

**Newfoundland Power Inc.
Customer, Energy and Demand Forecast
2007 - 2008**

May 2007

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1.0 INTRODUCTION

The Customer, Energy and Demand forecast, which is prepared annually, forms the foundation of Newfoundland Power's planning process. The forecast is a key input in developing estimates of capital expenditures required to ensure the electrical system can meet the increasing demands associated with both customer and energy sales growth. The forecast also directly impacts the forecast of both revenue from electrical sales and the Company's single largest expenditure, purchased power. These items are key components of the Company's financial planning process.

2.0 FORECAST METHODOLOGY

Newfoundland Power provides electrical service to three distinct categories of customers: domestic; general service; and, street and area lighting. In 2006, domestic accounted for 60 percent of total energy sales while general service and street and area lighting represent 39 percent and 1 percent, respectively.

The domestic category, Rate # 1.1, primarily refers to residential dwellings such as single detached homes, single attached homes, apartments and mobile homes. The category also includes non-residential services such as cottages, personal use garages and other meter services that qualify for the domestic rate category. Residential customers use electricity primarily for space and water heating, and the operation of miscellaneous appliances and lighting. In this category a customer/average use methodology is employed where customer growth is primarily based on the housing starts while average use is forecast using an end-use/econometric model that includes the market share for electric space heating, personal disposable income and the marginal price of electricity in the current and previous year.

The general service category primarily refers to commercial, institutional and industrial customers. Unlike the domestic category which represents a homogenous group of customers, the general service category represents a very diverse group whose activities include, trade, finance, real estate, public administration, health, education, commercial services, transportation, manufacturing, mining, fishing, forestry and construction. These customers provide goods and services to the local market as well as for export. In 2006, approximately 85 percent of energy sales in this category were to customers in the service producing sector of the economy while only 15 percent were in the goods producing sector.

From a forecasting perspective the general service category is divided into small general service which includes Rate # 2.1 0 - 10 kW and Rate # 2.2 10 - 100 kW (110 kVA) and large general service which includes Rate # 2.3 110 kVA (100 kW) - 1000 kVA and Rate # 2.4 1000 kVA and Over. In the small general service category a customer/average use methodology is employed where the number of customers is primarily based on the number of domestic customers while average use is forecast using an econometric model that includes the Gross Domestic Product for the service sector per small general service customers and the average price of electricity in the current year.

In the large general service category, given the relatively small number of customers in this group, an informed opinion methodology is employed and energy sales are forecast on an individual customer basis.

Street and area lighting energy sales are directly related to the number of fixtures required to meet the lighting needs of both municipalities and unincorporated communities. At the end of 2006 approximately 55,700 fixtures were installed with high pressure sodium fixtures accounting for 85 percent of these fixtures and mercury vapour accounting for the remainder. Given the nature of this category an end use forecasting methodology is employed. The street and area lighting sales forecast is determined by multiplying the forecast quantity of fixtures by the amount of electricity consumed for each fixture type and wattage.

Total energy sales are calculated by adding domestic, general service, and street and area lighting sales. Company use, system losses and wheeled are then added to total energy sales to obtain total produced, purchased and wheeled. Company use includes all electricity consumed in facilities owned by Newfoundland Power and used in the delivery of service to customers. System losses refer to energy that is lost during the transmission and distribution of energy between the source of supply and delivery to customers. Wheeled information is provided by Newfoundland and Labrador Hydro.

Purchased energy is calculated by subtracting normal hydraulic production from the forecast of total produced and purchased. Each year normal production is adjusted to reflect plant availability and any modifications to plants that may impact production. Purchased power demand is calculated by subtracting the hydraulic generation credit from native peak.

Newfoundland Power's native peak is determined using a load factor based methodology. The load factor used in the calculation is the average of 15 years of normalized annual load factors. Native peak is calculated by applying the average load factor to total produced and purchased power. This peak is adjusted to reflect the impact of load curtailment by Newfoundland Power customers and at company owned facilities.

3.0 KEY FORECAST ASSUMPTIONS

The forecasting process relies on a wide range of information related to the economy, energy prices and other resource based developments within Newfoundland Power's Service territory.

3.1 Economic Outlook

While the Company monitors forecasts from various banks and financial institutions the Conference Board of Canada is the Company's primary provider of economic information. The economic assumptions used in preparing the customer and energy sales forecasts are based on the Conference Board of Canada, *Provincial Outlook 2007, Long-Term Economic Forecast*, dated December 19, 2006. A table summarizing the key economic indicators contained in this forecast for 2007 and 2008 is shown in Appendix A. A copy of the Conference Board of Canada's long-term economic forecast is enclosed as Attachment A.

