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## Natural Gas Rates Effective April 2003

### Introduction

There are two main components that determine the amount most consumers pay for natural gas. The first is the delivery cost, which is the gas utility's charge to transport and deliver the gas to the customer's meter. *The delivery cost is regulated by utilities commissions and boards, including the B.C. Utilities Commission.*

The second main component of rates is the commodity cost of gas, which is determined at North American wholesale trading points by buyers and sellers. In 1985 the Federal government and the producing provinces agreed to eliminate government control of natural gas commodity prices. Free trade between Canada and the United States has created a North American market for natural gas, with prices in different areas varying largely as a result of transportation costs from gas wells to major trading points. *Gas utilities, governments, and utilities commissions do not directly regulate, set, or otherwise control these market prices.*

The *Utilities Commission Act* does not allow the Commission to set rates that are unduly preferential or discriminatory, which prevents consideration of rates based on a customer's age or income that would be subsidized by other customers.

### Delivery Cost Component of Rates

Most British Columbia consumer gas rates show the delivery cost component as a "fixed" or "basic" charge in dollars per month, and a variable "delivery" charge in dollars per gigajoule<sup>1</sup>. Both are regulated by the B.C. Utilities Commission. The regulated basic charge recovers those utility costs that do not vary with the consumption of gas. These include such items as the installation and financing of distribution service pipes and meters, and meter reading and billing costs. The regulated delivery charge recovers the utility's costs that vary with consumption, including labour, materials, and other operating and capital costs. Gas utilities receive a regulated return on their investment in their delivery systems.

As shown in the following table of "burnertip" rates for BC Gas' residential customers in the Lower Mainland, increases in basic and delivery charges account for a small proportion of the total gas rate increases in recent years. All amounts are in Canadian dollars per gigajoule, and assume gas usage of 120 gigajoules per year.

	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999*</u>	<u>2000*</u>	<u>2001*</u>	<u>2002</u>	<u>Jan/Feb 2003</u>	<u>March 2003</u>	<u>April 2003</u>
Basic & Delivery Charges	\$2.73	\$2.91	\$2.95	\$3.06	\$3.06	\$3.30	\$3.59	\$3.59	\$3.79	\$3.79
Gas Commodity Charges	<u>\$2.47</u>	<u>\$2.88</u>	<u>\$2.64</u>	<u>\$3.27</u>	<u>\$5.19</u>	<u>\$8.38</u>	<u>\$6.63</u>	<u>\$6.63</u>	<u>\$6.63</u>	<u>\$8.30</u>
Total Gas Rate	\$5.20	\$5.79	\$5.59	\$6.33	\$8.25	\$11.68	\$10.22	\$10.22	\$10.42	\$12.09

\* 1999, 2000, and 2001 charges are the average for each year.

The charges shown on individual customer bills will vary, since the gas commodity cost varies by utility and by service area. The total unit basic and delivery charge also varies with gas consumption.

<sup>1</sup> A gigajoule ("GJ") is a unit of energy. One GJ is about the amount of energy contained in 915 cubic feet of natural gas, or 29 litres of gasoline, or 278 kilowatt hours of electricity, or 0.16 barrels of oil. The amount of natural gas used by individual residential customers varies widely; a typical residential customer consumes about 120 GJ annually for space heating and domestic hot water.

## North American Gas Commodity Prices

Natural gas prices increased starting in early 1999, consistent with the prices of other energy commodities in North America. The factors that caused the gas price increase included less drilling activity in 1998 for new supply due to low oil prices, very warm summer weather in 1999 and 2000 that caused high air conditioning loads, new gas-fired thermal-electric generation stations, and high crude oil prices. Gas prices jumped to unprecedented levels in late 2000 and early 2001, due to cold weather in November and December 2000 which raised concerns about the adequacy of storage and other supplies.

Starting in April 2001, the circumstances that led to the rapid increase in gas prices in late 2000 reversed. The sharp price decline was due to the strong rate of refilling underground gas storage in the United States and Canada during 2001. The higher injection rate was made possible by increased supply resulting from more well drilling, mild but not overly hot weather and demand reductions resulting from higher gas prices and a slowing North American economy. Storage reservoirs were almost completely full in November 2001.

