude oil spot prices will average \$79 per barrel this year and \$83 per barrel in 2011, both about \$3 lower than in their previous month's Outlook.

EIA forecasts that regular-grade motor gasoline retail prices will average \$2.79 per gallon during this summer's driving season (the period between April 1 and September 30), up from \$2.44 per gallon last summer. The summer gasoline price forecast is down considerably (\$0.15) from last month's Outlook primarily as a result of the lower crude oil price forecast.

Source: EIA, <http://www.eia.doe.gov/emeu/sto/pub/contents.html>





Automatic Temperature Compensation and the Retail Sale of Gasoline and Diesel Fuel

When purchasing gasoline or diesel fuel at a service station, you may have noticed a sticker on the pump with the words "Volume Corrected to 15°C". What does this mean? As expected, consumers are most likely to pay attention to the price and the number of litres they are paying rather than to a fuel temperature adjustment mechanism. As gasoline warms, it expands by volume but not weight or energy content and, conversely, when gasoline cools it shrinks by volume but not weight or energy content. In order to ensure that consumers get the right amount of energy for what they pay for, a standard measurement is used to adjust for volume corrections.

To compensate for the volume change in petroleum products as the temperature changes, most pump stations are equipped with an automatic temperature compensator (ATC). This is an electronic device that measures the temperature of petroleum products during delivery and automatically calculates the amount of product as though it had been delivered at 15°C. This means that the consumer is paying for a 15°C litre at a 15°C price, no matter what the temperature of the product. The reference temperature of 15°C is a long-standing international standard used in most countries for the purchase and sale of petroleum products. It has been used in Canada for other fuels (e.g., natural gas and propane) for decades.

Temperature compensation is not new. Manual and mechanical temperature compensation has been used in the measurement of large quantities of petroleum products such as pipelines, ship-loading, and tank farm transfers since the 1920's. Electronic temperature compensation has been used for the retail sale of gasoline for the past 20 years. Prior to the advent of modern electronics, there was no way to perform this function accurately in retail dispensers. In 1984, a Canadian electronics manufacturer designed a device that could readily measure the temperature of liquids and perform the necessary calculations. Now, the vast majority of gasoline pumps in Canada are equipped with automatic temperature compensating equipment. Gas pumps equipped with automatic temperature compensation are identified by a sticker on the register which says "Volume Corrected to 15°C".

Using different reference temperatures does not save consumers money since the actual reference temperature used does not matter. The benefits of using ATC for the purchase and sale of gasoline are because it removes the effect of temperature on the volume of gasoline it represents a more accurate and equitable method of measuring gasoline. The purchase and sale of gasoline based on a common reference temperature allows gasoline retailers to sell product on the same basis as it was purchased, thereby facilitating accurate product inventories and early detection of product loss. Also, it benefits Canadians because the effects of temperature are removed from the petroleum products they purchase.

Source: NRCan and Measurement Canada, <http://www.ic.gc.ca/eic/site/mc-mc.nsf/eng/lmo4344.html>