Since 1996, the Newfoundland and Labrador economy has been primarily driven by the mining sector. Large resource based projects such as Hibernia, Terra Nova, White Rose and Voisey's Bay have resulted in the mining sector experiencing average annual growth in excess of 20 percent per year during this period. As a result Newfoundland and Labrador has lead the country in economic growth in 5 of the past 10 years. The fishing sector has also contributed with increased landings of both crab and shrimp. These developments have positively impacted other key economic indicators such as personal income, unemployment rates and service sector growth.

As in recent years economic performance will continue to be driven by large resource based projects. In 2006 economic growth was negatively impacted by a two-month strike at Voisey's Bay and lost production due to a six-month shutdown at the Terra Nova offshore oil field. With both projects fully operational, real GDP growth is forecast to jump from 2.9 percent in 2006 to a country leading 5.7 percent in 2007. In 2008, with lower production at the Hibernia offshore oil field, real GDP growth is forecast to drop to 0.2 percent, the lowest in the country. Even with the strong growth in real GDP, the underlying domestic economy remains weak with declining population, weak consumer spending, low employment growth, high unemployment and low growth in real personal disposable income and service sector GDP growth.

Given Newfoundland Power's customer base, energy sales growth is primarily influenced by the domestic economy. More specifically, growth in the service sector, changes in employment levels, personal income, energy prices and population demographics in the Company's service territory are more determinative of sales growth than resource industry production levels.

Economic growth will not be uniform across Newfoundland Power's service territory. In the Northeast Avalon, growth will continue to be strong principally due to activities related to the offshore oil industry. In contrast much of rural Newfoundland and Labrador is expected to continue the trend of economic stagnation.

3.2 Energy Prices Outlook

Changes in energy prices have a direct impact on energy sales growth through the inclusion of price elasticity effects in the various models. Overall, analysis of customer response to changes in the price of electricity is relatively inelastic. That is to say a 1 percent change in the price of electricity will result in a change in energy sales of less than 1 percent. The current model indicated that a 1 percent increase in the price of electricity will result in a 0.25 percent decrease in energy sales. The model also indicates the response will vary depending on the time frame and rate category. In addition, changes in oil prices can impact the market share of electricity in the competitive space heating market.

The energy sales forecast is impacted by changes in the price of electricity during the past two years as well forecast changes in the price of electricity. Electricity prices forecasts are developed based on information available internally and provided by Newfoundland and Labrador Hydro. The annual review of the rate stabilization mechanism resulted in increases in the price of electricity of 5.2 percent on July 1, 2005 and 4.8 percent on July 1, 2006. Electricity prices also increased by approximately 0.1 percent on January 1, 2007 as a result of a

combination of higher purchased power cost from Newfoundland and Labrador Hydro and a reduction in Newfoundland Power's rate of return. The forecast assumes no changes in the price of electricity on July 1, 2007 as a result of the rate stabilization mechanism. The forecast includes an electricity rate decrease of 2.1 percent on July 1, 2008. This reduction reflects the net impact of an expected base increase in rates by Newfoundland and Labrador Hydro and a reduction related to the full recovery of the December 2003 outstanding balance in Newfoundland and Labrador Hydro's Rate Stabilization Plan. As proposed in Newfoundland Power's application, a 5.3 percent increase in current customer rates effective January 1, 2008 has been included in the energy sales forecast under proposed rates.

Furnace oil prices are expected to remain at the 2006 level in 2007 and decline slightly in 2008. This projection is consistent with the forecast of No. 6 fuel forecast used in the calculation of the Rate Stabilization Plan adjustments.

3.3 Other Inputs

Information from a number of other sources is used in preparing the forecast. Each year Newfoundland Power surveys approximately 150 customers representing approximately 600 accounts requesting information with respect to future load requirements. This information along with information gathered from Newfoundland Power regional operations, the St. John's Board of Trade, various other trade organizations, and the provincial and federal government is also incorporated into the large general service forecast. In addition, information from Canada Mortgage and Housing with respect to housing starts is combined with information received from the Conference Board of Canada in preparing the domestic customer forecast.

4.0 CUSTOMER AND ENERGY FORECAST

Appendix B shows the customer and energy forecasts for the 2007 - 2008 period under both existing and proposed rates. Under both scenarios the total number of customers is forecast to increase by 1.0 percent in 2007 and 0.9 percent in 2008. Energy sales under existing rates are forecast to increase by 1.2 percent in 2007 and 2.0 percent in 2008. Energy sales under proposed rates are forecast to increase by 1.2 percent in 2007 and 1.3 percent in 2008. Under both forecasts energy sales in 2008 are higher by 0.3 percent due to an additional day of sales resulting from 2008 being a leap year.

Domestic customer growth is largely a result of housing starts. The Conference Board of Canada forecasts housing starts of 1,701 units in 2007 and 1,405 in 2008 while Canada Mortgage and Housing is projecting 2,150 units in 2007 and 2,050 units in 2008. Using an average of these forecasts the number of domestic customers is forecast to grow by 1.0 percent in 2007 and 0.9 percent in 2008.