In February and March 2002 colder weather, signs of recovery in the North American economy, concerns that depressed gas prices in 2001 reduced well drilling and higher crude oil prices caused gas prices to increase. Gas prices softened somewhat over the summer of 2002 and storage reservoirs were again close to full in early November 2002.

Gas prices increased sharply starting in December 2002, due to colder than normal weather in central and eastern North America, high oil prices and ongoing concern that current drilling levels has not increased supply. Gas storage inventories at the end of this winter's withdrawal season are expected to be near the lowest levels reached in the past five years. With warmer weather, gas prices came down somewhat in March, but the need to refill storage is expected to support high gas prices through the rest of 2003.

## Gas Commodity Prices in British Columbia and Alberta

Gas costs in British Columbia are primarily affected by gas prices at the regional trading points at Huntingdon, British Columbia/Sumas, Washington ("Sumas"), and in Alberta. The following table sets out the volatility in gas commodity prices at Sumas. The prices are in \$US/MMBtu, where one MMBtu is equal to 1.0551 GJ. A gas price of US \$1.00/MMBtu is equivalent to approximately Cdn \$1.40/GJ.

<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>Jan-June</u> <u>2001</u>	<u>July-Dec</u> <u>2001</u>	<u>Jan-June</u> <u>2002</u>	<u>July-Dec</u> <u>2002</u>	<u>Jan-Mar</u> <u>2003</u>	<u>Apr/03 to</u> <u>Mar/04</u>
\$1.35	\$1.71	\$1.61	\$2.15	\$4.17	\$6.81	\$2.35	\$2.49	\$2.88	\$5.51	\$4.70*

\*March 27, 2003 forecast of prices for April 2003 through March 2004.

When there are no restrictions due to pipeline capacity, prices at Sumas and in Alberta generally follow the pattern of continental prices. Prior to 1999, gas customers in western Canada were somewhat shielded from gas prices in other areas, but the construction of major new pipeline facilities provided sufficient capacity to move gas to markets in eastern Canada and the United States.

The tight supply situation in late 2000 was especially critical in the western part of the continent, from California to southern British Columbia. Gas prices at Sumas and other trading points in the western region rose considerably above the already very high prices in the rest of the continent. Although gas prices have returned to historical price patterns in the region, a Regional Resource Planning Study undertaken by BC Gas concluded that pipeline capacity constrains gas supply to the Pacific Northwest and the Lower Mainland of British Columbia. Both Duke Energy Gas Transmission (formerly Westcoast Energy Inc.) and Williams Northwest are expanding their pipeline systems in 2003, but these expansions will not satisfy the expected longer term need for pipeline capacity into these regions.

### Gas Commodity Component of Rates

Utilities purchase natural gas from producers and marketers and pass on the cost, without markup, to their customers. Suppliers do not sell gas to utilities in British Columbia for less than they can obtain from other customers. The B.C. Utilities Commission reviews the utilities' gas procurement plans and supply contracts to ensure that the prices and terms are prudent, and that they diversify their supply portfolios and use financial instruments (e.g., hedging) in their gas procurement strategy. The Commission also ensures that increases or decreases in commodity costs flow through to consumers at cost. The *Utilities Commission Act* enables gas utilities to file new rates necessitated by changes in the price they pay for natural gas supplies.

Gas commodity charges are based on a forecast of prices and sales volumes over the following 12 months. This reduces seasonal effects and smoothes the effect on customer rates of the large swings in market prices. Customer rates did not rise to fully reflect the market price peaks in winter 2000/01 and winter 2002/03, and were higher than spot market prices in the latter part of 2001 and early 2002.

### Gas Cost Variance Accounts

During the course of the year, commodity costs may vary from forecast because of changes in market prices and sales load. As a result, rates that are based on forecast gas costs for the following 12 months may not accurately reflect the cost of gas purchased by the utility for its customers. BC Gas, Pacific Northern Gas and Centra Gas record actual costs and revenues related to the natural gas commodity in their gas cost variance accounts. If natural gas rates do not fully cover actual costs, the deficiency is recorded in these accounts, for future recovery from customers. If natural gas rates recover more than actual costs, the difference is returned to customers when new rates are set. Rate increases in 2000, early 2001 and early 2003 did not keep up with increases in gas costs, and debit balances (amounts that must be repaid by customers to the utility) built up in these accounts. Rates for BC Gas and PNG (N.E.) for 2003 include rate surcharges to repay the account balances.

Due to the extreme volatility of gas prices and the effect on gas cost variance account balances, in early 2001 the Commission established Guidelines for setting gas commodity rates and managing gas cost variance account balances. Utilities are required to file quarterly reports on gas cost variance account balances, and forecast gas costs and commodity revenue. Utilities are expected to apply for a rate increase or decrease if forecast gas costs and revenue for the following 12 months differ by more than five percent.

### Makeup of Gas Commodity Charge

Using February 27, 2003 forward gas prices, BC Gas forecast that the average commodity cost of gas sold for April 2003 through March 2004 is \$8.73/GJ and is made up of the following costs. The makeup of the commodity cost for other gas utilities in British Columbia is generally similar.

#### BC Gas Commodity Cost of Gas

<u>Cost Component</u>	<u>Percentage</u>
Baseload Purchases	39.9
Seasonal Purchases	43.3
Peaking and Spot Charges	8.5
Storage Gas and Charges	1.2
Pipeline Transportation	7.9
Other Costs	0.2
Less Sales of Surplus Gas and Transportation	(5.9)
Gas Cost Variance Account Payback	<u>4.9</u>
Average Commodity Cost of Gas, \$8.73/GJ	100.0

BC Gas allocates the components of the average commodity cost of gas, to establish the gas commodity charge for each customer class and service area. The price of electricity and other competing fuels is also a factor that is considered when establishing gas rates. For example, the approved gas commodity charge for

residential customers in the Lower Mainland effective April 2003 is \$8.30/GJ. Due to the softening of gas prices in March, the \$8.30/GJ charge is also consistent with current forward gas price forecasts.

### **Competing Price of Electricity**

The current British Columbia Hydro and Power Authority variable residential rate is \$0.0577/kW.h, which is thermally equivalent to \$16.03/GJ. Electrical heating appliances are considered to be 100 percent efficient, while natural gas furnaces do not recover all the energy in the gas as usable heat. High-efficiency furnaces have efficiencies of approximately 90 percent and new mid-efficiency furnaces should have about 80 percent efficiency, while older furnaces are less efficient.

The electricity rate is equivalent to a variable gas rate of \$12.02/GJ assuming 75 percent furnace efficiency and \$14.43/GJ with 90 percent efficiency.

### **Gas Rates Compared to Market Prices**

The following are the principal reasons why utility gas rates are often different from gas commodity prices. When comparing prices, it is also important to recognize that rates are in Cdn \$/GJ, while gas prices are often reported by the media in US \$/MMBtu. (One US \$/MMBtu is about Cdn \$1.40/GJ.)

- Gas rates are based on forecast gas prices over the following 12 months in order to avoid seasonal effects, provide rate stability and avoid frequent rate changes. These forecast prices can be higher or lower than current spot prices.
- Utility rates are sometimes set so as to shield customers from very high prices although this causes deficits to accumulate in the utilities' gas cost variance accounts. Variance account deficits are monies that customers must pay back to utilities.
- Utilities buy gas under commitments of varying duration, and store gas for consumption during later periods. These activities limit the effect of gas price volatility on rates, and delay the impact of increases or decreases in gas prices on rates.
- Gas prices that are reported in the media are for gas purchased at a uniform rate over a month or a year. The demands of utility sales customers are very temperature dependent. Utilities contract underground gas storage and other resources to shape, or align, gas purchases with customer demand. These resources add to the commodity cost of gas.

### **Rates Effective April 2003**

The Commission approved increases to PNG and PNG (N.E.) delivery charges effective January 2003 and to BC Gas delivery charges effective March 2003. PNG (N.E.) Tumbler Ridge delivery charges also increased slightly as of April 2003. Centra Gas rates were made interim as of January 2003, while the utility's rates are being reviewed in a Commission proceeding.

The Commission also approved applications from BC Gas, PNG and PNG (N.E.) for increases to gas commodity charges effective April 1, 2003.

The changes in gas rates effective April 2003, relative to the rates for March 2003, are as follows. The changes are shown as a percent of a typical average bill and in dollar amounts. The new rate amounts are approximate, as they include monthly fixed charges and will vary with consumption.