Domestic electricity consumption is a function of the major end uses in the home, such as space heating, water heating, lighting, and major appliances. In addition, changes in energy prices and income have an impact on electricity consumption. Using proposed rates the average use of energy is forecast to increase slightly in 2007 and by 0.2 percent in 2008.

The combined impact of increased numbers of customers and changes in average use will result in growth in domestic energy sales under proposed rates of 1.1 percent in 2007 and 1.2 percent in 2008.

In the small general service rate classes 2.1 and 2.2, customer and energy sales growth are dependent on growth in the service-producing sector of the GDP and changes in the price of electricity. In the large general service rate classes 2.3 and 2.4, energy sales are also influenced by changes in the service-producing sector of the GDP. However, in the large general service category, energy sales are mainly determined by changes in the load of larger customers in the goods-producing sector. Information obtained from specific customers is incorporated into forecasts for rate classes 2.3 and 2.4.

Overall, the number of General Service customers is forecast to grow by 0.6 percent in 2007 and 0.5 percent in 2008. Under proposed rates the volume of General Service energy sales is forecast to grow by 1.3 percent in 2007 and 1.6 percent in 2008.

In the street and area lighting class the number of customers is forecast to grow on average by 0.5 percent during the 2007 – 2008 period while the volume of energy sales is forecast to grow on average by 0.6 percent. The volume of street and area lighting energy sales continues to be impacted by the conversion of mercury vapour lights to the energy efficient high pressure sodium fixtures.

Produced and purchased is the sum of total energy sales, company use and system losses. The forecast of company use is based on historical energy usage and information gathered from each of Newfoundland Power's operating areas with respect to the operation of these facilities. System losses are based on historical information and are forecast to be approximately 5.4 percent of total produced and purchased.

5.0 PURCHASED ENERGY AND DEMAND FORECAST

Purchased energy is calculated by subtracting Newfoundland Power's normal hydraulic production from produced and purchased. Newfoundland Power's normal hydraulic production is based on the Water Management Study – Hydrology Update prepared by SGE Acres Limited in 2005. This study recommended a normal production of 419.6 GWh. Each year, normal production is adjusted to reflect plant availability and any modifications to plants that may impact production. In 2007 the refurbishment of Rattling Brook Hydro plant will result in lost production of 38.2 GWh. In 2008 the normal hydro production has been increased by 6.2 GWh to reflect increased production resulting from the modifications to the Rattling Brook Hydro plant.

Newfoundland Power's forecast of native peak demand is determined by applying the average weather adjusted load factor to the forecast of produced and purchased energy. The peak demand is then adjusted to reflect the impact of load curtailment by Newfoundland Power customers and company owned facilities. Newfoundland Power's purchased demand is then derived by subtracting the generation credit approved by the Public Utilities Board.

A copy of the Energy Purchased and Demand forecast is contained in Appendix C.

6.0 FORECAST ACCURACY

The energy sales forecasts and actual weather adjusted energy sales for the past 10 years are shown in Appendix D. During this period, differences from forecast have ranged from a high of 2.7 percent to a low of 0.1 percent with differences being 1 percent or less in 7 of the past 10 years. Further, the analysis of differences indicates that 50 percent of the time the actual was higher than forecast and vice versa.

Newfoundland Power Inc.

Key Economic Indicators¹
2006 - 2008F

(millions of dollars)

Indicator	2005	2006	Change From 2005	Forecast		2008	Change From 2007
				2007	Change From 2006		
<u>Gross Domestic Product (\$ 1997)</u>							
Goods Producing Industries	5,000	5,076	1.5%	5,672	11.7%	5,567	-1.8%
Service Producing Industries	8,283	8,598	3.8%	8,811	2.5%	8,950	1.6%
Total of All Industries	13,630	14,019	2.9%	14,824	5.7%	14,858	0.2%
Consumer Price Index (1992=100)	126.1	128.9	2.2%	130.9	1.5%	133.3	1.8%
Personal Disposable Income (\$ 1992)	8,334	8,501	2.0%	8,571	0.8%	8,708	1.6%
Unemployment Rate (%)	15.2%	15.0%		14.6%		14.0%	
Housing Starts - Units	2,498	2,202	-11.8%	1,701	-22.8%	1,405	-17.4%
Canadian GDP Deflator (1997=100)	119.1	121.2	1.8%	122.8	1.3%	125.1	1.9%
<u>Canada Mortgage and Housing Corporation²</u>							
Housing Starts - Units	2,498	2,215	-11.3%	2,150	-2.9%	2,050	-4.7%

¹ Conference Board of Canada, Provincial Outlook 2007, Long-Term Economic Forecast, Dated: December 19, 2006.² Canada Mortgage and Housing Corporation, Housing Market Outlook, Fourth Quarter, 2006.