		<u>Increase Percentage</u>	<u>Increase \$/GJ</u>	<u>April 2003 Rate \$/GJ</u>
BC Gas (Lower Mainland)	Residential	16%	\$1.67	\$12.09
	Commercial	17-19%		
	General Service	21%		
PNG-West	Residential	21%	\$2.32	\$13.26
	Commercial	22%		
PNG(N.E.) (Fort S. John)	Residential	20%	\$1.66	\$10.12
	Commercial	21%		
Centra Gas* (New Customers)	Residential	0%	\$0.00	\$14.43
	Commercial	0%		

\* Centra Gas rates are interim.

The April 2003 rate increases for BC Gas will increase annual bills for typical residential customers by \$165 to \$185. The residential annual bill increase will be about \$250 for PNG customers and PNG (N.E.) customers in Fort St. John and Dawson Creek, and \$225 for customers in Tumbler Ridge.

British Columbia Utilities Commission Staff  
April 2003

BRITISH COLUMBIA UTILITIES COMMISSION

**Approved Residential Gas Rates**

	<b>January 1 1999</b>	<b>January 1 2000</b>	<b>January 1 2001</b>	<b>January 1 2002</b>	<b>January 1 2003</b>	<b>March 1 2003</b>	<b>April 1 2003</b>	<b>April 1 2003 Change</b>
<b><u>BC Gas – Lower Mainland</u></b>								
Basic Charge, \$/mo.	7.42	7.66	7.66	10.00	10.00	10.31	10.31	
Delivery Charge, \$/GJ	2.323	2.306	2.537	2.591	2.591	2.756	2.756	
Gas Cost Charge, \$/GJ	3.188	3.985	8.415	6.061	6.061	6.061	7.730	
Gas Cost Rider, \$/GJ	(0.115)	0.151	0.407	0.570	0.570	0.570	0.570	
Typical Use, GJ/year	120	120	120	120	110	110	110	
Typical Bill, \$/year	\$737	\$865	\$1,455	\$1,227	\$1,134	\$1,152	\$1,335	+15.9%
<b><u>BC Gas – Inland</u></b>								
Basic Charge, \$/mo.	7.42	7.66	7.66	10.00	10.00	10.31	10.31	
Delivery Charge, \$/GJ	2.323	2.306	2.537	2.591	2.591	2.756	2.756	
Gas Cost Charge, \$/GJ	3.031	3.830	8.207	5.955	5.955	5.955	7.628	
Gas Cost Rider, \$/GJ	(0.115)	0.151	0.407	0.570	0.570	0.570	0.570	
Typical Use, GJ/year	100	100	100	100	100	100	100	
Typical Bill, \$/year	\$613	\$721	\$1,207	\$1,032	\$1,032	\$1,048	\$1,215	+16.0%
<b><u>BC Gas – Columbia</u></b>								
Basic Charge, \$/mo.	7.42	7.66	7.66	10.00	10.00	10.31	10.31	
Delivery Charge, \$/GJ	2.323	2.306	2.537	2.591	2.591	2.756	2.756	
Gas Cost Charge, \$/GJ	3.064	3.879	8.354	6.052	6.052	6.052	7.711	
Gas Cost Rider, \$/GJ	(0.155)	0.151	0.407	0.570	0.570	0.570	0.570	
Typical Use, GJ/year	110	110	110	110	110	110	110	
Typical Bill, \$/year	\$669	\$789	\$1,335	\$1,133	\$1,133	\$1,151	\$1,333	+15.9%
<b><u>BC Gas – Fort Nelson</u></b>								
Minimum Charge, \$/mo. (includes 2 GJ/mo)	8.43	10.6	14.40	12.41	12.41	12.41	15.75	
Usage Charge, \$/GJ (next 28 GJ/mo)	3.394	4.211	6.380	5.385	5.385	5.385	7.055	
Usage Charge, \$/GJ (over 30 GJ/mo)	3.360	4.177	6.346	5.351	5.351	5.351	7.021	
Typical Use, GJ/year	158.5	158.5	155.9	155.9	155.9	165	165	
Typical Bill, \$/year	\$558	\$687	\$1,014	\$859	\$859	\$908	\$1,184	+30.3%
<b><u>PNG – West</u></b>								
Fixed Charge, \$/mo.	10.75	10.75	10.75	10.75	10.75	10.75	10.75	
Delivery Charge, \$/GJ	3.176	3.156	3.515	3.948	4.499	4.499	4.614	
Gas Supply Charge, \$/GJ	2.882	4.115	8.189	5.125	6.204	6.204	7.478	
Gas Cost Rider, \$/GJ	0.00	0.100	0.293	0.00	(0.929)	(0.929)	0.00	
Typical Use, GJ/year	132	132	132	110	110	110	110	
Typical Bill, \$/year	\$929	\$1,102	\$1,713	\$1,127	\$1,204	\$1,204	\$1,459	+21.2%
<b><u>PNG(N.E.) – Fort St. John</u></b>								
Fixed Charge, \$/mo.	7.00	7.00	7.00	7.00	7.00	7.00	7.00	
Delivery Charge, \$/GJ	1.813	1.809	1.918	1.951	2.025	2.025	2.035	
Gas Supply Charge, \$/GJ	2.352	3.161	7.213	4.412	5.750	5.750	7.022	
Gas Cost Rider, \$/GJ	0.00	0.100	0.357	0.300	0.119	0.119	0.500	
Typical Use, GJ/year	180	180	180	150	150	150	150	
Typical Bill, \$/year	\$834	\$997	\$1,792	\$1,083	\$1,268	\$1,268	\$1,518	+19.7%

	January 1 1999	January 1 2000	January 1 2001	January 1 2002	January 1 2003	March 1 2003	April 1 2003	April 1 2003 Change
<b><u>PNG(N.E.)-Dawson Creek</u></b>								
Basic Charge, \$/mo.	7.00	7.00	7.00	7.00	7.00	7.00	7.00	
Delivery Charge, \$/GJ	1.615	1.611	1.720	1.753	1.827	1.827	1.837	
Gas Supply Charge, \$/GJ	2.352	3.161	7.213	4.412	5.750	5.750	7.022	
Gas Cost Rider, \$/GJ	0.00	0.100	0.357	0.300	0.119	0.119	0.500	
Typical Use, GJ/year	180	180	180	150	150	150	150	
Typical Bill, \$/year	\$784	\$961	\$1,756	\$1,054	\$1,238	\$1,238	\$1,488	+20.1%
<b><u>PNG(N.E.)-Tumbler Ridge</u></b>								
Fixed Charge, \$/mo.	8.50	8.50	8.50	8.50	8.50	8.50	8.50	
Delivery Charge, \$/GJ	3.007	2.844	4.246	3.865	4.614	4.614	5.322	
Gas Supply Charge, \$/GJ	2.327	2.665	6.816	3.922	5.124	5.124	6.376	
Gas Cost Rider, \$/GJ	0.00	0.100	0.601	0.150	0.300	0.300	0.600	
Typical Use, GJ/year	100	100	100	100	100	100	100	
Typical Bill, \$/year	\$635	\$663	\$1,268	\$896	\$1,106	\$1,106	\$1,332	+20.4%
<b><u>Centra Vancouver Island- Pioneer Customers</u></b>								
Fixed Charge, \$/mo.	0.00	0.00	0.00	0.00	9.45*	9.45*	9.45*	
Usage Charge, \$/GJ	8.56	10.43	10.74	12.96	12.555*	12.555*	12.555*	
Gas Cost Rider, \$/GJ	0.00	0.00	0.00	0.00	0.00*	0.00*	0.00*	
Typical Use, GJ/year	70	70	70	61	61	61	61	
Typical Bill, \$/year	\$599	\$730	\$752	\$791	\$879	\$879	\$879	0%
<b><u>Centra Vancouver Island- New Customers</u></b>								
Fixed Charge, \$/mo.	7.50	8.45	8.45	9.45	9.45*	9.45*	9.45*	
Usage Charge, \$/GJ	9.09	9.229	9.517	9.631	12.555*	12.555*	12.555*	
Gas Cost Rider, \$/GJ	0.00	0.715	3.088	1.705	0.00*	0.00*	0.00*	
Typical Use, GJ/year	70	70	70	61	61	61	61	
Typical Bill, \$/year	\$726	\$797	\$984	\$805	\$879	\$879	\$879	0%

\* Centra Gas rates starting January 2003 are interim rates.

British Columbia Utilities Commission Staff  
April 2, 2003